

DeborahJGibsonAdministrationHeadWaterAllocationBureau041808

Dear Ms. Gibson,

As per telephone call to Stella and myself (Roger) and instructions understood by your letter dated April 04, 2008, please find enclosed;

1. Statement of Completion (proof of beneficial use) for Appropriate Water application Form No. 217 (1/08) along with signatures and application and license examination fee (\$50.00, check No.1241, American West Bank)
2. Permit to Appropriate Water permit No. 87-10019 (wildlife storage NW1/4NW1/4, annual volume 3.5 AF in Latah County on our land outside of Princeton, ID.
3. Photocopies of several documents describing our contractual efforts via USDA, NRCS (WHIP), actually notes on construction, efforts to seal dam breach and pond bed lens of porous materials, our sighting and evidence of wildlife and records of full fill (via drawings) and memoranda of difficulties with water holding.

Summary Statement: We sincerely have made effort to build a water holding pond to encourage wildlife activity within that portion of our property. As we understood the administrative process, we attempted to timely and correctly file for permits and approvals for carrying out this project. We apologize for laps of submissions because our understanding of the process was naïve and incomplete. It was never our intention to confuse the issue or begin or accomplish the project without the expression approval of the Great State of Idaho and the USDA. At this time I believe the failure of the pond to hold water to anticipated levels mistakenly suggested to us that the pond's construction was incomplete and so remained ongoing and therefore we did not submit Proof of Application of Water to your office. It is our hope in the next few years that we are able to afford the 100 tons of heavy clay that would be minimally necessary to seal the porous areas of the pond. We certainly would welcome inspection of the pond site area by members of the Idaho State Department of Water Resources and will do everything in our power to assist in those inspections. We hope that your Agency will find the wildlife pond effort consistent with providing Idaho wildlife a safe and habitable retreat and therefore allow permit Proof of Application of Water (Completion).

Most sincerely yours,

Roger E. Calza
Stella, C. Calza

97

Natural Resource Conservation Service, USDA
Wildlife Habitat Incentive Program
Federal Building, Latah County, Moscow, Idaho

Date, September, 10, 2006

Dear P. Evans (Director), C. Trecanni (Officer) and R. Graham (Technician),

As related to Contract No. 72-0211-1-156 (WHIP) in Princeton, Idaho with Roger and Stella Calza (824 South Logan Street, Moscow, Idaho ((208) 883-0176)).

Title: Creation of a shallow water pond (644) and the management of wetland and upland plants. Project/contract was initiated October 1, 2001 with Calza family clearing the specified 3 acres land of trees, brush and debris.

Dam as specified by USDA was constructed by C. Reynolds Enterprises, Inc. (Princeton, Idaho) on October 10, 2002. Discussions of possible 'lens' of porous soil and materials within the basin were discussed with C. Reynolds, Mark Contrell (project manager, NRCS), and area engineers (M. Orr, M. Stubert, W. Herrenbruck). Dam and surrounding areas were seeded, fertilized and mulched by Calza family on November 4, 2002 as specified by Design of Small Dams (USDA publication). Dam was photographed filled by rain run-off on February 4, 2003 (see photographs as supplied).

Problem of excessive leakage was evident by March 30, 2003 since pond depth decreased 10.6 feet below spillway by that date. Possible leakage through the dam or basin was investigated by Mike Duram (engineer, NRCS), Ed Haagen (engineer, NRCS) at Director Diana Leona's request during several site visits that following spring and summer. It was suggested that dam was not porous to water. Several site visits by C. Reynolds lead to the proposal that upper basin surrounds were responsible for excessive leakage and that a blanket of clay might be compacted to seal the pond. Planting of plant material prescribed by contract was delayed only after all individuals involved agreed the waterline was not stable and questioned the success of plants to survive such extremes of water supply.

Furthermore, it was determined that evaporative loss was not solely responsible or the major reason for the rate of water-line loss during any of the several fill and drainage cycles (as listed below) of this failed pond. The placement/location of the pond is within a 'sink' and it is largely surrounded by tall and sheltering pine/fir trees and out of the prevailing winds. Even under the worst conditions of evaporative loss the rate of water-line loss of this pond is 3-5 folds too great. Furthermore, the water-line decrease occurs during a time of the year (e.g. spring) that heat/wind caused evaporative losses have been shown to be minimal in area ponds (USDA extension publications).

Fall 2004, Calza family pumped (gas powered, 3 in hose) down remaining water (less than 50 feet diameter 'puddle' in pond area extending more than 187 feet across at dam) and deposited a great deal of clay (at least 100 yards obtained from Northern side of construction) and compacted with roller wheels (1 ton/0.6 square foot, Mikura plate compactor) and D4 dozer. The area of compaction extended at least 30 feet on all sides beyond area thought able to 'hold' water (see NRCS map prepared by M. Contrell).

Pond was recorded as again filling to spillway February, 2005. Rapid (approximately one (1) inch per day) loss of waterline was recorded during months of April, May and June, 2005. August 21, 2005 pond waterline was found to be apparently stable to precisely the area of clay compaction described in preceding paragraph.

Planting of plant materials was again delayed because of failure of pond waterline to stabilize. It was suggested that placement of plants at fill-line would result in drought stress during the summer months, and placement at stable water-line would result in water submersion damage. It was thought wise to delay planting and determine if an additional season of 'fill' would resolve basin excessive leakage problem.

