Declassified E.O. 12356 Section 3.3/NND No. 785019

ACC 063/PWU

10000/150/25
(VOL. I)

RO
JA

Declassified E.O. 12356 Section 3.3/NND No. 785019

10000/150/25
(VOL. I)

ROME WATER SUPPLY
JAN. 1944 - SEPT. 1945

Declassified E.O. 12356 Section 3.3/NND No. 785019

Tel.489081.Ext.339

RWS/rlv

12

HEADQUARTERS ALLIED COMMISSION
APO 394
Public Works and Utilities Sub-Commission

Ref: 063/PWU

5 September 1945

Subject: Materials for Rome Water Supply.

To : Regional Commissioner, Lombardia.
(Att: Regional Engineer).

1. This will introduce Ing.Querzola Augusto representing La Siocetà dell'Acqua Pia Antica Marcia, Rome.

2. A list of materials are required from Companies in Milan for necessary maintenance of the Rome Aqueduct. This maintenance is of a critical nature and of direct interest to the Commanding General, R.A.A.C., as well as the Allied Commission.

3. It is requested that every assistance be rendered to Ing. Querzola Augusto, please, in securing release of the required materials.

By Command of Rear Admiral Stone:

WILLIAM M.SPANN
Lt. Col. A.U.S.
Chief, Public Wks.Div.

2858

Declassified E.O. 12356 Section 3.3/NND No. 785019

HEADQUARTERS ALLIED COMMISSION
APO 394
Office of the Executive Commissioner

Ref: 5409/28/EC.

16 August 1945.

SUBJECT: Acqua Pia Society.

TO : Public Works Sub-Commission.
Through: Economic Section.

Attached correspondence is passed for action in accordance with conversation Captain Shepherd - Brigadier Lush, this afternoon.

RECEIVED
P.W. & U. S/C A.C.
20 AUG 1945 063

Brigadier,
Executive Commissioner.

MSL/JG.

Declassified E.O. 12356 Section 3.3/NND No. 785019

5409

ROME AREA ALLIED COMMAND
APO 794, POSTMASTER NEW YORK CITY
OFFICE OF THE COMMANDING GENERAL

(26)

16 AUG 1945

15 August 1945

Brigadier Maurice S. Lush,
Chief of Staff,
Allied Commission,
APO #394, US Army.

(24-25)

My dear Brigadier Lush:

In confirmation of our telephone conversation this date, I am inclosing herewith the correspondence in connection with the needs of the Acqua Pia Society.

You will note there are two requirements to meet their needs; first, authority to purchase and ship the necessary supplies from Milan to Rome, and second, authority to use railroad service for this shipment.

I am very much interested in this matter since it vitally affects the water supply of Rome, and I would appreciate your personal action in the matter to insure that all is done to expedite action in the case. Will you be kind enough to inform me the results of your efforts.

With kindest personal regards, I am,

Sincerely yours,

THOBURN K. BROWN
Brigadier General, USA

12856

2 Incl:
Translation of letter from Aqua Pia Director.
Translation of letter from Aqua Pia Society.

(Enc)

Declassified E.O. 12356 Section 3.3/NND No. 785019

TRANS. Nº 441

25

ROME AREA ALLIED COMMAND
Office of the AC of S, G-2
APO 794, US ARMY
Translation Department

14 AUGUST 1945

Translation of attached is as follows:

ACQUA PIA SOCIETY
Antica Marcia

Rome, 13 August 1945

TO : General Brown,
C.G., Rome Area.

In May this Society sent to Milan one of their employees to procure a supply of materials needed for the maintainment of the aqueduct. These materials have not been available for a few years and the Society is at present without them. Though these are available (see Nº 1 letter inclosed) we have not been able to buy them yet because of the well known restrictions existing and inspite of the fact that the Ministry of Industry recognizes the need. (See letter Nº 2 inclosed).

Since it is absolutely urgent that we have these materials for the execution of those works which are for the benefit of the consumers, we request that you intervene for us at the proper Allied Authorities so that we may obtain the authorization to buy from the Damine Firm of Bergamo; Falci and Novati of Milan, the materials in question as listed in the attached list.

Since we have to provide for the Transportation of these materials from Milan and Bergamo to our warehouses in Rome and considering that it would require at least 10 trucks (total weight of materials about 35 Tons) and be a serious expense and a large waste of gasoline: we request that permission be obtained to transpoet these materials in two covered railway cars on a Allied Military train. These cars could be assigned for this purpose by the Railway Command of Milan.

We are certain that you will interest yourself in this matter in recognition of our efforts to overcome the serious difficulties which obstacled us in restoring to normality the service of supplying drinking water to Rome. We thank you very much.

Respectfully,

The Director.
/s/ (Illegible)

2855

Declassified E.O. 12356 Section 3.3/NND No. 785019

TRANS. NB 441

24

ROME AREA ALLIED COMMAND
Office of the AC of S, G-2
APO 794, US ARMY
Translation Department

14 AUGUST 1945

Translation Of attached is as follows:

- - - - -

TO : General Brown,
C.G. Rome Area.

Rome, 13 August 1945

In transmitting to you the attached letter, sent to E.N.A.C. and to the Allied Authorities, we would appreciate it if we could count on your support on order to avoid the inconveniences we foresee and the possible limiting of our services of distributing drinking water which would also affect the Allied troops.

Respectfully,

The Director
/s/ (Illegible)

Declassified E.O. 12356 Section 3.3/NND No. 785019

Ref: 5409/28/EO. 16 August 1945.

9.11

SUBJECT: Acqua Pia Society.

TO : Public Works Sub-Commission.
Through: Economic Section.

Attached correspondence is passed for action in accordance with conversation Captain Shepherd - Brigadier Lush, this afternoon.

Brigadier,
Executive Commissioner.

MSL/JG.

Declassified E.O. 12356 Section 3.3/NND No. 785019

ALL. 1

DALMINE

1499
21.GIU.1945
DALMINE (BERGAMO)

SOCIETÁ PER AZIONI CAPITALE INT. VERSATO L.120.000.000
SEDE SOCIALE MILANO - OFFICINE DIREZIONE ED AMMINISTRAZIONE DALMINE (BERGAMO)

UFFICIO VENDITE

TUBIDALMINE - BERGAMO 22-00 - CODITAL
C. P. C. MILANO 73017 - BERGAMO 122 - C. C. POST. 17-3056

DALMINE S. P. A.
Via S. Paolo, ...
Telef. 82-0...
UFFICIO DI MILANO

SOCIETA' ACQUA PIA
Antica Marcia
Via Pozzetto, 105
R O M A

VS/RIFER.	DATA VS/LETT.	— DA CITARE NELLA RISPOSTA — RIFER.	SIGLA	DALMINE
		VEN.2/507	DUL/CRI	4/6/45

Richiesta tubi -

I tubi gas che avete richiesto al nostro ufficio di Milano fanno parte delle normali scorte di magazzino e, quindi, la fornitura può avvenire sempre in breve tempo.

In relazione alle disposizioni attualmente in vigore, ed al blocco posto sui materiali ferrosi, le ordinazioni devono però essere autorizzate dall' U.D.M.S. - Corso Venezia, 16 - Milano, al quale dovrete rivolgere pertanto la vostra domanda.

DALMINE S.A.S.

2852

A & C/MILANO

SOC. DELL'ACQUA PIA - ROMA

2616

Roma, 1 agosto 1945

MINISTERO DELL'INDUSTRIA
DEL COMMERCIO E DEL LAVORO

ALLA COMMISSIONE ALLEATA
SOTTOCOMMISSIONE COMMERCIO
R O M A

e p.c.:

SOCIETA' DELL'ACQUA PIA ANTICA
MARCIA
R O M A
Via del Pozzetto
n. 108

Prot. N. 01573 ALLEGATI 1

OGGETTO: Materiali occorrenti alla Società;dell'Acqua Pia Antica Marcia.

1° - La Società dell'Acqua Pia Antica Marcia, con Sede in Roma, ha rimesso un elenco di materiali occorrenti per l'esecuzione dei lavori di manutenzione ed esercizio del proprio acquedotto.-

2° - Questo Ministero non ha possibilità di provvedere alla assegnazione dei materiali suddetti per mancanza di disponibilità.-

3° - Risulta che materiali del genere potrebbero reperirsi presso industrie dell'Italia settentrionale (p.es. Soc. DALMINE).-

4° - Data l'importanza ed urgenza dei lavori della Società dell'Acqua Pia Antica Marcia, si trasmette l'elenco accennato a codesta Commissione, con preghiera di voler cortesemente intervenire presso le competenti Autorità Alleate perché sia esaminata la possibilità di fornire alla Società suddetta i materiali ad essa necessari, attraver-

Declassified E.O. 12356 Section 3.3/NND No. 785019

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2851

P.C.C.
il Capo della Divisione III^
F;to Nadellara

p. IL MINISTRO
f.to Lombardi

Pan/M

SOC. DELL'ACQUA PIA ANTICA MARCIA

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

Segue:

N.	Raccordi Ghisa Malleabile Cast iron fouts		Pollici: 1/2 x 1/4	1/2 x 3/8	3/4 x 3/8	3/4 x 1/2	1"x3/8
							rip
9	Manicotti ridotti Sleeves, reducing	N°	1.000	1.000	300	500	500
			Pollici:				
			1" x 3/4	1.1/4x1/2	1.1/4x3/4	1.1/4x1"	1.1/2x3/
		N.	300	200	200	500	300
10	Viti doppie con dado ridotte Double screws with nut Riduzione	N.	1/2x1/4 1.000	1/2 x 3/8 1.000	3/4 x 3/8 1.000	3/4 x 1/2 500	1"x3/8 500
			Pollici:				
			1" x 3/4	1.1/4x1/2	1.1/4x3/4	1.1/4x1"	1.1/2x3/
		N.	100	300	100	100	200
			Pollici:				
			2" x 1"	2.1/2x2"			
		N.	200	50			

Totale Pezzi

Declassified E.O. 12356 Section 3.3/NND No. 785019

	Pollici: 1/2 x 1/4	1/2 x 3/8	3/4 x 3/8	3/4 x 1/2	1"x3/8	1"x1/2	Totale pezzi
				riporto			24.450
N°	1.000	1.000	300	500	500	300	
	Pollici: 1" x 3/4	1.1/4x1/2	1.1/4x3/4	1.1/4x1"	1.1/2x3/4	1.1/2x1"	
N.	300	200	200	500	300	200	5.300
te	1/2x1/4	1/2 x 3/8	3/4 x 3/8	3/4 x 1/2	1"x3/8	1"x1/2	
N.	1.000	1.000	1.000	500	500	200	
	Pollici: 1" x 3/4	1.1/4x1/2	1.1/4x3/4	1.1/4x1"	1.1/2x3/4	1.1/2x1"	
N.	100	300	100	100	200	100	
	Pollici: 2" x 1"	2.1/2x2"					
N.	200	50					5.350
					Totale Pezzi N°		35.100

... BELLAGIOIA PIA-MASSA

Declassified E.O. 12356 Section 3.3/NND No. 785019

ELENCO MATERIALI DA RICHIEDERSI ALLE DITTE: FALCK e NOVATI di MILA
VECCHI di PAVIA.

N.	Raccordi ghisa malleabile Cast iron joints	Pollici	1/4	3/8	1/2	3/4	1"	1".1/4	1".1/2
1	Three-piece sleeves Bocchettoni in tre pezzi	n°	500	500	500	500	500	300	100
2	Sleeves, straight Manicotti dritti	"	500	500	1.500	1.000	1.000	500	300
3	Lock nuts Controdadi	"	200	300	500	300	300	200	150
4	90° elbows Curve a 90°	"	300	300	300	200	200	100	100
5	Straight elbows Gomiti retti uguali	"	300	300	300	200	200	100	100
6	T pieces Pezzi a T uguali	"	200	300	500	1.000	1.500	750	300
7	Male brings Tappi maschi	"	1.000	300	300	200	200	100	100
8	Double screws, with nut Viti doppie uguali con dado	"	500	500	1.000	500	500	200	100
		N°	3.500	3.000	4.900	3.900	4.400	2.250	1.250

Declassified E.O. 12356 Section 3.3/NND No. 785019

NCO MATERIALI DA RICHIEDERSI ALLE DITTE: FALCK e NOVATI di MILANO
VECCHI di PAVIA.

malleabile nts Pollici	1/4	3/8	1/2	3/4	1"	1".1/4	1".1/2	2"	2"1/2	Totale pezzi
sleeves tre pezzi n°	500	500	500	500	500	300	100	100	50	3.050
ti "	500	500	1.500	1.000	1.000	500	300	300	100	5.700
"	200	300	500	300	300	200	150	100	50	2.100
bows "	300	300	300	200	200	100	100	50	50	1.600
guali "	300	300	300	200	200	100	100	50	50	1.600
li "	200	300	500	1.000	1.500	750	300	100	50	4.700
"	1.000	300	300	200	200	100	100	50	50	2.300
uali con dado "	500	500	1.000	500	500	200	100	50	50	3.400
N°	3.500	3.000	4.900	3.900	4.400	2.250	1.250	800	450	24.450

SOC. DELL'ACQUA PIA - U.S.E.

Declassified E.O. 12356 Section 3.3/NND No. 785019

ALL. 3

ELENCO MATERIALE DA RICHIEDERSI

ALLA SOCIETA' "DALMINE" di BERGAMO

LIST OF MATERIAL TO BE REQUESTED TO "DALMINE" CO. AT MILAN

		Lenghth Lunghezza ml.	Unit weight Peso unitario	Total Weight Peso Totale Kg.
Pipe, black, drawn				
1°) Tubo trafilato nero				
Pollici Inches	1/4	1.000	0,618	816
	3/8	2.000	0,815	1.630
	1/2	2.500	1,270	3.175
	3/4	2.500	1,660	4.150
	1"	3.000	2,460	7.380
	1" 1/4	2.000	3,200	6.400
	1" 1/2	1.000	3,950	3.950
	2"	500	5,33B	2.665
	2" 1/2	300	6,870	2.061
	ml.	14.800		Kg. 32.227

1939 uscita magazzino ml. 34.300

2849

SOC. OFFICINE FIA - DALMINE

1283

Declassified E.O. 12356 Section 3.3/NND No. 785019

Tel. 489081
Ext. 317

HEADQUARTERS ALLIED COMMISSION
APO 394
Public Works and Utilities Sub-Commission

LVI/ac

063/PWU

14 August 1945

Subject : Request for electric service

To : MINISTRY OF PUBLIC WORKS
(Att. Eng. Asta)

10

1. The attached request asking for electric service for water pumps in apartment house buildings is transmitted herewith.

2. We assume that this matter is being given consideration by the Provincial Committee dealing with electric power for civilian purposes.

GEORGE F. PARKER
Lieut-Colonel, Inf.
Chief, Elec. Div.

cc : Mr. Paolo Scimoli
Via Tembien, 41

2848

1 enclosure

Rec Folio 9

Declassified E.O. 12356 Section 3.3/NND No. 785019

RECEIVED
P.W. & U. S/C A.C
5 APR 1945 063

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
Lazio-Umbria Region
(Engineering Division)
APO 394

HEADQUARTERS
5 APR 1945
G

C/deCEF/rm

C4102

31st March 1945

TO : HQ.AC.(P.W.)
HQ.RAAC. (Attention Col.Medding & CRE 104)

SUBJECT : ROME CITY Water Supply

IN REPLY QUOTE : R4/ENG/600(d)

1. Herewith Final and handing over report of Water Section Public Works ROME City by Major Michel.
It clearly states initial situation, work done, and work still to do to complete repairs.
The yield of springs is already dropping and it is especially important to press on with the completion of repairs at FIUMETTO springs and complete installation of pumps in final positions.- This as it effects Military requires supervision by Military; the temporary 600 l/sec pump however secures quantity. Hygienically the final reconstruction of headworks also effects Military.

2. There are in my opinion many points that with comparatively little work could be done on the MARCIA system to improve availability and distribution unless they are done Military Supply may again fall at the period of lowest yield of springs namely August, September and perhaps October.
These points were dealt with in my letters pages 25(a), 26,30,37(a),42,44,45,46,47,48,50,54,55,59 of File R4/ENG/600.(d) during period 16 October to 29 December 1944 which is being deposited in Archives.
A copy of these letters were sent to Dott.Ing. Colosimo Professor of Hydraulics of ROME University, who has given me valuable practical assistance on many water supplies and is excellent in Water Supply. I have discussed these with Prof. Colosimo who agrees that much could be done on these lines to improve matters.
He has been appointed by the SINDACO who was also sent copies of these letters as adviser to him and ~~is~~ has prepared specific recommendations for action. 2877 x

x copy of recommendations in Italian for 2nd Part

../..

Declassified E.O. 12356 Section 3.3/NND No. 785019

I am asking him to keep CRE 104 informed and ask him for any help that may be necessary to ensure continuity of Military Supply.

His address is:-

Prof.Ing. COLOSIMO Comm Roberto
Via Dora, 2 - ROMA
Telephone: 81959.

Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region A.M.G.

Enclosures.

Copy to:-
HQ Lazio & Umbria Region
Closing down file
} without enclosures.
Maj MICHEL
File Water Supply Rome City with enclosures (600.d)

AEM/dpe

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO- UMBRIA REGION
(Engineering Division)
APO 394

Rome, 27 March 1945

Subject: Final and handing over report of Water Section.

To : Regional Engineer, Lazio-Umbria Region, AMG.

1. General situation on Allies entry into Rome.

A. When the Allies came into Rome only 57% of the normal over all supply of water was coming into the City. There was a continuous decrease reaching a minumum of about 42% on the night of 6 June. This was due to heavy damages caused by the Germans to the syphons, acqueducts, sources and suspension of all pumping stations most of which were still in the hands of the enemy. Most of the damage by the Germans was done after Rome was occupied. The above percentages do not give the true picture of water available because about 70% of the total supply to the population is thry the Marcia system whose flow went down to 22% on 6 June.

B. Officers of the water section made immediate contact with the companies for a quick start of repairs to the sources, aqueducts and for restoration of the distribution net.

2. Early action taken.

A. Besides furnishing continuous inspections the following assistance was given on repairs:

a. Twelve military trucks were put at the disposal of the company, sentry and guard service of Allied or Italian soldiers furnished.

b. Supplementary rations for workers were furnished.

c. Various materials and petrol needed were made available.

d. Reenergizing of electric lines to the pumping stations.

e. Installations at Fiumetto station of 3 temporary electric pumps obtained from the C.R.E. to replace the original

Declassified E.O. 12356 Section 3.3/NND No. 785019

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d. Reenergizing of electric lines to the pumping stations.

e. Installaticns at Fiumetto station of 3 temporary electric pumps obtained from the C.R.E. to replace the original pumps that had been damaged. These pumps were replaced on 6 Sept. by a 600 l./s. pump, property of the electric company.

B. The following work was done to restore the distribution net:

a. A large number of street fountains was established from the net of the A.C.E.A. in addition to establishing many water points for tank trucks. All of the water points were

Declassified E.O. 12356 Section 3.3/NND No. 785019

eliminated in Dec.'44 except one at the Coliseum (where only one outlet was left).

b. A turno was established by dividing the city into two zones. These zones were alternately pressured on a 48 hour basis. This turno was eliminated on 19 November '44.

c. A daily service with water trucks of the fire service was established to supply all hospitals and users of military importance. This was gradually reduced as pressure was restored and completely eliminated by 31 Dec. '44.

d. Temporary connections were made from fire and curb hydrants. These were gradually reduced and their use finally eliminated by 31 Dec.'44.

e. Action was taken on more than 950 complaints from military and civilian sources. Most of these were on insufficient or no water at all. They were investigated in cooperation with the two water companies. Most of them were disposed of to the satisfaction of all parties concerned.

f. Agreement was obtained that the A.C.E.A. would furnish to the Marcia about 200 l./s. (3,800,000 gal./da.) thru the connections of S.Pancrazio and Campo di Fiori. This has since been reduced to 150 l./s.

g. In some cases the A.C.E.A. furnished water to military users that were on Marcia's net.

h. A new chlorination station was made at La Storta (on Acqua Paola) to insure potability of all water from this source. A follow up was established for the distribution and right use of chlorine on hand and effort made to get Aniene chemical plant back in chlorine production (see item 11).

i. After agreement with the Hygiene Office daily bulletins of water analysis were received and examined. The results of daily tests of water taken at random from the different acqueducts is furnished by the Hygienic Office (Chief hygienic physician in the Comunal Water Section of the Provincial Laboratory). That office is responsible for the standars

Declassified E.O. 12356 Section 3.3/NND No. 785019

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3. Increase of flow.

A. The flow into the distribution net was increased rapidly considering the damages sustained by the system. The Marcia flow reached 72% of normal by 27 June and the A.C.E.A. reached full normal flow by 15 June (not considering the local interruptions of electric power to the pumping stations). Complete and quick restoration of normalcy was not possible for the Marcia net even when all possible water from the sources reached Rome and even now for some areas normalcy is far from being

2814

Declassified E.O. 12356 Section 3.3/NND No. 785019

reached for the following reasons:

a. Due to three continuous years of extreme dry weather the flow of the Marcia sources, including the captation of the new source of Agosta only reached 90 to 94% of normal during last summer. Only by the end of Nov. with heavy autumn rains did the flow reach 100%.

b. For normal operation the gravity distribution system such as that operating in Rome needs a perfect regulation of all outlets and control valves. The equilibrium of the Marcia system with some 50,000 outlets is broken due to the abusive opening of many outlets and adjusting of many valves.

c. The necessity of opening new outlets and regulate many more due to heavy demands caused by the concentration of population increase in specific areas, both military and civilian, has increased pressure loss along the net and consistuted new lack of balance of same. Due to the gravity system a small difference of flow and/or pressure from normal does not have much effect in the low areas but is principally felt in the higher elevation zones.

d. The installation of many electric pumps for individual buildings services has caused local under pressure areas (milking mains). A survey of the pumps in use to furnish water to higher buildings or buildings located at higher elevations shows the following known installations: Marcia: 436 units have been in a long time. 310 additional units have been added since Oct.'42. A.C.E.A.: 24 units. Total 770 units. This does not count any Military or similar installation. This would indicate that difficulties in water reaching the higher elevations increased considerably in the 20 months preceeding the Allies entry into Rome.

4. <u>Flow tables.</u>

A. Listed below are variation of flows of A.C.E.A. and Marcia aqueducts from Allies entry of Rome to the day on which normal flow was reached. From the latter day on the flow of the two companies remained at 100% of normal flow (except for temporary decrease due to electric power being cut off and/or repairs to the syphons).

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c. The necessity of opening new outlets and regulate many more due to heavy demands caused by the concentration of population increase in specific areas, bath military and civilian, has increased pressure loss along the net and consistuted new lack of balance of same. Due to the gravity system a small difference of flow and/or pressure from normal does not have much effect in the low areas but is principally felt in the higher elevation zones.

d. The installation of many electric pumps for individual buildings services has caused local under pressure areas (milking mains). A survey of the pumps in use to furnish water to higher buildings or buildings located at higher elevations shows the following known installations: Marcia: 436 units have been in a long time. 310 additional units have been added since Oct.'42. A.C.E.A.: 24 units. Total 770 units. This does not count any Military or similar installation. This would indicate that difficulties in water reaching the higher elevations increased considerably in the 20 months preceeding the Allies entry into Rome.

4. Flow tables.

A. Listed below are variation of flows of A.C.E.A. and Marcia aqueducts from Allies entry of Rome to the day on which normal flow was reached. From the latter day on the flow of the two companies remained at 100% of normal flow (except for temporary decrease due to electric power being cut off and/or repairs to the syphons).

FLOW OF A.C.E.A.

Date	Total flow		Acqueducts flow			
	lit/sec.	%	Vergine old	Vergine new	Paolo	Felice
6 June	1880	86	--	900	750	230
9 "	1650	75	--	900	750	--
11 "	1880	86	--	900	750	230
15 "	1980	90	400	600	750	230
22 July	2180	100	600	600	750	230

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FLOW OF MARCIA

Date		Total flow l/sec	%	Flow of syphons 1	2	3	4	5	6	7
5	June	2000	43	—	—	—	650	600	750	—
6	"	1000	22	—	—	—	600	400	—	—
8	"	2100	45	—	—	—	650	650	800	—
12	"	2300	50	—	400	—	600	650	650	—
13	"	2400	52	500	500	—	600	600	200	—
15	"	2400	52	400	400	400	400	600	200	—
27	"	3300	71	500	500	500	600	500	700	—
5	July	3850	83	500	500	550	650	650	600	400
27	August	3990	86	450	525	550	650	650	650	515
24	September	4360	94	485	525	620	630	730	850	520
24	November	4630	100	548	527	629	691	730	920	585

5. Damage to syphons and acqueducts.

A. The following list is submitted in event question should later arise as to parts of the system receiving war damage or on which work was done under general Allied supervision.

a. Damage to syphons of Marcia Co. existing on arrival of Allies:

Locality	No. Syphon	Diameter	Date Completed	Cause
Valle Pilella Km.24 Tiburtina	1	600	12-6-44	Shell
Settecamini Km.14 Tiburtina	2	600	11-6-44	"
Via Palombara Km.26 Tiburtina	3	600	12-6-44	"
Martellona Km.20 Tiburtina	3	600	14-6-44	Shell and unexploded bomb
Fossa Osa Km.20 Prenestina	6	600	8-6-44	Shell and unexploded bomb
V.Rocca Cencia	6	600	Temp.8-6-44 Final 17-6-44	Shell and unexploded bomb
Tivoli	7	750	25-6-44	Bombs - total 80 m.
Castel Giubileo	Roma Nord	350	16-7-44	Demolition of bridge
Centocelle	off 6	250	18-11-44	

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15	"	2400	52	400	400	400	400	500	200	--
27	"	3300	71	500	500	500	600	500	700	--
5	July	3850	83	500	500	550	650	650	600	400
27	August	3990	86	450	525	550	650	650	650	515
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Castel Giubileo	Roma Nord	350	16-7-44	Demolition of bridge
Centocelle	off 6	250	18-11-44	Mines-4separate areas

b. Damage to syphons of Marcia Co. occuring after arrival of Allies:

Locality	No. Syphons	Diameter	Date break	Date completed	Cause
Acquoria	7	750	1-7-44	4-7-44	
Gianicolo	4	400	4-7-44	5-7-44	
Osa	6	750	11-7-44	13-7-44	
Via Flaminia	Roma Nord	350	13-7-44	17-7-44	
Tor Cervara	" "	350	17-7-44	28-7-44	obstruction

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Locality	No. Syphons	Diameter	Date break	Date completed	Cause
Quintiliolo	1	600	17-9-44	18-9-44	
Viale del Re	4	250	1-10-44	2-10-44	Separated joint
P;za Barberini	1	350	1-10-44	4-10-44	
Viale del Re	4	250	16-10-44	17-10-44	Separated joint
Casal Bertone	6	600	9-11-44	11-11-44	
Castel Giubileo	Roma Nord	350	12-11-44	14-11-44	
Viale del Re	4	250	27-12-44	27-12-44	Lass from joint
V.F.Nardini	M.M.2	350	25-1-45	26-1-45	Lass from joint
V.Palombara	(off 7 to Guidonia)	125	16-2-45	18-2-45	Separated joint
Tor Cervara	Roma Nord	350	27-2-45	27-2-45	
Tavernucole	4	600	10-3-45	10-3-45	Lass from joint

c. Damage to mains of A.C.E.A. existing on arrival of Allies: none.

d. Damage to mains of A.C.E.A. occuring after arrival of Allies:

Locality	Acqueduct	Diameter	Date break	Date completed	Cause
V.del Casaletto	Acqua Vergine high level (A.V.A.L.)	200	12-7-44	14-7-44	
V.Portonaccio	Acqua Vergine Medium level (A.V.E.)	1000	3-11-44	7-11-44	

e. Damage to Marcia acqueducts.

