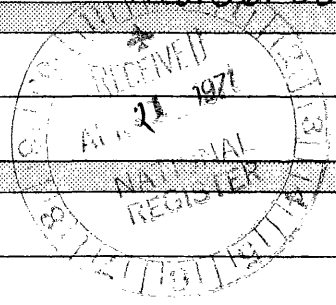
Form 10-300
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY – NOMINATION FORM

(Type all entries – complete applicable sections)

STATE: Wyoming
COUNTY: Park
FOR NPS USE ONLY
ENTRY NUMBER: 71.8.56.0006 DATE: 8/12/71



1. NAME

COMMON: Buffalo Bill Dam
AND/OR HISTORIC: Shoshone Dam

2. LOCATION

STREET AND NUMBER: Sec. 12 T. 52N R. 102W
CITY OR TOWN: Cody---7 miles west on U. S. 14, 16, 20.

STATE	CODE	COUNTY:	CODE
Wyoming	56	Park	29

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
☐ District ☐ Building	☒ Public	Public Acquisition:	☒ Occupied	Yes:
☐ Site ☒ Structure	☐ Private	☐ In Process	☐ Unoccupied	☐ Restricted
☐ Object	☐ Both	☐ Being Considered	☐ Preservation work in progress	☒ Unrestricted
				☐ No

PRESENT USE (Check One or More as Appropriate)

☒ Agricultural	☒ Government	☒ Park	☐ Transportation	☐ Comments
☐ Commercial	☐ Industrial	☐ Private Residence	☒ Other (Specify) Public Power	
☐ Educational	☐ Military	☐ Religious		
☐ Entertainment	☐ Museum	☐ Scientific		

4. OWNER OF PROPERTY

OWNER'S NAME: U. S. Government, Department of the Interior, Bureau of Reclamation
STREET AND NUMBER:
CITY OR TOWN: Washington
STATE: District of Columbia
CODE: 08 11

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: Park County
STREET AND NUMBER: Sheridan Avenue
CITY OR TOWN: Cody
STATE: Wyoming
CODE: 56

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: Wyoming Recreation Commission, Survey of Historic Sites, Markers & Mon.
DATE OF SURVEY: Summer-Fall 1967 ☐ Federal ☒ State ☐ County ☐ Local
DEPOSITORY FOR SURVEY RECORDS: Wyoming Recreation Commission
STREET AND NUMBER: 604 East 25th Street
CITY OR TOWN: Cheyenne
STATE: Wyoming
CODE: 56

SEE INSTRUCTIONS

STATE: Wyoming
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ENTRY NUMBER: 71.8.56.0006
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7. DESCRIPTION

CONDITION	(Check One)		
	☒ Excellent	☐ Good	☐ Fair	☐ Deteriorated	☐ Ruins	☐ Unexposed
	(Check One)		(Check One)	
	☐ Altered	☒ Unaltered	☐ Moved	☒ Original Site

DESCRIBE THE PRESENT AND ORIGINAL *(if known)* PHYSICAL APPEARANCE

The physical appearance of the Buffalo Bill Dam is essentially the same today as when its construction was completed in 1910. Since 1910 there have been some modifications at the dam which concerned a power plant and additional canal facilities but the dam itself has not been altered.

Buffalo Bill Dam is a concrete arch placed near the head of the Shoshone River Canyon, a deep and, prior to the dam's regulatory function, at certain season's terrible wild water canyon. This canyon commences just below the junction of the North and South Forks of the Shoshone River and it separates Rattlesnake and Cedar Mountains, both of which tower several thousand feet above the river's present course. The actual length of the canyon is about five miles (running from west to east) and the location of Buffalo Bill Dam is approximately one mile from the upper (western) end of the canyon.

The Dam stands 325 feet high, measured from bedrock. Its hydraulic height is 233 feet; its width at base is 108 feet and at top is 10 feet. The length at the crest is 200 feet and the elevation there is 5,370 feet above sea level. A measured 82,900 cubic yards of concrete were poured during the dam's construction. The reservoir standing behind the dam is also named Buffalo Bill. It has a capacity of 439,800 acre feet of water with a shoreline (not considering minor indentures) of about 20 miles.