January, 2006 pond water was flowing over the spillway. April, 2006 the water level was seen to rapidly decrease (as evidence by level 'ring' in the pond walls on the Southern borders). By August 2006 the water-line was again to the previous level 'stable' point but the pond had loss about 8.5 feet of water nevertheless. This indicated again that excessive water leakage occurred in the spring and that the 'seasoning' of another fill did not seal the pond's basin further.

September, 2006, it was discussed that the resolution to the basin leakage is to deposit additional clay (or non porous materials such as purer clay, bentonite) on the pond's basin, compact after 1 or 2 inch lifts, and determine if the pond upon fill is then seasonally stable. If so, and only at that time, the planting of wetland flora would be considered prudent and likely to succeed. When the pond is adequately stabilized, we (the Calza family) will plant if necessary, at our personal expense, the originally specified plant materials around the pond.

It is therefore hoped that the USDA, NRCS, and Idaho DOA administrative agencies involved with the creation of this very hopeful wildlife habitat pond would allow the abovementioned resolution to this otherwise failed pond and not take punitive action against the contract participants. It is therefore requested that either the completion date of the abovementioned project be extended a reasonable period of time beyond the original date or ended the contract at this date without imposing financial penalties on the Calza family.

Most sincerely yours,

Roger E. Calza (Contract Participant) _____

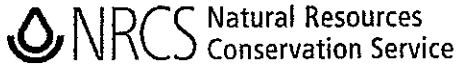
Stella C. Calza (Contract Participant) _____

Witnessed by;

P. Evans (Conservation Director, NRCS (USDA)) _____

C. Trecanni (Officer, NRCS (USDA)) _____

R. Graham (Technician, NRCS (USDA)) _____



220 East 5th Street, Room 212-C
Moscow, Idaho 83843-2964
Phone (208) 882-4960 Ext 3

April 5, 2004

Roger Calza
824 South Logan Road
Moscow, ID 83843

Dear Roger,

I received your letter dated March 24th. The letter gave an update on the condition of the pond along with the water level. I was glad to hear that the water level of the pond has been to capacity.

I would agree with adding clay to the minor fissures on the backside of the dam to decrease further erosion and then reseed those areas.

Yes – I would agree to record the water level to gauge the success of the clay liner before planting.

It's exciting to hear about the diversity of wildlife in the area! Thanks for keeping us updated on the success of the pond.

