J. S. ARMI ENGINEER DISTRICT, WALLA WALLA<br>CORPS OF ENGINEERS<br>Bldg. 602, City-County Airport<br>Walla Walla, Washington<br>LAKE WALLULA PARKS<br>IMPROVEMENT PROGRAM<br>SITES ARE SPECIFIED

Walla Walla, Wash., 23 Mar 59. -
Seven established parks or recreational sites on Lake Wallula have been selected in the recreational improvement program for the U. S. Army, Corps of Walla Walla
Engineers 2 District Engineer, Colonel Paul H. Symbol, stated today in releasing the specifications for the recreational facilities work to be done within the McNary Dam Reservoir on the Columbia River. The seven sites named are:
(1) McNary townsite area. Site of the work is approximately $3 \frac{7}{4}$ miles east of Umatilla, Oregon and $3 / 4$ mile northwest of McNary, Oregon. Work will include a spacious parking area to be graded at this site, along with the grading and leveling of the beach itself to create a swimming site. Rest rooms and sanitary facilities will also be built.
(2) Hat Rock Park, approximately six miles east of McNary, Oregon. Work to be done will include additional access roads, along with the enlargement of the parking areas. A launching ramp will also be constructed at the lake edge and a floating foot bridge placed across the present channel leading to the swimming area.
(3) Burbank Slough Area, $4 \frac{1}{2}$ miles southeast of Burbank. Access roads are being planned for this area.
(4) Hood Park Area, one mile north of Burbank and approximately four miles east of Pasco. Work here will consist of access roads and a parking area, along with a water supply and rest stations. This site will involve initial development and plans call for establishing later a boat launching ramp at the park shoreline.
(5) Columbia Park, one mile east of Kennewick. Additional roads will be built and the parking area will be enlarged. The plans also call for a boat
launching ramp improvement at the park shoreline.
(6) Road 52 area. Site of the work is approximately $2 \frac{1}{2}$ miles west of Pasco, Washington and will give access to an additional river frontage.
(7) Chaiazana Park area, approximately five miles west of Pasco, Washington. Additional access roads and parking areas will be constructed at the site of the boat launching ramp. A concrete block rest room and changing house to accommodate the swimmers is also called for in the plans, along with a well and pump capable of furnishing water to the area.

The specifications of the work require that all phases must be completed by 30 June 1959. Part of the funds to be used are from a special appropriation earmarked by the United States Congress for recreational development at various multipurpose dam reservoir sites throughout the country. Bid opening is scheduled for 7 April 1959.

## FOR IMMEDIATE RELEASE

U. S. ARMY ENGINERR DISTRICT, WALLA WALLA CORPS OF ENGINEERS<br>Bldg. 602, City-County Airport<br>Walla Walla, Washington

U. S. ARMY ENGINEERS<br>PREPARE DAM PROJECTS<br>

Walla Walla, Wash., 31 Mar 59. -
At the Ice Harbor Dam project on the Lower Snake and John Day Dam on the Columbia River, the U. S. Army Engineer District, Walla Walla, Corps of Eagineers, designers and construction supervisors of both projects, are rushing preparation for the high-water spring runoff season due to start within the next two weeks.

At Ice Harbor, the $\$ 30,000,000$ south shore construction contract of Montag-Halvorson-Austin and Associates, is rated at approximately 98 percent complete. Before the spring runoff on the Snake, however, anticipated for sometime between 15 April and 25 April, the upstream south shore abutment of the old cofferdam must be entirely removed in order to prevent it being washed into the forebay of the completed south shore powerhouse intake section of Ice Harbor. Trucks and draglines are working around the clock to clear out the upstream cofferdam levee, and downstream a similar excavation operation is in effect. High water should do little damage to the downstream arm of the old south shore cofferdam.

At Ice Harbor the steel midriver cells of the new north shore cofferdam will remain unconnected with the north shore until after the spring runoff. At that time the upstream and downstream abutment leveas will be extended out from the north shore and connected with the steel cofferdam cells. Two and one-half remaining spillway bays, the north shore abutment, and navigation lock will be constructed within this north shore work area. During the high-water season the full flow of the Snake will be through the open north shore channel and through the six completed spillway bays built only up to a temporary level for this phase of the work.

At John Day Dam on the Columbia the high water situation is more precarious. Three cells of the fifteen steel cell cofferdam that will barricade out the Columbia from the work area remain to be placed. High water could do considerable damage to the cofferdam as it now exists. Morrison-Knudsen, contractor for the north shore John Day cofferdam, is working full shifts to complete the closure that will form the midstream steel arc of the north shore John Day cofferdam.

