

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section _____ Page _____

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SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 14000035

Date Listed: 2/25/2014

Fonte River Dam
Property Name


Guam
County

GU
State

N/A

Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.



Signature of the Keeper

2/25/14

Date of Action

=====

Amended Items in Nomination:

Location:

The location block must be completed, even for resources having no specific address. In such cases nearby geographic or man-made features can be used to provide a general location. The Street Address is revised to read: *Fonte River, immediately southwest of Nimitz Hill Overlook Park.*

Function:

The Current Function is revised to read: *Vacant/Not in Use.*

Architectural Classification:

The Architectural Classification is revised to add: *Other: masonry gravity dam*

Significance:

The appropriate level of significance is: *state.*

The Areas of Significance are revised to read: *Community Planning and Development, Health/Medicine, and Engineering.* Industry is deleted since the dam served as part of a municipal water system rather than strictly industrial, manufacturing or commercial purposes.

The Significant Dates are revised to read: *1910* only, marking the completion date for the dam. [Normally, significant dates do not represent a span of time.]

The Architect/Builder block is revised to read: *L.M. Cox USN (Engineer) and C.A. Bostrom USN (Builder)*

Verbal Boundary Description/Justification:

The zone for the U.T.M. References should read: *55 P*

The Verbal Boundary Description is revised to read: *The boundaries of the nominated property are outlined by the polygon formed by the UTM Reference points provided on the nomination form and shown on the appended base map. The boundaries are restricted to the dam structure and its abutments along with sufficient setting to convey its historic function along Fonte stream.*

The Verbal Boundary Justification is revised to read: *The boundary reflects the main designed engineering features of the dam site, excluding its reservoir.*

These clarifications were confirmed with the GUAM HPO.

DISTRIBUTION:

National Register property file
Nominating Authority (without nomination attachment)

United States Department of the Interior
National Park Service



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National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).

1. Name of Property

historic name Fonte River Dam

other names/site number Libugon Dam/ 66-01-2655

2. Location

street & number N/A not for publication

city or town Libugon/Nimitz Hill vicinity

state Guam code GU county N/A code 010 zip code 96910

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,
I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

national statewide local

[Signature]
Signature of certifying official

Dec. 27, 2013
Date

State Historic Preservation Officer
Title State or Federal agency/bureau or Tribal Government

In my opinion, the property meets does not meet the National Register criteria.

Signature of commenting official
Title State or Federal agency/bureau or Tribal Government

Date

4. National Park Service Certification

I, hereby, certify that this property is:

entered in the National Register determined eligible for the National Register

determined not eligible for the National Register removed from the National Register

other (explain:)

[Signature]
Signature of the Keeper

2/25/2014
Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply)

- private
- public - Local
- public - State
- public - Federal

Category of Property

(Check only one box)

- building(s)
- district
- site
- structure
- building(s)
- object

Number of Resources within Property

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
		buildings
		sites
1		structures
		objects
		buildings
		Total

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions

(Enter categories from instructions)

Industry/Processing/Extraction: Waterworks: Dam

Current Functions

(Enter categories from instructions)

N/A

7. Description

Architectural Classification

(Enter categories from instructions)

Late 19th and Early 20th Century American

Materials

(Enter categories from instructions)

foundation: Concrete

walls:

roof:

other: Brick, steel, cast iron

Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

The Fonte Dam is built in the upper third of the Fonte River drainage where the river flows generally eastward. The land slopes steeply upwards to both the north and south of the dam. Tropical tree and shrub vegetation characterizes the north-slope while grasses are more predominant on the south slope. Trees and shrubs form a distinct riparian zone downstream from the dam. The dam impounds a very small pond on its upstream side.

The dam is principally poured concrete and trends roughly North-South. Two-hundred cubic yards of concrete were used in its construction. Its finished dimensions were 150 feet long, 24 feet high, 17 feet thick at the base, and 4 feet thick at the top. The complete length is currently obscured by colluvial wash and secondary growth. The spillway was finished with red brick, while the spillway retaining walls were constructed of red brick and then covered with concrete. (Moore *et al.* 2001: 75)

The dam is basically intact, and the spillway continues to operate, although the dam no longer functions to contribute to the domestic water supply of Hagåtña. There is minor damage to concrete facings, particularly along the top of the dam in the vicinity of the valve box. Steel and wood associated with housings, valves, the access walkway, and the water distribution system are missing or rusting in place. The bulk of the former reservoir (originally measured at 650 feet long by 150 feet wide) has in-filled since the dam was abandoned (sometime during or just after WWII).