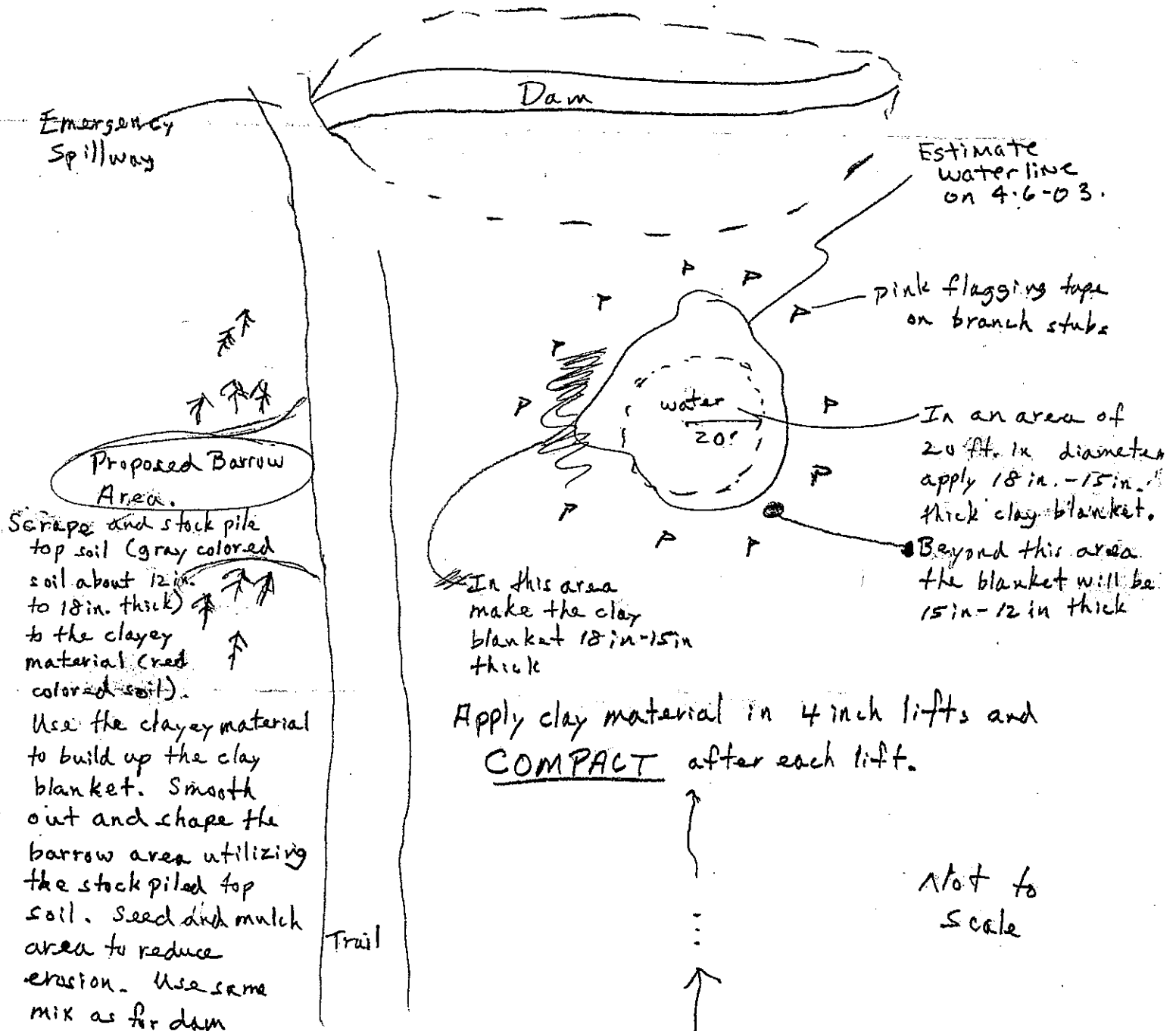
Sincerely,

Diane Leone
Diane Leone
District Conservationist

Downstream

COPY

Important to get
real good compaction!!
Suggest using a D-6 or
D-8 and a sheep's foot
roller.



Roger Calza
WHP Pond
M. Contreras Mike Purkes

NRCSReport

Conservation Director, Diana Leone
Conservation Engineers and Officers, Mike Duram, Ed Haagen
WHIP contract No. 72-0211-1-156

Dear NRCS,

March 24, 2004

Please allow me to update your office as to the progress of the WHIP project ongoing on our property outside of Princeton. When we last we visited on site last fall, we surveyed the reconstruction of the basin of the pond and performed a 'walk around' the dam and access road.

I am please to report that on March 13th, 2004 the water level was between 22 and 24 inches below the emergency spillway level and by March 22, 2004 a slight amount of overflow was evident. I would suggest therefore that between those dates the pond filled to capacity. On the first date mentioned there was evidence of run-off into the pond. On the latter date only a small amount of snow was present (on the North facing slope on the right side of dam) and run-off was not evident.

Although I carefully viewed all drainage slopes around the pond including the dam and access road on the dates mentioned, I was pleased to see no evidence of soil erosion. Areas reseeded last fall (October, 2003) to include the West side of the dam, the entire surface of the access road on the North side of the pond, and the turn-around area on the South side of the dam now show evidence of grass growth. I suspect that with spring rains those areas will cover well with erosion control grasses.

In compliance with your conservation team's recommendation to fill the two fissures within the backside of the dam, I added clay containing soil (red soil taken from the West side of the construction site) to each fissure last winter. I also heavily reseeded those areas. At this time the major fissure (of about 55 feet in length and up to 9 inches in width) appears to be repaired but unfortunately the minor fissure further widened. Sometime after our site visit last fall I asked Clayton Reynolds (the fellow who constructed the dam) to view the fissures. He assured me that such small fissures are common in similar constructions and that they tended to fill in naturally. He also assured me that they do not normally contribute to dam leakage. At this time I agree with his evaluation concerning leakage but it does not appear that natural refilling occurs. I will again refill the minor fissure this spring with clay containing soil.

I believe it will remain important to record the water level drop (if any beyond evaporative losses) to gauge the success of the basin placement of clay to eliminate pond leakage. Although your team discussed the need for further planting of erosion control plants and wildlife encouraging bushes at the head waters of the pond, and also placement of a sunken log or two within the shallows of the pond, I believe that it will be prudent to await assessment of water loss through the bottom of pond before making such efforts. I trust that your office will agree to the delay that such action might cause.

We continue to remain hopeful that this WHIP conservation pond will succeed and in fact, we were very encouraged to witness a pair of eagles frequenting the pond and also noticing tracks of bobcat (confirmed by an Eagle Scout from our local troop), coyote, turkey, elk, moose, deer, squirrel, raccoon, and frequently hear frogs talking. Perhaps these animals do not care that the dam is at this time only 'in construction'.

I trust your office will stay in contact, remain an invaluable source of information/encouragement, and will as scheduling permits, survey our ongoing effort to encourage the creation of quality wildlife habitat in the county. Your team is certainly welcome to visit our land whenever you have the notion.

Most sincerely yours,

Roger E. Calza
824 South Logan Street
Moscow, ID 83843
(208) 883-0176

Copy → SES

Dear Engineers at NRCS,

As per recommendation for the failed WHIP pond at our property outside of Princeton, I have reworked the basin. Conversations with Mark Contrell suggested that adequate clay soil is present and should be dozed from either the south, north or west (backwater) ends of existing 'hole' and placed and compacted within the area staked by the NRCS engineering crew on or before August 2003. I would like to submit this report as testimony of my considerable effort to correct the problem. Since two visits to the site with Clayton Reynolds early this summer suggested his 'fix' would be very expensive, I decided to carry out the plan of action proposed by NRCS myself.