As noted in the No. 2 heading (Location), Buffalo Bill Dam is 7 miles west of Cody on U. S. 14, 16 and 20 where these three routes are united in a single highway leading from Cody to the East Entrance of Yellowstone National Park. This highway, going west, negotiates the canyon below Buffalo Bill Dam and, approximately even with the Dam Site, passes through a 3000 feet long tunnel from which it emerges at the upper end into a spacious parking area. From this parking area the visitor gets his first impression of the Buffalo Bill Reservoir---a magnificient view of a man made lake backed by the lofty and craggy Absaroka Mountain sky line. Then, from the parking lot, he travels a short, safety fenced trail and stairways which lead out onto the crest of the Dam. Altogether, the experience is one of a combination of natural splendor and man created artistry which so nicely complement each other as to leave the thoughtful viewer musing: if this construction had truly been entirely planned for practical reasons---if there had not also been a conscious, if supplementary, aesthetic objective.

SEE INSTRUCTIONS

8. SIGNIFICANCE

PERIOD *(Check One or More as Appropriate)*

☐ Pre-Columbian	☐ 16th Century	☐ 18th Century	☐ 20th Century
☐ 15th Century	☐ 17th Century	☒ 19th Century	

SPECIFIC DATE(S) *(If Applicable and Known)* 1890 to 1910 but continuing

AREAS OF SIGNIFICANCE *(Check One or More as Appropriate)*

Aboriginal	☐ Education	☐ Political	☐ Urban Planning
☐ Prehistoric	☒ Engineering	☐ Religion/Philosophy	☒ Other *(Specify)*
☐ Historic	☒ Industry	☐ Science	Settlement of arid lands, otherwise unfeasible
☐ Agriculture	☐ Invention	☐ Sculpture	
☒ Architecture	☐ Landscape Architecture	☐ Social/Humanitarian	
☐ Art	☐ Literature	☐ Theater	
☐ Commerce	☐ Military	☐ Transportation	
☐ Communications	☐ Music		
☒ Conservation			

STATEMENT OF SIGNIFICANCE

Reclamation of arid lands is a practice almost as old as civilization and here, in the West, it is almost synonymous with civilization. In this synonymity it is a part of settlement and the forming of state and local governments but it also relates to the phase of history known as conservationism. In both respects reclamation's part is a continuing one and one which is important not just to locality or state but to the nation itself.

Dating from several years previous to its own particular construction, the reclamation theory and actuality exemplified by Buffalo Bill Dam and its complementary structures reflect a new founded social conception not previously evident in histories of arid land agricultural developments. At least, if the Kings of Babylonia and the Pharaohs of Egypt ever did place the power of their national treasuries behind the development of reclamation projects, they didn't do so in order to throw open resulting benefits---land ownership with resultant wealth---to the rank and file of the citizenery. At most a few favored families realized any substantial enrichment.

On the other hand, although the republic named the United States of America has never held objection to the economic advancement of ordinary citizens and has always made it easy for them to gain private ownership of federal lands, it had, up until the time of such great reclamation projects as this one at Buffalo Bill Dam, never utilized the wealth of the national treasury as a capital with which to provide means for such advancement. The American citizen had to find that capital himself, had to find it at the private money market.

And this he had done! For surely in the arid lands of the West the first settlers, usually cattlemen picking choice locations, had been able to engineer and construct comparatively small scale private irrigation systems. Then, a little later and on moderately larger dimensions, private development concerns were occasionally successful in bringing water to desert lands preempted under provisions of the Carey Act (for Senator Joseph M. Carey of Wyoming) and then opened to the public for purchase of individual farm tracts, accompanying water rights and delivery of that water.

SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Cassai, Nello. Region 7 Information Officer. First Dam on the Wild North Platte (Reclamation Era, November 1968. United States Department of the Interior, Bureau of Reclamation.