Locality	Acqueduct	Cause	Lenght damaged	Actual status of works
Pacli	1? Acq.	bomb	30 mt.	Completed 20-8-44

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Casal Bertone	6	600	9-11-44	11-11-44	
Castel Giubileo	Roma Nord	350	12-11-44	14-11-44	
Viale del Re	4	250	27-12-44	27-12-44	Less from joint
V.F.Nardini	M.M.2	350	25-1-45	26-1-45	Less from joint
V.Palombara	(off 7 to Guidonia)	125	16-2-45	18-2-45	Separated joint
Tor Cervara	Roma Nord	350	27-2-45	27-2-45	
Tavermucole	4	600	10-3-45	10-3-45	Less from joint

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e. Damage to Marcia acqueducts.

Locality	Acqueduct	Cause	Lenght damaged	Actual status of works
Reali Km.35 Tiburtina	1° Acq.	bomb	30 mt.	Completed 20-8-44
Spiaggia Km.35 Tiburtina	1° "	"	15 mt.	" 20-8-44
Ponte Anticoli Km.56 Tiburtina	2° "	"	20 mt.	" 6-7-44
Ponte Anticoli Km.56 Tiburtina	1° "	"	20 mt.Acq. & 30 " dis.	Flume to be taken out & discharge to be repaired
S.Lucia	1° "	"	15 mt.	Flume to be taken out

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f. Damage to A.C.E.A. acqueducts:

Locality	Acqueduct	Cause	Actual status of works
Anguillara	Vecchio Acq. Traiano (Paolo)	Mines	Completed 27-7-44

6. Damages at the sources.

A.C.E.A.: Damage to the electric line to Salohe pumping station repaired on 15-6-44.

MARCIA:

A. New source at Agosta.

a. Captation works had just started and were suspended at time of the Allies arrival. Construction of the combined collecting and control bottino, including super-structure and the water level control chamber have been completed. Most of the masonry walls, drainage channels and grading has been completed. About 1400 ft. of 1000 mm. pipe or equivalent size masonry line was constructed from the source to old source of Agosta.

b. Work to be done: complete the grading and settling of the area; construction of a laundry place for the people of Agosta (former one removed in construction of the new works); construction of superstructure of water level control chamber and substitute permanent control gate for temporary one; complete the chlorination station for new source.

B. Mola di Agosta (discharge bottino and captation of a small local source).

a. The building was destroyed by mines and is temporarily covered with boards. Works is suspended.

b. Work to be done: clear the bottino of debris; partial reconstruction of the bottino and reconstruction of the superstructure; replacement of damaged 300 mm. valves.

C. Serene (collecting bottinoes of the Serene - Collectors and discharge canals).

a. Status of works on Allies arrival: I° Serena-collecting bottino and about 10 m. tract of discharge canal destroyed; II° Serena - the large masonry dome over spring area (this is the original source of Pia acqueduct); the junction and collecting bottino were destroyed; III° Serena- the collector bottino and

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b. Present status of work: I° Serena- the temporary installation of pumps necessary for the reconstruction of the work is about complete (extending electric line to the site, laying pump lines, etc.); II° Serena- the large above ground dome has been replaced with a concrete slab at ground level;

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the reconstruction of the junction and control bottino remains to be started; III° Serena- the reconstruction of the collecting bottino is almost completed; about 10 m. of the 25 m. of the main collector being constructed parallel to old collector as a permanent by pass has been completed.

c. The following remains to be completed: finish the bottino and replacement of the control gates; complete excavation work and masonry for main collector; backfill all open work on completion and restore area.

D. S.Lucia (curve, junction and control chamber between the 1st. and 2nd. collector).

a. Status of works on Allies arrival: the two control chambers, about 35 m. of 2nd. collector, about 20 m. of discharge, and a tract of old Roman wall used as a barrage were all destroyed.

b. Present status of work: the reconstruction of the 2nd. collector, being constructed parallel to old collector as a permanent by pass has been completed, there remaining to be done the actual connecting of the ends of new tract with the old; the reconstruction of one of the control bottinoes is almost completed (the other bottino will not be needed as the connection between the two collectors will be abandoned when construction is finally completed); the reconstruction of the discharge and the barrage wall has been completed; in addition to the above work final grading should be completed.

E. Fiumetto pumping station (for the sources of Fiumetto and Mola di Regno).

a. Status of works on Allies arrival: the collecting basin was destroyed; the front and side walls of the pump building partially located over the collecting basin and the walls of the transformer room were all badly damaged; the intake pipes, plates and bearings of the four pumps (3-225 l/s. vertical electric and 1-450 l/s. vertical gasoline driven pumps) were damaged; some 32 areas in the source zones were damaged by bombs.

b. Present status of work: two of the lateral walls of the collecting basin are completed and the covering vault is under construction; the frontal and side walls of the building

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b. Present status of work: two of the lateral walls of the collecting basin are completed and the covering vault is under construction; the frontal and side walls of the building were rebuilt and finishing being done; transformers were moved to a temporary building and work on transformer room is under way; the four pumps are repaired; 2-225 l/s. being mounted over a temporarily constructed collecting basin and operatable, the other two are mounted in their permanent location; the repair of the captation works and sections of the canals and drainage in the source zones damaged by aerial bombardment have been completed with the exception of some finish grading.

c. Works to be done: complete cover and third wall of collecting basin and control gate of discharge; complete pump building and transformer room; remount electric wiring and control panels; transfer the 2-225 l/s. pumps from temporary to per-

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manent location.

NOTE: None of the pumps in the permanent location can be operated until most or all of the work enumerated has been completed. Declining flow necessitated placing 1-225 l/s. pump in operation on 8 March. More will undoubtedly have to be placed in operation later in season. This work should be expedited so as to cause minimum loss of pumping facilities which will be needed to furnish the maximum of water supply.

7. Progress of repair work at sources of Marcia.

A. The cooperation and promptness with which the company has proceeded with the repair of syphons and mains in Rome has been excellent, as well as their co-operation in adjusting over 950 complaints on water service. In contrast the progress of repair at the sourses has been far from that desired. The principal reason for the former is that the company had the materials and equipment to do same on hand. Lack of progress at the sources is due principally to the following reasons:

a. Difficulty of transport.

b. Irregularity in and shortage of cement supply. I.e.- the first request (500 T.) for cement for Public Works and Water (R.C.) was presented to Sub-Commission A.C. under date 25 July '44. Release for 250 T. at Salerno made 24 Aug. Bid for movement of same was accepted and collection time extended on different occasions but no cement ever received.

c. Need of materials difficult to find on the market. Requests for tires and tubes were first presented (July 44) to parties handling same in A.C. and have been renewed at various times with parties having jurisdiction. As of 1 March no results. Other items such as lumber, bricks, hip-boots, etc. have mostly been unobtainable. The workers have been very poorly shod for winter work and hip boots have been badly needed.

d. Freezing weather of a very severe winter, snow and overflowing of the Aniene River have retarded the work and at times have made masonry and concrete work inadvisable.

e. Economic reasons. The expense for restoration of sources alone has been estimated at more than 12,000,000 L. A

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e. Economic reasons. The expense for restoration of sources alone has been estimated at more than 12,000,000 L. A request for an account of 4,000,000 L. presented by the Company to Italian authorities remains inactive.

f. For the above reasons the work at the sources (main item 6 this report) is far from completed and it can be foreseen that it will be some months yet before same is finished. With the ever increasing military population in and around Rome they should be vitally interested in the protection and completion of all essential water work and it is suggested that they use all means available to assist the water companies in obtaining the critical and vital materials necessary to carry on their work.

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(Final and handing over report of Water Sec.-cont'd) 27-3-'45

8. Turno between syphon III and Monte Mario syphon.

Your attention is called to one turno still in operation. It is established between syphon III and Monte Mario II and affects the Parioli and Prima Valle area. This latter area has had no water since June '44 and a more equitable distribution of the water is being attempted. It was initiated some two months ago on a 48 hour period. On 20 Feb. this was changed to a 24 hour turno period and I recommend it be continued as long as water shortage exists in the Prima Valle area.

9. Ostia-Lido line.

A. The main, a 350-300 mm. line leads from the VI syphon and is 33 Km. in length. There were 11 major damages between Mezzocammino and Lido. Heavy damages to the distributing net at Ostia and Lido were caused by the withdrawing Germans.

B. Work done.

a. All breaks in the main were repaired. Breaks in the distributing net and connections to buildings were either repaired or blocked off in some cases.

b. It was necessary to keep the water cut off from Ostia-Lido because of the requirements of the British Con. Hospital located in the '42 Exposition buildings until the VI syphon reached approximate normal pressure.

c. The Ostia-Lido line was put under pressure on 18 Nov. '44 and was practically normal by the first days of Dec. except for some regulating and local repairs still under way. This system will have to be watched because various military units located there make unauthorized adjustments and connections all of which may lead to loss of water vitally needed.

d. The flow to Fiumicino (by way of Scafa bridge) and to Castel Porziano has not been restored because the bridges carrying the mains are destroyed.

10. Mine removal.

A. A large number of mines were removed along the course of the different acqueducts and syphons during the early days of occupation. As the water section was not under my supervi[illegible] that time I do not know [illegible]

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10. Mine removal.

A. A large number of mines were removed along the course of the different acqueducts and syphons during the early days of occupation. As the water section was not under my supervision at that time I do not know to whom to give the credit. The following removals were made under my supervision:

a. Much credit is due the units connected with the 104 Works C.R.E. and the Italian Engineers attached to S force for the fine job of mine removal work in the Lido-Ostia-Fiumicino areas. Both units had some men killed and several injured.

b. The Italian air administration made arrangements for removal of the mines in the Centocelle area. About 150 wood

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covered were removed, with unfortunately one casualty. The 250 mm. line that reinforces the water supply for the Appia area had four major breaks in crossing this field. Service on the line was resumed on 18 November and greatly improved the shortage existing in the Appia Quarter.

c. Over a ton of boxed explosive was removed in October '44 from the entrance to the gallery dell'Acquoria (near Tivoli) in which the VII syphon is located. In Feb.'45 bombs were reported farther on in the gallery. This was inspected by myself and a man with some ordnance experience obtained thru 104 Works C.R.E. Six-teen bombs, approximately 50 kg. each were removed from the tunnel and the same swept for mines by the 104 Works.

11. Chlorine situation.

At times the chlorine situation has been serious and on at least two occasions was critical. The two water companies finally obtained release thru the Industry Sub-Comm. A.C. and got all of the available chlorine in liberated Italy. 200 T. of salt recently arrived from Sicily that was released last October. The Aniene chemical plant of Rome started operations for manufacturing chlorine on 22 March, 1945. All possible reserve within the limits of the cylinders available should be stored up for use during the year. It must be kept in mind that the new source at Agosta is a spring located under the Town of Agosta. Work in course of construction and damaged works not too well protected from flooding all provide sources of contamination. The Paola acqueduct water must be treated to remain potable.

12. Need of materials, tools, equipment, supplies, etc.

A. Under date of 18 November 1944 the Marcia prepared a lengthy list (some 11 type written pages) of controlled and/or restricted items needed for their work. A similar list was prepared by A.C.F.A. under date of 17 February 1945. Both lists were presented to the Chamber of Commerce for screening. Because of the nature of the requests it was suggested that they be presented direct to the Ministry of Industry. The Marcia list went forward about 22 Jan. and the A.C.E.A. about 20 Feb.'45.

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B. Your attention is called to the fact that the companies supply of a great many of the items included in the list have been or soon will be exhausted. If normal maintenance work of the companies, so essential in order to render reasonable service to both military and civilian water users, is to be continued the items contained in the list will be urgenty needed. In addition extraordinary repairs are required at times due to sudden breaks in the system caused by previous bombing and mining. I.e. - 18 major breaks in syphons of 125 to 1000 mm.

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(Final and handing over report of Water Sec.-cont'd) 27-3-'45

size have occured since 1 July '44, over two thirds occuring since Sept. Emergency repairs such as these will continue for some time to come.

C. I recommend that this situation be called to the proper persons at a higher level.

A.E.Michel

A.E.MICHEL, Major, S.R.
Pu.Works & Water Sec.-Rome Comune

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APO 394

R/ 5945

24 December, 1944

SUBJECT: Water Supply Service

TO : HQ. RAAC.

Reference letter regarding the discontinuation of Fire Brigade service for pumping water into hotels, etc, Regional Engineer states that this is unlikely to cause any difficulty as the water pressure is much improved.

The service will, therefore, be withdrawn by 1 Jan. 1945. Immediate attention will be given to any individual cases of trouble if they are reported to this HQ.

For the Regional Commissioner:

A.D.BONHAM-CARTER
Lt.Colonel
Executive Officer.

Copy: 104 CRE Works
HQ. AC.
LPSO

2835

C.de CEF/gb 6323
co2519

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA REGION
(Engineering Division)
APO 394

RECEIVED
P.W. & U.S/C A.C.
23 DEC 1944 063

6

21 December 1944

TO : Il Sindaco di Roma

SUBJECT : Rome Commune Water Supply

IN REPLY QUOTE : B4/ENG/600d

1. Further to my B4/ENG/600d dated 18 November 1944 enclosed is reply of Marcia Acquedotto. - This now answers most questions and any further investigation is best done direct as suggested in last paragraph of their letter. - I should be pleased to know whether you have decided to write Prof. Collosimo to undertake this. - I have sent him copies of all their letters so he is fully informed. -

2. The position has in meantime considerably improved partly owing to improvements in Electrical Power, partly to increase of Water available at source, but there are still some troubles and worth following this up.

Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region AMG.

Enclosures: 2

Copy to:
Regional Commissioner
HQ.A.C. (P.W.) English & Italian
P.W. (HQ) " " "
Prof. Collosimo (2 copies) English & Italian
all with enclosures.

HEADQUARTERS 2340 A.C.

Declassified E.O. 12356 Section 3.3/NND No. 785019

SUBJECT : Rome Commune Water Supply

IN REPLY QUOTE : 24/ENG/600d

1. Further to my 24/ENG/600d dated 18 November 1944 enclosed is reply of Marcia Aquedotto. - This now answers most questions and any further investigation is best done direct as suggested in last paragraph of their letter. - I should be pleased to know whether you have decided to write Prof. Colosimo to undertake this. - I have sent him copies of all their letters so he is fully informed. -

2. The position has in meantime considerably improved partly owing to improvements in Electrical Power, partly to increase of Water available at source, but there are still some troubles and worth following this up.

Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region AMG.

Enclosures: 2

Copy to:
Regional Commissioner
HQ.A.C. (P.W.) English & Italian
P.W. (RC) " "
Prof. Colosimo (2 copies) English & Italian
all with enclosures.

HEADQUARTERS 934 A C

Lt Col Rayner Mat
Pls note & file
Ltr 26/12 2834 AMG
Maj Fentwood

The system is almost normal again and there remain no important problems.
26/12

Declassified E.O. 12356 Section 3.3/NND No. 785019

(Translated by A. Crolla)

/eb

From: SOCIETA' DELL'ACQUA PIA
ANTICA MARCIA

Sede in Roma
Via del Pozzetto, 108

Rome, 15 December 1944

Prot. : 260/279/282

TO : HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA REGION
(Engineering Division)
Rome.

1. Reply is given to your letter of 13th November 1944 received here on 24th.

2. Evidently there has been a misunderstanding in deeming that in a few days from the 22nd August the water situation would have returned to normal. At that time we were installing the temporary elettro-pump for the lifting of water of the Fiumetto Spring and on our part we stated that following the functioning of said pump, the situation would have greatly improved, without however returning to normal. In fact, at mid-September, after that the temporary elettro-pump entered into service, this improvement did take place.

You observe that repairs at the sources and along the pipe-line are proceeding very slowly: We wish to point out that works along the pipe-lines have been completed over two months ago. As regards repairs at the sources they could have been carried out at the same time at all the damaged points, provided that we had had an availability of gum-boots for workers who work in the water, but it has not been possible to obtain these either from the Italian Authorities or the Allied Command.

However the delay in execution of works has not influenced the availability of water in Rome.

The shortage of water verified during the month of October was caused, besides dispersions, principally to seasonal dry period of the sources, which in these last two years has been particularly exceptional.

We agree that the 25% wastage is other than satisfying, but the reduction of such loss was not possible until a minimum of stability took place on the distribution system, by eliminating the manoeuvre "turni".

Since about 30 days these figures (

Declassified E.O. 12356 Section 3.3/NND No. 785019

[illegible] WORK
(Engineering Division)
Rome.

1. Reply is given to your letter of 13th November 1944 received here on 24th.

2. Evidently there has been a misunderstanding in deeming that in a few days from the 22nd August the water situation would have returned to normal. At that time we were installing the temporary elettro-pump for the lifting of water of the Fiumetto Spring and on our part we stated that following the functioning of said pump, the situation would have greatly improved, without however returning to normal. In fact, at mid-September, after that the temporary elettro-pump entered into service, this improvement did take place.

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The shortage of water verified during the month of October was caused, besides dispersions, principally to seasonal dry period of the sources, which in these last two years has been particularly exceptional.

We agree that the 25% wastage is other than satisfying, but the reduction of such loss was not possible until a minimum of stability took place on the distribution system, by eliminating the manoeuvre "turni".

Since about 20 days these "turni" (rotation distribution) have ceased, with the exception of some local manoeuvring which does not influence the greater part of the distribution system, and now that the situation is nearly normalised, we are well on the way to a reduction of wastage which is presently in a measure of 18%.

3. para (1) We are unaware of the reserve capacity of those involved. Here follows a list of mains abusively opened with indication of the [illegible] feeding syphons: 2833

a) Vicolo del Basilio ang. S. Nicola da Tolentino - 1st syphon
b) Via Regina Giovanna di Bulgaria - 2nd syphon
c) Via Bonconpagni - 3rd syphon

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

d) Via dei Cracchi - 1st syphon
e) Via Cattense -5th syphon
f) Via Forli -2nd syphon
g) Piazzale del Colosseo - 3nd syphon
h) Viale Belle Arti -4th syphon
i) Viale Angelico -7th syphon
l) Via Monte Zebio -6th syphon
m) Via T. Corridoni - 6th syphon

(2) and (6) The adjustments consist in regulating valves thus increasing pressure where necessary.

(6) We confirm that Acqua Marcia public fountains are about 800.

We have no objections to installing taps working automatically but we have expressed the opinion that these will be tampered with.

(7) and (11) We confirm our statement that on our distribution net there are NO automatic release valves.

(8) and (13) If domestic distributions over which this enterprise has no control are done rationally, especially with adequate sized cisterns, there should be no gross wastage. The eventual surplus normally runs into the laundry washing tanks and therefore partly utilised.

(9) It is not possible that our water measuring valves have variations in flow. Our distribution system is based on a constant pressure.

(10) Daily report shows flow of the 7 principal syphons, which flow is always the same. It is not exact that mains gradually empty.

(12) As already explained, the manometric stations, of which there are about 600 on the distribution system, indicate the pressures which the mains are subjected to; these pressures do not undergo any change as flow in mains is constant.

(15) There are no technical or legal reasons against all consumers being reduced on the normal prewar distribution, excepting those users who have acquired a perpetual right to a certain quantity of water, and which represents about 15% of water distributed.

(16) When the distribution of water is regulated and all abuses are eliminated all mains are capable of giving sufficient water.

(19) The points in city at which water was transferred from one main to another for the TURNI are indicated on the Map which has not been returned to us. With the working of these shutters water was diminished in one area and increased in another area.

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(6) We confirm that Acqua Marcia public fountains are about 200.

We have no objections to installing taps working automatically but we have expressed the opinion that these will be tampered with.

(7) and (11) We confirm our statement that on our distribution net there are NO automatic release valves.

(8) and (13) If domestic distributions over which this enterprise has no control are done rationally, especially with adequate sized cisterns, there should be no gross wastage. The eventual surplus normally runs into the laundry washing tanks and therefore partly utilised.

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(15) There are no technical or legal reasons against all consumers being reduced on the normal prewar distribution, excepting those users who have acquired a perpetual right to a certain quantity of water, and which represents about 15% of water distributed.

(18) When the distribution of water is regulated and all abuses are eliminated all mains are capable of giving sufficient water.

(19) The points in city at which water was transferred from one main to another for the TUNNI are indicated on the Map which has not been returned to us. With the working of these shutters water was diminished in one area and increased in another area.

(20) The difference in pressure of the various Syphons at their entry into Rome is maintained in order to distribute the water to the different city sections which are on a different level.

(21) The matter of syncronization between Electric and Water TUNNI no longer exists because the water TUNNI have been abolished.

(22) The supply of electric power for Pisetto pumping plant now takes place in a sufficiently regular manner.

2832

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

We consider that to further clear in a definite manner the conditions of our distribution, it would be advisable to talk it over with our technical staff for which we request you to fix an appointment.

SOCIETA' DELL'ACQUA FIA
ATTICA MARCIA

IL DIRETTORE

Declassified E.O. 12356 Section 3.3/NND No. 785019

SOCIETA' DELL'ACQUA PIA
ANTICA MARCIA

260/279/282
GA/cl

COPY

ph/
Roma, 15 Dicembre 1944

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA REGION
(Engineering Division)
APO 394

1) Rispondiamo alla Vostra lettera del 13 novembre pervenutaci il giorno 24.

2) Evidentemente vi è stato un equivoco nel ritenere che entro pochi giorni dal 22 agosto la situazione idrica si sarebbe normalizzata. In quell'epoca si stava installando la elettro pompa provvisoria per il sollevamento dell'acqua della Sorgente Fiumetto e da parte nostra si è dichiarato che dopo l'entrata in funzione di detto impianto, la situazione sarebbe notevolmente migliorata, ma non normalizzata. Ed infatti alla metà di settembre, dopo che l'impianto provvisorio dell'elettropompa è entrato in servizio, tale miglioramento si è verificato.

Voi osservate che il lavoro di riparazione alle sorgenti e lungo le tubazioni procede molto lentamente: Vi facciamo notare che i lavori sulle tubazioni sono stati ultimati da oltre due mesi. In quanto ai lavori alle sorgenti, essi avrebbero potuto essere svolti contemporaneamente in tutti i punti danneggiati, qualora si avesse avuto disponibilità di stivali di gomma per gli operai che lavorano dentro l'acqua, stivali che non è stato possibile ottenere nè dalle Autorità Italiane, nè dal Comando Alleato.

Comunque il ritardo nella esecuzione dei lavori non ha avuto alcuna influenza sulla disponibilità dell'acqua in Roma.

La deficienza di acqua verificatesi nel mese di ottobre era

Declassified E.O. 12356 Section 3.3/NND No. 785019

1) Rispondiamo alla ... giorno 24.

2) Evidentemente vi è stato un equivoco nel ritenere che entro pochi giorni del 22 agosto la situazione idrica si sarebbe normalizzata. In quell'epoca si stava installando la elettro pompa provvisoria per il sollevamento dell'acqua della Sorgente Fiumetto e da parte nostra si è dichiarato che dopo l'entrata in funzione di detto impianto, la situazione sarebbe notevolmente migliorata, ma non normalizzata. Ed infatti alla metà di settembre, dopo che l'impianto provvisorio dell'elettropompa è entrato in servizio, tale miglioramento si è verificato.

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Comunque il ritardo nella esecuzione dei lavori non ha avuto alcuna influenza sulla disponibilità dell'acqua in Roma.

La deficienza di acqua verificatesi nel mese di ottobre era causata oltre che da dispersioni, principalmente dalla magra stagionale delle sorgenti, magra che in questi ultimi due anni è stata particolarmente accentuata.

Siamo d'accordo che lo sfraso del 25% è tutt'alto che sodisfacente, ma la riduzione di tale sfraso non era possibile fino a quando non si fosse verificato un minimo di stabilizzazione sulla distribuzione dell'acqua, con la eliminazione dei turni di manovra.

Da circa venti giorni i turni sono cessati, salvo qualche manovra locale che non interessa la massima parte della rete di distribuzione, ed ora che la situazione è quasi normalizzata, siamo bene avviati verso la riduzione dello sfraso che risulta presentemente del 18%.

2830

3) par.(1) - Non conosciamo la capacità di riserva degli interessati. Riportiamo l'elenco degli idranti aperti abusivamente, con l'indicazione a fianco della conduttura principale di alimentazione:

a) Vicolo del Basilio ang. S. Nicola da Tolentino - 1° sifone.
b) Via Regina Giovanna di Bulgaria - 2° sifone
c) Via Boncompagni - 3° sifone
d) Via dei Gracchi - 1° sifone
e) Via Ostiense - 5° sifone

../..

Declassified E.O. 12356 Section 3.3/NND No. 785019

f) Via Forlì - 2° sifone
g) Piazzale del Colosseo - 2° sifone
h) Viale Belle Arti - 6° sifone
i) Viale Angelico - 7° sifone
l) Via Monte Zebio - 6° sifone
m) Via F. Corridoni - 6° sifone

(2) e (6) - Le manovre consistono appunto nella regolazione di valvole in modo da aumentare la pressione dove occorre.

(6) Confermiamo che le fontanelle pubbliche con erogazione di acqua Marcia sono circa 800. Non abbiamo fatto difficoltà per l'impianto di rubinetto a funzionamento automatico, ma abbiamo espresso l'opinione che detti rubinetti verranno manomessi.

(7) e (11) - Confermiamo che sulla nostra rete di distribuzione non vi sono valvole a scarico automatico.

(8) e (13) - Se le distribuzioni interne degli stabili, sulle quali la Società non ha alcun controllo, sono fatte razionalmente, e specialmente con una adeguata capacità dei serbatoi, non vi deve essere grande perdita di acqua. L'eventuale sopravanzo dei serbatori viene normalmente immesso nei lavatoi e quindi in parte utilizzato.

(9) Non è possibile che le nostre valvole di misura dell'acqua abbiano variazioni di portata. Il nostro sistema di distribuzione è basato su di una pressione costante.