It was thought by all (including NRCS engineers, pond/dam builder Clayton Reynolds, and U of Idaho forestry engineer Wayne Herrenbruck, and myself Roger Calza) that excessive leeching through the basin of the pond caused a near complete loss of water within the first five months of this year after a complete fill. It was determined that the soil types in that area of the pond (near the dam) contains a large amount of porous (sand-like) material and was mostly devoid of clay (plate type). The pond's dam is at this time thought to be impenetrable since no gross leak was detected at or near (within 400 feet below) the dam. The dam does, however, have a crack from left to right along the back edge measuring 6 to 18 inches wide, up to 14 inches deep, and more than 100 feet in length. I have drilled at least 16 holes (12 inch by 42 inch) in the pond including near the base of the dam and have failed to discover a high concentration of clay except at the north side of the west end of the pond hole. That is the area where the majority of the basin clay was moved from for compaction within the suggested problem area (covering the staked area). I provide this evidence to suggest that it is possible that a core for the dam containing a high concentration of clay may not have been constructed. The dam might therefore be sitting upon a bed of porous materials and allow water seepage underneath the dam.

The equipment used included a Cat D4 dozer, Case 580C backhoe loader, Mikura plate compactor, 2 ton compaction roller hitched to a Ford Bronco, a shark tooth harrow, soil moisturizing pump 3.5 hp with 60 gallons per minute flow, and mechanical seed and fertilizer spreader attached to an ATV. I believe I have relocated at least 100 cubic yards of yellow clay to the problem area and effected adequate compaction of the soil to form an impenetrable basin plate. Each lift cycle included moving clay to site, moisturizing by pumping about 1800 gallons water to soil, repeat wetting at 24 and 48 hours, harrowing, roller compaction, compaction using a plate (14 in by 14 in) compactor, and finally dozer compacting. Each soil lift was less than 2-3 inches for a total of at least 6 inches and a maximum of 24 inches (in worrisome areas, see drawing).

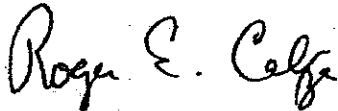
Evaluation and comments:

1. The very bottom of the pond is apparently holding water (I measured less than 1.5 inch drop between August 12 and September 12). I and Clayton Reynolds believe adequate clay exists in that area. He actually measured using a brass rod at least 18 inches long and he said was 'good' clay. I used my posthole digger to confirm the same in an area just five feet to the side of where he poked.

2. I worry that the bottom of the dam might not be properly constructed and that water might leech underneath to the porous underground. If that is true all my efforts were done in vain and I believe the maker of the dam should be held responsible for reconstruction of the dam.
3. I have inquired about the availability of Bentonite (pellets or powder). If used at 2 pounds a square foot with about 30,000 (125 feet by 125 feet) to cover we will have to use about 15 tons. I believe the cost is about \$120-200 per ton delivered.
4. Since the backwater area of the hole was where the clay was obtained, the pond's shallow area has been increased considerably. The shallow area is now measures about 45 feet by 80 feet from the original triangle shape of about one half of that.
5. The pond's depth has also been reduced by up to 2 feet from the base of the dam to about midway to the shallow area (about 210 feet). If the pond originally held 1.2 million gallons of water (I believe Mark calculated that), I suggest that it will hold significantly less now.
6. Lastly, if this effort does not remedy the situation, I trust the NRCS will come up with a viable plan for next year. With the large area filling each year but then draining to nothing, the area will be of no use as a wildlife area or anything else.

I trust that even with the relocation of Mark Contrell, other engineers (officers) of NRCS will attend to the successful completion of this project. I look forward to a timely correspondence from your office concerning this important matter.