Narrative Description

The following description is taken directly from the document entitled: Historic American Engineering Record, U.S. Naval Activities, Nimitz Hill, Fonte River Dam HAER No. GU-4

"This dam is located in a densely vegetated valley of the Fonte River, which runs between Nimitz Hill and Agana Heights. Access to the dam is by foot trail only. The river is really more like a stream. The red brick of the dam spillway contrasts with the lush green setting. The concrete portions of the dam are weathered grey or covered with vegetation, and so blend in with the surroundings.

The measurements for the dam were given, in a 1910 newsletter, as 150' long, 24' high, 17' thick at the base, 4' thick at the top, and comprised of 200 cubic yards of concrete (Moore *et al.* 2001: 75). According to a U.S. Navy document, the surface of the spillway is finished with 37,000 paving bricks (*Ibid.*). The ogee-curved spillway measures 16'-0" wide, between the similarly curved retaining walls. The spillway retaining walls are also built of red brick, but are topped with concrete.

A 1909 plan of the dam showed that the basin behind it was about 650' long (from east to west) and 150' wide (*Ibid.*). The basin has now silted in and the edges are hidden by vegetation.

To the north and south of the brick spillway, the 4' wide dam walls are used as concrete walkways. Metal posts about 4' tall and 2" in diameter, spaced at fairly equal intervals, are located along the sides of each walkway. Metal chains originally ran between the metal poles as handrails, but only remnants are present.

Projecting from the top of the spillway and running alongside the northern spillway retaining wall is a broken cast iron pipe, about 6' in diameter. Since it is not on the original drawings, it appears to have been added after the dam was completed.

On the west face of the north side is a sluice control box, measuring 6'-7" x 5'-1½" with 12"-thick concrete walls. The valves are labeled "Chapman Valve / MFG CO. {in a banner across an interlaced C and V} / Boston U.S.A." The two gate valves in the sluice box project approximately 3' above the concrete box. They tapered from a 12" diameter at the base to a 4" diameter at the top.

A commemorative plaque on the east face of the north wing of the dam indicates the dam was completed in 1910 [however, research suggests a 1911 date of completion; see history section below]. The plaque on the dam has the following inscription:

FONTE RIVER DAM

1910

W^M. H. TAFT

PRESIDENT OF THE U.S.

GEO. VON L. MEYER

SECRETARY OF THE NAVY

CAPT. E. J. DORN, U.S.N.

GOVERNOR OF GUAM

DESIGNED BY L. M. COX, CIVIL ENGINEER, U.S.N.

ASS'T CIVIL ENGINEER, R. M. WARFIELD U.S.N.

IN CHARGE OF WORK

COMPLETED BY C.A. BOSTROM

ASS'T CIVIL ENGINEER, U.S.N.

There is a concrete pad on the north bank of the Fonte River just below the dam. It measure about 4' x 5' and is approximately 3' high. Steps abut the north side and an electrical conduit and wire are on the top of the pad. This was apparently the base of a pump, to send water uphill. Portions of 6' diameter piping, and ocncrete supports for it are still in place uphill of this pad. The pipes are labeled "Rensselaer Valve Co., Troy, N.Y. 6-36."

Strafing marks from World War II, including bullet holes on the east facing surface, can be seen. On the south side of the dam, Japanese soldiers' items, such as gas mask parts and mess kits were located (*ibid*).

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply)

Property is:

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

Community Planning and Development

Engineering

Health and Medicine

Industry

Period of Significance

1910-1947

Significant Dates

1910-1919

Significant Person

(Complete only if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

Period of Significance (justification)

The Dam was completed in 1910 and was the first water facility constructed by the U.S. administration. The U.S. National Archives contains a 1947 photo of the dam being inspected, the assumption being that it was still in use.