(10) Il rapporto giornaliero indica la portata dei sette sifoni principali, portata che è sempre uguale. Non è esatto che i tubi principali si vuotino.

(12) Come è stato già esposto, le stazioni manometriche, in numero di circa 600 sono sulla rete di distribuzione, indicano le pressioni che i tubi sopportano, pressioni che non subiscono variazioni, essendo costante la portata delle condutture.

(15) Non vi è nessuna ragione tecnica o legale perchè tutti i consumatori possano essere ridotti dalla distribuzione normale dell'anteguerra, salvo le utenze che hanno acquistato in perpetuo il diritto ad una determinata erogazione di acqua, utenze che rappresentano il 16% dell'acqua distribuita.

(18) Quando la distribuzione dell'acqua sarà regolata e saranno eliminati gli abusi tutte le condutture sono capaci di dare acqua sufficiente.

Declassified E.O. 12356 Section 3.3/NND No. 785019

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(18) Quando la distribuzione dell'acqua sarà regolata e saranno eliminati gli abusi tutte le condutture sono capaci di dare acqua sufficiente.

(19) Le saracinesche che venivano manovrate per i turni sono quelle indicate nel piano che non ci è stato restituito. Con la manovra di dette saracinesche l'acqua veniva diminuita in una zone ed aumentata in altre.

2829

(20) La differenza di pressione dei vari sifoni al loro arrivo di Roma è mantenuta per permettere l'erogazione dell'acqua nei vari quartieri che si trovano a differente livello.

(21) La questione della sincronizzazione fra il turno dell'elettricità ed il turno dell'acqua è superata perchè i turni dell'acqua sono stati aboliti.

../..

Declassified E.O. 12356 Section 3.3/NND No. 785019

(2) La fornitura dell'energia elettrica per le pompe di Piumetto avviene ora abbastanza regolarmente.-

---

Riteniamo che, per chiarire ulteriormente e definitivamente le condizioni della nostra distribuzione, sarebbe opportuno un colloquio con i nostri tecnici per il quale Vi preghiamo volerci fissare un appuntamento.

SOCIETA' DELL'ACQUA PIA
ANTICA MARCIA
Il Direttore
F/to: illeggibile

Declassified E.O. 12356 Section 3.3/NND No. 785019

20 NOV Rec'd
063.

C.de CRY/sb
61749

4

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA SECTION
(Engineering Division)
APO 394

17 November 1944

TO : C.O., F.W. (R.C.)

SUBJECT : Rome Comune Water Supply

IN REPLY QUOTE : R4/ENG/COC(d)

noted 21/11

1. Enclosed is copy of reply by ACSA.

2. It covers para 1 & 2 & 14

3. The replies to following paragraphs is that they are Nil because it does not effect their system 3, 7, 11, 15, 16, 18.

4. Reply to 4 is 12 litres flush.

5 is 1200 fountains running night and day

6 all normal

9 No valves controlling cisterns
but meters on many houses but still some with orifice regulation.

10 No flow statistics

12 Company has complete records on plans

13 No control on cisterns overflow for 'orifice' consumers.

14 Att.

Declassified E.O. 12356 Section 3.3/NND No. 785019

TO . . F.W. (R.C.)

SUBJECT : Rome Comune Water Supply

IN REPLY QUOTE : R4/ENG/600(d)

noted dft 21/11

1. Enclosed is copy of reply by ACEA.

2. It covers para 1 & 2 & 14

3. The replies to following paragraphes is that they are Nil because it does not affect their system 3, 7, 8, 9, 15, 16, 18.

4. Reply to 4 is 12 litres flush.

5 is 1200 fountains running night and day

6 all normal

9 No valves controlling cisterns but meters on many houses but still some with orifice regulation.

10 No flow statistics

12 Company has complete records on plans

13 No control on cisterns overflow for 'orifice' consumers.

~~14 Att~~

15 An order would be necessary

17 All mains give sufficient water

19 & 20 Distribution normal so no need to worry.

The impression I got from talking to the Engineer of the Company was that things were well under control.

2828
Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region AMG.

Enclosures

Copy to:
~~F.W.(R.C.)~~
HQ.AC. (F.W.)
Sindaco
Office 3 copies.

Declassified E.O. 12356 Section 3.3/NND No. 785019

20 NOV Recd

063 CAB.

G.G6 CMF/ED

Co13766

3

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA SECTOR
(Engineering Division)
AM 394

13 November 1944

TO : Acqua Marcia, Rome

SUBJECT : Rome City Water supply

IN REPLY QUOTE : G4/ENG/606(2)

2A

1. I have to thank you for your reply of 8th November to my letter of 6th October (while owing to delays in checking and translation ~~xhxxxxbeen~~ reached you on 17th October).-

2. Since 22nd August I have been told that the position will be all right in a few days. - It has NOT become so and I do not feel confidence that it will right itself without a very definite effort. - Particularly the work on repairs around the headworks and acquedotti are going on very slowly - A wastage of 25% cannot be regarded as satisfactory. -

As long as most consumers get 100% while others get none the situation cannot be considered a satisfactory or equitable distribution of available water.

3. Some of the replies do NOT answer the questions asked nicely :

para (1) omits all reference to storage and omits to say which main system supplies each.

(2) & (6) With some consumers getting 100% and others none why cannot mains supplying lower zones be throttled down so as to decrease flow to lower zones and so increase pressure in higher zones ?

Declassified E.O. 12356 Section 3.3/NND No. 785019

TO : Acqua Marcia, Rome

SUBJECT : Rome City Water supply

IN REPLY QUOTE : 84/2330/Rom(b)

2A

1. I have to thank you for your reply of 8th November to my letter of 6th October (while owing to delays in checking and translation should have reached you on 17th October) .-

2. Since 22nd August I have been told that the position will be all right in a few days. - It has NOT become so and I do not feel confidence that it will right itself without a very definite effort. - Particularly the work on repairs around the headworks and acquedotti are going on very slowly - A wastage of 25% cannot be regarded as satisfactory. -

As long as most consumers get 100% while others get none the situation cannot be considered a satisfactory or equitable distribution of available water.

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para (1) omits all reference to storage and omits to say which main system supplies each.

(2) & (6) With some consumers getting 100% and others none why cannot mains supplying lower zones be throttled down so as to decrease flow to lower zones and so increase pressure in higher zones ?

(4) The AGEA reports 1200 Fountains each at 20.000 lit per day. - Result loss of about 10 lit per head per day. -

Flow of each 1/4 lit/sec total 300 lit/sec by no means a minor matter.-

(7) & (11) I was told that in order to maintain an even pressure and avoid pipe bursts through excess pressure all mains were filled with automatic release valves. - Your reply is the direct opposite. - Please reread question and confirm or adjust your reply.

2827

(8) & (13) I was told that when domestic cisterns were full they continued to run to waste. Your reply is opposite. - Please confirm or otherwise.

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(9) Please reply to question asked. - Whatever the theory of present practice the result is uneven and therefore points to adjusting system to meet existing conditions.

(10) Daily report gives average flow. - I was given to understand this slacked off as the day went on owing to mains gradually emptying is this so ?

Please reply to question.

(12) & (15) & (18) Please reply to questions asked.

(19) The plan does NOT show at what points in City water can be transferred from one main to another. - It will be brought back please mark it on clearly. -

(20) The pressure readings indicate that in N° 1 syphon the TURMO are badly out of balance resulting in an average drop of pressure in TURMO 2 of 20 m.

In N° 6 syphon Turmos N° 1 appears to result in pressure being up to 10 m less than in Turmo 2. .

Please study this. -

The wide differences of pressure between mains appear to indicate possibility of interchange if proper means of interchange exist or were provided.

This may be due to differences of level at recording points or differences in frictional losses on route due to rates of flow, intentional or otherwise . - Please study.

(21) The synchronisation between Electric and Water Turmo is very important. Otherwise there may be electricity for pumps without water or viceversa. Electricity cannot at present be continuous.

(22) The circuit on which the main pumps work has been altered to to priority so as to give continuous supply. - Variations of voltage at FIUMETO another trouble is being studied. -

Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region ANC.

Copy to:
F.M.(T.C.) English & Italian
HQ. AC. F.M. " " "

Declassified E.O. 12356 Section 3.3/NND No. 785019

Please reply to question.

(12) & (15) & (18) Please reply to questions asked.

(19) The plan does NOT show at what points in City water can be transferred from one pain to another. - It will be brought back please mark it on clearly. -

(20) The pressure readings indicate that in N° 1 syphon the TURNO are badly out of balance resulting in an average drop of pressure in TURNO 2 of 20 m.

In N° 6 syphon Turnos N° 1 appears to result in pressure being up to 40 m less than in Turno 2. .

Please study this. -

The wide differences of pressure between mains appear to indicate possibility of intercharge if proper means of intercharge exist or were provided.

This may be due to differences of level at recording points or differences in frictional losses en route due to rates of flow, intentional or otherwise . - Please study.

(21) The synchronisation between Electric and Water Turns is very important. Otherwise there may be electricity for pumps without water or viceversa. Electricity cannot at present be continuous.

(22) The circuit on which the main pumps work has been altered to to priority so as to give continuous supply. - Variations of voltage at FIUMETO another trouble is being studied. -

Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region A.M.G.

Copy to:
P.W.(R.C.) English & Italian
EQ. AC. P.W. " " "
Syndaco " " "
Office 3 copies.

2826

Declassified E.O. 12356 Section 3.3/NND No. 785019

Translation by E. Bonnello

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA REGION
(Engineering Division)
APO 394

13 Novembre 1944

ALL' : Acqua Zerolo, Rome

OGGETTO : Rome City Water supply - Approvvigionamento di acqua della Città di Rome.

NELLA RISPOSTA CITARE: R4/ENG/Rom(2)

1. Devo ringraziarvi per la vostra risposta dell' 8 Novembre alla mia lettera del 6 Ottobre (che dovuto a ritardi in recapiti e traduzione vi deve essere pervenuta il 17 ottobre).

2. Fin dal 22 Agosto mi è stato detto che la pressione si sarebbe normalizzata entro pochi giorni. Così non è stato e non risulta che si possa addivenire da sola buona ora a riforn[illegible] manto il lavoro di riparazioni alle sorgenti e lungo le tubazioni procede molto lentamente. Uno spreco del 25% non può essere considerato soddisfacente.

Pintanto che la maggioranza degli utenti ricevano il 100% mentre gli altri non hanno nulla la situazione non può essere considerata soddisfacente e la distribuzione di acqua disponibile equa.

3. Alcune delle risposte non rispondono ai quesiti sollevati e cioè

para (1) Tralascia qualsiasi riferimento all'inaugurazione e tralascia di dire quale condotta principale riforniscono ognuno.

(2) & (4) Alcuni utenti hanno il 100% mentre altri niente; non potrebbero alcuni condotti principali che riforniscono le zone più basse essere regolati in modo da diminuire il flusso nelle zone più basse od aumentare la pressione nelle zone più alte ?

(6) L'ASL[illegible] informa che 1800 fontane erogano circa 20.000 litri al giorno . Risultato perdita di circa 10 litri a testa al giorno.

Flusso di ognuna 1/4 lit/sec totale 100 lit/sec per niente [illegible] questione di poca importanza.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Sulla SECRETA CIFARE 84/ams/dpc(2)

1. Devo ringraziarvi per la vostra risposta dell' 8 Novembre alla mia lettera del 6 Ottobre (che dovuto a ritardi in riscontri e traduzione vi deve essere pervenuta il 17 ottobre).

2. Fin dal 22 Agosto mi è stato detto che la posizione si sarebbe normalizzata entro pochi giorni. Così non è stato e non ritengo che si possa aggiungere da sola sono uno sforzo sensibile. Particolarmente il lavoro di ripressioni alle sorgenti e lungo le tubazioni procede molto lentamente. Uno sprece del 25% non può essere considerato soddisfacente.

Pimiento che la maggioranza degli utenti riceveno il 100% mentre gli altri non hanno nulla la situazione non può essere considerata soddisfacente e la distribuzione di acqua disponibile equa.

3. Alcune delle risposte non rispondono ai quesiti sollevati e cioè:

para (1) Tralascio qualsiasi riferimento all'insufficiente e tralascio di dire quale condotto principale rifornisce ognuno.

(2) & (4) Alcuni utenti hanno il 100% mentre altri niente; non potrebbero alcuni condotti principali che riforniscono le zone più basse essere regolati in modo da diminuire il flusso nelle zone più basse ed aumentare la pressione nelle zone più alte ?

(6) L'ASCE informa che 1200 fontane emettono circa 20.000 litri al giorno . Risultato perdita di circa 10 litri a testa al giorno.

Flusso di ognuna 1/4 lit/sec totale 300 lit/sec per niente una questione di poco importanza.

(7) & (11) Mi è stato riferito che per mantenere una pressione uniforme ed evitare scoppio di tubature per eccessiva pressione tutte le tubature principali sono state munite di valvole automatiche di scarico. La vostra risposta dice proprio il contrario. Vi prego di rileggere la questione e confermate o modificate la vostra risposta.

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(8) & (11) Mi è stato riferito che quanto le cisterne domestiche erano piene esse continuavano a perdere acque. La vostra risposta dice il contrario.

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Vi prego di confermare o di modificare.

(9) Vi prego di rispondere alla domanda rivoltavi, qualsiasi sia la teoria del metodo presente il risultato non è uniforme e perciò necessita un sistema di accomodamento che possa adattarsi alle condizioni preesistenti.

(10) Il rapporto giornaliero indica la media di flusso. Mi è stato fatto capire che questo diminuiva coll'andar del giorno e causa dei tubi principali che si vuotavano. E'Così ?

Prego rispondere alla domanda.

(12) & (15) & (18) Vi prego di rispondere alla domanda rivoltavi.

(19) Il piano non specifica in quali punti della città l'acqua può essere trasferita da una tubature ad un'altra. Vi sarà rimandata. Vi prego di marcarla chiaramente.

(20) Le letture della pressione mostrano che nel sistema NO: i turni sono sbilanciati in modo da produrre una caduta di pressione del secondo turno di circa 30 m.

Nel settore N°6 turno N°1 risulta una pressione fino a 10 metri meno del turno 2. Vi prego di studiare questa questione.

Le grandi differenze di pressione fra le tubature principali indicano la possibilità di interconnettere se adatti mezzi di interconnessione esistono e fossero riformiti.

Questo può essere dovuto a differenze di livello nei punti di congiunzione o a differenze nelle perdite derivanti da frizionamento lungo il percorso dovute alla quantità del flusso intenzionale o viceversa. Prego studiare la questione.

(21) La sincronizzazione fra il turno dell'elettricità e dell'acqua è molto importante. Altrimenti vi potrà essere elettricità per pompe senza acqua o viceversa. L'elettricità per il avvento non potrà essere continua.

(22) Il circuito sul quale le pompe principali lavorano è stato alterato in modo da dare un riformiamento continuo. Variazioni di Voltaggio e Flusso. un'altro inconveniente che si sta studiando.

Lt.Col.C.E.
Regional Engineer
Lagos Zebra Region AMG.

Copia a :
F.M.(A.C.) inglese & italiano

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fatto sapere che questo disinvio dell'[illegible] dei principali che si vantavano. E'così ?

Prego rispondere alla domanda.

(12) & (15) & (18) Vi prego di rispondere alle domande rivoltevi.

(19) Il piano non specifica in quali punti della città l'acqua può essere trasferita da una tubatura ad un'altra. Vi sarà rimandato. Vi prego di mancarlo chiaramente.

(20) Le letture delle pressione mostrano che nel sistema NO1 i turni sono sbilanciati in modo da produrre una caduta di pressione dal secondo turno di circa 20 m.

Nel sifone B^6 turno N^1 risulta una pressione fino a 10 metri meno del turno 2. Vi prego di studiare questa questione.

Le grandi differenze di pressione fra le tubature principali indicano la possibilità di interconnettere ne adatti punti di intercanalizzazione esistono o possono rifornirti.

Questo può essere dovuto a differenze di livello nei punti di congiunzione o a differenze nelle perdite derivanti da frizionamento lungo il percorso dovute alla quantità del flusso intermittente o viceversa. Prego studiare la questione.

(21) La sincronizzazione fra il turno dell'elettricità e dell'acqua è molto importante. Altrimenti vi potrà essere elettricità per pompe senza acqua o viceversa. L'elettricità per il sobborgo non potrà essere continua.

(22) Il circuito sul quale le pompe principali lavorano è stato alternato in modo da dare un rifornimento continuo. Variazioni di voltaggio a Piazzetta, un'altro inconveniente che si sta studiando.

Lt.Col.C.E.
Regional Engineer
Lazio Umbria Region A.C.

Copie a :
P.W.(B.C.) inglese & italiana
HQ.AC. P.W. " " "
Sindaco " " "
ufficio 1 copia.

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20 NOV Rec'd

063 Cels

G.de CMF/gb
C/17648

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA REGION
(Engineering Division)
APO 394

13 November 1944

TO : P.W. (R.C.)

SUBJECT : Rome City Water Supply

IN REPLY QUOTE : R4/ENG/600(D)

41, abd file

1. Herewith reply to my R4/ENG/600(D) dated 6th October (actually sent 16th October).

Enclosures: 1 copy of REGOLAMENTO (delivered by me 10th November) to Ing. MARDI
Pressure Tests 2 copies Italian
≡ and English
Commissariato Militare "yellow" (in original)
Elenco Sbocchi Ministero Marina) in original
Aeronautica)
Map showing Position of
Regulating Valves ~~(to follow)~~

2. Remarks on Reply from Acqua Marcia.

(1) Quite reply to STORACE appears possible that the trouble attributed to Military is exaggerated. -

(2) Unsatisfactory, apathetic, what has been will be lack of initiative attitude. - Better to have all cisterns half full than one empty and others overflowing.
Warning There is a danger of air in pipes following TURBO as in the human body it is disturbing.

The balance is very important.

(3) A clear possibility for Individual action by 300 householders consider notice in Press; ~~this~~ then their affair.

(4) A large flush - Ball valves could be adjusted to reduce- 6 Pails per day per head is 70 to 90 lit per head per day

Declassified E.O. 12356 Section 3.3/NND No. 785019

TO : F.W. (R.C.)

SUBJECT : Rome City Water Supply

IN REPLY QUOTE : R4/ENG/600(D)

41, old file

1. Herewith reply to my R4/ENG/600(D) dated 6th October (actually sent 16th October).

Enclosures: 1 copy of PROCLAMATO (delivered by me 10th November) to Ing. MANDI

Procsure Tonte 2 copies Italian and English

Commissariato Militare yellow, (in original)

Elenco Shocchi Ministero Marina Aeronautica) in original

Map showing Position of Regulating Valves ~~(to follow)~~

2. Remarks on Reply from Acqua Marcia.

(1) Omits reply to STORAGE appears possible that the trouble attributed to Military is exaggerated. -

(2) Unsatisfactory, apathetic, what has been will be lack of initiative attitude. - Better to have all cisterns half full than one empty and others overflowing.
Warning There is a danger of air in pipes following TURNO as in the human body it is disturbing.

The balance is very important.

(3) A clear possibility for Individual action by 300 householders consider notice in Press; ~~this~~ then their affair.

(4) A large flush - Ball valves could be adjusted to reduce- 6 Pulls per day per head is 70 to 90 lit per head per day and reduction to 10 lit would save say 15 lit per head per day. An individual matter that would be done if supply was rationed evenly.

(5) ACEA informs me 1.200 fountains at 20.000 lit per day each equals 24.000.000 per day wasted say 18.000.000 lit per day or 10 lit per head NOT a minor matter. 2823
Agreed damage will occur. - Discipline - Cutting will last a week then public opinion will deal with destroyers - Again apathy.

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(6) Some consumers none, most normal is unequitable - Find a mean of reducing normal consumers.
(7) This is direct opposite of what I was told by your staff either MARCIA is wrong or your staff's eyes shut. Which is it ?
(8) Again the opposite of what I was told and I cannot believe the answer is correct (see also 13) Reply most unsatisfactory.
(9) Unsatisfactory half reply - Their distrivution system has been followed and whether distribution should be stuffy is immaterial as it is NOT - I am NOT satisfied that they are using all possible measures to do so.
(10) A Fact reply giving total flow - The evenness of flow is what matters I have been told it gradually slacks off as the day goes on . - Is that correct or NOT ?
(11) (see 7)
(12) Does NOT answer question - The pressure tests shew a wide range of pressures is this deliberate because pipes are weak if NOT adjustment between mains should be possible.
(13) If they have NO control it should be provided by Communal Decree in a time of Emergency. The question is NOT answered in full.
(14) Received
(15) Reply avards issue (see 6) - Again the attitude of "all will be well if we wait long enough". I was told the same in August and am NOT satisfied.
(16) This is a very small proportion of whole. It is noted that the CIGLIO Hospital is said to use 1000 gallons per head per day and yet is short of water. An indication of possible lack of control.
(17 & 18) NOT answered. NO mention of which mains are deficient.
(19) No remarks to be studied.
(20) Turnoe are badly out of balance in 1 and 6. - There is a wide field for interchange between mains. -

3. ACTION.

(a) Letter to Acqua Pasta

Declassified E.O. 12356 Section 3.3/NND No. 785019

March is wrong or your staff's eyes shut. Which is it ?

(8) Again the opposite of what I was told and I cannot believe the answer is correct (see also 13) Reply most unsatisfactory.

(9) Unsatisfactory half reply -
Their distrivution system has been followed and whether distribution should be studdy is immaterial as it is NOT - I am NOT satisfied that they are using all possible measures to do so.

(10) A Fact reply giving total flow - The evenness of flow is what matters I have been told it gradually slacks off as the day goes on . - Is that correct or NOT ?

(11) (see 7)

(12) Does NOT answer question - The pressure tests shew a wide range of pressures is this deliberate because pipes are weak if NOT adjustment between mains should be possible.

(13) If they have NO control it should be provided by Communal Decree in a time of Emergency. The question is NOT answered in full.

(14) Received

(15) Reply awards issue (see 6) - Again the attitude of "all will be well if we wait long enough". I was told the mains in August and am NOT satisfied.

(16) This is a very small proportion of whole. It is noted that the CICLIO Hospital is said to use 1000 gallons per head per day and yet is short of water. An indication of possible lack of control.

(17 & 18) NOT answered. NO mention of which mains are deficient.

(19) No remarks to be studied.

(20) Turnos are badly out of balance in 1 and 6. - There is a wide field for interchange between mains. -

3. ACTION.

(a) Letter to Acqua Marcia copy enclosed.

(b) para 1 Letter to Col. Medding re Military Milking as in para 1 (copy attached)

para 3 Have a few of the bad cases examined by your water engineer.

para 4 It seems to me only a matter of adjusting ball valves and NOT changing cisterns - The Italian model may be strange - Have it investigaed. -

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Declassified E.O. 12356 Section 3.3/NND No. 785019

para 5 Please speak to AGRA about this and endeavour to get some action. -

para 7 Please report if automatic Pressure Release Valves exist or not - It appears a point of fact of which after 5 months there should be no doubt.

para 14 Copy already with your Engineer for study.

para 16 Please have "yellow" Military loads examined and Allied ones marked and take up with RAAC water supply officer to arrive at rate per head day and mark thereon. -
If apparently unduly high (e.g. CIGLIO Hospital) ask him to go into.

para 19 The map will be passed to you in a few days.

para 20 Pressure readings copy enclosed have it studied carefully.

Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region AMG.

Enclosures: 9

Copy to:
HQ.AC.(F.W.) (English & Italian)
Sindaco " " "
Office 3 " " "

Only "Table of Pressures" for attention of Lt. Col RHODES -

Declassified E.O. 12356 Section 3.3/NND No. 785019

Translation by: E. Scarzella

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO UMBRIA REGION
(Engineering Division)
APO 394

13 Novembre 1944

All. : P.S. (R.C.)

OGGETTO : Approvvigionamento di acqua della città di Roma

NELLA RISPOSTA CITARE : R4/ENG/600(R)

1. Qui dinnanzi la risposta alla mia R4/ENG/600(d) in data 6 ottobre (spedita il 16 ottobre)

Allegati: 1 copia del Regolamento (consegnata da me il 19 Novembre) all'ing. NARDI
Prove di pressione 2 copie in italiano
e ~~copie~~ in inglese
Commissariato Militare giallo, (in originale)
Elenco sbocchi Ministero Marina) in originale
Aeronautica)
Carta topografica indicante la posizione delle valvole regolatrici (da seguire)

2. Osservazioni sulla risposta dell'Acqua Marcia

(1) Tralascio la risposta sull'Immagazzinamento; mi sembra che l'inconveniente attribuito ad Enti militari sia esagerato.

(2) Insoddisfacente, apatico, ciò che è stato può essere considerato mancanza di iniziativa. Meglio avere tutte le cisterne a metà piene che una ~~piena~~ ed altre trabocchanti . Avvertimento. Vi è pericolo di aria nei tubi dopo i turni. Come nel corpo umano ciò è di disturbo.

Vuota

L'equilibrio è molto importante.

(3) Non possibilità evidente per azione individuale da parte di 300

Declassified E.O. 12356 Section 3.3/NND No. 785019

ALL : P.N. (E.C.)

OGGETTO : Approvvigionamento di acqua della città di Roma

NELLA RISPOSTA CITARE : R4/ENG/6CC(E)

1. Qui dimanzi la risposta alla mia R4/ENG/6CC(d) in data 6 ottobre (spedita il 16 ottobre)

Allegati: 1 copia del Regolamento (consegnata da me il 19 Novembre) all'ing. MARRI
Prove di pressione 2 copie in italiano
e ~~copie~~ in inglese
Commissariato Militare giallo, (in originale)
Elenco sbocchi Ministero Marina } in originale
Aeronautica }
Carta topografica indicante la posizione delle valvole regolatrici (da seguire)

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Vuota

L'equilibrio è molto importante.

(3) Una possibilità evidente per azione individuale da parte di 300 padroni di casa. Considerare l'avviso sui giornali; affar loro.

(4) Un grande scarico - Le valvole a palla potrebbero essere aggiustate per ridurle- 6 tirate al giorno al persona sono 70 a 90 litri al giorno a persona ed una riduzione a 10 litri risparmierebbe circa 15 litri a persona al giorno. Una questione individuale che potrebbe essere messa in opera se il rifornimento fosse razionato equamente.

(5) L'ACEA m'informa che 1200 fontane a 20.000 litri ciascuna al giorno equivalgono a 24.000.000 litri al giorno spreccati diciamo 18.000.000 litri al giorno e 10 litri a persona e questa non è una questione di poca importanza.

2820

./.

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D'accordo sul danno che avverrà. Disciplinare. Se mi togliesse per una settimana la pubblica opinione avrà a che fare coi distruttori. Nuovamente spettia.

(6) Ad alcuni utenti nulla, alla maggior parte il normale è ingiusto. Trovate un mezzo per ridurre ai consumatori normali.