John Day is favored in that the high water on the Columbia is usually two to three weeks later than that on the Snake. Morrison-Knudsen, contractor, hopes to have the last three cells of the steel cofferdam in place before the 6th of April. The work of sealing the cells by commercial divers and filling with gravel and aggregate should be possible of completion, barring unforeseen difficulties, before the spring high water season sets in.



Jom－15，

Cranes，derricks and floating barges crowd one another as construction The USARMY CUCPS of EMqIMKズルS of the steel cell cofferdams at $\mu$ John Day Dam site on the Columbia River is cushech for completion before the spring high－water run－off season commences． three Corps of Engineers schedule calls for／fermaining the cofferdam cells，each 80 feet in diameter，that will connect the two extending arms of the cofferdam and permit unwatering of the huge work area shoreward，behind which will be built the north shore spillway，fish ladder，abutment and navigation lock．

# U. S. ARMY ENGINEER DISTRICT, WALLA WALLA <br> CORPS OF ENGGINEERS <br> Bldg. 602, City-County Alrport <br> Walla Walla, Washington 

> HELICOPTER USED
> TO MAP RESERVOIR OP BRUCES EDDY

Halla Walla, Wash. 9 Sep 59.-
Time was in this wild and woolly West when a fleld survey party going into action resembled a young army on maneuvers. In addition to a chief of party, instrument man, recorder, flagman, rodman and stakeman, the party whackers
included as many additional axemen and brush_/ as deemed necessary to cut a straight line pathway through the timbered undergrove. Added to this were the squads of camp roustabouts, packers and horseranglers necessary to the pack string transporting food and equipment into the remote areas.

How time has changed that picture. Today a survey party assigned to a rough timber terrain consists of a helicopter and pilot, two instrument men and a recorder, along with several thousand dollars worth of modern-day electronic tellurometers and theodolite instruments.

This new modern method of surveying mountainous terrain is the way the Walla Walla District Office of the Corps of Engineers, is attacking its job of mapping out the Bruces Eddy Reservoir on the North Fork of the Clearwater River.

Bruces Eddy Dam, now in its second year of planning and with a reasonably assured 1960 budget allowance capable of progressing that planning into the detailed designing stage, is tentatively identified as an approximate $\$ 117,000,000$ multipurpose river project that will be capable of producing some $240,000 \mathrm{kilowatts}$ of hydroclectric power as well as furnishing approximately a million and a half acre feet of usable water storage.

The pool behind Bruces Eddy will have normal area of 10,800 acres and will extend upstrean from the dan site some 50 miles. It is the survey work necessary to establishing and mapping the pool shoreline contour that is now under way in this North Pork area of the Clearwater River.

In actual survey operations, the helicopter picks up one instrument man plus a tellurometer and sets them down on some remote highland ridge or peak overlooking the reservoir contour line. A second tellurometer and instrument man, plus a recorder, is then flown in and set down at a second exposed position, perhaps a mile or more away. The two tellurometers are then sighted towards each other and by means of a theodolite measuring instrument for direction, actual distance and horizontal angles are computed as accurately and ten times as quickly as the old-fashioned trudging field party method. Also, the work is accomplished at about one tenth the cost.

The contour line of the Bruces Eddy Reservoir will carry on upstream on the North Pork of the Clearwater from the dam site, approximately 50 miles. The dan site itself is located at a sharp elbow bend in the worth Fork of the Clearwater approximately 10 miles upstream from Orofino, Idaho.

The U. S. Cosst and Geodetic Surveys under the field direction of O. S. Risvold is making the initial study of the Bruces Rddy Reservoir site. Included in this helicopter-telluroneter study are several other inaccessible spots within the reservoir. The Geodetic Survey helicopter crew is utilizing Orofino's afrstrip as their base of operation. Flights are being made and instrument setdowns accomplished the entire fifty-mile length of the proposed pool length. Actual mapping of the reservoir area will be accomplished by aerial survey methods using the letest photogrametic equipment.

The surveying and mapping project in its entirety is estimated to require about aine months to complete. By old-fashioned field party methods it would have required several years to complete.

Bruces Eddy Dan and Reservoir will be designed, constructed, and operated by the U. S. Anny, Corps of Engineers, as a key part of the multipurpose plan for development of the water resources of the Columbia River basin. With a gross storage of $2,460,000$ acre feet, of which $1,480,000$ acre feet is usable storage, Bruces Eddy will play a major role in partially eliminating the power shortages recurrently being experienced by hydroelectric power-producing dams downtream during low river flow periods.