Criteria Considerations (explanation, if necessary)

N/A

Statement of Significance Summary Paragraph (provide a summary paragraph that includes level of significance and applicable criteria)

Fonte Dam was the first construction related to the modern water system for the city of Hagåtña. It represented the largest government engineering effort that directly benefitted the local population. The dam is no longer in use, but remains in place and is in very good condition.

Narrative Statement of Significance (provide at least **one** paragraph for each area of significance)

Community Planning and Development: Fonte Dam water was distributed throughout the city by a network of main lines, making it possible for individual households to pipe water directly to homes for the first time. In addition, fire-hydrants were installed along these lines providing both fresh water and protection during fires.

Engineering: Fonte Dam was the culmination of the work of a number of engineers who were stationed on Guam during the early American Period. Leonard M. Cox, Civil Engineer, identified the location for the dam and provided the original design; R.M. Warfield, Assistant Civil Engineer saw the dam through its construction; and Assistant Civil Engineer C.A. Bostrom oversaw its completion. A number of difficulties had to be overcome to construct the dam, not the least of which was the construction of a road from Hagatna to the dam site, and the construction of a steam engine on the hill above the site to run a bucket cable that moved materials from the staging area to the dam site.

Health and Medicine: Water from the Fonte Dam replaced the often contaminated water being obtained by the residents of Hagåtña from shallow wells. This greatly improved the health of the city's inhabitants and allowed the island population to begin to expand.

Industry: In the 1917 publication, The Island of Guam, which was a revision of a manuscript first penned by Civil Engineer L.M. Cox, the provision of clean water to Hagåtña that was made possible by the Fonte Dam was considered a major achievement of the American administration. Among the services managed and provided by the administration were medical facilities, sewerage systems, and fresh water delivery.

Developmental history/additional historic context information (if appropriate)

After the US takeover of the island in 1898 water systems were assessed and found to be inadequate for the development of the island. At the time, the majority of the population obtained their water from springs and hand-dug wells, while a few families had constructed cisterns and used these to collect rainwater. The majority population residing in the capitol, Hagåtña, was dependent upon the water from hand-dug wells that were spaced throughout the city. There were no water delivery systems in place. The very first facilities the Americans constructed were a dam on the Fonte River in 1910, and a six-inch pipe that brought water to a concrete reservoir constructed above Hagåtña. Water from this reservoir was then distributed to the city through main lines. One of these was 1000 feet of two-inch pipe emplaced along Soledad Street that allowed for the first fire hydrants to be put in place. Unfortunately, turbidity was a problem with water from the dam during periods of high rainfall(Brooks 1937a:7).

The Medical Corps soon recommended abandonment of the hand dug wells that had previously been used in Hagåtña, and as an alternative modern water supply was developed, these wells were gradually abandoned and filled in. The net result of this one action was a decrease in the death rate and a consequent increase in population. Population increase understandably precipitated the demand for more water. This became particularly problematic during the dry seasons following construction of the Fonte dam when there was a water shortage.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets)**Previous documentation on file (NPS):**

preliminary determination of individual listing (36 CFR 67 has been requested)
 previously listed in the National Register
 previously determined eligible by the National Register
 designated a National Historic Landmark
 recorded by Historic American Buildings Survey # GU-4-1
 recorded by Historic American Engineering Record # GU-4

Primary location of additional data:

State Historic Preservation Office
 Other State agency
 Federal agency
 Local government
 University
 Other
Name of repository: _____

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property 0.27
(Do not include previously listed resource acreage)**UTM References**

(Place additional UTM references on a continuation sheet)

1	<u>NW</u> Zone	<u>254079</u> Easting	<u>1489020</u> Northing	3	<u>NE</u> Zone	<u>254096</u> Easting	<u>1489012</u> Northing
2	<u>SW</u> Zone	<u>254054</u> Easting	<u>1488963</u> Northing	4	<u>SE</u> Zone	<u>254070</u> Easting	<u>1488957</u> Northing

Verbal Boundary Description (describe the boundaries of the property)**Boundary Justification** (explain why the boundaries were selected)

11. Form Prepared By

name/title Richard K. Olmo, Consultant Archaeologist (Primary preparer); Final nomination document - assisted by Consultant Historian and State Historic Preservation Office Stafforganization Guam State Historic Preservation Office date 10 June 2009; September 2013street & number 490 Chalan Palasyo telephone 671/475-6294/5city or town Hagåtña Heights state Guam zip code 96910

9. Major Bibliographical References (Continuation Sheet)

Cox, Leonard M. et al.