(7) Questo è proprio l'opposto di quello che mi fu detto dal vostro personale. O la società dell'acqua Norcia informa male o gli occhi del vostro personale sono chiusi. Quale dei due ?

(8) Mi muove l'opposto di quello che mi fu detto ed io non posso credere che la risposta sia esatta (vedere anche 13) La risposta non è per niente soddisfacente.

(9) Insoddisfacente risposta, per metà incompleta. Il loro sistema di distribuzione è stato addottato è se la distribuzione debbe essere studiata è di poca importanza come non lo è. Io non sono soddisfatto che essi adottino tutte le misure possibile per fare ciò.

(10) Una risposta parziale precedente dava il flusso totale. I livellatori del flusso sono ciò che interessa. Mi è stato riferito che l'acqua diminuisce gradatamente col passare del giorno. E' giusto o no ?

(11) (Vedere N°7)

(12) Non risponde alla domanda. Le prove della pressione mostrano una grande varietà di pressioni. E ciò fatto apposta a causa della debolezza dei tubi ? Se no l'accomodamento fra le tubature principali sarebbe possibile.

(13) Se non vi è controllo si dovrebbe provvedere per mezzo di un decreto comunale in un periodo di emergenza. Questa domanda non ha avuto una risposta completa.

(14) Ricevuto

(15) La risposta evita l'essenza della domanda. (vedi 6) Si muove l'attitudine di "tutto andrà bene basta aspettare." Mi fu detto la stessa cosa in agosto e non ne sono soddisfatto.

(16) Questa è una piccolissima parte del tutto. Si nota che l'ospedale Miglio pare adoperi 1000 galloni a persona al giorno e tuttavia è a corto di acqua. Questo indica mancanza di controllo.

(17) & (18) Senza risposta. Nessuna menzione di quali tubi principali siano difettosi.

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(7) Questo è proprio l'opposto di quello che mi fu detto dal vostro personale. O la società dell'acqua Marcia informa male o gli occhi del vostro personale sono chiusi. Quale dei due ?

(8) Di nuovo l'opposto di quello che mi fu detto ed io non posso credere che la risposta sia esatta (vedere anche 13) La risposta non è per niente soddisfacente.

(9) Insoddisfacente risposta, per metà incompleta. Il loro sistema di distribuzione è stato addottato è se la distribuzione debba essere studiata è di poca importanza come non lo è. Io non sono soddisfatto che essi adottino tutte le misure possibili per fare ciò.

(10) Una risposta parziale dava il flusso totale. I livellatori del flusso sono ciò che interessa. Mi è stato riferito che l'acqua diminuisce gradatamente col passare del giorno. E' giusto o no ?

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(14) Ricevuto

(15) La risposta evita l'essenza della domanda. (vedi d) Di nuovo l'attitudine di "tutto andrà bene basta aspettare." Mi fu detta la stessa cosa in agosto e non ne sono soddisfatto.

(16) Questa è una piccolissima parte del tutto. Si nota che l'ospedale Giglio pare adoperi 1000 galloni a persona al giorno e tuttavia è a corto di acqua. Questo indica mancanza di controllo.

(17) a (18) Senza risposte. Nessuna menzione di quali tubi principali siano difettosi.

2819

(19) Nessun particolare da essere studiato.

(20) I turni sono abbinati nell'1 e 6. Vi è largo campo per lo scambio tra tubi principali.

3. Provvedimenti.

(a) Letture dell'acqua Marcia di cui copia allegata.

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(b) Para 1 Lettera al Col. Redding : riattingimento abusive militare come in para 1 (copia allegata)

Para 3 Alcuni dei casi peggiori dovranno essere esaminati dal vostro ingegnere dell'acqua.

Para 4 Mi sembra che sia solamente questione di accomodare la valvola palla e non di cambiare la cisterna. Il modello italiano può essere strano. Fatelo ispezionare .

Para 5 Vi prego di intervenire presso ACEA intorno queste e fare in modo che agiscano.

Para 7 Vi prego di informarmi se esistano valvole di rilascio a pressione automatica o no. Questo sembra un dato di fatto del quale dopo 5 anni non dovrebbe più essercei dubbio.

Para 14 Una copia già dal vostro ingegnere in studio.

Para 16 Vi prego di far esaminare i carichi militari "gialli" e marcare quelli allenti e di combinare con l'ufficiale rifornitore di acqua del RAAC per raggiungere la quota a persona per giorno e di marcarle li. Se apparentemente troppo alta (come per l'ospedale Giglio) chiedetegli di esaminare.

Para 19 La carta topografica vi sarà trasmessa fra qualche giorno.

Para 20 Copia delle letture della pressione allegata, fatela studiare attentamente.

Lt.Col.R.E.
Regional Engineer
Lazio Umbria Region AMG.

Allegati : 9

Declassified E.O. 12356 Section 3.3/NND No. 785019

COPY

2B

SOCIETA' DELL'ACQUA PIA
ANTICA MARCIA

Via del Pozzetto 108.

Tabella delle pressioni rilevate alle stazioni manometriche sui sifoni principali provenienti da Tivoli, nei punti di arrivo in Rome.

	re	1° si fone	2° si fone	3° si fone	4° si fone	5° si fone	6° si fone	7° si fone	M. Mario I	M. Mario II	
Ott. 1	7,30	59,00	39,50	60,50	47,50	35,50	64,00	54,50	122,00	92,00	
" 3	"	33,00	39,00	66,50	49,00	35,00	64,50	58,50	121,00	90,00	
" 5	"	43,00	37,50	60,00	46,00	34,00	63,50	52,00	120,00	88,00	
" 7	"	28,00	38,00	66,30	49,00	34,00	63,50	57,50	121,00	92,50	
" 9	"	56,50	39,50	60,30	47,50	35,00	63,00	55,00	122,00	90,00	
" 11	"	30,00	38,50	66,40	51,00	35,00	63,50	59,50	122,00	92,50	
" 13	"	50,50	42,50	60,00	48,50	41,00	63,50	54,50	121,50	88,00	
" 15	"	35,50	39,00	66,50	48,00	35,00	64,00	60,00	121,00	92,00	
" 17	"	63,00	39,00	60,40	44,50	35,00	62,50	57,50	121,00	88,00	
" 19	"	36,00	34,00	66,30	46,00	32,50	63,50	59,50	121,50	91,50	
" 21	"	51,50	38,00	59,70	44,00	34,50	59,50	56,50	121,50	88,00	
" 23	"	34,00	35,00	65,70	49,00	33,00	63,50	59,00	120,50	91,50	
" 25	"	56,00	40,00	62,70	49,00	36,00	61,00	58,00	121,50	88,00	
" 27	"	44,00	38,50	66,50	48,00	35,00	64,00	59,50	121,50	92,50	
" 29	"	52,50	38,50	60,00	45,00	35,00	60,00	58,00	120,00	86,00	
" 31	"	34,00	37,00	66,50	50,00	33,50	64,50	60,00	122,00	90,00	

Declassified E.O. 12356 Section 3.3/NND No. 785019

Tabella delle pressioni rilevate alle stazioni manometriche sui sifoni principali provenienti da Tivoli, nei punti di arrivo in Roma.

	Tra	1° si fone	2° si fone	3° si fone	4° si fone	5° si fone	6° si fone	7° si fone	M. Mario I	M. Mario II	T
Ott. 1	7,30	59,00	39,50	60,50	47,50	35,50	64,00	64,50	122,00	92,00	1
" 3	"	53,00	39,00	66,50	49,00	35,00	64,50	68,50	121,00	90,00	1
" 5	"	43,00	37,50	60,00	46,00	34,00	63,00	62,00	120,00	88,00	1
" 7	"	28,00	38,00	66,50	49,00	34,00	63,50	67,50	121,00	92,50	1
" 9	"	56,50	39,50	60,50	47,50	35,00	63,00	65,00	122,00	90,00	1
" 11	"	30,00	38,50	66,40	51,00	35,00	63,50	59,50	122,00	92,50	1
" 13	"	50,50	42,50	60,00	48,50	41,00	63,50	64,50	121,50	88,00	1
" 15	"	35,50	39,00	66,50	48,00	35,00	64,00	60,00	121,00	92,00	1
" 17	"	63,00	39,00	60,40	44,50	35,00	62,50	57,50	121,00	88,00	1
" 19	"	36,00	34,00	66,50	46,00	32,50	63,50	59,50	121,50	91,50	1
" 21	"	51,50	38,00	59,70	44,00	34,50	59,50	56,50	121,50	88,00	1
" 23	"	34,00	35,00	65,70	49,00	33,00	63,50	59,00	120,50	91,50	1
" 25	"	56,00	40,00	62,70	49,00	36,00	61,00	58,00	121,50	88,00	1
" 27	"	44,00	38,50	66,50	48,00	35,00	64,00	59,50	121,50	92,50	1
" 29	"	52,50	38,50	60,00	45,00	35,00	60,00	58,00	120,00	86,00	1
" 31	"	34,00	37,00	66,50	50,00	33,50	64,50	60,00	122,00	90,00	1
Nov. 2	"	60,00	40,00	60,50	48,00	36,00	64,00	60,00	122,00	87,00	1
" 4	"	40,50	31,00	60,50	45,00	30,00	57,50	58,50	119,50	84,00	1
" 6	: 14	57,20	39,50	62,30	48,30	36,00	62,00	59,50	122,00	93,00	1

Translation:

2817

Table of pressures taken at the manometric stations of the principal syphons originating from Tivoli at their point of arrival at Rome.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

SOCIETA' ACQUA [illegible]

Antica Marcia
Capitale L.110.000.000

Sede in Roma
Via del Pozzetto 108

Tabella delle pressioni rilevate in alcune stazioni manometriche della rete di distribuzione.

Stazioni	Ottobre 23 ore 15	Ottobre 29 ore 15	Novembre 6 ore 15	Novembre 7 ore 15
V.le Tiziano e G. da Carpi	34,00	51,70	50,50	37,50
V.le Flaminia-P.le Flaminio	35,00	42,00	41,30	42,00
V.le Angelico - Via Durazzo	22,00	23,50	25,00	22,30
P.za Mazzini ang.Via G.Ferrari	27,00	29,40	29,80	29,00
Via C.Mario ang.Via Germanico	25,50	26,00	23,00	25,00
Via Crescenzio ang.V.Virgilio	26,50	28,40	28,00	27,50
P.zza Chiesa Nuova	28,50	30,00	-	29,80
Via Plebiscito ang.Via Aetelli	29,00	30,50	-	30,00
Via Perli ang.Via Bari	31,80	31,00	-	31,00
Via Regina Giov.-Via Viminale	27,50	30,50	29,50	-
P.za V.Emanuele ang.Conte Verde	42,50	43,00	41,50	-
Via Scuna N.1	22,50	23,00	23,50	-
Via Appia Nuova ang.Via Enea	14,50	20,00	18,00	-
Via Anie Aredam ang.P.ta Metro	33,50	34,50	32,50	32,00
V.Cattlin ang.Via SS.Quattro	30,00	37,00	-	31,50
P.za G.L.Bernini ang.V.Palladio	15,00	16,00	15,00	14,50
Via Marmorata ang.V.G.Bruno	24,00	29,50	24,50	23,80
Via Ostiense ang.P.Gazometro	27,80	30,00	-	28,00
Piazza S.Eurosia	14,00	12,70	-	11,50
V.Appia Nuova ang.Pontremoli	-	34,50	35,50	-

Translation: Table of pressures taken at certain manometric stations of the distribution system.

2816

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Declassified E.O. 12356 Section 3.3/NND No. 785019

SOCIETA' ANONIMA ITA.
Sezione Mutua
Capitale L.110.000.000
Sede in Roma
Via del Pozzetto 108

regues

Tabella delle pressioni rilevate in alcune stazioni manometriche della rete di distribuzione

In sydon	Ottobre 23 ore 15	Ottobre 25 ore 15	Novembre 6 ore 15	Novembre 7 ore 15
P.za Croci ang.Via Nazionale	32,00	20,50	-	31,00
Via Giov.Paisiello di fronte al N.13	30,00	25,30	-	27,50
Via Santi Paisiello ang.Via Nazionale	20,50	3,00	26,00	22,00
Via degli Artisti ang.V.Teodoro	37,30	36,00	-	34,00
Via Veneto ang.Via Salaria	33,30	32,30	-	31,00
P.le Santo Pastore ang.Via R.Martino	29,30	28,10	29,50	28,50
Via XX Settembre ang.P.za S. Bernardo	34,30	31,80	31,50	32,00

Translation: Table of pressures taken at certain manometric stations of the distribution system.

2815

Declassified E.O. 12356 Section 3.3/NND No. 785019

Tel.Extn.3[illegible] HWW/sg

HEADQUARTERS ALLIED COMMISSION
APO 394
Public Works and Utilities Sub-Commission

REFERENCE : 063/ /PWU. 16 November 1944
SUBJECT : Rome Water Supply. -
Weekly Reports.
TO : Regional Commissioner, Lazio-Umbria Region.
(Attention: Regional Engineer).

1. Reference your letter R4/ENG/90.1 of 14 Oct.44.

2. No copies of weekly reports on Rome water supply have since been received. Your letter of same reference dated 27 Sept.44. said that copies of all such reports in future would be sent to this Hq.direct by Maj. MICHEL.

3. If such reports are still being rendered to the Regional Engineer, copies of them are still desired by this Sub-Commission, please.

By Command of Commodore Stone.

L.A. JENNY,
Lt-Colonel, C.E.,
Director.

2814.

AM/ph

FILE 063.
48

HEADQUARTERS
LAZIO REGION A.M.G.
(Engineering Division)
APO 394

27th September 1944

TO ✓ : HQ. ACC. Public Works and Utilities - Sub-Commission
APO 394

SUBJECT : Weekly water reports

IN REPLY QUOTE : R4/ENG/90.1

1. Further reference your letter ACC063/PWU dated Sept. 7th 1944.

2. Herewith copies of water reports for weeks ending August 6, 13, 19, 26, ~~21~~ 31.

3. Copies of later weekly water reports are being sent to you direct by Maj. Michel, Public Works (RC) . Section of this Division.

A. G. Evans Major
Lt.Col.R.E.
for Regional Engineer
Lazio Region A.M.G.

noted Capt 21/9

2813

Declassified E.O. 12356 Section 3.3/NND No. 785019

27th September 1944

TO : HQ. ACC. Public Works and Utilities - Sub-Commission
APO 394

SUBJECT : Weekly water reports

IN REPLY QUOTE : R/ENG/90.1

1. Further reference your letter ACC 063/PWU dated Sept. 7th 1944.

2. Herewith copies of water reports for weeks ending August 6, 13, 19, 26, ~~Sept.~~ 31.

3. Copies of later weekly water reports are being sent to you direct by Maj. Michel, Public Works (RC). Section of this Division.

A G Evans Major
Lt.Col.R.E.
for Regional Engineer
Lazio Region A.M.G.

Enclosures : 5

2813

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

MEMO FOR FILE 003

24.063

475

Ref. Lazio - Umbria Letter R4/ENG/600 (d)
dated 18 Oct. 44.

Lt Col. Lindley today told me — in answer to my enquiry — that he has lately obtained some tyres, & so also have some of the electric power companies. He is not sure whether the Rome Water Undertakings have yet received any, but he will enquire. In view of this, I am taking no action, for the time being, in connexion with para (b) of Table 41.

26 Oct.

2812

15 Nov 44

Declassified E.O. 12356 Section 3.3/NND No. 785019

19 OCTR()

MP/ph

(063)

Co 863

47

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO-UMBRIA REGION
(Engineering Division)
APO 394

18 October 1944

TO : HQ. Allied Control Commission - Public Works and Utilities Sub-Commission - APO 394

SUBJECT : Rome Water Supply

IN REPLY QUOTE : R4/ENG/600 (d)

1. Reference your letter ACC/063/PWU, dated October 14th.

2. Herewith copies of the under mentioned letters you asked us:

a) - letter J.J.C. dated 28 June 1944
b) - ACC/Tn/TP/ - dated 29 June 1944.

Foliés 41, 43 et 42 ci-après

Lt.Col.R.E.
Regional Engineer
Lazio-Umbria Region AMG.

ENCLOSURES: 2 ✓

2811
Les mémorandums attachés

HEADQUARTERS
19 OTT. 1944
A. C. C.

JJC/rm

COPY

HEADQUARTERS
ALLIED CONTROL COMMISSION
ECONOMIC SECTION
APO 394

28 June 1944

SUBJECT: Tyre Retreading.

TO : Regional Commissioner Region II
" " " III
" " " IV
" " " V
" " " VI
" " " VII
S.C.A.O., A.M.G., 5th Army
" " 8th Army

1. A tyre retreading plant may possible be put into operation shortly at Bari (Name of Plant: Carmine Janiri, Address; Via Cardassi 67).

2. Your Regional Transportation Officers will immediately advise the Transportation Sub-Commission, ACC of the quantities and exact sizes of tyres in your Region that need to be retreaded. The Bari plant, if placed into operation, will be prepared to handle all dimensions of ordinary Italian tyres. A plan should be worked out by the Regional Transportation Officer for the delivery of these tyres to the Bari plant, whether it be by road, rail or ship; the Transportation Sub-Commission will also need to be advised of this plan.

3. It will be necessary to inform you at a later date as to the charges that will be made. ACC - AMG requisitioned vehicles will receive free service.

4. Each car for which retreads are requested a justification will have to be supplied which will be the same as that required for new tyres and on form similar to the one attached to letter of

Declassified E.O. 12356 Section 3.3/NND No. 785019

TC : Regional Commissioner Region II
" " " III
" " " IV
" " " V
" " " VI
" " " VII

S.C.A.C., A.M.G., 5th Army
" " 8th Army

1. A tyre retreading plant may possible be put into operation shortly at Bari (Name of Plant: Carmine Janiri, Address; Via Cardassi 67).

2. Your Regional Transportation Officers will immediately advise the Transportation Sub-Commission, ACC of the quantities and exact sizes of tyres in your Region that need to be retreaded. The Bari plant, if placed into operation, will be prepared to handle all dimensions of ordinary Italian tyres. A plan should be worked out by the Regional Transportation Officer for the delivery of these tyres to the Bari plant, whether it be by road, rail or ship; the Transportation Sub-Commission will also need to be advised of this plan.

3. It will be necessary to inform you at a later date as to the charges that will be made. ACC - AMC requisitioned vehicles will receive free service.

4. Each car for which retreads are requested a justification will have to be supplied which will be the same as that required for new tyres and on form similar to the one attached to letter of Requisition Division 451.92.

2810

5. The Transportation Sub-Commission will determine quantities and number of tyre retreads per month, which will be allowed each Region if the plant can be put into operation.

6. A large number of C-1 tyres have been allotted to ACC. These tyres will be sent to the Bari plant for repair and should be available for issue in the near future.

Signed: D.S. ADAMS, Colonel
Executive Officer, Economic Sect.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Copy

HEADQUARTERS
ALLIED CONTROL COMMISSION
Transportation Sub-Commission
APO 394

/rm

Our reference: ACC/Tn/TP/
Date : 29 June 44

TO : (See distribution)

SUBJECT : Tyre Replacement.

1. It will be possible, in the near future, to have a limited number of tyres of various sizes re-treaded locally.

2. It is not advisable, at the moment, to give any definite date from which the scheme will be in active operation; but, for future reference, and in order to facilitate ultimate distribution, you are requested to submit to this HQ by August 1st 1944; the following particulars in duplicate:-

(a) Sizes to be re-treaded in accordance with the attached list, of available moulds.

(b) Approximate monthly quantities of each size.

Your return should be submitted in two parts as follows :

(i) Tyres for Requisitioned Vehicles

(ii) Tyres for essential Civilian Vehicles.

Sizes should be listed in order of urgency required.

3. In due course, stocks of re-treads of following sizes will be held:-

1. 600 X 16 (See note below)
2. 750 X 20
3. 900 X 20

Note: Tyres of the sizes marked + on the attached list can be [illegible] ("Jeep") [illegible]

2809

Declassified E.O. 12356 Section 3.3/NND No. 785019

SUBJECT : Tyre Replacement.

1. It will be possible, in the near future, to have a limited number of tyres of various sizes re-treaded locally.

2. It is not advisable, at the moment, to give any definite date from which the scheme will be in active operation; but, for future reference, and in order to facilitate ultimate distribution, you are requested to submit to this HQ by August 1st 1944; the following particulars in duplicate:-

(a) Sizes to be re-treaded in accordance with the attached list, of available moulds.

(b) Approximate monthly quantities of each size.

Your return should be submitted in two parts as follows :

(i) Tyres for Requisitioned Vehicles

(ii) Tyres for essential Civilian Vehicles.

Sizes should be listed in order of urgency required.

3. In due course, stocks of re-treads of following sizes will be held:-

1. 600 X 16 (See note below)
2. 750 X 20
3. 900 X 20

Note: Tyres of the sizes marked + on the attached list can be replaced by 600 x 16 ("Jeep") tyres provided, in most cases, slight modification is made to the existing rims. Once stocks are built up, therefore, there should be no delay in the replacement of any of these sizes.

2809

4. Further instructions as method of handing in, collection of replacements, method of payment, etc., will be issued later.

Signed: L.E. VINING
Lieut.Colonel,
Director, Transportation Sub-Commission, ACC.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

HEAD QUARTERS
ALLIED MILITARY GOVERNMENT
Lazio-Umbria Region
(Engineering Division)
APO 394

063 file A/381

Date..... OCT 14 1944

N A M E	A D D R E S S	TO
T.C.U. (PM)	Via del Mare n.45	.....
HQ. ACC.	Via Veneto	1.....
GENIO CIVILE	V.Monzambano 10	.....
C.I.P.	Via Tritone 181	.....
S.R.E.	Via Poli n.14	.....
_____	_____	.....
_____	_____	.....
_____	_____	.....

2803

Declassified E.O. 12356 Section 3.3/NND No. 785019

File: R4(ENG/90.1

16 OCT 1944

063

CO 749

PW 446.

Ike Acc PW

Cpl Acc/063/PW 446 Gp 1, Dec.

1) Ans: 3 weeks expected for Sept hands to be brought round Today — Stockholm & Hospital ships abroad. Rest Troops allotted in Monthly repatriation numbers for Sept.

Directions issued, when Situation is established

2) I will Urge it monthly, period, but that is not yet.

Cpl Acc

Pte Eng Acc

2807

Declassified E.O. 12356 Section 3.3/NND No. 785019

Tel. 489081

HWW/mc

45

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

ACC/063/PWU

11 Oct. 44

Subject: Rome Water Supply - Weekly Reports.

To : Regional Engineer, Lazio - Umbria Region.

1. Ref. your letter R4/ENG/CC.I of 27 Sep. 44, received 7 Oct.

2. Thank you for the copy reports up to 31 Aug.

3. We note that copies of all subsequent reports are to be furnished by Maj. Michel, direct to this Office. As we have not yet received any of them we should be glad if you would remind him, please.

G.E. RHODES,
Lieut-Colonel, R.E.
Acting Director.

Copy to Maj. Michel,
Dept. of Reg.Eng., Lazio-Umbria.

2806

44

Correspondence (September '44) concerning

ROME - WATER SUPPLY REPORTS

Declassified E.O. 12356 Section 3.3/NND No. 785019

Correspondence (September '44) concerning

ROME - WATER SUPPLY REPORTS

2805

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

O.C.C.

File these all
together, in this order,
in 063. Please.

15 Oct 2804

Declassified E.O. 12356 Section 3.3/NND No. 785019

Los Rome water Report
dated 26 Sept 44.
See Sept. Monthly Report
of Reg. Eng., Lazio-Umbria.

2803
Rpt Rome Prov
26 Sept

Declassified E.O. 12356 Section 3.3/NND No. 785019

Handed in by
Lt. Col Lindsay on 14 Oct 46

Hq. ACC Public Works & Utilities
Sub-Commission

Attn. Lt. Col. Lapper

Army Postal Service

Rome

Via V. Veneto 2802

HEADQUARTERS REGION IV
ALLIED CONTROL COMMISSION
ENGINEERING DIVISION

PW/ (RC) 90.1 Rome, 18 September 1944

SUBJECT: Water report for the week ending 18 September

To: Lt. Col. Findaly - Regional Engineer - Region IV - ACC. -

A.C.E.A. :

Flow is continued at 100% with a total rate of flow of 41.571.000 galls/day (2.180 lit/sec.). This Coy continues to supply to Marcia about 2.669.700 galls/day in order to partially supply their deficiency.

Of the seven junctions (three of them temporary and four permanent) between the two systems only the two permanent are at the present moment in working order: the one of Campo dei Fiori which is giving to Marcia 40 lit/sec. and the one of S. Pancrazio which gives 100 lit/sec.

MARCIA :

The flow on the 14 of September has increased from 4.005 to 4.420 lit/sec. with an increase of percentage from 86.5% to 95.4% of the normal flow. This improvement is due either to the big pump of Fiumetto and/or to the connection of the old source at Agosta.

All the complaints for lack of water are marked on the big map at 10.000 which includes the distribution of pipes, and the areas without water are investigated jointly by Engineers of this Sec. and representatives of the Coy.

The areas which at the present moment are suffering for lack of water are Madonna del Riposo, Parioli, Tor Pignattara, Aventino, Garbatella, Città Giardino.

On the 17 and 18 September a damage at the first syphon, near Quintiliolo was repaired.

2801

Declassified E.O. 12356 Section 3.3/NND No. 785019

week ending 18 September

To: Lt. Col. Findaly - Regional Engineer - Region IV - ACC. -

A.C.E.A. :

Flow is continued at 100% with a total rate of flow of 41.571.000 galls/day (2.180 lit/sec.). This Coy continuse to supply to Marcia about 2.669.700 galls/day in order to partially supply their deficiency.

Of the seven junctions (three of them temporary and four permanent) between the two systems only the two permanent are at the present moment in working order: the one of Campo dei Fiori which is giving to Marcia 40 lit/sec. and the one of S. Pancrazio which gives 100 lit/sec.

MARCIA :

The flow on the 14 of September has increased from 4.005 to 4.420 lit/sec. with an increase of percentage from 36.5% to 95.4% of the normal flow. This improvement is due either to the big pump of Fiumetto and/or to the connection of the old source at Agosta.

All the complaints for lack of water are marked on the big map at 10.000 which includes the distribution of pipes, and the areas without water are investigated jointly by Engineers of this Sec. and representatives of the Coy.

The areas which at the present moment are suffering for lack of water are Madonna del Riposo, Parioli, Tor Pignattara, Aventino, Garbatella, Città Giardino.

On the 17 and 18 September a damage at the first syphon, near Quintiliolo was repaired.

FIUMETTO :

2801

The lifting of water by means of the big pump at Fiumetto and the repair to the damages are continuing.

ACQUEDUCTS:

Repairs are continuing to the parts damaged by Germans, while the flow is running in a temporary Wooden flume.