Department of the Interior United States Reclamation Service (H. H. Savage, Supervising Engineer). Feature History of The Shoshone (Now Buffalo Bill) Dam June 1, 1910. Shoshone Project, Wyoming. G.P.O.

James, George Wharton. Reclaiming the Arid West. N.Y., Dodd, Mead & Co. 1917

North Platte Project, Nebr. & Wyo., 7 Counties, Region 7, Bureau of Reclamation, Proj. Hdqtrs., Guernsey, Wyo. Pamphlet-G.P.O. 19610-530191.

Shoshone Project, Montana, Carbon County-Wyoming, Big Horn and Park Counties, Region 6, Bureau of Reclamation, Proj. Hdqtrs., Powell, Wyoming. G.P.O.: 19610-530191.

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY						OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES					
CORNER	LATITUDE			LONGITUDE				LATITUDE			LONGITUDE	
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
NW	°	'	"	°	'	"		44°	30'	15"	109°	10'	59"
NE	°	'	"	°	'	"							
SE	°	'	"	°	'	"							
SW	°	'	"	°	'	"							

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 2 acres

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

11. FORM PREPARED BY

NAME AND TITLE:
Nedward M. Frost, Historian

ORGANIZATION
Wyoming Recreation Commission

DATE

STREET AND NUMBER:
604 East 25th Street

CITY OR TOWN:
Cheyenne

STATE: Wyoming

CODE: 56

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National [X] State [ ] Local [ ]

Name Paul H Stedtfeldt

Title Director

Date 4-7-71

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Ernest A Connally
Chief, Office of Archeology and Historic Preservation

AUG 12 1971

Date

ATTEST:

William Murtagh
Keeper of The National Register

JUN 21 1971

Date

SEE INSTRUCTIONS

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(Dec. 1968)

UNITED STATES DEPARTMENT OF THE INTERIOR
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NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE	
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Statement of Significance - page 2

But, still, such developments were necessarily limited; not even a state---certainly not a youthful and underdeveloped Rocky Mountain state---could capitalize a major reclamation undertaking. And, up until the end of the 19th century, only one man possessing a sufficiently broad and analytic mind had carried out the necessary reconnaissances and accumulated the necessary experiences to visualize how an extensive reclamation of the West's arid lands could be accomplished. But that man had to sell his vision, his ideas and his plans to the nation or, at least, to the nation's government---The Legislative and the Executive Branches.

This man was, of course, John Wesley Powell, Chief of the U. S. Geological Survey. In his official capacity, through his own sharply trained eyes plus the assistance of "his boys" (a brilliant corps of Geological Survey scientists schooled by himself), Powell came to know, to pin point the location, of practically every major reclamation project potential existing throughout the West. He knew that there were hundreds of thousands of acres---nay, millions in the aggregate of all the western states---only waiting for water to make them flower; only waiting for water to effect the difference between forty acres capable of supporting one often thirsty cow and forty acres capable of producing many thousands of dollars worth of products each year.

But he also clearly comprehended that each individual project capable of bringing water to fifty thousand, or one hundred thousand, or two hundred thousand parched acres could only be brought to realization as the result of vast construction efforts. He well realized that these efforts would be so costly that only the national government could provide sums in the amounts needed. His necessity, then, was to educate the Nation; to persuade The Congress that it should provide for a responsibility hither-to repugnant to the ideals of this particular free society.

Throughout the 1890 decade and on into the 1900s Powell and "his boys" persisted with their educational and doctrinal chores. They labored and they gained converts in The Congress. But it is doubtful how long it might have taken them had not Theodore Roosevelt---the one President who had personal experience in, love for, and understanding of the West---ascended to the Presidency in 1901. Roosevelt, backed with all the power of Chief Executive, made the effort to pass a reclamation act through the Legislative Branch. The President's aid hastened success and on June 17, 1902 his signature made the Reclamation Act, creating authority and a new service bureau to guide that authority, the law of the land. John Wesley Powell, whose health had been rapidly failing, died soon thereafter.