Proposed operation of the Bruces Eddy Reservoir conterplates keeping the pool area up to full level during the sumer months for later power generation usage. This will creste a $50-\mathrm{mile}-10 \mathrm{~g}$ g lake suitable for recreation, summer homes and other sesthetic uses. Water level on the reservoir lake would not be lowered until the period of low river flow experienced on the Columbla and Snake from November until early spring. The reservoir footage would then be drawn down to supplement downstream flow and at the same time to provide reservotr space to catch flood water run-offs which normally occur in the spring months. This, it is believed, will alleviate considerable damage and flood danger threats within the Columbia, Snake and Clearwater River areas.

Inception of the study of the feasibility of a dam on the North Fork of the Clearwater began shortly after the disastrous 1948 flood when it becane evident that the run-off of the clearwater during the spring was a vital factor in the flood hasards downstream on the Columbia and Snake.

The Bruces Rddy project is being designed to give the area it serves the maximum benefits with the least amount of disturbance. Its completion includes road improvements in the present North Fork Canyon area, much of which is now inaccessible.

U. S. ARMY EMGINEER DISTRICT, WALLA JALLA

CORPS OF ENGINEERS
Bldg. 602, City-County Airport -
Walla Walla, Washington
McNARY LOCK TONNAGE
AGAIn EXCEDS 1958
Rarge tonnage clearing the McNary Dam Lock on the Columbia River during the month of October held to its consistent month-to-month climb over tonnage figures for 1958, the lockage report released by the Walla Walla District Office of the U.S. Army, Corps of Engineers revealed today.

In October 1959, 53,357 tons of river tonnage moved through the lock upstream as compared with $L 10,876$ tons in 1958. In the downstream movement of cargoes, 36,679 tons moved downstream in October 1959 as compared with 34,747 tons in 1958 .

Upstream tonnage in October was made up of $13,423,000 \mathrm{gallons}$ of gasoline, diesel oil, stove oil, and miscellaneous petroleum products, along with 8,516 tons of miscellaneous cargoes consisting of buik cement, steel and some machinery. Downstream tonnage consisted of 723,603 gallons of high-test aviation gas moving from the southern oil field pipelines on the Snake River to coastal distribution points, along with 380 tons of miscellaneous cargoes, consisting of chemicals and ammonia fertilizer. For the fifth consecutive month the tonnage of grain moving downstream exceeded the million-bushel mark. Wheat shipments amounted to nearly $1,100,000$ bushels, with over 100,000 bushels of barley also moving downstream.

During the month of October, 174 commercial tugs and barges moved upstream while 167 passed through the lock moving downstream。 Lock clearance of vessels for October was comparable to October 1958.
U. S. ARMY ENGINEER DISTRICT, WALLA WALLA

CORPS OF ENGINEERS
Bldg. 602, City-County Airport
Walla Walla, Washington

TITAN MISSILE<br>PRE-BID MEET<br>DRAWS CROWD

Walla Walla, Wash. 6 Nov 59.-
Scale models, cutaway drawings and artists' conceptions were all a part of the Corps of Engineers' pre-bid briefing Friday for contractors and suppliers interested in bidding on the Titan Intercontinental Ballistic Missile Bases to be installed in the vicinity of the Larson Air Force Base, Moses Lake, Washington.

More than 200 contractors, subcontractors, suppliers and other interested individuals attended the pre-bid conference. Interested contractors were cautioned by Colonel Paul H. Symbol, District Engineer of the Walla Walla Engineer District, under whose supervision the missile base will be constructed, that all phases of the completion schedule must be met. He further assured the contractors that the job would carry a priority rating for supplies and anticipated that restrictions in the use of foreign manufactured steel might be lifted by the Chief's Office in Washington in order to assure necessary structural steel. Colonel Symbol further emphasized the conflict with Air Porce contract commitments that would result if a completion schedule is not met.

Contractors were cautioned by the Corps' geologists to pay close attention to the formations in the vicinity of the three missile sites. Exploratory work and data available through the drilling of several wells at the missile sites have shown that water levels range from $200^{\prime}$ to $250^{\prime}$ below the surface. It has been necessary, however, in order to secure the required water flow, to drill scme wells to a depth of $850^{\prime}$ to $1000^{\circ}$.

Corps geologists warned of the geological caleche formation in the vicinity of the missile bases which lies at a depth from $25^{\prime}$ to $60^{\prime}$. This caleche formation contains sand, gravel and limestone which forms what might be termed a
natural cement. At depths of $20^{\prime}$ to $60^{\prime}$ bedrock was encountered. The large amount of excavation necessary for the missile silos and other underground installations makes the geological formations of great importance to the bidding contractors.