Most sincerely yours,

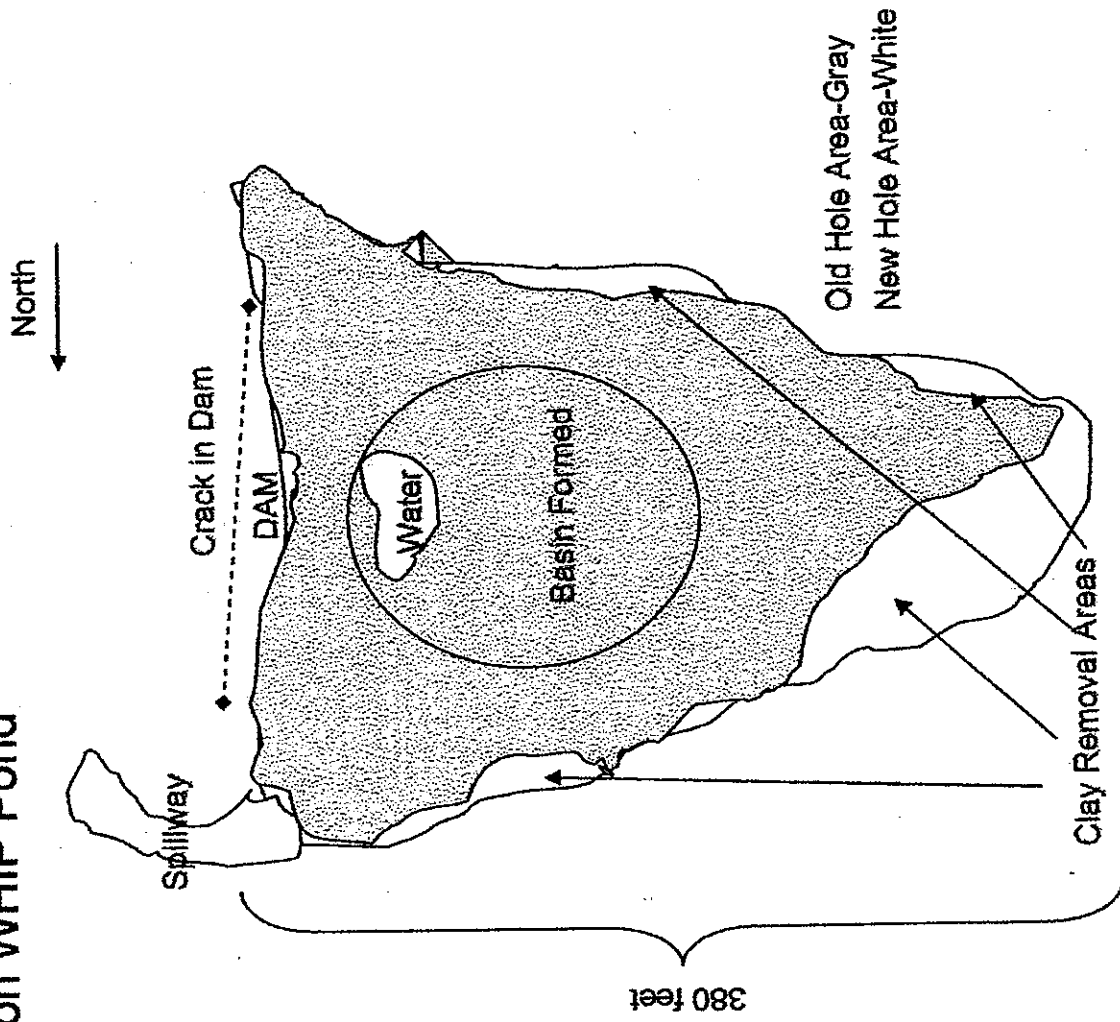


Roger E. Calza
824 South Logan Street
Moscow, Idaho 83843

Telephone: (208) 883-0176

Ps. Below I list the effort I carried out attempting to correct the situation listed above. The plate compactor and harrow ^{was} borrowed equipment. I own the dozer, roller, and backhoe. I trust considerable effort will be made by NRCS to at least in part reimburse me for these additional expenses.

Calza, Princeton WHIP Pond



STATUS REVIEW	
FY	2003
Tract NO	9931

This information is used in both the development and implementation of a Conservation, Reclamation or Water Quality plan as the basis for technical assistance and/or cost-sharing. The authorities for such work are: 16 USC 590a-f (Soil Conservation); 6 USC 1301-1311 (Water Bank); 16 USC 590p(b) (Great Plains); 30 USC 1236 et seq (Rural Abandoned Mines); 33 USC 1288 et seq (Rural Clean Water); 43 USC 1592(c) (Colorado River Basin Salinity Control); 16 USC 3831 (Conservation Reserve). Furnishing information is voluntary and will be confidential; however, it is necessary in order to receive assistance.

County	Latah	Date	August 8, 2003	Contract No	WHIP 72-0211-1-156
Cooperator	Roger Calza			Control No	
Address	824 So. Logan St. Moscow, ID 83843				

PROGRESS IN APPLYING PLAN

Cost-share CIN complete

1 Wetland Wildlife Habitat Management (644)- Construct a shallow water pond (50% deep and 50% shallow water). Pond construction done to NRCS standards and specs. (0.6 acre). **Pond filled up in the spring of 2003 but did not hold water. The division engineer is recommending a "clay blanket" be built to stop subsurface draw down. The dam structure itself is not the problem. The engineer and soil scientist think it is a rock lens or fracture causing the draw down.**

Cost-share CIN NOT complete

2 Wetland Wildlife Habitat Management (644)- Planting herbaceous and woody vegetation. **Planned for spring and summer of 2003.**
3 Upland Wildlife Habitat Management (645)- Planting herbaceous and woody vegetation. **Planned for spring of 2003. Upland and wetland plants were not planted in the spring of 2003 because the pond did not hold water. We did not want plants to be planted until the pond leakage was addressed because the remedy could have negatively impacted the newly planted plants (ie earthmoving).**

Non-cost-share CIN complete

N/A

Non-cost-share CIN NOT complete

N/A

Participant ~~has~~ (has not) carried out the agreement provisions of the Contract Support Document and all previously applied items ~~are~~ (are not) being properly maintained.

REVISION OF PLAN OR MODIFICATION OF CONTRACT NEEDED

Request extension of the contract. Use available funds to stop drawdown. Plant wetland herbaceous and woody material, once it is known the pond will hold water. Remove the upland plantings as there is sufficient upland cover in the immediate area.

NEED FOR TECHNICAL ASSISTANCE

All NRCS assigned practices have been applied and are adequately established to control erosion. No further status reviews are required.

X All NRCS assigned practices have not been applied. NRCS will complete a status review next year.