Statement of Significance - page 3

Powell was gone but the men he had trained carried on. Capable Frederick H. Newell, first Chief Engineer of the Reclamation Service (and it seems a shame to select just one name from that brilliant and dedicated first group) and his staff took the new responsibility in hand and in a few short years brought to achievement many of the specific projects which Powell had invisioned and germinated. Settlers homesteaded the lands to which water had been led and, in orderly manner over an extended period of annual payments, reimbursed the federal government for the actual costs of construction. Thus, by wise use of the financial strength of all the nation, wealth has been created in a specific region and afterwards the costs repayed to the whole by those citizens who received and who continue to enjoy the direct benefits. So has the entirety prospered through the strengthening of a part!

The foregoing relates to the history of a conception and the enactment of that conception into a federal law. It is a substantiation of the importance of a movement, of a social development, and of the federal agency which was the result of that movement. The Buffalo Bill Dam (and the entirety of the Shoshone Project of which it is a part) although one of the earliest achievements of that federal agency, and so in a way also a result of the movement, is nevertheless, in that way, of no greater historic significance than any other single achievement, new or old, built by the Bureau of Reclamation. Thus the social historic significance of the Buffalo Bill Dam is, like all other individual works of the Bureau, over shadowed by the very existance of the parent agency.

The true historic significance of the Buffalo Bill Dam is as an engineering feat---an engineering triumph. Although, as the years passed, the Reclamation Bureau has gone on to build greater dams across greater rivers in (perhaps) greater canyons, it was at the earliest projects such as Buffalo Bill and Pathfinder where theories were hammered into proven science. And it was during such first achievements as Buffalo Bill and Pathfinder Dams that theorists themselves, learning practical lessons from harnessing one of nature's most awesome powers, matured into as seasoned and efficient a professional corps as ever has, in all of the history of hydrological engineering, been grouped under a single authority.

For example, although the arch is among the first and strongest structural designs discovered by man the builder, probably predating written history, its function as a dam and the measuring of its strengths in that function were, at the time Buffalo Bill went on the drawing board and throughout its construction and even afterwards, largely a matter of conjecture. Considering this fact it was necessary to incorporate a large safety margin. In this connection it is interesting, even to a layman, to read an excerpt from a paper entitled "Fundamentals of the Trial-Load Method for the Design of Arch Dams" written by one R. E. Glover in 1936 in partial fulfillment of requirements for the professional degree of Civil Engineer. Mr. Glover wrote:

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"The first two arch dams built by the Bureau of Reclamation were analyzed by Wheeler in 1904-1905 by what is called the "Arch and Crown-Cantilever Method." These were the Pathfinder and Shoshone (now Buffalo Bill) Dams in the State of Wyoming. In his analysis, Wheeler assumed that the dam would act both as an arch and a gravity dam. The dam was assumed to be divided into vertical beams and horizontal arches, and an adjustment of the deflections of the crown cantilever and the crown of the arches was accomplished. Deflections at other points were considered but no deflection adjustment was made. Actual conditions at the site were given consideration, including various reservoir water surface elevations and variations in temperature. This analysis was the fore runner of the "Trial-Load Method of Arch Dam Stress Analysis" as used at the present time, and marked the beginning of the exact science for design of large arch dams of concrete. Prior to this time, the analysis of an arch dam was only an approximation, which required the use of large factors of safety and much dependence on experience.

"During the period from 1904 to 1923, chief reliance for design of arch dams was placed upon the middle-third theory, the cylinder theory, the elastic-arch theory, and the arch and crown-cantilever adjustment.

"The need for an accurate, comprehensive method of analyzing arch dams impelled the engineers of the Denver office, in 1923, to attempt the development of such a method. This attempt, which was made with the aid of several outstanding engineers and mathematicians, resulted finally in the development of the "Trial-Load Method of Arch Dam Stress Analysis," referred to herein generally as the trial-load method."

Mr. Glover went on to write: "Evolution of the new method was accomplished during the period of 1923 to 1935, and represents a tremendous expenditure of effort. The reliability of the method has been extensively tested and checked by laboratory and field experiments."