1917 The Island of Guam. Washington, Government Printing Office

Guam News Letter

1909-1913 Entries related to the construction of Fonte Dam and the water system for Hagåtña.

Moore, Darlene et al.

2001 Phase II Archaeological Survey: Detailed Recording of Sites on the Lands to be Retained by the Navy, Nimitz Hill, Territory of Guam, Mariana Islands, prepared by Micronesian Archaeological Research Services, Inc. for International Archaeological Research Institute, Inc. and the Department of the Navy, Pacific Division Naval Facilities Engineering Command.

Yoklavich, Ann, Rebecca Graves, and Joanmarie Orlowski

2004 U.S. Naval Activities, Nimitz Hill, Fonte River Dam: (U.S. Naval Activities, Guam Waterfront Annex, Fonte Dam) Spanning the Fonte River, Nimitz Hill, Guam, Mariana Islands. Presented as HAER No. GU-4. Prepared by Mason Architects, Inc., Honolulu for the National Park Service, Oakland.

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.
A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Continuation Sheets**
- **Additional items:** (Check with the SHPO or FPO for any additional items)

Photographs:

Submit clear and descriptive black and white photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Name of Property: Fonte River Dam

City or Vicinity: Asan

County: N/A State: GU

Photographer: John Mark Joseph, State Archaeologist

Date Photographed: August 14, 2010

Description of Photograph(s) and number:

1 of 5 (Figure 1): View of Fonte River Dam Spillway facing Southwest.

2 of 5 (Figure 2): Concret Dedication Plaque.

3 of 5 (Figure 3): A view of the western wall looking southeast.

4 of 5 (Figure 4): A view of the two valves.

5 of 5 (Figure 5): Spillway and east wall showing the brick work.



Adelup Point

Coontz Junc

Pigo

Anigua

Chorrito Cliff

Adelup

Sabanan

Adelup

Bacuna

Sella

Maina

Matigan

MIL RES (NHC)

MIL RES (NHC)