Copies:
Col. Findlay (2)
Lapper (1) Ref. ACC/063/PWU

Handed to Maj. Cochrane by Lt. Col. Findlay on 14 Oct.

A.L. MICHEL, Major
Pu WKs - Sec. - Rome Command

Declassified E.O. 12356 Section 3.3/NND No. 785019

HEADQUARTERS REGION IV
ALLIED CONTROL COMMISSION
ENGINEERING DIVISION

PW/ (RC) 90.1

Rome, 11 September 1944

SUBJECT: Water report for the week ending 11 September

To: Lt. Col. Findlay - Regional Engineer - Region IV - ACC.

A.C.E.A.:

The system of ACEA is continued at 100% with a total rate of flow of 2.180 lit/sec. or 41.577.000 gall per day. The ACEA is continuing to relieve Marcia with about 140 lit/sec. or 2.669.770 gallons per day to supply additional water to the latter.

MARCIA :

On the 6th of September the big pump at Fiumetto was put in operation. This pump and the connection of the old source of Agosta has increased the flow to approximately 4.005 lit/sec. or 76.372.400 gall per day.

FIUMETTO:

Besides the installation of the big pump, work on the repair at the sources is continuing.

OSTIA LIDO - CINE CITTA':

It was not possible to open the valve of Ostia Lido line because the flow of the main pipe is scarcely sufficient for the needs of the Hospital at Exhibition "E. 42 ".

A.E. MICHEL, Major
Pu. Wks - Sec. 2nd Base Command

Declassified E.O. 12356 Section 3.3/NND No. 785019

PW/ (RC) 90.1

Rome, 11 September 1944

SUBJECT: Water report for the week ending 11 September

To: Lt. Col. Findlay - Regional Engineer - Region IV - ACC.

A.C.E.A.:

The system of ACEA is continued at 100% with a total rate of flow of 2.180 lit/sec. or 41.577.000 gall per day. The ACEA is continuing to relieve Marcia with about 140 lit/sec. or 2.669.770 gallons per day to supply additional water to the latter.

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A.E. MICHEL, Major
Pu. WKs - Sec. Service Command

Copies :
Col. Findlay (2)
Col. Lapper (1) Ref. ACC/063/PWU

Declassified E.O. 12356 Section 3.3/NND No. 785019

1365

Declassified E.O. 12356 Section 3.3/NND No. 785019

16 SEP Recd 0630

HOMB ALLIED ARMA HEADQUARTERS
ENGINEER SERVICES

Dr Col Kapper Hart
Thompson

Pls. note. Several matters should be looked into by your staff.
Return to file
Reg. 16/9

Maj Westwood

Rome, 10 September 1944

HANDING OVER NOTES WATER SUPPLY
ROME CITY

This was handed to Maj: Westwood by Maj: Buckley, in presence of Lt. Col. Findlay, on 13 Sept 44.

To: Col. Findlay V.C. - M.G. & R.E.

Attached with this a report made when the damage done by the Germans to the Aqqdct, was first surveyed.

Most of these damages have not been made good, with the exception of the following repairs, which the Engineers of Acqua Marcia have promised to have completed before the heavy persistent rains, which usually start just before the end of October.

Location	Description	Remarks
Ponte Anticoli approx Km. 53	Wooden flume is still within the Aqeduct which has been built up around it	All ready to come out. Precast Aqeduct cover slabs ready. Should be complete end of September/1944
Km. 59	The same applies here	All ready to come out, precast roof slabs being made, two or three hours interruption will be necessary, arrange to do at night.
Fiumetto ~~Tivoli~~ Fiumetto	The damage to the pump station to be made good & the four pumps reinstalled.	The pumps are being repaired and the work on the building is in hand completion, date approx 15 October/1944

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Fiumetto	Discharge canal to be repaired from pump station to River Amione.	Approx 15th October/44
Near Marano Equo	High & low Collector Canals - these damaged badly; permanent diversion have been made.	About end of October should be complete.
Between Serena I - III & IV	Where the three control gates has been blown out repairs have been made.	Awaiting the completion of the repairs to the Metal Gates the castings for these being made by Ditta Meloni.
Serena II -	Valve control as No 1 This had a cupola cover to the spring this will not be replaced.	Foundry Coy for Acqua Marcia held up for lack of Coke, Metalurgic ~~ASC~~. R'forced concrete slabs go over the spring. A.C.C (Major Rose) NMLA getting this Indent placed 16 July.

OSTIA LIDO BRANCH

Health Authorities complain of the lack of water here but until the connection between the Con Hospital which is now handling wounded at the Congress Place 1942 exhibition Bldgs & Peschiera is made the C.R.E. has ordered the valve just west of the buildings to be shut, when this connection is working & the main pump at ~~Tivoli~~ Fiumetto in operation this valve can be opened up & give some water to Ostia Lido - Ostia Antica.

From this main these also runs Via Centocelle a line that augments the Home Appia Area the mines have been removed from here & repairs are in hand.

Lido main, repairs completed to Ostia Antica, between there & Lido, the mines have been removed & they are making a survey.

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At Lido there is a good deal of damage to the local distribution system & probably still * mined. * (this reported 11th September/44 but no details of locality yet).

Between Lido & Piumicino there is a bridge blown, that annexed the main, but Piumicino is also served by A.Q.F.s whose pipe runs on the ~~north~~ North bank of the River.

It is ~~Is~~ stated by the Marcia Engineers that with a flow of 4.630 lps. the syphons, in normal times run full ~~1.50~~ and maintain sufficient pressure to supply all Marcia System in Rome that is on gravity.

There is also the trouble that with the necessary rationing of Electricity. The pumps in high buildings fill the Cisterns but they are not of sufficient capacity to bridge the gap until the current comes on again.

At present the flow is 4.605 lps & we are using a system of two zones, as per attached plan for instance Passeggiata di Ripetta. No II Zone lot has water on pressure from 1.200 hours, 10 September to 12.00 hours, 12th September from then until 12.00 hours 14 september this building has to rely on its tank & any containers that the people can use, the same applies to a similar building in Zone 2 on the intervening dates. This is the only way in whidh we have so far been able to supply water.

When the pump (800/1000 lps capacity) settles down to work, we have had a test run (September 10) the flow should be, an additional 420 lps. from Piumetto, later when the Collector Mola di Nogno is repaired 23 September there will be another 150 lps. making a total of 4.965 lps.

There will also probably still be a discharge from the old Ne-

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man Acquedact, that acts as a dischearge from the sources higher up, & it is proposed, if the flow is sufficient to justify, to install there at Ponte Anticoli another pump & pump direct into the Acqdt, so we may reach the 4.600 lps. required.

Against this hope full forecast we have :

a) this year shows signs that the ~~wells~~ sources are losing their yield it being a low out/put cycle.

b) That so many boost pumps have been installed that the main are being "milked".

c) That the population has, including military, very substansfully increased.

So we may not reach our Goal.

The system is unique in that for a City of this size the reservoir capacity is only about 16.000 metres cube, and supply to private consumers is through a meter, with a contracting orifice, which is set & locked, this supply runs to the buildings night & day, when not being used at night, (there not being any ball valve shut offs to the majority of the cisterns,) merely runs to waste. The waste is all the greater as with low pressure in the syphons to enable the water to flow up to the higher levels, the orifices have had to be opened, these when the flow reaches the vicinity of 4.600 lps, to conserve water, will all have to beadjusted.

The A.C.E.A. system is working at 100%, five junction are now in being between the two system.

There is a pumping station at San Pancrazio where the A.C.E.A.

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pumps up to a tower, the water that is distributed into the Mar- cia system.

The other pumping stations are at:

Salone 51.000 M3 daily
Rompzoni 47.500 M3 daily
S.Panorazio 10.800 M3 daily
Colle Pentuccia
Pleniano 15.000 M3 daily
Trevi.

The A.C.E.A. have four Acqu's namely.

Pew Vergine, source at Salone, pumped up there, see report for details of station.

Old Vergine, source at Salone, gravity to Rome, deep underground.

Felice, source at Pantane, gravity.

Peola North west of lake Bracciano, made up also from the Lake from this the Vatican has a right to & takes 250 lps.

Present method of working is as follows:

a) Major Gallagos handles the outside field work, this is now coming to an end (except the previously mentioned outstanding repairs these will have to be watched to see that they are completed before the heavy rains).

Cap. Mac Clernon has been engaged on the American Military Installations but these are now handled through liason with the water companys who, when necessary, employ their sub contractors to do any small additions or alterations to the internal work, as the water campanys employees work ceases at the meter.

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b) The administration work, procurement of materials, liason with the water companys, investigation of complaints & reports there on

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are handled by my self with the aid of Italian personnel as shown on each other page.

c) The U.S.N. through his M & M officer when any British installation is concerned, put his orders through our liason.

The system adopted is that requestes for water or complaints received, are entered on a form, en duplicate, a copy of this is sent each evening to the Coy concerned with any remarks, such as an appointment to meet one of our Engineers & investigate to-gether, our Engineer reports with a sketch, any decesion is recorded on the form which the Coy concerned accepts as an official order. In the case of urgent needs the Request or Complaint is phoned and confirmed by the form.

Where hospitals, Rest Camps, Billetts are concerned the fire service, (phone 44.441 Capt Brown - Via Genova) is put on to pump up the their tanks. This has to be done often when a certain area is on low pressure the other zone being at pressure, & vise-versa, liason at of these places with the F.S.

CHLORINATION - This is done as follows -

Piazza Iarnerio
Villa Umberto
Pietralata
Via Flaviana
Roma Vecchia
Storta - Acqua Pacia
Spinaccia - Acqua Marcia

} Rome

Samples are taken daily by the bureau of Hygiene from places all over the City & reports submitted daily from the Office of Dr. Figura.

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Very Bad
L&R

Explosives - There are still some stored at Tivoli in the Gallery, Syphon VII behind Tivoli Power station reported through Col. Meddings Office for removal.

Italian Staff List & duties

Sr. Ingr. Naldi - Liason with the Water Coys Engineer, Technical investigation & reports.

Sr. Ingr. Lombardi - Previous employed on repairs to Aqqet Ciampino to supply water to the Army & Air Force there, at present engaged on estimate for proposed completion of repairs to this Aqqet. from a civil point of view.

Sr. ing. Pinini - Investigation, reports, & Draughtsmen.

Sr. Dan Gaetler - Interpreter & superintendent translations employed with Ing. Lombardi.

Sr. Dr. Rosli - Book Keeper (Accountant) materials supply & fuel consumption records.

Sr. Tita P. - Time keeper, Book keeper employed with Ingr. Lombardi.

Sr. Morpurgo - Despatch & Messenger - Request & Complaints can speak English & typewrite.

Sig.na Ottaviani - Secretary - letters daily reports, files etc.

Signora Sr. Volterra - Translation of letters, of reports & typing of reports.

Petrol Oil etc.

Indent for sept. & Oct. has been sent in.

In September allowance was made for two of our staff cars. eight Truck supplied by the main transport Pool. Marala, A.C.I.A., their sub cont truckers. Metano Coy, etc. as follows.

In October these eight Pool Trucks committed 2793

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MARCIA COMPANY

Marcia su contractors :

Ditta Meloni - Via Assisi 29

" Santini " S. Andrea delle Fratte, 28

Società Anonima Lavori Idraulici Travaglio Augusto (Succ. Alfio)
Via del Boschetto N° 13.

A.C.E.A.

ACEA sub contractors:

Impresa Aciduro Arturo - Via S. Gallicano, 11

S.A. Lavori Idraulici Travaglio Augusto (Succ. Alfio)
Via del Boschetto, 13

MARANO

Marano - sub contractors

Impresa Ing. Di Penta - Via del Bottino, 9

Ditta Meloni - Via Assisi 29
Also - Società Vide Acque di S. Savino - Via P. Braccini 3 - Rome -

In the case of A.C.E.A. the list also covers the Electrical Dept. M/cs. A.C.E.A.

Full list of these vehicles is in the files.

Attached copy of there indents.

In folder list of drinking fountains prior to the emergency. List of fountains in normal times, copy of first report on entering the City. Copy of first survey of damages. Copy of planning report, technical & other data for all acqdts. Diagram of Marcia System.

List of plans concerned.

1) Planimetry of Rome at 1.10.000 - Complete system of Aqua Marcia syphons and A.C.E.A. Aqueducts.

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2) Map at 1.50.000	- General position of the Marcia Coy and A.C.E.A. from the sources to Rome.
3) Planimetry of Rome at 1.10.000	- Distribution system A.C.E.A.Coy.
4) Planimetry of Rome at 1.10.000	- Distribution system of principals syphons Marcia Coy.
5) Planimetry of Rome at 1.12.500	- With the 2 Zones of the turns of distribution; position fire hydrants and Hospitals.
6) Part of Rome planimetry at 1:5,000	- Distribution system Aqqua Vergine. Elevata and Vergine low level.
7) Planimetry of Rome at 1.12.500	- Distribution system Acqua Felice.
8) Part of Rome planimetry at 1:5.000	- Distribution system Acqua Paola.
9) Part of Rome Planimetry at 1.12.500	- Distribution system Vergine Elevata.
10) Planimetry of Rome at 1.12.500	- Distribution system principals conducts Acqua Marcia syphons.
11) Planimetry of Rome at 1:12.500	- Aqueducts and chloration plants of A.C.E.A.
12) Map at 1:50.000	- Aqueducts general position.
13) Map at 1:25.000	- Region of Rome.
14) N°2 Planimetry of Rome at 1.12.500	- New Maps.

HEADQUARTERS REGION IV
ALLIED CONTROL COMMISSION
ENGINEERING DIVISION

PW/(EC) 90.1

Rome, 4 September 1944

SUBJECT: Water report for the week ending 4 September

To: Lt.Col. Findlay, Regional Engineer - Region IV - ACC.

A.C.E.A. :

ACEA flow continued at 100% in the low and medium levels. The ACEA is still relieving the Marcia so as to help it in the service, because of repairs being made to the acqueduct and the removal of the temporary junctions.

MARCIA:

The flow of the Marcia is increased to 3.990 litres per sec. or 76.086.360 gallons per day and we hope that it will surmount the 4.000 litres per second.

We are preparing the installation of the big pump at Fiumetto, which will be put in working order next week.

When this work is done we may have an increase of the flow, and some further areas be supplied with water. The adjustment of valves between the zones is continuing regularly.

AGOSTA:

Since the 1st September the connection of the old source has been effectd, with a flow of 200 litres/sec.

CIAMPINO

The military works are nearly completed.

OSTIA LIDO

The valve which is able to give sufficient flow to the

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Since the 1st September the connection of the old source has been effectd, with a flow of 200 litres/sec.

CIAMPINO

The military works are nearly completed.

OSTIA LIDO

The valve which is able to give a sufficient flow to the Exhibition building E. 42 on the pipe of Ostia Lido is still shut.

2790

In the building of the exhibition which is now a hospital are sheltered 3.000 wounded soldiers.

A.E. MICHEL, Major
Pn. WKs - Sec.-Rome Command

Copies:
Col. Findlay (2)
Col. Lapper (1) Ref. ACC/063/PWU

Handed to Maj. Cochrane by
D.C. Findlay on 14 Oct.

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Acting Director

Attached are weekly water Reports, ROME, ch 6-31 Aug. I am reminding the Reg. Eng. by letter that we still await the subsequent ones.

10/60

Maj. Westwood

Quite

Volunteer

(31/8)

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11/10

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COMPLETION OF WEEKLY REPORT TO MONTH ENDING 31 AUGUST/ 1944

A.C.E.A. - This system continued to function at 100% and in areas where there is a water shortage on the Marcia system in the case of Military Installations we are connecting these, when possible to the A.C.E.A. thus endeavouring to releave the strain on the Marcia & so add to the possibilities of getting water to the parts of the City where there has been such a grave shortage for so long.

MARCIA - The flow went up to 3.900 lps. but even with the C.R.E. pumps working at Fiumetto we have not been able to fill the syphon so that the pressure will cause the water to reach the buildings at present with-out water. Each report of no water is as soon as possible investigate by our Engrs & a report made we hope to tabulate a zone plan & then investigate the water Coys valve control system.

The water Coys large temporary pump capable of 800/1000 lps. should come into operation on or about 6 september and with the new source at Agosta should we hope bring the flow up to 4.400ø lps. the C.R.E. is then going to put on one of the pumps, now at Fiumetto, to a new source, & the water Coys Engineers state that if we can mantain a flow of 4.600, water should, provided we put as many Military installations as possible on to the A.C.E.A., reach most parts of the town.

One trouble is that the tanks in the buildings will not hold sufficient water, where it is pumped by electricity, to last from one ration period to the nemt.

There is a report in unfortunatly that the main sources commence to show signs that this year is likly to be a year of low & decreasing output.

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The new supply system partly installed to the 1942 Exhibition

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& 500 metres uncompleted, will be, in all probability, coupled to the Military areas on the Ostia line, thus returning the shortage there, this is being investigated.

The change over from temporary Diversions to the repaired Aqueduct was completed on 25th August.

There still remains the following work to be done:- Completion of repairs to collectors & control valves at the sources.

Removal of wooden flumes & replacement of concrete vulted cover, in two places, one is ready, the other nearly ready -the Coys Chief Engineer assures me that he will have this completed before the rains & we are keeping close watch to see that this will be done.

S.P. Buckley
Major R.E.

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REPORT FOR WEEK ENDING 26 AUGUST/44

Marcia flow continued at 3.900 lps/ until 20.00 hours 24th August when it fell to 2.700 lps owing to the shutting down of one Aqqeduct to remove the temporary diversions & bring back into operation the main Aqqdot which had been damaged by the bomch, & now repaired

This work was carried out by, the C.R.E. supplying the compressors lighting plant supervision etc. Acqua Marcia supplying the specialists & men, the work was completed at approx: 04.00 hours 25th. washout commenced at 06.00 hours, Aqqdot. commenced to fill at 10.00 hours 25th inst: pressure began to rise in the late afternoon of 25th.

The arrangements made were as follows: temporary Drinking Fountains were installed in the districts where waters would be short, A.C.E.A. Coy erranged to pump into the Marcia systems as much water as possible, A.C.E.A. under took to look after the districts where there was not any water at all, i,e, Monte Mario, Madonna del Riposo, by means of mobile water tanks obtained from the Autoparco of the Comune and served from special water points established, the Fire Service were detailed to supply the five or six hospitals that were expected to be short of water.

So far this added water has had little effect in the City but it is not expected that the pressure will build up until probably the end of the month, when the quantity at Tivoli should be in the region of 5.000 Lps. as against 3.900 Lps/ on the 24th August.

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ROME ALLIED AREA COMMAND
ENGINEER SERVICE

REPORT FOR WEEKENDING 19th AUGUST/1944

Water Service

Acqua Marcia systeem continued to give trouble, which is evident will continue until we are able to effect the change over from temporary work to the Acqdct which has been repaired, as sufficient head cannot be abtained above the bye pass to increase the velocity enough for the temporary pipes to pass the quantity of water required.

The temporary pumps at Fiumetto are new delivering about a Million galls daily even this we cannot obtain the head required, so arrangements are in hand to make this change over commencing on the night of the 24th and working three shifts.

The Ostia Lido line is still giving trouble and we have had to keep the Hospital supplied by means of the water tenders operated by the Fire Service.

Work of restoring the sources & the bringing into service an ancient spring yeilding 4.700.000 galls per day, that has not been used for many years, this should be completed by the 30th instant.

A.G.E.A. Systeem continues at 100% we are having this Coy contribute to the Marcia system, approximately one & a half million galls daily, this in addition to the usual quantity supplied.

CIAMPINO - This systeem in so far as it supplies the needs of the Army & the village near by has been repaired & any further work that the Coy requires will be arranged through the Genio Civile, the qestion will arise of whether there will be sufficient water for both the requirements of the Army & the farmers.

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But this will not put an end to the troubles as in most of the high appartments even in working class quarters are fitted with Electric pumps, as these only function every fourth day, & the cistern capacity is small we will still have to run the street corner fountains, from the Public Health point of view it would be better to give the same amount of current but for shorter periods & more often, could this be arranged.

A.G.E.A. System continued to function normally, 2.160 lps. Their pumping stations ran to capacity & supplied to Marcia during the "Change over" period an additional quantity of 120 lps.

OSTIA LIDO Branch is still giving trouble at the moment there is no water at Ostia.

CIAMPINO - Work on this supply to Aérports and camps should be completed by the end of the month, as far an the needs of the any are concerned.

GENERAL Hospitals, & some other additional Installations still continue to be supplied by the fire Service, this will be the case until sufficient quantity & pressure can be obtained in the Marcia System.

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ENGINEER SERVICE

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REPORT FOR WEEK ENDING 13 AUGUST 1944

MARCIA: Marcia flow continued at 3.900 lit/sec. Works are on at Fiumetto to install the big pump, of 500 l/sec. so as to increase the head.

AGOSTA: Works are on to connect the old source, which has not been in use for years, and will be able to give when the works will be completed additionally about 200 l/sec.

OSTIA LIDO : Is still giving trouble and it is necessary to supply water to the Hospital by the means of the Fire Services.

AC.E.A. : ACEA flow continued at 100% in the high and medium levels This Coy is relieving the Marcia Coy with a distribution of about 250 l/sec.

CIAMPINO: Repairs are continued to the second main. After the completion, water will be sufficient for the needs of the Army.

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REPORT FOR WEEK ENDING 6th AUGUST

Water Service

Marcia Company flow continued at 3.900 lps. at Rome, but owing to the added use of water in certain districts, supplied by this system, the pressure in the main pipes to the higher levels has not increased the C.R.E. is installing some pumps at Palmetto Capable of 38 lps. Where the pumping station was destroyed by the enemy, to make use of the Coys dry season reserves, the Marcia Company have obtained a new pumps capable of 500 lps & are installing it there, for use whele they rebuild the pumping station.

C.R.E. has also located another Elect.Pump: capacity 100 lps which it is also hoped to install there.

The first gravity spring beyond Acqua capacity 200 lps which has not been used for years, that the Marcia company are putting into use, at Major Gallegos suggestion, should come into operation at the end of the month.

There more breakes have developed on the Ostia Lido branch, completly cutting out the convalescent Hospital & other Military installations in the exhibition grounds, these we have had to supply with tankers & Fire Service pumps. The A.C.E.A. system is giving 100% flow to the lower levels & medium, the two companys at our suggestion are putting in another connection between A.C.E.A. & Marcia between Monte Mario II & the Vergine, North west distrect, in an endeavour to force more water to the Monti Parioli district. the refugee camp at Cine Città was coupled to the Marcia system, the main was laid by T.C.U, water was on 4th August maxium pres-

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cure 15 Metres, this is insufficient to fill the water tower, but should the pipes in the Cine Citta internal systeem stand up to the pressure we will increase it to 40 metres which should fill the reservoirs & so save the booster pump there.

Ciampino Acqdct. : Water is now on from the springs, feeding U.S. Air Corps & British camps but not at sufficient quantities, the second main is being repaired which should be sufficient for the present needs there. This work, in so far as the Army is concerned is being carried out by the C.R.E., Acqdct. Ciampino Engineers, & local labour paid by Genio Civile on an A.M.G. pay roll, & directed by Engineer Services R.A.A.C. this section of the Acqdct repairs as far as the Army is concerned will be completed by the end of the month, the remain-der of the repairs will I take it be between, acqdct. Ciampino & Genio Civile under the direction of Region IV A.C.C., the point will arise, as to whether there will be sufficient water for the camps, the small town, & as in former times, for irrigation.

The Engineer of the acqdct. has been given authority to inspect houses for un-metered connections & to adjust the flow.

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Rec. with Letter SA/. 0/150/90.1 dt 9 Aug 44 from Rep Eng. IV (Rome).

REPORT FOR WEEK ENDING 6th AUGUST

Water Service

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The C.R.E. has also located another elec. Pump: capacity 100 lps which it is also hoped to install there.
The first gravity spring beyond Agosta with a capacity of 200 lps has not been used for years. The Marcia Company are putting this into use, at Major Gallegos direction. This should come into operation at the end of the month.
Three more breakes have developed on the Ostia Lido branch, completly cutting out the convalescent Hospital and other Military installations in the exhibition grounds. These we have had to supply with tankers and Fire Service pumps. The A.G.E.A. system is giving 100% flow to the lower levels and medium levels, The companies at our suggestion are putting in another connection between A.G.E.A. and Marcia, Between Monte Mario II and the Vergine, North west district, in an endeavour to force more water to the Monti Parioli district. The refugee camp at Cine Città was connected to the Marcia System. This main was laid by T.C.U. The water was on 4th August at a maximum pressure of 15 metres. This is insufficient to fill the water tower, but if the pipes in the Cine Città internal systeem are able to stand up to the pressures involved we will increase it to 40 metres which should fill the reservoirs and so save the booster pump there.
Ciampino Acqdct. - Water is now on from the springs, feeding U.S. Air Corps and British camps but not at sufficient quantities. The second main is being repaired which when completed should be sufficient for the present needs there. This work, in so far as the Army is concerned is being carried out by the C.R.E. and Acqdct., Ciampino Engineers and local labour paid by Genio Civile on an A.M.G. pay roll, and directed by Engineer Services R.A.A?C. This section of the Acqdct repairs as far as the Army is concerned will be completed by the end of the month. The remainder of the repairs will ~~xxxx~~ I take it be, between acqdct: Ciampino and Genio Civile under the direction of Region IV A.C.C. The point will arise, asto whether there will be sufficient water for the camps, the small town, and as in former times for irrigation.
The Engineer of the acqdct. has been given authority to inspect houses for unmetered connection and to adjust the flow.

2780

signed:

Declassified E.O. 12356 Section 3.3/NND No. 785019

43

Tel: 489081

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

HWW/bb

ACC/063/PWU

14 Oct 44

SUBJECT: ROME Water Supply.

TO : Regional Engineer, Lazio-Umbria Region.

1. Ref. your letter RL/ENG/600/(d) dated 6 Oct 44, and further to our letter ACC/063/PWU of 12 Oct 44.

2. In para. (k) of your letter, immediately after the sixth line of that paragraph, you inserted in manuscript the references and dates of two Hq. A.C.C. letters. We have been unable to trace these letters in our files and we have also appealed to the office of their origin without success. Will you, therefore, kindly furnish us with copies of the two letters in question.

G.E. RHODES,
Lieut-Colonel, R.E.,
Acting Director.

2778

Declassified E.O. 12356 Section 3.3/NND No. 785019

42

Tel. 489081

HWW/bb

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
AFO 394

ACC/063/PWU

12 Oct 44

SUBJECT: ROME Water Supply.

TO : Regional Engineer, Lazio-Umbria Region.

1. Ref. your letter RL/ENG/600/(d), dated 6 Oct 44, received 11 Oct.

2. Your comments afe interesting and will be further studied and considered, particularly the difficulty in obtaining tyres and tubes.

3. We have no observations to make on your draft questionnaire to the "Acqua Marcia", which appears to the very comprehensive.