The unindoctrinated layman may become somewhat bemused by Mr. Glover's use of such technical terms as crown-cantilever, cylinder theory and elastic-arch theory. But he can certainly understand enough of the discourse to realize the formidable professional task that confronted the first arch dam (Buffalo Bill and Pathfinder) builders and the important part their success played in the construction of those later mammoth dams along the lower courses of the Colorado River.

But the problems which confronted these early engineers, and tested so severely their ingenuity, were not confined to such academic and disciplinary subjects as design and analysis. Their's also to conquer were such natural and practical confrontations as were enherent to a raw frontier in a land of sudden and mighty contrasts.

Statement of Significance - page 5

Just as a general of armies, before he can ever fight a battle, must consider recruitment, training, supply and logistics so had the Messrs. Jeremiah Ahern (Shoshone District Engineer), W. W. Savage (Supervising Engineer) and D. W. Cole (Constructing Engineer) at Buffalo Bill Dam, these same problems to surmount. Where in a State encompassing 98,000 square miles which supported a population of no more than one person to the square mile did one find a contractor commanding a force of seasoned laborers? He didn't---not in Wyoming. Contractor and men had to be imported, and then trained. Contractors went broke and inept workers caused costly delays and even lost their lives. Supplies and logistics were another formidable problem. A branch rail line had reached Cody in 1901 but that railhead was seven miles away and, intervening, were four miles of wild and rocky canyon terrain. A road had to be built and that was no small engineering chore in itself; but once it was completed, a single steeply graded lane possessing occasional turnouts, it took a stout hearted freighter to drive multi-span teams between, on the one side, sheer, towering cliffs and, on the other, a straight drop to where tumultuous water roared between or over jagged boulders.

So much for preparations---for the gathering of a force, the procurement of supplies and the provision of a logistical route. It was then time to engage the enemy, in this case the river. And this river, the Shoshone, was no ordinary river. Above the dam site the basins of its two forks drained together no more than 1,504 square miles. But these square miles were almost entirely mountainous and ranged in elevation from barely more than 5,000 feet at the dam to more than 12,500 feet at certain headwaters. Since neither branch of the river greatly exceeded fifty miles in length but dropped more than 7,000 feet in that distance the flow of the streams was almost uniformly rapid and powerful. The site of construction, being at the head of a canyon, did not occupy one of the few quiet stretches. One more fact is pertinent: while the lands to the east, the arid lands to be irrigated, received only scantly more than five inches of rainfall annually, the lands to the west, in the high mountains, received much greater amounts---up to thirty inches per year.

Thus this river of an otherwise arid region could gather, in a drainage basin of only 1,504 square miles, an annual maximum discharge at the dam site of 1,350,000 acre feet; a minimum annual discharge of 536,000 acre feet; and an average annual discharge of 903,400 acre feet. However, these figures in no way indicate the total problem which they presented to engineer and contractor. For in this region of high mountains, and at this latitude, most of the snow that has fallen during winter months melts and runs off during the thirty days between June 10 and July 10. In that one month upwards of a full half of the total annual runoff comes roaring down the rivers rolling huge stones in channel depths and carrying massive trees torn from overwashed banks, sweeping the stripped trunks along and banging them against canyon walls until nothing larger than kindling wood is left of one time forest giants.

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(Dec. 1968)

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This was the river, this was the Shoshone it was the duty of the engineers to dam.

Due to the high summer waters the indicated, (and proved), major work seasons were the fall, winter and spring months. Which, of course, accounted for further difficulty. Given an interior continental climate, an elevation of 5,000 feet above a 1,000 miles distant sea, a dry atmosphere where the sun provides the only warmth and then choose, as the place of operations, the bottom of a deep canyon where no winter sun ever shines. There was poured 82,900 yards of concrete to build the highest dam ever to that date achieved by man. Temperatures fell to zero and below, and so remained for days at a time, but protecting cloths were arranged, steam fittings carried heat, concrete was run in place and cured despite cold and expense and so Buffalo Bill Dam was built.