LAND IS STILL UNDER CONTROL OF THE COOPERATOR (check one)

X

YES

NO

District Conservationist		Date	
NRCS Staff	Mark F. Cottrell	Date	August 8, 2003
Participant / Cooperator		Date	

RECEIVED

APR 22 2008

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

DEPARTMENT OF
WATER RESOURCES

1. Name of Applicant Roger Ernest CALZA Phone (208) 883-0176

Mailing address 824 South Logan ST. Moscow, ID. 83843

2. Source of water supply Rain/Snow melt Run off which is a tributary of Middle Fork Bear Crk.

3. Location of point of diversion is Township 41 N Range 3W Sec. 29 in the NW $\frac{1}{4}$,
NW $\frac{1}{4}$, Govt. Lot — B.M., Latah County;

additional points of diversion if any: NONE

4. Water will be used for the following purposes:

Amount 3.5 for Wildlife Habitat purposes from year round to — (both dates inclusive)
(cfs or acre-feet per annum)

Amount — for — purposes from — to — (both dates inclusive)
(cfs or acre-feet per annum)

Amount — for — purposes from — to — (both dates inclusive)
(cfs or acre-feet per annum)

Amount — for — purposes from — to — (both dates inclusive)
(cfs or acre-feet per annum)

Amount — for — purposes from — to — (both dates inclusive)
(cfs or acre-feet per annum)

Amount — for — purposes from — to — (both dates inclusive)
(cfs or acre-feet per annum)

i. Total quantity to be appropriated is (a) — and/or (b) 3.5
cubic feet per second acre feet per annum

ii. Proposed diverting works:

a. Describe type and size of devices used to divert water from the source NONE

b. Height of storage dam 15' maximum feet; active reservoir capacity 3.5 acre-feet; total
reservoir capacity 3.5 acre-feet

c. Proposed well diameter is — inches; proposed depth of well is — feet

d. Is ground water with a temperature of greater than 85°F being sought? NONE

e. If well is already drilled, when? —; Drilling firm —

Well was drilled for (well owner) —; Drilling Permit No. —

f. Time required for completion of works and application of water to proposed beneficial use is 2 years (minimum 1 year)

g. Description of proposed uses (if irrigation only, go to item 9):

a. Hydropower; show total feet of head and proposed capacity in kW. —

b. Stockwatering; list number and kind of livestock. —

c. Municipal; show name of municipality. —

d. Domestic; show number of households. —

e. Other; describe fully. Wildlife habitat Improvement/creation site

* Effective 4/12/11

9. Description of place of use:

- a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
- b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RGE	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
T41	3W	29						1/4											
								W											

Total number of acres to be irrigated —

10. Describe any other water rights used for the same purposes as described above. NONE

11. a. Who owns the property at the point of diversion? Roger Ernest CALZA (and wife Stella)

b. Who owns the land to be irrigated or place of use? SAME

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: No

2. Remarks: This is an approved and funded NRCS Whips project. The approximately 1-2 ac. pond will have at least 40% shallow for wildlife use. The pond will be "sky" fill from about 50 ac drainage. See Dam fact page and whip proposal.

3. MAP OF PROPOSED PROJECT REQUIRED - Attach an 8 1/2"x11" map clearly identifying the proposed point of diversion, place of use, section #, township & range. (A photocopy of a USGS 7.5 minute topographic quadrangle map is preferred.)

29 T41N R3W

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Roger E. Calza
Signature of Applicant (and title, if applicable)

Received by — Date — Time — Preliminary check by —
 Fee \$ — Received by — # — Date —
 Publication prepared by — Date — Published in —
 Publication approved — Date —

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR CONSTRUCTION OF SMALL DAM

As required for construction or alteration of a dam 20 feet or less in height
and capable of storing less than 100 acre-feet of water.

1. Name of Owner (print or type): Roger Ernest CALZA Phone No. (208) 883-0176
Post Office Address: 824 South Logan ST. Moscow, ID. 83843
2. Application for: ☒ Construction of new dam, ☐ Reconstruction, Alteration of existing dam.
3. Location: NW 1/4, NW 1/4, Section 29, Township T41N, Range 3W,
LATAH County.
4. Source of Water Rain/Snow melt Runoff tributary to Middle Fork Bear Crk.
(Name, Unnamed Stream, Other-describe) (Stream Name)
5. Drainage Area: 50 acres above the site of the dam.
(Approximate)
6. Downstream Development NONE

Describe land use below site of dam, indicate approximate distances to buildings or development, roads, etc.

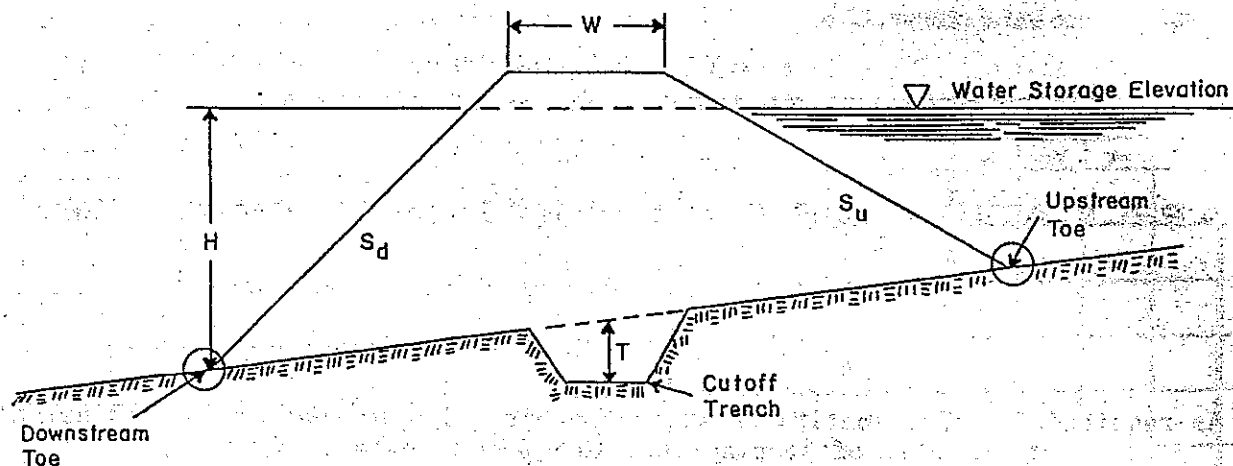
Same owner. No building, development, roads for at least
1/2 mile. Wildlife Habitat and Timber production.