G.E. RHODES,
Lieut-Colonel, R.E.,
Acting Director.

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Declassified E.O. 12356 Section 3.3/NND No. 785019

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11 OCT Rec'd 063

6 607
41

HEADQUARTERS
Allied Military Government
LAZIO-UMBRIA REGION
(Engineering Division)
APO 394

6 October 1944

TO : HQ.ACC. (P.W.)

SUBJECT : ROME Water Supply

IN REPLY QUOTE : R4/ENG/600/(d)

35

Enclosed is a translation of the MARCIA Company reply to your question of 14th September 1944 (ACC/063/PW).

It is interesting and I add the following comments.

para 1 - The pressure is NOT now only a matter of less water. - Quantity of water is now about 95% of which the company director informed me 33% runs to waste.

The pressure is combination of static head less frictioned losses.

Static Head if pipes remain full remains the same, when consumption exceeds intake pipes gradually ~~comply~~ empty and Static Head falls - as their is no Main Reservoir the greater the consumption the quicker this happens.

Frictional ~~hours~~ losses. Depend on sizes and number of pipes through which water passes and the flow.

On account of increase in consumers the natural tendency of flow is to be increased with resultant drop in pressure.

These losses can only be reduced in following ways:

(a) Reducing peak consumption by limiting draw of.

(i) Fountains
(ii) Waste through release valves — then probably no need for valves on taps
(iii) Main Military milking at Night -
(iv) Filling of cisterns at night only.

HEADQUARTERS 11 OCT 1944 A.C.C.

2776

(b) Reducing of consumption at Peak Periods by Reducing orifices to people at present getting normal peace time supply, my impression is that at lower levels there are many, and owing to the legal obligations of the company they are afraid to curtail them.

The only users who should get a normal supply are Hospitals, Power Plants and Railways and any specially authorised cases.

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(c) By properly adjusted interconnections, combined with throttling down below these connections, ensure that all main pipes do even duty. -

The system of control at TIVOLI by sluice gates ensures distribution of quantity of Water between pipes but ipso facto results in frictional losses in the most difficult pipe (at present VII) being more than is necessary as by doing the intercharge in ROME it would be easier and utilise the full capacity of all pipes which should result in increased residual pressure in the difficult ones. -

(d) Adjusting release valves (within safety limit of strength of pipes) so as to reduce waste and flow from this cause. This could be done gradually and if bursts occurred go back a bit.

Electric Pumping. In at least one high house (and I expect most) the only cistern is on the roof therefore all the water for that house has to be pumped up. -

By altering the position of some tanks to a lower flow or the majority of water would arrive by gravity and only the water for top floors require Power.

The critical level in some cases already altered was a matter of a few centimeters and was achieved by lowering inlet pipe into cistern.

(As shortage of electricity is likely to persist for several years and water runs to waste at night it seems much of raising of water could be done by water power).

(a)(ii)(b)(c) I had erroneously got the impression that there were hundreds. -

With 24 valves adjusted by 4 men ie.6 each it should be a matter of two hour to adjust the lot in which case I can see no reason why "Turno" should not be daily instead of two daily.

Alternatively double the staff(I expected there would be at least 50 and its only five).

(e) The water situation is reported definitely improved after mid September; when adjustments to Motors and POWER are completed it should be still better.

2775

Cisterns , when full, overflow. This must be stopped by filling slower or discipline good citizenship or filling during night.

(f) "Functions always at same pressure" in theory yes in practice no; - but it is not possible to increase pressure above maximum by boosting without radical change of system, it should be possible to increase up to maximum as long as there is water in main pipes.

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(g) This is I think the key to the question.

The company get paid on a basis of a theoretical even flow through orifices over 24 hours.

I understand if pressure is increased more flows through and they do not get extra payment as would be the case if metered.

I understand if they reduce orifices consumers can take legal proceedings against them.

This right if it exists must be cancelled for Emergency Period.

(h) It looks as if larger staff is required to stop unauthorized outlets; the company is a private one and has always, I understand, paid large dividends to Shareholders if a Public one that money would have gone in reduced rates or improvements in service. -

(i) Military Milking must be investigated and controlled. -

(j) Telephone for present system is essential and was demanded some weeks ago from Communications and will be available soon. -

(k) Tyres, Tubes, Transport - cannot something being done other than unfulfilled hopes!

So far out of many demands submitted I have not received one single tyre although all Regional Engineers were told about mid July at a conference by ACC.HQ. Tyre Expert that situation was likely shortly to be better and retreading factory being started.

(See JJC of 28 June sgnd C.I ADAMS
of ACC/1111/TP of 29 June sgnd Lt Col VINING)

I should be glad to discuss any of these points with you and your staff.

I should also welcome any addittions or suggestions on the further questionair to MARCIA Company.

Gordon Findlay

Lt.Col.R.E.
Regional Engineer
Lazio-Umbria Region AMG

Enclosures

(a) Advance copy of draft letter to Marcia Company dated 6 October ✓
(b) Report PW(RC) 800 dated 29 September. ✓

Copy to:
Regional Commissioner
P.W.(RC) Region L & U.
File and 2 spare.

2774

C.de CMF/gb

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
LAZIO-UMBRIA REGION
(Engineering Division)
APO 394

6 October 1944

TO : Società Acqua Pia Antica Marcia,
R o m a , Via del Rossetto 108

SUBJECT : ROME Water Supply Distribution.

IN REPLY QUOTE : R4/ENG/690(d)

In your letter to Public Works Rome City (Maj. Michel) in reply to certain questions from HQ.ACC. letter ACC/063/PWU dated 14 September you state that

(1) "The frequent opening of Hydrants to supply the Allied Command and heavy requirements of the many Hotels, Hospitals and Messes cause a diminution of pressure."-

I am desirous of doing everything possible to assist you to rectify the distribution. - Hospitals both Military and Civil, Railways, Power Plants must have an adequate supply even if it means inconvenience or curtailment to other supplies. -

Please give a list of the above openings that cause trouble and disturb equilibrium - showing in tabular form opposite each:

(a) Present hours of opening
(b) Recommended hours of opening
(c) Total Storage capacity of institution concerned
(d) Other recommendations for improvement.

Declassified E.O. 12356 Section 3.3/NND No. 785019

6 October 1944

TO : Società Acqua Pia Antica Marcia,
R o m a , Via del Tozzetto 108

SUBJECT : ROME Water Supply Distribution.

IN REPLY QUOTE : R4/RMO/600(d)

In your letter to Public Works Rome City (Maj. Michel) in reply to certain questions from HQ.ACC. letter ACC/063/PWU dated 14 September you state that

(1) "The frequent opening of Hydrants to supply the Allied Command and heavy requirements of the many Hotels, Hospitals and Messes cause a diminution of pressure."-

I am desirous of doing everything possible to assist you to rectify the distribution. - Hospitals both Military and Civil, Railways, Power Plants must have an adequate supply even if it means inconvenience or curtailment to other supplies. -

Please give a ~~test~~ list of the above openings that cause trouble and disturb equilibrium - showing in tabular form opposite each;

(a) Present hours of opening
(b) Recommended hours of opening
(c) Total Storage capacity of institution concerned
(d) Other recommendations for improvement.

(2) Valve adjustment for 48 hour 'Turns'.

You say there are only 24 valves to adjust and a staff of 1 Engineer and 4 men to do it. - This is 6 valves each which should not take more than 2 hours. -

Why could this not be done so as to give a daily Turns-or twice daily Turns if necessary increasing staff to 24 so that the whole of the valves could be operated at a stated time.

2773

The extra staff when free being employed on patrolling and checkings upon the "unauthorised outlets"you refer to. - It seems it would be well worth employing ~~there~~ several extra assistant Engineers to achieve this. -

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(3) Give a list of the High level Buildings which although they cannot get water by gravity supply to roof level could get it if cisterns were moved into a lower floor. -

(4) What is the normal capacity of the flushing cistern of W.C.? Could not these be reduced by adjustment of ball valves to a smaller flush?

(5) How many fountains are there running day and night off each Main? What is average flow of each? Why cannot they be supplied with taps, preferably automatic closing taps?

(6) Are any consumers in the town other than Hospitals, Railways and Power Plants getting full NORMAL prewar supply?

(7) How many automatic Release pressure valves are there in the system and to what pressure are they designed or adjusted? Can the pressure of release be adjusted?

(8) What proportion of Water Runs to waste at night?
" " " " " " " by day?
(You stated prewar it was 10% but much more now)

(9) In houses furnished with storage equal to 50% of normal daily consumption are there any valves of either under your control or that of householder that could be used to fill them only at times other than times of high draw of.

(10) Have you flow statistics for each MAIN throughout the 24 hours showing rate of flow?

(11) Have you any means of knowing when automatic release valves open or even if they open at all?

(12) Have you records on your plans showing what maximum pressures the pipes in all parts of the distribution will stand. 2772

(13) It is understood that many cisterns when full over flow to waste. Are all such cisterns provided with valves to cut off for cleaning? and are these valves under your control or that of householder or both?

Declassified E.O. 12356 Section 3.3/NND No. 785019

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2772

(13) It is understood that many cisterns when full over flow to waste. Are all such cisterns provided with valves to cut off for cleaning? and are these valves under your control or that of householder or both?

(14) Please supply 2 copies of the contract condition or conditions under which you supply water to consumers. -

./.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(15). Is there any reason technical or legal why all normal private consumers could NOT be rationed down to say 50% of normal prewar consumption.

(16) The total yield of springs is now 4420 lit/sec.

At conference with Col. Poletti mid September you stated the Military consumption was 200 lit/sec.

Please give a table of Military Users stating quantities per day consumed by each.

(17) Please state which if any of your mains give sufficient water to all consumers and whether any water in these mains run to waste?

(18) State in order of 'badness' the mains that provide insufficient water as shown by complaints other than those due to temporary breakdowns?

(19) Supply a map of distribution system, showing the 24 valves and the points at which Pressure gauge readings are taken regularly and any other points at which occassional pressure gauge tests have been taken in last 2 months. - Also showing interconnections between mains.

(20) Supply a Table or graph of these readings for each point of control showing hours at which recorded.

(21) You say transport shortage curtails control and will get worse as Tyres and Tubes were out. - I cannot hold out much immediate hope of supply but, if we do not ask, nothing will come, so please submit a list of tyres and tubes required under separate letter supported by attached forms completed for each vehicle. -

Enclosure - Form.

Copy to:
→ HQ.ACC. F.T.
P.W. (RC) Region I & U.
Regional Commissioner
File-Spare 3

Lt.Col.R.E.
Regional Engineer
Lazio-Umbria Region ACC

Declassified E.O. 12356 Section 3.3/NND No. 785019

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Enclosures - Four.

Copy to:
→ HQ.ACC. P.W.
P.W. (RC) Region 1 & 2.
Regional Commissioner
File-Spare 3

Lt.Col.R.E.
Regional Engineer
Lazio-Umbria Region AMG

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Declassified E.O. 12356 Section 3.3/NND No. 785019

AEM/dpe

HEADQUARTERS
LAZIO REGION AMG
(Engineering Division)
APO 394

P.W. (R.C.) 800

Rome, 29 September 1944

Subject: Inquiry of P.W. & D. Sub-Comm.ACC relative to Rome water.
To : Regional Engineer, Region IV, AMG.

1. The translation of the reply of the Società Dell'Acqua Pia, Antica Marcia to the questions asked by the ACC/PWD (063) regarding the present operations of the "Acqua Marcia" is as follows:

(a 1). The damages caused by the Germans at the pumping station at Fiumetto resulting in non use of same has produced a lowering of pressure in all the distribution system. This has resulted in a lack of water in the higher levels in various Quarters of the City.

The matter of periodically increasing the pressure in some areas with the consequent lowering of the pressure in others is reached by adjusting some valves on the main lines (for the purpose termed "turno"). This results during the first "turno" in increasing the pressure in the Quarters Piazza D'Armi, Prati, Rinascimento, Flaminio, Tiburtino, Celio, Esquilino, Appio Latino. During the second "turno" the pressure is increased in the Quarters Nomentano, Salario, Parioli, Trionfale, Macao, etc.

Even with the above system of "turno" it is impossible for water to reach a large number of buildings in different quarters by gravity. A great number of such places accomodating a large number of families have in the past relied on small electric booster pumping units that now are inoperative or operating only one day in four due to the electric power situation.

(a 2). There are 24 valves used in the operation.

(a 3). The "turno" is executed with an interval of 48 hours.

(a 4). The [illegible]

Declassified E.O. 12356 Section 3.3/NND No. 785019

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(a 2). There are 24 valves used in the operation.

(a 3). The "turno" is executed with an interval of 48 hours.

(a 4). The distribution in the Via Ulisse Aldrovendi and the Parioli quarter is improved during the second turn, during which nearly all the buildings are supplied with water.

(b). The "turno" is effected by a technical assistant and by four workmen under the direct supervision of the chief engineer and another engineer of the company.

(c). The company states that the work is carried out with all possible care and at regular intervals. 2770.9

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(Inquiry of P.W. & U. ACC relative to Roma water) cont'd) 29 Sept. '44

(e). We were not able to reach the normal conditions of pressure because the temporary electropump installed at Finnette does not function regularly because of the necessity of using low tension electric power (180 v.) whereas the motor is a 220 v. motor.

The low tension causes a consequent heating of the elements so that the pump cannot be completely exploited, without danger of burning out the motor. So out of the 600 litres per sec which are at our disposal only 400 can be utilized.

We have had other difficulties with the transformers and the Roman Electric Coy has been urgently requested to provide continuous electric power. To assure better service it is necessary to complete the repairs of the reserve electropumps on the old plant damaged by Germans.

These electropumps will be installed temporarily at the sources, until the repairs of the damaged building are completed.

- - - - - - - -

We are sorry that the Allied Command, that in past times has recognized the efforts done by this Coy to assure the water supply, deems at the present moment that all possible is not being done to effect a better distribution. It is necessary to bear in mind that the inadequate service in some quarters is due not only to the lack of water drawn to Rome for the present unprecedented demands placed on the supply but also to the fact that the main aqueduct system is a gravity flow and functions always at the same pressure. Thus it is not possible to throw an additional pump into the circuit at peak demand periods and increase the pressure, thereby increasing the discharge thru the bottle neck part of the system.

For several months on account of damages caused by the Germans to the installations the net is out of balance so that the meters (outlets) regulated for a flow under normal conditions give a greater flow when the pressure is increased.

The consequence of that is that the loss (waste) of the distribution that normally is under 10% is at the present moment remarkably increased. Other losses of water are caused by (non authorized outlets) and abuses made by the users, especially in the outskirts of the City and in the country.

The technical office long ago provided specialized crews of workmen to investigate the plants and eliminate such non authorized

Declassified E.O. 12356 Section 3.3/NND No. 785019

out the motor. So out of the 500 litres per sec which are at our disposal only 400 can be utilized.

We have had other difficulties with the transformers and the Romen Electric Coy has been urgently requested to provide continuous electric power. To assure better service it is necessary to complete the repairs of the reserve electropumps on the old plant damaged by Germans.

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The consequence of that is that the loss (waste) of the distribution that normally is under 10% is at the present moment remarkably increased. Other losses of water are caused by (non authorized outlets) and abuses made by the users, especially in the outskirts of the City and in the country.

The technical office long ago provided specialized crews of workmen to investigate the plants and eliminate such non authorized outlets. But this work goes on slowly because of the wide extent of the distribution net.

2769

Declassified E.O. 12356 Section 3.3/NND No. 785019

(Inquiry of P.W. & U. ACC relative to Roma water, cont'd) 29 Sept. '44

The frequent opening of hydrants to supply the Allied Command and heavy requirements of the many Hotels, Hospitals and messes cause a diminution of pressure.

We are doing our maximum to reestablish an equilibrium on all the distribution system, but this work will not be efficient if we shall not be able to assure a constant flow of water from the sources.

We again call to your attention that to improve the service it is necessary to reestablish the telephone between the office at Rome and the office at Tivoli in order to be quickly informed of the functioning of the installations and to be able to quickly give the necessary orders when the Service is not regular.

(Note: The communications Sec. has advised me that they have asked the Signal service to install 2 telephone circuits between Rome and Tivoli. They hope to have them in operation soon).

It is also necessary to have a supply of tires and tubes for the trucks, cars, vans, motor cycles and bicycles of our Coy. The condition of all of our equipment of this type is in a very poor state of serviceability and contributes considerably to the inefficiency in carrying out the services.

A.E.MICHEL, Major
Pu.Works Sec.-Rome Commune

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

Translation

JrG 063
40

TO THE COMMANDER IN CHIEF OF THE A.C.C.

ROME

The buildings of Via Etruria 12 - 14 (belonging to the Roman Real Property Institute, with offices in Via S. Maria in Via n. 37) made up of no less than 12 staircases (each one of 7 floors) with about 250 apartments, in which almost double the number of lower-class families live, have been deprived, since July 15th last, quite unjustifiably and against the regulations, of the normal daily flow of water in the dwellings and of water by turns, granted in cases of deficient pressure.

All this is highly detrimental to hygiene and seriously inconveniences the hundreds of families dwelling there, who (for want of a lift) must carry the indispensable water up to the 7th floors.

The continual complaints addressed to the Proprietor of the Houses and to the Acqua Marcia Company who, enveloped in an incomprehensible reserve, have quite unjustifiably refused to take any interest whatsoever in the matter, which should, on the contrary, be attended to without delay, have been of no avail.

Such a lack of water is most irregular, in view of the fact that no damage has occurred either to the intake or to the water pipes in May, June last, owing to the war.

This is proved by the fact that, during the months of May and June and till the middle of July, while almost everywhere in Rome water was lacking, here we at first enjoyed the normal flow in the dwellings and later on the turns of distribution.

But, towards the middle of July, it turned out that some apartments enjoyed a greater flow of water to the detriment of others; and therefore the Acqua Marcia turn-cock was called to regulate the inflow in the different water-distribution rooms, but his arrival resulted in the immediate and total disappearance of the water.

At first the newspaper ascribed such a state of affairs to a deficient pressure of water, but at the end of August 2767 the damage having been repaired, they announced the regularization to have taken place; why must we therefore still lament the total lack of an element so indispensable to human life here,

Declassified E.O. 12356 Section 3.3/NND No. 785019

while no one attends to the matter?

The entire Appio quarter (parts of which are situated at a higher level and in which there are buildings higher than the ones in question) enjoys the uninterrupted flow of water in the houses; why is it therefore that this situation of great discomfort should occur here, rendered worse by the fact that no one troubles about it? For how much longer will we have to go on in this way?

The insistent demands to the Acqua Marcia Company and those addressed to the Proprietor of the houses in question have had the following result: the technical Assistants of works have suggested to the tenants to end the situation by acquiring an electric motor for raising the water to the distribution rooms, each apartment contributing 500 lire.

But all this gives one the idea of a downright speculation attempted against the inhabitants of the aforesaid houses. If electric power is lacking, how could this motor be worked? The situation would remain unchanged notwithstanding the heavy expenditure incurred.

In the name of about 300 and more lower class families, living in these houses, we therefore earnestly beg you kindly to take the deplorable state of affairs into consideration. It requires prompt attention so that water may be given back to the above-mentioned houses and the inflow be regulated by ordering abundant turns of distribution.

It is necessary furthermore cautiously to investigate the real reason which has caused and causes such uncomfortable & harmful living conditions for so many lower-class families.

The outlets supplying water to the aforesaid houses are: 92400/92401/92402/92403/92404/92405/92406/92407/92408/92409/ 92410/ and 99407.

Trusting in the high sense of justice and humanity animating your efficient and beneficient activity, we thank you warmly in advance and remain

yours sincerely

the tenants.

2766

Pwrll ? 76
063

AL COMANDANTE IN CAPO DELLA COMMISSIONE DI CONTROLLO ALLEATA

R O M A

I fabbricati di via Etruria N°I2 e N°I4 (di proprietà dell'Istituto Romano dei Beni stabili, sito in Roma , via di Santa Maria in Via N°37) compsati di ben I2 scale (ciascuna di sette piani), con circa 250 appar_ tamenti, dove abita un numero quasi doppio di famiglie del popolo, dal I5 luglio u. s., senza giustificato motivo, sono stati irregolarmente pri vati del normale flusso giornaliere dell'acqua nelle abitazioni e del turno relativo concesso nai casi di mancante pressione.

Tutto cio' costituisce un grave danno all'igiene e al disagio delle centinaia di famiglie che vi abitano, e che (in mancanza d'ascensore) devono salire l'acqua indispensabile fino ai settimi piani.

A nulla sono valsi i continui richiami rivolti al Proprietario degli Stabili e alla Società dell'acqua marcia che, chiusi in un incomprensibile riserve, senza giustificazione alcuna si sono completamente disinteres sati del fatto che urge invece sollecitamente provvedere.

=Tale mancanza d'acqua costituisce un fatto di grave irregolarità, dato che nessun guasto si è verificato sia alla presa che alle tubature dell'acqua stessa in seguito agli eventi bellici del maggio, giugno u.s.

Cio' è dimostrato dal fatto che, per tutto il mese di maggio, di giu_ gno e fino alla metà di luglio, mentre a Roma, quasi ovunque, mancava l'acqua, qui si godeva del normale flusso nelle abitazioni giorno e dei relativi turni di distribuzione poi.

Senonchè, verso la metà di luglio,si verificò che alcuni appartamenti

Declassified E.O. 12356 Section 3.3/NND No. 785019

compassi di ben 12 scale (ciascuna di sette piani), con circa 250 appar_
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l'acqua, qui si godeva del normale flusso nelle abitazioni ecima e dei
relativi turni di distribuzione poi.

Senonchè, verso la metà di luglio,si verificò che alcuni appartamenti
godevano di un flusso maggiore a danno di altri , fu invitato p[illegible] 2765 il
fontaniere dell'acqua Marcia a regolare l'afflusso nelle diverse gabine
di distribuzione, ma la sua venuta ebbe per effetto l'immediata scompr
parsa totale dell'acqua.

In un primo tempo, i giornali denunciarono una scarsa pressione dell'ac
qua, ma alla fine di agosto, con la completa riparazione dei danni[illegible] comuni
carono l'avvenuta regolarizzazione; dunque, perchè qui si deve ancora la
mentare questa totale mancanza di un elemento così indispensabile alla vi

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Fib 062

ta umana senza che nessuno abbia la volontà di provvedervi?

Tutto il quartiere Appio (dove sono località poste anche ad un livel_ lo maggiore e fabbricati più alti di quello in parola) gode del flusso ininterrotto dell'acqua nelle abitazioni perchè, quindi, si deve verifica_ re qui questo brutto inconveniente aggravato dal fatto che nessuno se ne interessa? Per quanto tempo ancora si dovrà durare così?

Le insistenze esercitate presso la Società dell'Acqua Marcia e quelle rivolte al Proprietario dei fabbicati in parola ha avuto per effetto che gli Assistenti tecnici dei lavori hanno proggettato agli inquilini di ri_ solvere la situazione mediante l'acquisto di un motore elettrico che do_ vrebbe condurre l'acqua nelle gabine di distribuzione, mediante la quo_ ta di L.500 (cinquecento) per ogni appartamento.

Ma tutto questo fa pensare proprio ad una vera e propria speculazione che si voglia esercitare ai danni degli abitanti di detti fabbricati . Se l'energia elettrica difetta come si potrebbe azionare tale motore? La situazione quindi resterebbe insoluta nonostante la grave spesa subita.

A nome di circa trecento e più famiglie del popolo abitanti in questi fabbricati, si prega quindi caldamente la S.V.ILLma. di voler prendere in benevola considerazione il caso lamentato che urge di un sollecito provvedimento atto a restituire l'acqua ai fabbricati suddetti e a rego larizzare l'afflusso con disporre abbondanti turni di distribuzione.

E' necessario inoltre indagare, con mezzi oculati, la vera ragione che ha determinato e determina tali incresciose e dannose condizioni di vi_ ta a tante famiglie del popolo.

Gli sbocchi interessati alla fornitura idrica dei suddetti fabbrica_

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Le insistenze esercitate presso la Società dell'Acqua Marcia e quelle rivolte al proprietario dei fabbricati in parola ha avuto per effetto che gli Assistenti tecnici dei lavori hanno proggettato agli inquilini di risolvere la situazione mediante l'acquisto di un motore elettrico che dovrebbe condurre l'acqua nelle gabine di distribuzione, mediante la quota di L.500 (cinquecento) per ogni appartamento.

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E' necessario inoltre indagare, con mezzi oculati, la vera ragione che ha determinato e determina tali incresciose e dannose condizioni di vita a tante famiglie del popolo.

Gli sbocchi interessati alla fornitura idrica dai suddetti fabbricati sono: 92400/92401/92402/92403/92404/92405/92406/92407/92408/92409/92410/ e 99407.

2764

Fiduciosi nell'alto senso di giustizia e di Umanità che anima l'opera fattiva e benefica della S.V.ILLma Le porgiamo ossequi e ringraziamenti.

GLI INQUILINI

ROMA, 20/IX/1944.

HEADQUARTERS 3-OTT 1944 A.C.C

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Tel. 489081

HWW/ce

39

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

ACC/063/PWU

6 Oct. 44

SUBJECT: Acqua Marcia water supply, Rome.-
Complaints.

TO : Regional Engineer, Lazio Region.

1. The following documents are forwarded herewith for your attention:-

(a) Two copies of letter received from Dr. Escalar of 30, Via Aventina, Rome.

(b) Two copies of letter received from the tenants of 12/14, Via Etruria, Rome, and two copies of a translation of it.

Both these letters complain of serious deficiencies in the water supply.

2. Please take up these matters with the Acqua Marcia waterworks company and furnish this Sub-Commission with a report within a few days.

G.E. RHODES,
Lieut-Colonel, R.E.,
Acting Director.

6 Enclosures.

2763

21 SEP Recd 063
al

P W + C FILE

38

Rome, 20th.september 1944

PRESIDENT of the Allied Commission of the Waters

Not having obtained any help from the "Società Acqua Marcia" I now turn to the Allied Command.

On the fourth of June when the Allied Troops arrived in Rome, the apartement house at Nr.30 V.Aventina was receiving the usual supply of water and this condition continued untill the begining of July, that is to say for a month after the liberation of Rome.

Since the first of July (for unknown reasons) there has been no water supply at the above mentioned address not even on the days marked out.

In reply to our numerous requestes the "Società Acqua Marcia" sent a technician who stated that the lack of water in this house was due in great part to a fault of the A.C.C..

As I'm certain that is not the thruth I take the liberty of refering this matter to the A.C.C. so that the Commission may take steps to help.

Thanking you

I am truly

yours

(Dr.Gioacchino Escalar)

Roma, Via Aventina 30, Palazz.B, int.2

2762

the writer,

Declassified E.O. 12356 Section 3.3/NND No. 785019

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Thanking you

I am truly

yours
(Dr.Gioachino Escalar)
Roma, Via Aventina 30, Palazz.B, int.2

2762

Maj. Westwood.