No engineer concerned with that construction could avoid gaining experiences, experiences which have proved of incalcuable value in the construction of subsequent works of the Bureau down through the years to the present time.

The original name, for the river it spans, was Shoshone Dam. Almost three decades after its construction the title of dam and reservoir was changed by Act of Congress to Buffalo Bill. This was done in order to honor the memory of Col. William Frederick Cody better known to three generations of mankind as "Buffalo Bill." Actually the entire project (including irrigation canals extending into Montana, 70 or more miles from the dam site; watered lands, presently amounting to 93,431 acres; power plants, generating 10,000 kilowatts; spillways; diversion tunnels; the dam and the reservoir) was and still is named the Shoshone Project. Only the dam and the reservoir, for a kind of a separate aesthetic rather than practical reason, have undergone the change of name.

Buffalo Bill, of course, was famed as a frontiersman, a Pony Express Rider, an Indian Wars army scout, a buffalo hunter to feed railroad builders and, most of all, as the greatest showman of his era. But not so generally known, he was also a conservationist and a builder. In the 1890s he and a group of associates, prominent citizens of both Wyoming and New York, formed a land and irrigation company and, taking up water rights from the Shoshone River, constructed a canal bringing water to about 10,000 acres of agricultural lands plus a new town, Cody, which they founded. However the breadth of these men's vision was greater than any private financial strength they were able to gather. In this circumstance Col. Cody turned to friends in the federal government and gained their interest in this work. Reclamation Service engineers investigated and the Shoshone Project was authorized by the Secretary of the Interior on February 10, 1904. During that year plans were made and, on October 19, 1905, a contract in the amount of $515,750 to build the dam was awarded.

Statement of Significance - page 7

The first work, started in November 1905, was to turn the river from the construction site. This necessitated a diversion tunnel, flume and temporary dam. The work was not completed in strength before the summer flood waters of 1906 came along to wreck the flume, damage the temporary dam and deliver far more water than the installations could have serviced had they withstood its force and battering. After that the contractor limped along for a time but the set back had actually ruined him and he shortly was compelled to quit. All told there were three major contractors involved before the job was finished.

Again and again during subsequent years of construction summer floods caused extensive damage. Perhaps an early season freshet, May 2, 1908---six weeks before true summer flooding was due, caused one of the most serious set backs. During the winter and early spring months the contractors had succeeded in excavating the foundation site to bedrock, a most expensive and trying task because of the great over burden of huge rocks and other debri packed to cement like hardness during eons of repeated flood conditions. By May first he had this wide, broad and deep hole all but protected from the expected June and July high waters. But this short, early season run-off---no great thing in itself---caught him just short of security and tightly packed his excavation with fresh silt, rocks and driftwood. The entire job had to be done once more.

A frequently occurring irritation causing trouble enough at times was the prevailing strong west wind. True to the western flair for understated irony, the natives have dubbed this wind the Shoshone Zephyr. Here the "Zephyr" blew with such particular alignment that the Shoshone Canyon served as a natural funnel to gather and deliver it with redoubled fury at the very site of construction. Once a great boom-derrick toppled from its stand and was dashed into wreckage as it bounced and fell to the canyon floor. While the wind was not officially blamed for this seriously delaying accident, those experienced with the capriciousness of the "Zephyr" might well hold it suspect.

Altogether there was a real gantlet of experiences for engineers and contractors to run during the time of construction at Buffalo Bill Dam. This even included, surely a new thing for practitioners of a discipline which had succeeded in mapping the constantly westward moving frontier without ever drawing very much attention, the entertainment of V.I.Ps. Twice the Secretary of the Interior visited the site of work and frequently other important people, officials and the merely curious, sought and received tours of the project. Truly it was a time to get in indoctrinational endeavors and to make friendships that would be useful to the agency's goals and to its own growth.