NOTE: If the small dam is (to be) located in or immediately above a high risk area (urban, concentrated development, or in proximity to a habitable dwelling, that could be adversely affected by a release from the dam) this application shall be accompanied by plans and specifications prepared by a registered engineer.

7. Reservoir: Surface area 0.5 to 0.75 acres; Storage Capacity 3.5 acre-feet.
8. Reservoir Storage Purpose: Wildlife habitat development
(Irrigation, Stockwater, Recreation, Other-describe)

AILS OF DAM AND APPURTENANT STRUCTURES

Type of dam (embankment, oth describe) Earthan Fill. Dam



Hydraulic Height (H) 12 feet. If dam is being raised, indicate increase in height
feet.

Crest Length 170 feet. Crest (top of dam) Width (W) 12 feet. ^{8 ft. min.}

Downstream Slope (S_d) 2.5 : 1; Upstream Slope (S_u) 3 : 1.

Depth of Cutoff Trench (T) 4 feet.

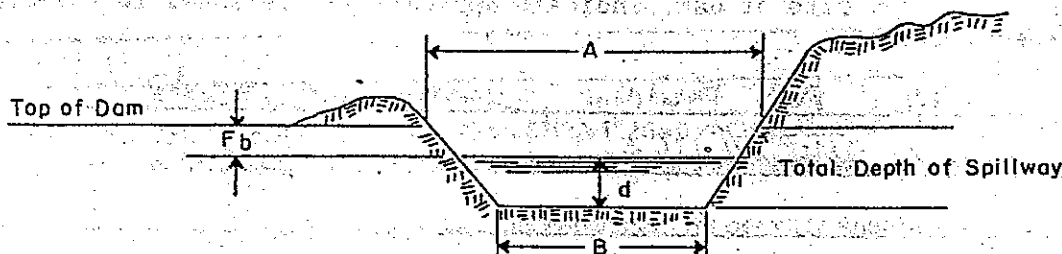
LET 12" (Size); PE or CMP (Type); Maximum Release Rate 28 cfs. (under full reservoir head)

Size and number of anti-seep collars 3x3 ft anti-seep collar; 2
(also indicate spacing of collars along outlet)

LLWAY

[] Service (auxiliary) Spillway, describe N/A

☒ Emergency Spillway, Located at: ☒ left, [] right abutment, [] other location.



Total Depth of Spillway (below top of dam) 13 feet.

Spillway: Bottom width (B) min. 9 feet; Top Width (A) 15 feet.

Discharge Capacity of Spillway 28 cfs at spillway flow depth (d) 1 feet.

Freeboard (F_b) 2 feet (total depth of spillway minus the spillway flow depth).

Spillway Channel Lining N/A
(Rock Cut, Rock Riprap, Other-describe)

INSTRUCTION SCHEDULE

Proposed date for start of construction

October 1, 2001

September 5, 2001
(Date)