S. A. A. to explain, to the writer, sending a copy to W.O. G2(R).

21/9.

Col. Rhodes subsequently decided to send this (and another similar letter) to Reg. Eng. (Regio) instead. Letter drafted 6/Oct.

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Declassified E.O. 12356 Section 3.3/NND No. 785019

Orig 37

CCB/bb

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

Tel: 489081

27 Sept. 44

ACC/063/PWU

SUBJECT: Rome Water Supply - Reports.

TO : Region IV
(att. Regional Engineer).

1. Ref. your R4/ENG/90.1 dated 22 Sept. 44.

2. A copy of our ACC/063/PWU of 16 Aug. 44 is attached.

C.E. RHODES.
Lt-Colonel, R.E.,
Acting Director.

2761

Declassified E.O. 12356 Section 3.3/NND No. 785019

AGE/gb

23 SEP Recd 063 Cer3 Opwtu.

36

HEADQUARTERS REGION IV
Allied Control Commission
(Engineering Division)
APO 394

22 September 1944

TO : HQ. ACC. Public Works & Utilities Sub-Commission APO 394 ✓

SUBJECT : Weekly water reports.

IN REPLY QUOTE : R4/ENG/90.1

(34)

1. Reference your letter ACC/063/PWU of 7 September 1944.

2. It is regretted that weekly mater reports have not been submitted to you, due to the fact that your letter of even reference of 16 August was not received either in this office nor that of Col. Birchett.

(30)

3. Will you please let me have a copy of that letter? In the meantime copies of reports are being prepared.

A.G. Ewbank Maj RE
Lt.Col.R.E.
Regional Engineer ACC.IV.

Maj Westwood
(Remind again about ans 35)

See folios 30, 31 & 34

SAR 25/9

C.C. 2760 (30) please send copy of the letter and if the letter cannot be found let me know by 1 Oct.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Tel: 489081

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 391

0/C 35

GER/blp

ACC/063/PWU

14 Sept. 44

SUBJECT: Rome Water Supply - Societa' dell'Acqua Pia, Antica Marcia.

TO : Regional Engineer, HQ Region IV (Att. Lt. Col. Findlay)

1. Please ascertain and report to this Headquarters the answers to the following questions regarding the present operations of the "Acqua Marcia".

(a) What system has been devised and adopted for regulating the distribution of water in order to effect the "turno"? How many valves have to be closed and opened? At what intervals of time are these changes made? We particularly desire to know such of this information as relates to the highest zones of the City, especially Via Ulisse Aldrovandi and the Parioli district.

(b) How many of the Company's employees are actually charged with responsibility for adjusting the distribution, to effect the "turno"?

(c) Do they carry out their duties regularly and conscientiously?

(d) If not, what action is taken against them?

(e) We were led to believe that the works recently carried out at Agosta, and at various points on the main carriers between Agosta and Tivoli, would result in resumption of normal conditions and in restoration of pressures to their proper levels. This result has evidently not been achieved. What is the explanation?

2. This Sub-Commission is not satisfied that everything possible is being done to secure the best distribution of water in Rome.

(2) 8/F 12/9

(1) Director - Noted Ref 16/9 and agreed

GER. 2759

G.E. HIDDEN.
Lt-Colonel, R.E.,
Deputy Director.

Major Westwood

Please phone about this

SEE OVER

RE IV

GER 22/9

Declassified E.O. 12356 Section 3.3/NND No. 785019

34

Tel: 489081

HWW/lam

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

ACC/063/PWU

7 Sept. 1944

SUBJECT: Rome Water supply - Reports.

TO : Regional Engineer, HQ Region IV AMG/ACC

1. On 9 Aug. 44, under your reference 5A/TCU/150/90.1 you sent to this HQ a copy of your weekly water report of 6 Aug.1944.

2. In our letter ACC/063/PWU of 16 Aug.44, we expressed our appreciation of your action and we instructed you to furnish this Sub-Commission with copies of all such reports in the future.

3. As we have since received no such reports from you, are we to infer that no so-called weekly report has been prepared since 6 Aug. or that you have failed to comply with the instructions of higher authority ?

4. Your personal attention to this little matter would be appreciated.

W.M. LAPPER
Lieut-Colonel
Chief, Util & Adm. Div.

Wrong Series folios 30 + 31

2758

Declassified E.O. 12356 Section 3.3/NND No. 785019

33

Tel: 489081

HWW/lam

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

ACC/063/PWU

Sept.8, 1944

SOGGETTO : Erogazione di acqua a Via Ulisse Aldrovandi - Roma.

ALLA : Società dell'Acqua Pia Antica Marcia.

Vi prego di farmi conoscere qual'è lo schema di orario, secondo cui il vostro personale effettua il turno in Via Ulisse Aldrovandi. Voglio essere particolarmente informato di quando la pressione viene interrotta e ridata.

G.E. RHODES
Lt. Col. R.E.
Vice-Direttore

2757

Declassified E.O. 12356 Section 3.3/NND No. 785019

MEMO FOR FILE 063.32

On 6 Sept. 44, I reported
to Maj. Buckley (G Region IV)
that at No. 2 Via CIMABUE
(near Via Flaminia), the cellar
storage had been without
running water for about
twelve months. Residents on
the upper floors had to carry
all their water up six
or seven flights of stairs.

Maj. Buckley undertook to
investigate at once and let me
know the result.

John Washburn
Maj: F.S.

C Sec 2756

11 AUG Recd

HEADQUARTERS
ALLIED MILITARY GOVERNMENT
REGION IV
APO 394
TCU DIV.

0-3028

9336

862

5A/TCU/1500/90.1

CRB/mp

9 August 1944

105

White 31

TO: Regional Commissioner
Region IV

1. Forwarded for your information & file.

C.R. Birchett

C.R. BIRCHETT
Lt. Col. C.E.
Dir. TCU Div.

Enclosed:

weekly water report 6 Aug. 1944

Copy to:
Pub. Wks. Sub Commission ✓

Lt Col Kappen
Ra 8 11/8

Declassified E.O. 12356 Section 3.3/NND No. 785019

5A/TCU/1500/90.1

862

CRB/mp

9 August 1944

TO: Regional Commissioner
Region IV

1. Forwarded for your information & file.

C.R. BIRCHETT
Lt. Col. C.E.
Dir. TCU Div.

Enclosed:
weekly water report 6 Aug. 1944

Copy to:
Pub.Wks. Sub Commission ✓

Report temporarily retained by me. Returned 15 Aug.

2755

FILE

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Declassified E.O. 12356 Section 3.3/NND No. 785019

Tel: 489081

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

HWW/ce 30

ACC/063/PWU

16 Aug 44

SUBJECT: ROME Water Supply.- Reports.

TO : Regional Engineer, HQ. Region IV AMG/ACC.

1. Reference your letter SA/TCU/150/90.1 of 9 Aug. 44.

2. Thank you for forwarding a copy of your weekly water report for the week ending 6 Aug.

3. Please ensure that this Sub-Commission shall henceforward be supplied with copies of all such reports.

H. W. WESTMACOTT
MAJOR R.E

W.M. LAPPER,
Lieut-Colonel,
Chief, Util.& Adm.Div.

2754.

2753

Tel.489081

HSW/ce

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

ACC/063/PWU

15 Aug 44

SUBJECT: Water Supply - H.Q. A.C.C.
(Ministero delle Corporazioni Building.)

TO : Headquarter Commandant.

1. A serious lack of water in the water closets and lavatories of this building frequently occurs during the first few hours of the working day. It is very unhygienic. The matter has been investigated and we have concluded that the deficiency is due solely to the serious and indefensible waste of water which occurs from taps which are left running, more especially during the night time.

2. The water for use in this building is pumped up to the service tanks on the roof. The pumps are operated only during the daytime, which, given proper discipline in the conservation of water, should be entirely sufficient and satisfactory. What actually happens, however, is that the numerous water taps which are left running over night often empty the storage tanks completely by the next morning. Daily at 0800 hrs. the pumps are put into operation but it requires several hours of pumping to restore the general distribution of water to all parts of the building when the tanks are empty at the beginning of the day.

3. In addition to the sanitary aspect of this matter you will undoubtedly agree that no kind of waste should be tolerated. Particularly at the present time, when there is so serious a shortage of electric power and also an insufficiency of water in some parts of Rome, it is important that this Headquarters should set a proper example in ordinary and reasonable economy. Neither the water itself should be wasted, nor should electric power be unwarrantably consumed in replacing it.

4. In view of what we have said we suggest that forceful action should be taken at once to mitigate the present abuse of the water service in this building, which really results from two causes, viz. (a) heedless neglect to turn-off taps after use, and (b) the defective condition of many of the fittings.

5. In connexion with (a), we suggest that stringent orders be issued that all taps must be firmly closed after use; and in connexion with (b) we recommend that plumbers should at once be set to work on a thorough general examination of all the water fittings, that faulty tap washers be

Declassified E.O. 12356 Section 3.3/NND No. 785019

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2753

L.A. JENNY,
Lt-Colonel, C.E.
Director.

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Declassified E.O. 12356 Section 3.3/NND No. 785019

063

Director

WATER — HQ. ACC. 31

The shortage of water which occurs on some mornings in this Building is not caused by any defect or deficiency in the external water distribution system. It is due to the considerable loss of water over-night from the roof tanks, which results from the general failure to close taps properly. The cure will depend upon better discipline in this respect.

The roof tanks are filled during the day time by two electrically driven pumps, (one for the main Building and one for the annexe), which are operated only under the supervision of the responsible workman during his normal hours of duty. The pumps are started every morning at 0800 hours, but if the tanks have been drained during the night by neglect to close taps, complete distribution throughout the Building is not restored until the pumps have operated for several hours.

Of course, the deficiency could be overcome by running the pumps at night,

2752

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But I think you will agree that such a method is too uneconomical and culpably wasteful to be countenanced.

The cure should be effected by better discipline. I will draft a letter to the HQ Commandant, for your signature, please.

H. W. WESTWOOD
MAJOR. R.E.

1/15 Feb.

15 Feb 46.

1426

Declassified E.O. 12356 Section 3.3/NND No. 785019

Ref. Folio 35 attached.
Lt. Col. Findlay today assured me that he is about to dispatch a reply.

H. W. Westwood
6/10/44

?

Has Col. Rhodes found an Officer to undertake the Survey?
15 Aug.

Col. Rhodes says we cannot proceed until arrangements have been made.

FILE

H. W. WESTWOOD
R.E.
16 Aug 44

Declassified E.O. 12356 Section 3.3/NND No. 785019

28

DIRECTOR.

Rome. Water Supply.

1. The position gets no better, but rather worse. Effects on public health will be marked, for the worse, if nothing is done. Also serious inconvenience.
This morning, and yesterday, no water here in our lavatories; even in this building.
In a house at a fairly low level, the other side of the Park this morning, I was told they get water 2 days, and then sometimes several days without any.
2. I have noticed in the streets, at many places, not only the fountains running but also taps (or rather pipes without taps) running full-bore straight into the gutter and the drain. Last evening at one place within 400yds.of the Hotel Flora I estimated that up to 50,000galls.day is going direct TO THE DRAIN.
I have discussed with Major Westwood, who tells me that restrictions have been imposed "on street washing" and other things. This is futile, when the water is going direct to the drain via the gutter, in hundreds of places.
He tells me that the system, in a hydraulic sense, is very complicated. So it may be. I asked him whether Reg.IV have had a "pressure gauge survey" made of the City, e.g. spot readings say every 6hrs.during a typical 24 hrs. They have not. 2750

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3. These then to be plotted on a map, and one can tell at once where the deficiency in pressure is. It would also show the places where Army Units are "milking" the mains, by pumps.

4. In a long experience of these matters I would strongly urge that an officer be put on special duty, for a few days, to insist on the Water Cos. making such a "survey". Without it, everything is a mere guess.

IF, for example, the gauge shows 100ft.in the street and the building /adjacent is 110ft.high, then the top of it CANNOT get water. But if it is only 90ft.high, and it is not getting it, then there is an internal defect in the piping.

Again, such a survey would show how by opening some valves and closing others, many pressures could be improved.

5. The more we can do,in this way, to utilise the hydraulic pressure itself, the less we shall call for the use of electricity for motors and pumping..... at the many high buildings.

Comments
Ack 13/8

GEK.
13/8/44.

W. 13/8

FILE
Thames Area

Major Westwood
Hqrs.

Passed to Supt.
Acton Section

2749

18 AUG Recd

063 CMS.

47.

ROME ALLIED AREA COMMAND
ENGINEER SERVICES

Copy to Major Westwood RE A.C.C.

Rome, 4 August 1944

To: O.C. Engineer Services R.A.A.C.

Subject: Use of Fire Eighting Equipment for Emergency Water Supply

The services rendered by the Fire Brigade have been & still are of the ut most assistance, during this critical period, in maintaning water supplies to Hospitals, Military Laundries & other Military Installations, when the water companys mains give trouble.

There are 17 machines, as some of there are showing signs of over work, I would like to suggest that some of the similar fire Fighting Equipment that was prepared for heavy bombing raids in Sicily & ~~south~~ Southern ~~Italy~~ Italy be brought up to Rome, where they would give more assistance, allow some of the existing machines to be over hauled, be nearer the soene of future operations, where undoubtedly they will be required.

It is suggested that an Allied Command Fire Officer be sent south to investigate the possible release by the towns of some of this Fire Equipment, to inspect them for their suitability for this kind of work, & arrange convoy.

S.P. Buckley
Major R.E.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Rome, 9 August 1944

To: O.C. Engineer Services R.A.A.F.

To Major Wes A.C.C.

Subject: Use of Fire Fighting Equipment for Emergency Water Supply

The services rendered by the Fire Brigade have been & still are of the ut,most assistance, during this critical period, in maintaning water supplies to Hospitals, Military Laundries & other Military Installations, when the water companys mains give trouble.

There are 17 machines, as some of there are showing signs of over work, I would like to suggest that some of the similar fire Fighting Equipment that was prepared for heavy bombing raids in Sicily & ~~south~~ Southern ~~Italy~~ Italy be brought up to Rome, where they would give more assistance, allow some of the existing machines to be ~~over~~ hauled, be nearer the soene of future operations, where undoubtedly they will be required.

It is suggested that an Allied Command Fire Officer be sent south to investigate the possible release by the towns of some of this Fire Equipment, to inspect them for their suitability for this kind of work, & arrange convoy.

S.P. Buckley
Major R.E.

Copy - Chief Police
C.R.E. 104 Area
Director T.C.U. Div.
Oi/c Fire Services
File

2748

Chief Constable please investigate and Rome write in file

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

Major WESTWOOD

MAJOR CARLOS V. GALLEGOS phoned to say that he has taken personal care of the water problem in the home of

Brig Gen LUSH

Cpl. G. Friedler
1130 8 Aug 44

I telephoned at 1745 hrs on 9 Aug. Maj Gallegos and Lt Col Shoki & Maj Buckley. Piping from discontinued stand-posts is being used & should a supplementary supply to Brig. Lush's villa.

Thom

9 Aug.

C.C. File
Rome water 2747

Declassified E.O. 12356 Section 3.3/NND No. 785019

48 Hrs Hosp — held Vatican
220 within for 3 days —
40 to 50,000 gals. per day —

Phone Col. Bricker at 1450 hrs. 2 Aug.,
after sending t get into touch with Maj Buckley of
Maj Gallagos
re matter of mine.

2746
OVER

Lt. Col. Thompson

To 24

To 22

Subject: WATER SITUATION ROME

104 C.M.E. Works
C.M.F.
Ref.: CME/Em/259
Tel.: 687081

To : DE - A.A.I.

22 June 44

Further to previous reports on the Rome Water system, herewith data of the position up to date.

Both systems AGNA and MARCIA are in operation.

AGNA System.

90% of the normal capacity of 2650 litres per second is being delivered. All pumps in each of the pumping stations at, SALONE, COLLE MASTUCCIA, VIA ROMAGNOLI, ELENIANO, SAN PANCRAZIO and TREVI are in operation. At SALONE the pumping capacity is reduced to 300 lps compared with the normal output of 400 lps due to lack of electric power by damaged transmission lines.

The Delivery of aqueducts in this system is:

VERGINE	- old	flow 900 lps		- normal
"	- new	" 200	"	- 50% decrease
FELICE		" 330	"	- normal
PAOLA		" 500	"	- normal.

MARCIA System.

The damage to this system was considerable, but repairs are in hand and 75% completed. All debris caused by mines and demolition at the source has been cleared and access of all spring water to the aqueducts has been obtained. 4 No major breaks in the aqueducts exist and these are all under repair.

6 No of the 7 No syphons are working and repairs to the damaged one are being proceeded with.

A Bridge crossing the R. Tiber at MR 7873 sheet 17 which carried one of the mains was destroyed. Arrangements are in hand for the 13" diam pipe to be supported by the permanent Bailey bridge at CASTEL GIUBILEO.

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AGEA System.

90% of the normal capacity of 2050 litres per second is being delivered. All pumps in each of the pumping stations at, SALONE, COLLE PRESTOCIA, VIA ROSACHOVI, ELENILEO, SAN PANCRAZIO and TREVI are in operation. At SALONE the pumping capacity is reduced to 300 lps compared with the normal output of 400 lps due to lack of electric power by damaged transmission lines.

The delivery of aqueducts in this system is:

VERGINE	- old	flow 900 lps	- normal
"	- new	" 200 "	- 50% decrease
FELICE		" 830 "	- normal
PAOLA		" 500 "	- normal.

MARCIA System.

The damage to this system was considerable, but repairs are in hand and 75% completed. All debris caused by mines and demolition at the source has been cleared and access of all spring water to the aqueducts has been obtained. 4 No major breaks in the aqueducts exist and these are all under repair.

6 No of the 7 No syphons are working and repairs to the damaged one are being proceeded with.

A Bridge crossing the R. Tiber at MR 7878 sheet 17 which carried one of the mains was destroyed. Arrangements are in hand for the 13" diam pipe to be supported by the permanent Bailey bridge at CASTEL GIUBILEO.

The output of the MARCIA system is at present 2600 lps or 57% of the normal capacity of 4600 lps.

2745

GENERAL SITUATION.

All essential repairs to the MARCIA system will be completed by 29 June when 85% of the normal capacity will be delivered. This, together with the 90% from the AGUA supply will give an ample supply to the city.

Connections between the two systems have been made in the city boundary and these have resulted in water being delivered to all parts of Rome. Further, water pressure has increased and the necessity for electric pumps is now only evident for tall buildings in the high part of the city.

14/JUN 45

Cont'd on sheet 3....

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Declassified E.O. 12356 Section 3.3/NND No. 785019

4 Div Hqs — behind Vatica
no water for 3 days —
40 to 50,000 gals per day —

Rpt Col. Birkett of 1130 Hrs, 2 Regt,
after landing & get into touch with Regt Sidney on
Maj. Gridleys
& with Regt Sidney on
& with rest of Bde.

2746
OVER

Declassified E.O. 12356 Section 3.3/NND No. 785019

At 1000 hrs on Thurs. 3 Aug, the
C.R.E. and the Chief Eng. of Regina Marina
visited the Horsfall site - and the installing
Coal Storage tanks which are to be filled up
during the night when the pressure is greatest.
The Trouble, as usual, is due to "milking"
of mains by vessels with adjoining
supplies on the same supply.
Maj. Buckley will
report further.

J Rigg.
3 Aug. 43

Lt. Col. Thompson

9926/6 To 24 22

Subject: WATER SITUATION ROME

To : DE - A.A.I.

134 C.R.E. Works SAR
C.M.F.
Ref.: CRE/SM/253 25/6.
Tel.: 683081

22 June 44

Further to previous reports on the Rome Water system, herewith data of the position up to date.

Both systems AGEA and MARCIA are in operation.

AGEA System.

90% of the normal capacity of 2050 litres per second is being delivered. All pumps in each of the pumping stations at, SALONE, COLLE MENTUCCIA, VIA BORGHESI, ELENIANO, SAN PANCRAZIO and TREVI are in operation. At SALONE the pumping capacity is reduced to 200 lps compared with the normal output of 400 lps due to lack of electric power by damaged transmission lines.

The delivery of aqueducts in this system is:

VERGINE	- old	flow 900 lps	- normal
"	- new	" 200 "	- 50% decrease
FELICE		" 230 "	- normal
PAOLA		" 500 "	- normal.

MARCIA System.

The damage to this system was considerable, but repairs are in hand and 75% completed. All debris caused by mines and demolition at the source has been cleared and access of all spring water to the aqueducts has been obtained. 4 No major breaks in the aqueducts exist and these are all under repair.

6 No of the 7 No syphons are working and repairs to the damaged one are being proceeded with.

A Bridge crossing the R. Tiber at MR 7878 sheet 17 which carried one of the mains was destroyed. Arrangements are in hand for the 13" diam pipe to be supported by the permanent Bailey bridge at CASTEL GIUBILEO.

Declassified E.O. 12356 Section 3.3/NND No. 785019

AQUA System.

90% of the normal capacity of 2250 litres per second is being delivered. All pumps in each of the pumping stations at, SALONE, COLLE MESTOCCIA, VIA ROMAGNOSI, BELVEDERE, SAN PANCRAZIO and TREVI are in operation. At SALONE the pumping capacity is reduced to 300 lps compared with the normal output of 400 lps due to lack of electric power by damaged transmission lines.

The delivery of aqueducts in this system is:

VERGINE	- old	flow 900 lps	- normal
"	- new	" 200 "	- 90% decrease
FELICE		" 350 "	- normal
PAOLA		" 500 "	- normal.

MARCIA System.

The damage to this system was considerable, but repairs are in hand and 75% completed. All debris caused by mines and demolition at the source has been cleared and access of all spring water to the aqueducts has been obtained. 4 No major breaks in the aqueducts exist and these are all under repair.

6 No of the 7 No syphons are working and repairs to the damaged one are being proceeded with.

A Bridge crossing the R. Tiber at YR 7878 sheet 17 which carried one of the mains was destroyed. Arrangements are in hand for the 15" diam pipe to be supported by the permanent Bailey bridge at CASTEL GIUBILEO.

The output of the MARCIA system is at present 2600 lps or 57% of the normal capacity of 4600 lps.

2745

GENERAL SITUATION.

All essential repairs to the MARCIA system will be completed by 29 June when 85% of the normal capacity will be delivered. This, together with the 90% from the AQUA supply will give an ample supply to the city.

Connections between the two systems have been made in the city boundary and these have resulted in water being delivered to all parts of Rome. Further, water pressure has increased and the necessity for electric pumps is now only evident for tall buildings in the high part of the city.

Cont'd on sheet 3....

25 Dec 53

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23

Storage reservoirs at the top of all other buildings can now be supplied by the increased water pressure.

The ACQUA system has a number of small reservoirs in the Rome area and use has been made of these for the interconnection of the two systems.

Reservoirs and capacities are as under:

ACQUA VERGINE

	Capacity
Villa Umberto	2000 m^3
Gianicolo	2500 "

ACQUA FELICE

Aleniano	1000 "
Volturno	1000 "
Castro Pretorio	1000 "
Gianicolo	1432 "
Villa Umberto	500 "
Esedra	600 "

No reservoirs existed in the MARCIA system but since the interconnection with ACQUA use is made of each of the above reservoirs by both systems.

CHLORINATION.

All water is chlorinated en route to Rome. A minimum of 0,3 grams per 1000 litres in the water within the city area is maintained.

WATER WELLS.

Neither of the two main aqueduct companies operate wells, but a number exist in the AGRO ROMANO area which can be operated by electric power. The general use of these, however, is not necessary, sufficient water being supplied by ACQUA and MARCIA.

On the whole: all wells are deep, water level being approximately 100' below ground level.

Investigation apropos all wells will be made and information ascertained will be submitted in future reports on the water situation to follow.

H Eberhardt
Col AC

Declassified E.O. 12356 Section 3.3/NND No. 785019

Eleniano	1000 "
Volturno	1000 "
Castro Pretorio	1000 "
Gianicolo	1432 "
Villa Umberto	500 "
Medici	600 "

No reservoirs existed in the MARCIA system but since the interconnection with ACEA use is made of each of the above reservoirs by both systems.

CHLORINATION.

All water is chlorinated en route to Rome. A minimum of 0,3 grams per 1000 litres in the water within the city area is maintained.

WATER WELLS.

Neither of the two main aqueduct companies operate wells, but a number exist in the AGRO ROMANO area which can be operated by electric power. The general use of these, however, is not necessary, sufficient water being supplied by ACEA and MARCIA.

On the whole: all wells are deep, water level being approximately 100' below ground level.

Investigation apropos all wells will be made and information ascertained will be submitted in future reports on the water situation to follow.

H Glorieux
Lt Col

C.R.E. 59 Area

Copy to
Commander 59 Area
CE. A.A.I.
CE No 3 Dist.
CE Rome Area Command 2 copies
CE F.U.C. A.C.C. 2 copies

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Capt. R
ACC
Comments Please

22

Headquarters N°2 District
Public Works & Utilities Sub-Comm
Office A.C.C.
Ref.PW&U/LO/13

24 March 1944

Subject: Rome Water Works Publications

To : Lt.Col.Rhodes
A.C.C. PW&U Sc.

1. Reference your letter A.C.C. /063/PW&U dated 8 March 44.

2. I have seen Ing.Celentano Chief Engineer of Acquedotto Pugliese regarding the publications you asked for.

3. He regrets that he has not the publications on the Acquedotto or water works of Rome.

Major W.Knight
Public Works & Utilities Sub-Comm.
Officer at N°2 District

2743

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21

Ger/mc

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub.Commission
APO 394

8 March 1944

ACC/063/PWU

Subject: Rome Water Works Publications

To : Major Knight

Will you please call on Acquedotto Pugliese, Bari and if possible, obtain the study on Rome Acqueducts by Ing.Cortese, and any other publication on the Rome Water Works.

If you will send these publications to this office we will return them quickly as possible.

G.E. Rhodes
Lt.Col.R.E.

Declassified E.O. 12356 Section 3.3/NND No. 785019

20

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

GER/mc

8 March. 1944

ACC/063/PWU

Subject: Rome Water Works Publications.

To : Major W. Knight.

Will you please call on Acquedotto Pugliese, Bari and, if possible, obtain the study on Rome Aqueducts by Ing. Cortese and any other publication on the Rome Water Works.

If you will send these publications to this office we will return them as quickly as possible.

GER

G.E. RHODES,
Lt.Col. R.E.

Declassified E.O. 12356 Section 3.3/NND No. 785019

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

GER/ew
19

Memo.

23 Feb 44

Subject : City of Rome.

To : Genio Civile, Museo Nazionale Via Feria.

1. Reference the meeting held here on Monday 21 Feb 44, attended by your representative Sig. Pettince, will you please make every effort to implement the promise made by him -viz:- to forward to this office as soon as possible all available information in your possession concerning the principal public services of the City.