The questioning portion of the pre-bid conference was moderated by Lt. Col. Walter J. Hutchin, while most questions had been previously submitted in writing, numerous queries węre received from the floor.

The work to be done on the missile contract scheduled for opening 18 November calls for the construction of three missile silos, equipment terminals, and propellant terminals; one each control center, antenna silo pairs and terminals, powerhouse complete with air intake and exhaust structure, entry portal silo, air filtration structure, blast locks \#1 and \#2, a water distribution system and waste system, personnel, utility, interconnecting and ventilating tunnels, along with segregated storage magazine, security fencing and security lighting and system, supply transformer, test mast based, orientation targets. Graded roads and paving were also included.

Any changes resulting from the briefing or follow-up inquiries requested by the contractors will be covered in an addendum to be issued by the Corps over the weekend. The bid opening is set for 18 November 1959. It is anticipated there will be some deletions and some changes in this final addendum.

U. S. ARMY ENGINEER DISTRICT, HALLA WALLA<br>CORPS OF ENGINEERS<br>Bldg. 602, City-County Airport<br>Walla Walla, Washington

NORTH SHORE WORK
AT JOHN DAY DAM
GETS UNDER WAY
Walla Walla, Wash. 13 Jan 60. -
Numerous units of heavy earth-moving equipment are being assembled in the work area behind the north or Washington shore of the John Day Dam site on the Columbia River, the Walla Walla District of the U. S. Army, Corps of Engineers, revealed today. Holders of the $\$ 32,000,000$ north shore construction contract, Montag, Halvorson, McLaughlin and Associates, are expected to be pperating on a schedule basis by the end of the week.

Seven contracts are in effect at John Day, three being practically 100 per cent complete. The $\$ 950,962$ contract held by $S . S$. Mullins, Inc., calling for excavation for spillway, was rated in the 31 December 1959 Progress Report of the Walla Walla District of the U. S. Army, Corps of Engineers, as being 100 per cent cormplete. The exploratory drilling contract for $\$ 23,946$, held by the R. S. McClintick Company, was also rated as 100 per cent complete. A temporary rearrangement of the facilities of the SP\&S Railway relocation being done by the SP\&S Company themselves for $\$ 1,050,000$, holds a 100 per cent completion rating. Two other contracts, one calling for the rearrangement of the main toll line facilities of the Pacific Telephone and Telegraph Company at the dam site, the work being done by that coupany themselves at an estimated amount of $\$ 498,250$, 1s rated as 75 per cent complete. Rated as 55 per cent complete is another $\$ 29,263$ contract with the Klickitat P.U.D. for relocation of power facilities.

The north shore contract was awarded on 16 December 1959 to Montag, HalvorBon, McLaughlin and Associates. The contractors have taken over the cofferdam enclosure and are carrying on the pumping work. Present work consists of mobilizing heavy construction facilities and setting up the concrete batch plant which is being moved in from Ice Harbor where the Montag Company held a south shore construction contract at the Lower Snake River project.

According to H. B. Elder, Resident Engineer at the Corps of Engineers project office at John Day, the north shore work will not feel the full impact of the north shore construction program immediately. The construction schedule, however, is a tight one, and the work along the Washington shore will see numerous benefits when workmen begin the pouring of concrete in late March or early April.

Some 3,700,000 cubic yards of material, including liz million cubic yarda of rock, which probably will have to be blasted out, must be removed in the first step contract. Elder stated that his administrative staff of twenty withIn the Resident Engineer's Office, will be increased considerably as the work progresses.

It is belleved that late March or early April will probably see the start of concrete work. Peak construction under the north shore contract is scheduled for 1961. The intervening months should see a gradual build-up of employment on the project.

Completion of the north shore contract is scheduled for August 1962 when emphasis will be shifted to the Oregon shore. Under the North shore contract, the north shere abutment, navigation lock, nonoverflow section, fish ladder and aineteen of the twenty spillway bays will be constructed. The Oregon or south shore contract will call for coupletion of the dam by construction of the remaining one spillway bay, powerhouse, south shore fish ladder, nonoverflow section and south shore abutment.