Guam High School

Nimitz Hill

Fonte

A S A N

Communication Tower

Bija Peak

Mount Macajna

NIMITZ HILL
COMNAVMAR

PIPELINE

Borrow Pit

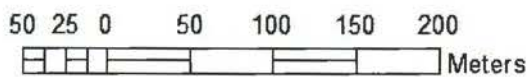
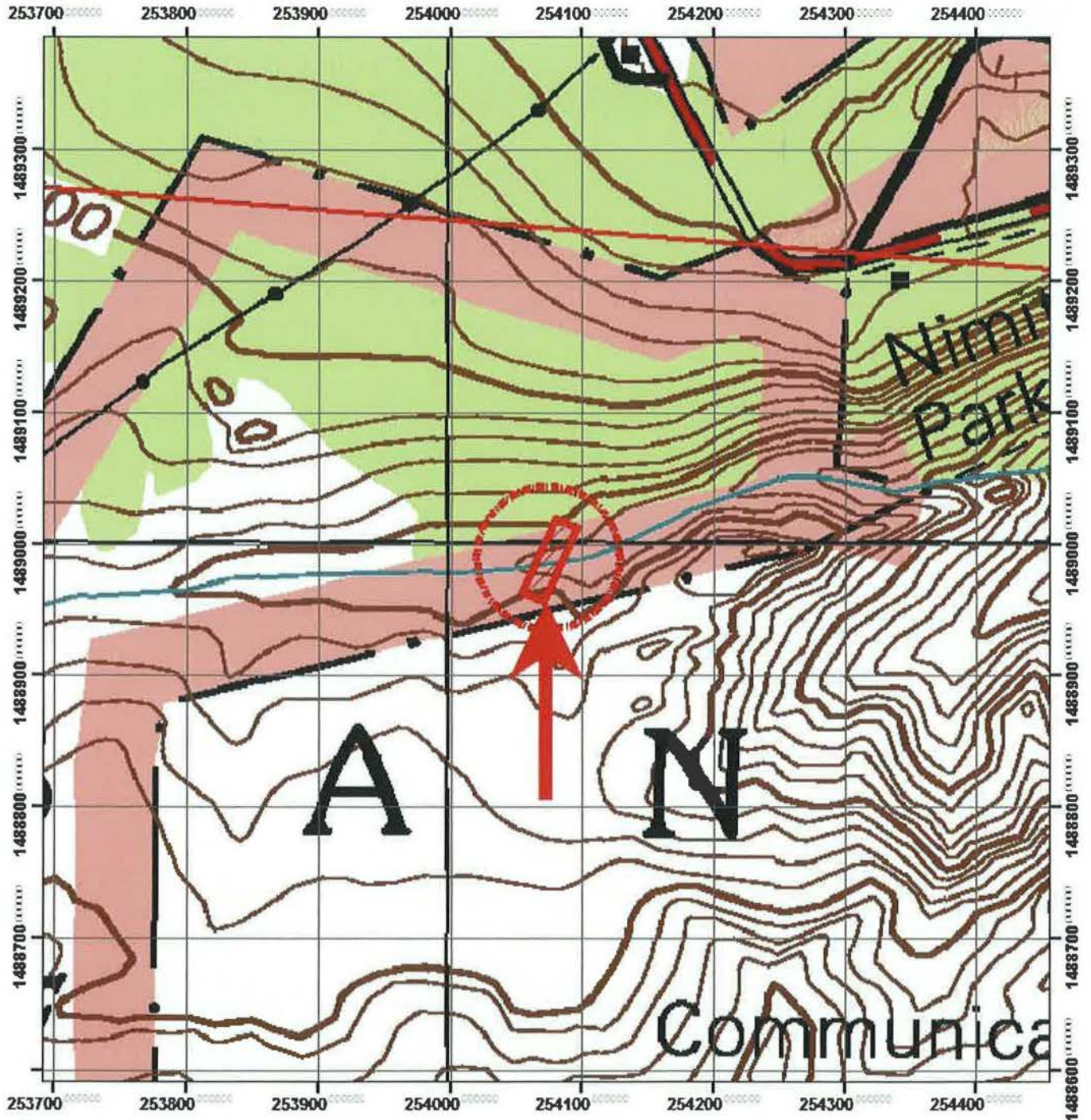
GHPI NO. 66-01-2655

N 13 27 31 / E 144 43 43 : CENTER LAT/LONG

NAME: FONTE RIVER DAM
(LIBUGON DAM)
NIMITZ HILL, GUAM

254079E/1489020N :UTM NW
254096E/1489012N :UTM NE
254070E/1488957N :UTM SE
254054E/1488963N :UTM SW

USGS MAP HAGATNA QUADRANGLE 2000 : BASE MAP



■ SUBJECT AREA (POLYGON)

ACREAGE = +/- 0.27 ACRES



○ Fonte River Dam, Guam



Google earth

© 2013 Google
© 2013 Europa Technologies
Image © 2014 DigitalGlobe

Imagery Date: 3/27/2013 55 P 254074.05 m E 1489016.44 m N elev -406 ft eye alt 1240 ft

186 ft



2003

NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES

N

○ Fonte River Dam, Guam



455 ft

2003



Google earth

Imagery Date: 3/27/2013 55 P 254142.53 m E 1489079.56 m N elev. 502 ft eye alt. 2577 ft



Figure 1: View of Fonte River Dam Spillway facing Southwest, August 14, 2010.



Figure 2: Concrete Dedication Plaque on the western wall of the Fonte River Dam facing south. The plaque reads: FONTE RIVER DAM / 1910. / WM. H. TAFT. / PRESIDENT OF THE US / GEO. VON L. MEYER / SECRETARY OF THE NAVY / CAPT. E. T. DORN, U.S.N. / GOVERNOR OF GUAM / DESIGNED BY L. M. COX CIVIL ENGINEER U. S. (Broken off after S) / ASST. CIVIL ENGINEER R. M. WARFIELD (Broken off...previously noted U.S. before first break) / IN CHARGE OF WORK / COMPLETED BY C. A. BOSTROM / ASST. CIVIL ENGINEER



Figure 3: A view of the western wall of the Fonte River Dam looking south east.