As mentioned earlier, there was no labor supply in Wyoming. The contractor's solution to this problem was to employ teams of worker hunters who

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constantly traveled the labor markets all the way from St. Louis to San Francisco. Laborers, frequently freshly landed emigrants, kept arriving in Cody in groups ranging in numbers from 10 to as high as 80. But the turnover must have been great because the peak number of employees at any single date appears to have been only 499 men. And, although many were newly arrived from such foreign lands as Italy and Bulgaria, they learned American labor principles rapidly enough. Certainly in one way and at one point they proved to have done so. Finding the contractor in the not unusual circumstance of being in a race against time and the next suspected and feared natural phenomenon, the men went out on strike. They demanded an increase of pay to something more than $3.00 per shift---about 30 per cent higher than going wages throughout the Rocky Mountain area at that time. And they got it!

But progress, however slow, was made. On December 21, 1909 Mr. D. W. Cole, Constructing Engineer wrote the following letter to Mr. Clarence J. Blanchard, Statistician, U. S. Reclamation Service, Washington, D. C.:

"My Dear Sir:
With the audacity of Reclaiming faith, and with the lofty disregard of precise verities characteristic of the industrial poet and public romancer of the Alfalfa Belt, you have lang syne blazened to a wondering populace that Shoshone Dam "is" the highest dam in the world. Your glorious disdain of the mere distinction twixt augury and accomplished fact has ever been an irritant to my more cautious temperament, so today I find peculiar happiness in announcing to you, not that Shoshone Dam will be, but that it IS the highest dam on earth.

This is not to say that our structure is completed, for there remains a height of 31 feet to be added to the crowning altitude. But, whereas on yesterday the Croton Dam of New York was the world's highest, 297 ft., today the Shoshone Dam has moved up to the blue ribbon rank with 298 feet in maximum elevation. - - -."

Then, on January 16, 1910, (when Shoshone Dam stood 329 feet tall), Mr. Cole sent another communication---this time a telegram:

"The Director of Reclamation
Washington, D. C.
Shoshone Dam was completed at two oclock Sunday morning January 16th.
Cole."

By such terse words was it announced that the then tallest dam in the world was a finished structure.

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Although the original contract to build Buffalo Bill Dam was for a sum of $515,000 each of the three contractors ultimately involved in the work lost heavily. According to the Supervising Engineer's "Work History": "A very complete cost analysis. . . shows the phenominal losses sustained by the succession of three contractors who have done the work, and it is to be noted that there is remarkably close agreement between the estimates of costs and losses by the Engineer and those shown by the contractor's books. The difference, adjusted for interest charges and depreciation, amounts to only $5,000 out of the $1,000,000 involved."

Thus it appears that a cost of $1,000,000 was involved in the building of Buffalo Bill Dam. This amount was almost twice as much as at least one experienced construction firm, the first contractor, had thought that it would be. Although this $1,000,000 figure seems to have staggered the conception of those early engineers and builders it is, of course, a small sum in the light of modern construction costs and the deterioration of money value. It seems a particularly small sum when compared to the history of lessor and easier constructed latter day dams which have, nevertheless, cost several times that number of actual dollars.

From the standpoint of value to the local area, to the State of Wyoming and even to the Nation the Buffalo Bill Dam and the rest of the Shoshone Project can only be considered a very great bargain. Besides the value of annual crops raised on almost 100,000 acres of rich agricultural lands; the wealth resulting from industrial and municipal waters made available; the further wealth resulting from electric energy furnished to individuals, communities and such industrial consumers as Wyoming's vast petroleum industry, there derives certain benefits of an aesthetic and recreational nature which, if not measurable on an economic scale, are nevertheless substantial and important.

One way to frame an understanding of the achievement is to visit the little city of Powell where, in the center of the Shoshone Project, it thrives on lands that were formerly only desert. Lands that could be nothing else but desert today had not the building of Buffalo Bill Dam provided for the reservoir of reclamation water which made its development---its very existance, possible. This town, named for the man whose vision effectuated its founding, maintains a population of 6,000 prosperous people. Its busy commercial district, paved and tree lined residential streets, modern homes, churches, schools and attractive college campus confirm the verity of John Wesley Powell's vision. He and his engineers - "his boys" --- really did cause the desert to bloom and bear fruits.