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    Walla Walla, Washington
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## ARLINGTON RESIDENTS

 RRCEIVE FIRST CHECKS ON JOHN DAY LAND BUYWalla Walla, Wash., 25 Feb 60. -
First checks covering the purchase of aeeded land in the city of Arlington, portions of which will eventually be inundated by the backwater of the Columbia River John Day Dam reservoir, were handed out Thursday by Army Engineers' officials. Receiving Goverment payment for their Arlington city property lying riverward from the new shore line that will eventually be formed by the John Day reservoir were Mrs. Jean Van Winkle and Mr. and Mrs. William Marshall. Lt. Col. Walter J. Futchin, Deputy District Engineer for the Walla Walla District of the Corps of Engineers, made the presentation.

Lt. Col. Hutchin expressed appreciation on the part of the Corps of Engineers for the cooperation of Mrs. Van Winkle and Mr. and Mrs. Marshall in the land acquisition program, and stated that other payment are expected to follow, and will continue until all land requirements for the extensive relocation of the City of Arlington are completed. Colonel futchin reiterated the Corps' policy in acquiring of the land, which requires two independent appratisals by professional land appraisers and the offering to landowner the higher of the two daluations. He stated that the policy insures fairness to the property owner.

With the raising of the John Day reservoir scheduled for sometime in late 1967, the City of Arlington's riverward boundaries will be transferred into a quay-type water front reaching into the present city center. The plan of relocation contemplated by the Corps of Engineers necessitates acquiring fee title to all affected land in the City of Arlington, including improvements therein. Earth fills to create a partial replacement site for the town itself would be undertaken on the acquired area. The Government will later convey an area back to the city for further city development, retaining any necessary flowage easements. Comparable streets and utilities in the adjusted area are to be Government orovided.

# U. S. ARMY ENGINEER DISTRICT, WALLA WALIA <br> CORPS OF ENGINEERS 

Bldg. 602, City-County Airport
Walla Walla, Washington
SNAKE RIVER TAKING
ON NEW LOOK ABOVE
ICE HARBOR LOCK \& DAM
Walla Walla, Wash., 24 May 60.-
It's a new look that the Snake River is taking on above the U. S. Army, Corps of Engineers, Ice Harbor Lock and Dam. A new look that in a little more than a year will give way to another new contour as the Ice Harbor tainter gates are closed and the 27-mile-long Ice Harbor pool begins to form. Nearly 7 million dollars in relocation contracts are now in effect along the north shore or Walla Walla County side of Ice Harbor Reservoir, realigning the main line of the Union Pacific Railroad above Ice Harbor.
R. A. Heintz and Rogers Construction Company has one contract for over 3 million dollars for grading and relocation of Union Pacific Railroad in Section II, which controls the upper regions of the Ice Harbor Reservoir. Peter Kiewit Sons' Company has a contract for over $3 \frac{1}{2}$ million dollars for grading for relocation of the Union Pacific Railroad in Section I, which extends from the dam approximately 20 miles on upstream.

In Section I the Peter Kiewl contract calls for 2,700,000 cubic yards of unclassified excavation, 4,440.000 cubic yards of embankment and 144,000 cubic yards of rock fill, along with approximately 150,000 cubic yards of Class A and Class B riprapping. Added to this is the construction of miscellaneous culverts ranoing in size from 120-inch plate pipe to 12-inch concrete culverts. Also included in this contract are access roads, new right-of-way fencing and temporary fencing. Three shoofly rail lines will be necessary in the contract, with the contract specifying the work must be completed within 550 calendar days after commencement.

In Section II the contract held by R. A. Heintr and Rogers calls for over $2 \frac{1}{2}$ million cubic yards of unclassified excavation, slong with 3,000,000 cubic yards of embenkment, 133,000 cubic yards of rock fill and over 200,000 cuble yards of Class $A$ and Class B rlprapping. Track laying, ballasting, and removal of spur track material, along with culvert construction from 12-inch to 216 -inch are included in this contract. At two sites, Fishhook Canyon at river mile 17 and Page neer river mile 19 , $18-$ foot culvert archs will be installed to make possible access of cattle to the ater of the reservoir at all points. These culverts will also accommodate amall boats and act as a haven for such crafts in rough weather.

Five potential recreational sites have been planned along the north shore, one in the Gage Island Area approximately 10 miles above Ice Harbor Dana. Here access roads, picnic areas and paricing facilities are being planned. On upstream at the 25 -Mile Area similar picnic areas with car parking facilities are being planned, and still further on upstream at approximately river mile 30 in the Walker Canyon Area similar recreational facilities are contenplated. Also being considered as possible recreational areas with access roads and boat launching facilities are Fishhook Canyon and Page sites.

The present schedule for Ice Harbor Lock and Dam calls for closing of the tainter gates and creating of the reservoir sometime late in 1961. Power on the line by December 1961 has been the planning goal of the project since work cormencement in 1956.