Boyd E. Cahill
Applicant's Signature

FOR DEPARTMENT USE ONLY

Date application received

By

Fee \$

Date receipted

Receipted by

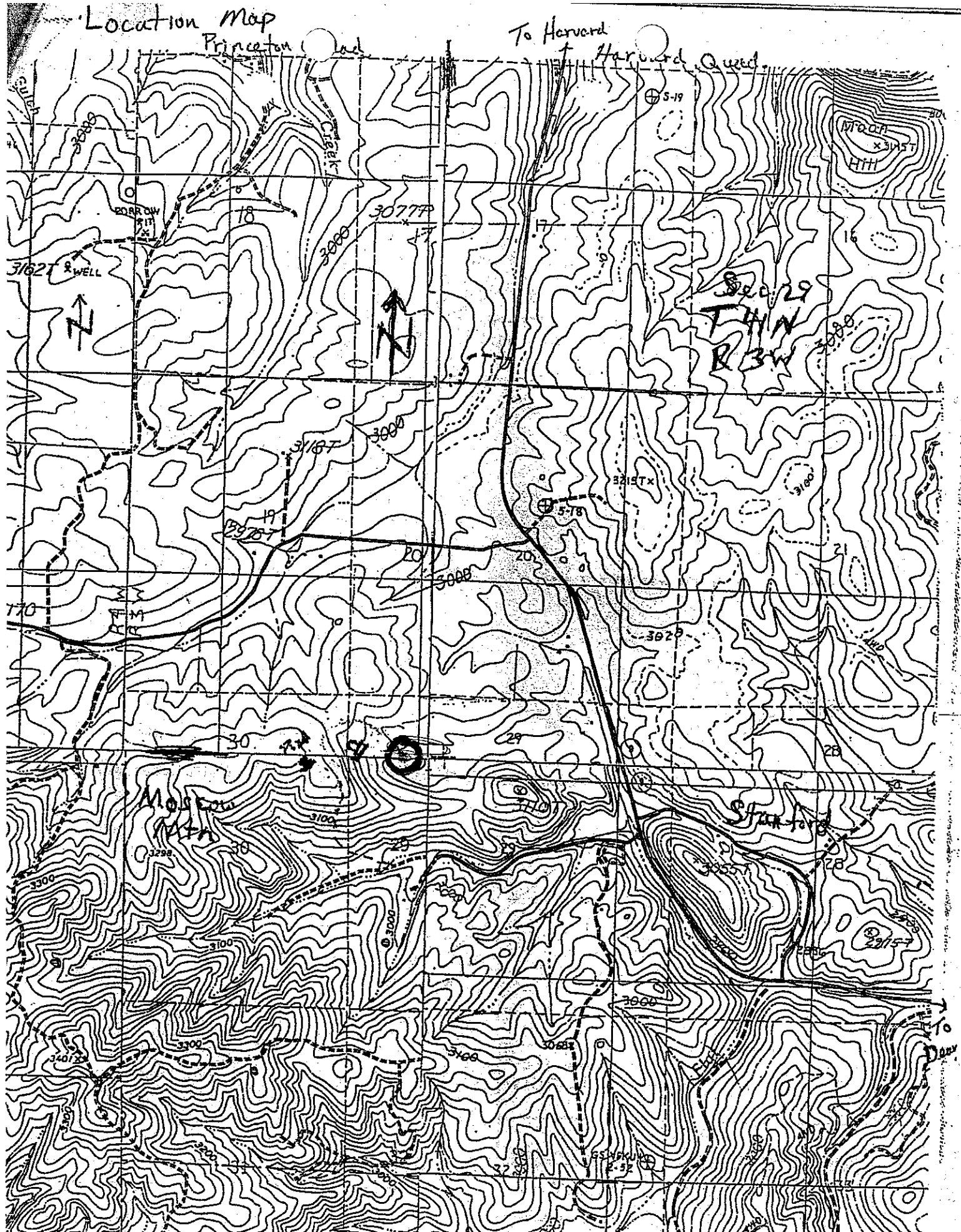
ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

In accordance with the provisions of Title 42, Chapter 17, Idaho Code, and the Department's Rules and Regulations for Safety of Dams, the application for construction of _____ Dam is hereby approved, subject to the following conditions:

1. This action does not constitute the required authority to appropriate water under Idaho Water Law.
2. The applicant shall notify the Department at the following times and at such other times deemed necessary, to conduct inspections.
 - a. After clearing and excavation of the foundation area, and prior to placing fill material.
 - b. After installation of the outlet conduit, and before placing any backfill material around the conduit.
 - c. After construction is complete and before any water is stored in the reservoir.
3. Approval of the application for construction of the dam shall not be construed to grant the applicant other authorization required to proceed. It is the responsibility of the applicant (dam owner) to secure all lands, easements, and rights-of-way; water rights; or the approval of other regulatory agencies, prior to commencing to construct the dam or to store water in the reservoir area.
4. In the event the owner fails to pursue actual construction and maintain reasonable progress on construction of the dam, in conformance with this approval, the Director may revoke the approval one year after such approval.
5. Additional Conditions:

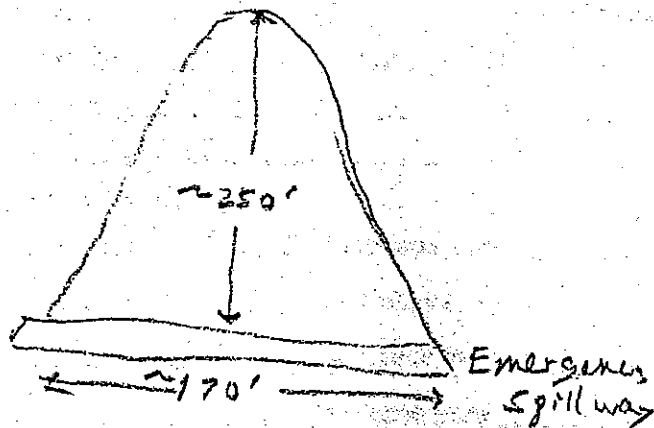
Witness my hand this _____ day of _____, 19____.

Harvard Quest



Roger Cruz - WHIP

Shallow Water Area



Max fill 12'

NRCS Effective Ht 10'

IDWR Effective Ht ~ 12'

Watershed ⁵⁰
~~130~~ ac (85% forestland 15% pastureland)
MFC 7-12-01

Peak Discharge ²⁸
~~22~~ cfs for a 24 hr 25 yr storm event
MFC 9-12-01

$$\text{Storage} = 250' \times 170' \times .6 = 25,500 \text{ ft}^2$$

$$25,500 \text{ ft}^2 \times 15' \times .4 = 153,000 \text{ ft}^3$$

$$\frac{153,000 \text{ ft}^3}{43,560 \text{ ft}^2} = 3.5 \text{ ac-ft}$$