Figure 4: View of the two valves labeled Chapman Valves / C (over) V MFG. CO. / Boston / U. S. A.



Figure 5: Spillway and east wall showing the brick work.

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY Fonte River Dam
NAME:

MULTIPLE
NAME:

STATE & COUNTY: GUAM, Guam

DATE RECEIVED: 1/15/14 DATE OF PENDING LIST: 2/10/14
DATE OF 16TH DAY: 2/25/14 DATE OF 45TH DAY: 3/03/14
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 14000035

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N
REQUEST: Y SAMPLE: N SLR DRAFT: N NATIONAL: Y

COMMENT WAIVER: N

ACCEPT RETURN REJECT _____ DATE

ABSTRACT/SUMMARY COMMENTS:

The Fonte River Dam is of statewide and local significance under National Register Criterion A in the areas of Community Planning & Development, Health/Medicine, and Engineering. With the U.S. takeover of the administration of Guam in 1898, the development of modern infrastructure systems became a key priority for local government leaders. The 1910 Fonte River Dam was one of the first major civic accomplishments associated with the bold efforts to develop a modern water and sewage system for the island. An extremely difficult engineering undertaking due to the remoteness of the construction site, the completion of the dam illustrated the government's earnest efforts on behalf of the health and social welfare of the island, and specifically the development and expansion of the community of Hagatna.

RECOM./CRITERIA Accept Criterion A

REVIEWER Paul R. Lusignan DISCIPLINE HISTORIAN

TELEPHONE 202-354-2229 DATE 2/25/14

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.



Eddie B. Calvo
Governor

Ray Tenorio
Lt. Governor

Department of Parks and Recreation
Government of Guam
490 Chalan Palasyo
Agana Heights, Guam 96910
Director's Office: (671) 475-6296/7
Facsimile: (671) 477-0997
Parks Division: (671) 475-6288/9
Guam Historic Resources Division: (671) 475-6294/5
Facsimile: (671) 477-2822



Raymond F.Y. Blas
Director

December 27, 2013

Carol D. Shull
Interim Keeper
National Register of Historic Places
National Park Service
U.S. Department of the Interior
1849 C Street, NW (2280)
Washington, DC 20240



Subject: National Register Nomination Documentation
- *Fonte River Dam*
- *Lumuna Shell Trumpet*
- *Sgt. Shoichi Yokoi Collection*

Dear Ms. Shull,

Please find enclosed the National Register Nomination documentation for three nominations: the *Fonte River Dam*; *Lumuna Shell Trumpet*; and *Sgt. Shoichi Yokoi Collection*.

We hope you find the documentations for the three nominations acceptable for listing on the National Register.

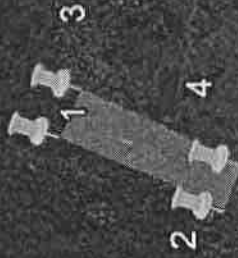
Should you require clarification or additional information, please contact Ms. Lynda B. Aguon, Guam State Historic Preservation Officer at 1-671-475-6337 or at lynda.aguon@dpr.guam.gov.

Sincerely,

Raymond F.Y. Blas
Director

Enclosures

○ Fonte River Dam, Guam



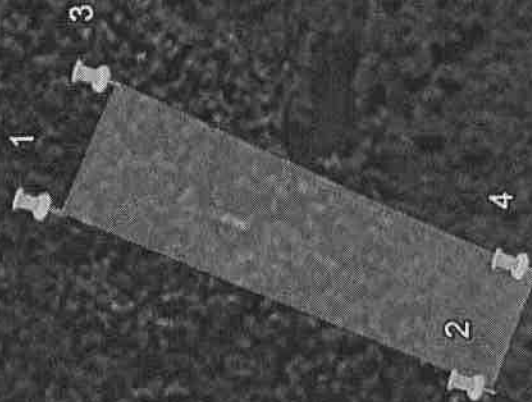
© 2013 Google

© 2013 Europa Technologies
Image © 2014 DigitalGlobe

Imagery Date: 3/27/2013

55 P 254142.53 m E 1489079.56 m N elev 502 ft eye alt 2577

○ Fonte River Dam, Guam



186 ft.