2. Apart from information already in your possession, it is suggested that you may be able to get additional or confirmatory date from any Engineers who may now be in or near Naples, and who may have any special knowledge of the subject.

3. Information is wanted with plans or sketches, concerning:-
Gas.
Electricity.
Drainage and Sewage Disposal.
Refuse Disposal, and similar matters.
The plan, or plans, should illustrate the descriptive matter and should show the location of power stations, transformers stations, water or sewage pumping-stations, and principal sewers and their direction of flow -- so far as possible.

4. We should welcome any further information on similar lines, from time to time.

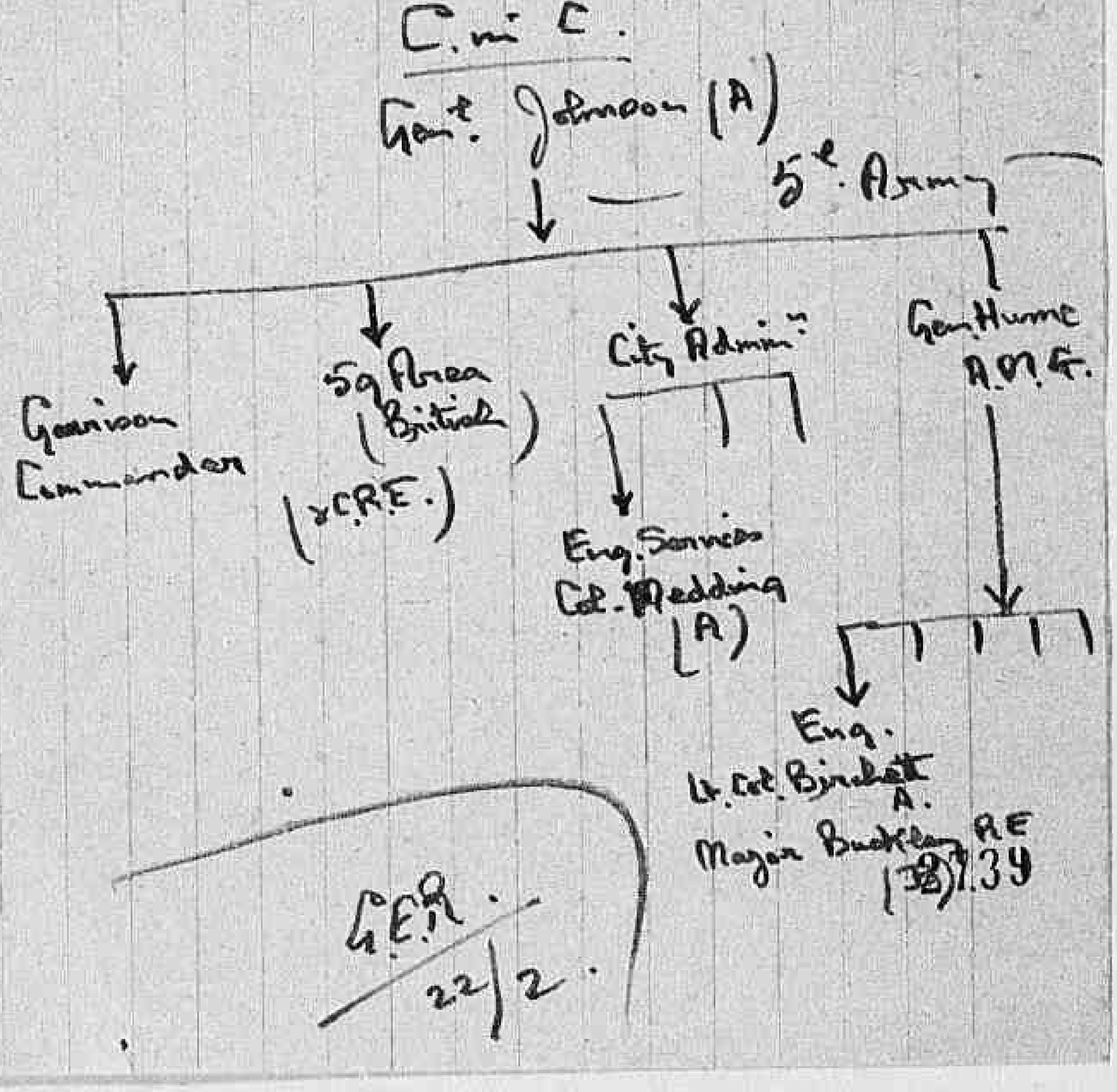
Given to Mr Tizzano personally 24/2/44.

L.A. JERVIS
Lt. Col. C.E.
Director.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Rome City

Probable Organisation.



GER.
22/2.

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CSR/ew

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

29 Feb 44

ASC/063/PWU

To : 1. Chief Engineer, 5th Army (Forward Echelon) APO 464.
2. Col. Hedding, Engineering Services, City Admin. Section APO 464.
3. CRE, 59 Area H.Q. Portici, Nr. Naples.
4. Lt. Col. Birchett (c/o Region IV.) A.M.G. 5 Army.

Memo.

1. I attach, herewith, a statement concerning the meeting held here on 21 Feb 44.

2. Also a copy of certain information supplied by the Genio Civile concerning the Virgine Aqueduct, Rome.

3. Any additional information about Rome's public services will be sent to Col. Hedding, e.g. concerning main drainage, pumping stations, gas, etc.

L.A.JENNY.
Lt. Col. C/E.
Director.

2738

B.16

Director.

2nd.Meeting } ROME WATER.
21 Feby. 44. } (see note on previous one), ~~p.11 in this file).~~

Present:- Col.H.L.Medding CE, USA, (Eng.Services, under City Admin.Branch, ROME.)
Lt Col.A.E.Cockerton RE, probably to be CRE (Brit) in Rome. 59Area)
Capt.E.R.Babb RE, Elec.and Mech.Officer, 59 Area.
Capt.L.W.Trager rep.P.H.Sub Commn ACC
Maj.Gallegos 5 Army HQ (Caserta)
Maj.Buckley AMG.5 Army(rep.Lt.Col. Birchett)
Sig.Pettineo Genio Civile
Lt Col Laboon PW,and U, ACC
" " Rhodes " " "

1. Minutes of 1st.meeting were read, and agreed.
Materials etc suggested by Gen.Civ.have been examined and found to be generally right, but (if anything) less than some of the above Officers had themselves planned.

2. Sig.Pettineo said that the Marcia water is owned by a private Co. under a concession, since 1865. Had no information about the control of the other accueducts.
3. He promised to get informstion, urgently wanted by Col.Medding and Lt Col.Cockerton about Rome's drainage and sewerage system, and whether gravitational or pumping etc. Also to send a plan.
(We will send on this, when received.)
4. Col.Medding raised the matter of actual technical control of the the two principal AMG officers (Birchett and Buckley) in active operstions during the occupation of the City. I said they must, obviously, be wholly under the control of 5th.Army, and Gen. Johnson(who will now be the General Officer Commanding; American).
For weeks, possibly, we could exercise no effective cnntrol i.e. as ACC.
5. Following full discussion it was agreed, by all concerned, that the further planning of remedial measures (damages by enemy to water system and accueducts) had better be left wholly to the following :-
(a) Chief Engineer, 5th Army (Col.Bowman)
Forward Echelon, APO 464
(b) Col.Medding, Engineering Services, Rome City
(address now, City Admin.Section,

15b
I think we should send a copy of this to the officers in para 5 in view of its importance. 5ER.

2 A copy of this to go.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(Brit) in Rome. 59Area)

Capt.E.R.Babb RE, Elec.and Mech.Officer, 59 Area.
Capt.L.W.Trager rep.P.H.Sub Commn ACC
Maj.Gallegos 5 Army HQ (Caserta)
Maj.Buckley AMG.5 Army(rep.Lt.Col. Birchett)
Sig.Pettineo Genio Civile
Lt Col Laboon P.W.and D. ACC
" " Rhodes " " "

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(a) Chief Engineer, 5th Army (Col.Bowman)
Forward Echelon, APO 464
(b) Col.Medding, Engineering Services, Rome City
(address now, City Admin.Section, (Royal Palace) APO 464
Caserta)
(c) CRE 59th.Area, British, Rome City
Lt.Col. (now at 59 Area Hq. Portici, Nr.Naples
Cockerton. phone 55190 Naples)
(d) AMG 5 Army, (address c/o Region IV)
Lt Col.Birchett.

2737

ACC to get all addl.information possible, from Gen.Civile or other sources, and send it on to Col.Medding.

The four organisations mentioned now know each other thoroughly, and are working in closest touch with each other.

6. In the initial stages, therefore, this Sub-Commn. will not take further active steps to [illegible] except to act on (3) above, & concerning any other of Rome's public services; or assist in any other way.

G. E. Rhodes.
Lt Col. R.E.
21.2.44.

I think we should send a copy of this to the officers in para 5 in view of its importance. GER.

2) A copy of this also to [illegible].

Declassified E.O. 12356 Section 3.3/NND No. 785019

BOARD OF PUBLIC WORKS

SUPERIOR INSPECTORSHIP OF CIVIL ENGINEERING IN NAPLES

A

Handed in Meeting 21/2 By Sig. [illegible]

21/2

REPORT ON THE VERGIN AQUEDUCT IN ROME FOR THE SUB-COMMISSION PUBLIC WORKS OF THE ALLIED COMMISSION OF CONTROL

A water very appreciated for itd freshness and above all for its lightness.-

The old aqueduct is formed by a mural canal with free water level, about 19 Km. long, almost all in the underground between the sources which overflow near Salone Station (Roma-Sulmona Railway) at 25 m. on the sea-level, and in Rome it overflows at 21,75m. sea-level, at the feet of Pincio(S. Sebastianello street, by Piazza di Spagna), such a low level that it allows only the distribution of water to the ground-floors of the buildings in the low part of the town.

By Villa Umberto about 150 litres a I" had been derived from it, they after a mechanical lifting up to 42 m. could be distributed; the other discharge of the Aqueduct, about 700 litres a I" was utilized for about 400 l. by grantee-users andfor the difference of 300 litres by fountainsand other purposes.-

The new Aqueduct by pressure, carries the best springs to the city for drinkables usages, for a dischharge of 640 litres a I" and it comprises:

1) - a lifting - station near the sources;
2) - a double conveyance piping in cast- iron with internal diameter of 600 m/m, about 500 m. long; from the vacuum tanks to
3) - a piezometrical tower 50 m. high on a field at 47m. on the sea level, and ~~andit~~ is formed by a n armoured concrete pipe with a diameter varying from 4 to 5 m. upwards, and with a height of 45 metres, and by an external concentric pipe, it too; in armoured concrete; so that between the one and the other there is a protective interval of a metre, in which an admittance stair-

Declassified E.O. 12356 Section 3.3/NND No. 785019

A water very appreciated for itá freshness and above all for its lightness.-

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The new Aqueduct by pressure, carries the best springs to the city for drinkables usages, for a dishharge of 640 litres a I" and it comprises:

1) - a lifting - station near the sources;

2) - a double conveyance piping in cast- iron with internal diameter of 600 m/m, about 500 m. long; from the vacuum tanks to

3) - a piezometrical tower 50 m. high on a field at 47m. on the sea level, and it is formed by a n armoured concrete pipe with a diameter varying from 4 to 5 m.upwards, and with a height of 45 metres, and by an external concentric pipe, it too; in armoured concrete; so that between the one and the other there is a protective interval of a metre, in which an admittance staircase has been built which goes to the top of the tower.-

4) - a cast ironed adducing piping with an internal diameter of I metre, 13 Km long from the above mentioned tower to

5) - a armoured concrete resevoir, half buried into the ground, with a practicable interval, of the volume of about 2.000 mc., situated near Porta Pinciana inside Villa Umberto with a "sfioratore" atabout 65 m.-

6) - two bestowal piping, inserting the one into the present low system near Piazza di Spagna and the other into the high system in Via Maria Luisa

2726

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di Savoia near the place of the old lifting workshop.-

7)- two piezometres in the last section of the adducing pipes, one of them by Via Sapri and the other by Porta Pinciana -

8) - several important constructive works, among others those for the crossings of Roma= Sulmona Railway at "Bocca di Leone" and of the Roma = Firenze Railway near Roma Tiburtina Station -

The first of these crossings was realized by a cement-ironed underground passage, underneath it there is aarmoured concrete pipe of 3m. which contains the piping; and the second by a overbridge, formed with a metallic bridge with 5 lights (three of them are in the centre and are of 11.60 m. and two at the sides of 10 m.) which carries the piping and in correspondence is in bolt steeled plate -

9) - other constructive works, among which the most important are:

the gallery (m.210 long) under the hill of Pinciofor the junction of the new aqueduct to the old one from Porta Pinciana to Salita S. Sebastianello;

the gallery (92 m. long) under Piazza Fiume;

the gakkery (200 m. long) of protection to the new laboratory of Sanity at Viale Regina Margherita; the tufo-quarries crossing at Casal Bruciato; some armoured concrete bridge, as that of light of 10 m. over the Centocelle ditch, that of light at 6.50 m. over the Tor.Angela ditch and that of 7.80 m. over the Tor Tre Teste ditch.

10) - Some safety devices complete the aqueduct, besides normal discharges and air-holes-

The lifting station is constituted by 6 groups of electric-pumps two of which are spare pumps, at its sources.

The electric energy, for the 1000 HP which are needful, is taken from the Station of sorting of ~~lunghezza~~ Lunghezza and it is carried with a double line 4 km. long, to the Central station, where the tension is lowered from 8600 to 220 volts.

Declassified E.O. 12356 Section 3.3/NND No. 785019

passage, underneath it there is aarmoured concrete pipe of 3m. which contains the piping; and the second by a overbridge, formed with a metallic bridge with 5 lights (three of them are in the centre and are of 11.60 m. and two at the sides of 10 m.) which carries the piping and in correspondence is in bolt steeled plate -

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the gallery (m.210 long) under the hill of Pinciofor the junction of the new aqueduct to the old one from Porta Pinciana to Salita S. Sebastianello;
the gallery (92 m. long) under Piazza Fiume;
the gakkery (200 m. long) of protection to the new laboratory of Sanity at Viale Regina Margherita; the tufo-quarries crossing at Casal Bruciato; some armoured concrete bridge, as that of light of 10 m. over the Centocelle ditch, that of light at 6.50 m. over the Tor.Angela ditch and that of 7.80 m. over the Tor Tre Teste ditch.

10) - Some safety devices complete the aqueduct, besides normal discharges and air-holes-
The lifting station is constituted by 6 groups of electric-pumps two of which are spare pumps, at its sources.
The electric energy, for the 1000 HP which are needful, is taken from the Station of sorting of ~~Tarquinia~~ Tuscania and it is carried with a double line 4 km. long, to the Central station, where the tension is lowered from 8600 to 220 volts.
The deflowing of sources in case of stopping of electric pumps is assured ~~from~~ by a "stramazzo-sfioratore"into the adducing canl, which allows the waters to flow into the ditch of Nona a tributary of Aniene -
In case of flood of Aniene, which by exception, can reach 26 m. exceding the source level which is of 25.20 , a group idrovora turbine enters automatically into action, it can be moved for more than one hour by the water of a special reserve of about 180 mc., which has been built on purpose in the lower part of the piezometrical tower, getting the adducing piping

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start from 65 m; level and not from the bottom -

If the stopping of the energy lasts besides this limit of time, two benzo-pump (one is of reserve) can be brought into action, they are rightly pleced so that they can assure the working of the"idrovora" and they can also be used for the supply the conveyance pipi,g in case of short interruption at the working of the lifting establishment, so that the empting of the Aqueduct can be avoided.-

Napoli, 21 FEB. 1944

THE CHARGED ENGINEER OF CIVIL ENGINEERING

Declassified E.O. 12356 Section 3.3/NND No. 785019

MINISTERO DEI LAVORI PUBBLICI
ISPETTORATO SUPERIORE DEL GENIO CIVILE CON SEDE IN
N A P O L I

13

RELAZIONE SULL'ACQUEDOTTO VERGINE DI ROMA ALLA SOTTO COMMISSIONE LAVORI PUBBLICI DELLA COMMISSIONE DI CONTROLLO ALLEATO.

Acqua apprezzata molto per la freschezza e sopratutto per la leggerezza.

Il vecchio acquedotto è costituito da un canale murario a pelo libero dello sviluppo di circa Km.19, quasi tutto in sotterraneo, tra le sorgenti, sgorganti presso la Stazione di Salonè (ferrovia Roma-Sulmona) a quota di m.25 sul mare, ed il punto di recapito a Roma, a quota m.21,75 ai piedi del Pincio (salita S.Sebastianello, presso Piazza di Spagna), quota talmente bassa da consentire la distribuzione dell'acqua solo ai pianterreni delle case della città bassa.

Presso Villa Umberto erano derivati circa litri 150 al 1", che, previo sollevamento meccanico sino alla quota di m.42, venivano distribuiti; il resto della portata dell'acquedotto di circa litri 700 al 1" veniva utilizzata da utenti concessionari per circa litri 400 e da fontane ed altri usi per la differenza di circa litri 300 -

Il nuovo acquedotto a pressione convoglia in città ad uso potabile le polle migliori per una portata di litri 640 al 1" e comprende:

1) - una centrale di sollevamento presso le sorgenti;

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Il nuovo acquedotto a pressione convoglia in città ad uso potabile le polle migliori per una portata di litri 640 al 1" e comprende:

1) - una centrale di sollevamento presso le sorgenti;

2) - una duplice condotta di mandata in ghisa del diametro interno di m/m 600, dello sviluppo di circa m.500= dalle vasche di aspirazione ad

3) - una torre piezometrica, alta m. 50 sulla campagna a quota m.47, e costituita da un tubo in cemento armato di diametro variabile da m.4= a m.5= dal basso in alto e di altezza m.45 e da un contro-tubo esterno, anch'esso in cemento armato, in modo da aversi tra l'uno e l'altro una intercapedine protetti

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va di un metro, nella quale è ricavata una scala di acces= so alla,sommità della torre -

4) - una condotta adduttrice in ghisa del diametro inter= no di 1 metro, dello sviluppo di circa Km.13 dalla torre pre detta fino ad

5) - un serbatoio in cemento armato, seminterrato, con in tercapedine praticabile, della capacità di mc.2.000= circa, sito presso Porta Pinciana dentro la Villa Umberto, con sfio ratore a quota di circa m.65=

6) - due condutture di erogazione, facenti capo l'una al= la rete attuale bassa nei pressi di Piazza di Spagna e l'al= tra alla rete alta in via Maria Luisa di Savoia presso il si to della vecchia officina di sollevamento -

7) - due piezometri nell'ultimo tratto della condotta ad= duttrice, l'uno presso via Sapri e l'altro presso Porta Pin= ciana -

8) - varie importanti opere d'arte,fra cui quelle per gli attraversamenti della ferrovia Roma-Sulmona in località "Boc ca di Lecne" e della ferrovia Roma-Firenze presso la Stazio= ne di Roma Tiburtina -

Il primo di detti attraversamenti è realizzato con sotto= passaggio in ferro-cemento, al disotto del quale corre un tu bo in cemento-armato del diametro di m.3, contenente la con= duttura; ed il secondo con soprapassaggio, costituito da una passarella metallica a 5 luci (tre centrali da m.11,60 e due laterali da m.10) portante la tubazione, che in corrisponden za è in lamiera di acciaio bullonata -

9) - altre opere d'arte, fra cui le più importanti:

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5) - un serbatoio in cemento armato, seminterrato, con intercapedine praticabile, della capacità di mc.2.000= circa, sito presso Porta Pinciana dentro la Villa Umberto, con sfioratore a quota di circa m.65=

6) - due condutture di erogazione, facenti capo l'una alla rete attuale bassa nei pressi di Piazza di Spagna e l'altra alla rete alta in via Maria Luisa di Savoia presso il sito della vecchia officina di sollevamento -

7) - due piezometri nell'ultimo tratto della condotta adduttrice, l'uno presso via Sapri e l'altro presso Porta Pinciana -

8) - varie importanti opere d'arte,fra cui quelle per gli attraversamenti della ferrovia Roma-Sulmona in località "Bocca di Leone" e della ferrovia Roma-Firenze presso la Stazione di Roma Tiburtina -

Il primo di detti attraversamenti è realizzato con sottopassaggio in ferro-cemento, al disotto del quale corre un tubo in cemento-armato del diametro di m.3, contenente la conduttura; ed il secondo con soprapassaggio, costituito da una passarella metallica a 5 luci (tre centrali da m.11,60 e due laterali da m.10) portante la tubazione, che in corrispondenza è in lamiera di acciaio bullonata -

9) - altre opere d'arte, fra cui le più importanti:
la galleria (lunghezza m.210) sotto la collina del Pincio per l'allacciamento del nuovo acquedotto al vecchio dalla Porta Pinciana alla Salita S.Sebastianello;
la galleria (lunghezza m.92) sotto Piazza Fiume;
la galleria (m.200) di protezione del nuovo laboratorio di Sanità al Viale Regina Margherita; l'attraversamento cave di tufo a Casal Bruciato; alcuni ponti in cemento armato, fra

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cui quello di luce m.10 sul fosso di Centocelle, quello di luce m.6,50 sul fosso di Tor.Angela e quello di m.7,80 sul fosso di Tor Tre Teste.

10) Completano l'acquedotto alcuni dispositivi di sicurezza, oltre ai normali scarichi e sfiati -

La centrale di sollevamento alle sorgenti consta di 6 gruppi di elettro-pompe, di cui 2 di riserva.

L'energia elettrica, per i 1000 HP occorrenti, è derivata presso la Stazione di smistamento di Lunghezza e portata con doppia linea, lunga Km.4, in centrale, dove la tensione viene abbassata da 8600 a 220 volts -

Il deflusso delle sorgenti, in caso di arresto delle elettro-pompe, è assicurato da uno stramazzo - sfioratore nel canale adduttore, che permette di scaricare le acque nel fosso di Nona affluente dell'Aniene -

In caso di piena dell'Aniene, che eccezionalmente può raggiungere la quota di m.26 superando quella di m.25,20 della sorgente, entra automaticamente in azione un gruppo turbina-idrovora, che può essere azionato per oltre un'ora dall'acqua di apposita riserva di circa 180 mc., costituita appositamente nella parte inferiore della torre piezometrica, facendo partire la condotta adduttrice non dal fondo ma a quota di m.65 -

Perdurando oltre tale limite di tempo l'interruzione della corrente, si possono attivare due gruppi benzo-pompa (uno di riserva), appositamente installati per assicurare il funzionamento della idrovora ed utilizzabili anche per l'alimentazione della condotta di mandata in caso di brevi sospensioni del funzio-

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Napoli, 21 FEB. 1944

L'INGEGNERE DEL GENIO CIVILE
INCARICATO
V. Vecchio

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Rec/

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11

Subject: City of Rome; possible damage by enemy to waterworks system, and consideration of methods and materials for repairs; temporary or semi-permanant.

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1. A preliminary meeting was held at P.W. & U. (S.C.) offices on Monday 14 Feb 44 to consider the above matter. Attended by the following officers:-

Lt. Col. Birchett.	(A) AMG 5th Army.
Maj. Buckley. RE	(B) " "
Maj. Gallegos.	(A) 5th Army H.Q. Caserta.
Signore Pettineo.	Genio Civile offices (Hydraulic Engineer)
Lt. Col. Laboon.	(A) (P.W. & U (S.C.)
Lt. Col. Rhodes. RE	(B). "

2. It was explained that General Johnson Hewes may be the American General in charge of Rome City. There will be a Garrison Commander under him, a City Administration Branch; there will also be Brig. Gen. Hume, AMG 5th Army. Col. Medding (A) will be on the Engineering side of the City Administration Branch, whilst Lt. Col. Birchett will be on the Engineering side of AMG along with Maj. Buckley RE. The latter officer has a special knowledge of water engineering; and so has Maj. Gallegos of 5th Army H.Q., who deals with water supply problems particularly for the 5th Army. Additionally, in Rome City there will be No 59 Area (British) C.R.E. (designate) Lt.Col. A.E.Cockerton RE.

3. The attached plan in duplicate, and report with translations, had been prepared by Sig. Pettineo and formed the basis for discussion. The three 5th Army officers agreed to take away with them for fuller study Sig. Pettineo's report, but did not require a plan as they already have a set of plans.
The following points were brought out during the discussion:-

(a) Population of Rome is about 1,300,000. It may later even be as high as 2,000,000, including Services and large number of refugees. The four Aqucducts are said to run to full capacity, viz about 0,50 million cubic metres per 24 hrs. On a population of 1 1/2 millions this would give a per capita consumption of about 73 gall per day (British Gals). A very high figure on European standards, but this includes large volumes of water supplied to fountains. Agreed that City may have to face a cutting down of supplies to 10 gals a day, temporarily; or even less.

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Signore Pettineo. Genio Civile offices (Hydraulic Engineer)
Lt. Col. Laboon. (A) (P.W. & U (S.C.)
Lt. Col. Rhodes. RE (B). "

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(b) One very large source the Acqua Marcia delivering 360,000 out of the 500,000 cubic metres daily quantity. The Marcia water is of good quality, flows under ample pressure, and supplies the Vatican City as well as the other principal parts of the City.

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(c) City has no service reservoirs, practically speaking, and hence has not even a 24 hr. supply on hand, should the Aqucducts be wrecked.

(d) Discussions concerning potability of Virgine Aqucduct supply coming from much nearer City, as an auxiliary in case Marcia supply completely interrupted. The two other small sources said to be used almost wholly for public fountains. All consumers receive water through meters and pay for quantity consumed, plus an annual meter rental.
Ownership of Water Undertaking seemed to be doubtful, but

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Sig. Pettineo will make further enquiries.

(e) Agreed that, generally, aqueducts are particularly vulnerable; specially the principal Marcia one coming in (from about 40 miles) through Tivoli on the east. This has numerous syphons flowing under pressure, with heads up to 300 ft.

(f) Quantities of stores and materials required for repairs (cement, timber, steel plates for pipes, welding equipment etc) discussed, as set out by Sig. Pettineo.

(g) Maj. Buckley said that he had spent a considerable time recently on studying the matter, along with Lt. Col. Birchett. He appeared to know more about it than Sig. Pettineo.

4. A second meeting will be held on Monday, 21 Feb 44, after Lt. Col. Birchett and Maj's Buckley and Callegos have had an opportunity to go into Sig. Pettineo's suggestions concerning stores and materials. Agreed by all concerned, further, that whole matter is of major importance and urgency, since if Rome should be actually without water for more than a few hours the City will be paralysed; and if it extended to more than a day or two City might be rendered almost uninhabitable.

5. I consider that the question, though in the main an Engineering one, is also closely bound up with Public Health, and that at our next meeting it would be an advantage to have a representative from that Sub-Comm present. In any event, as the report shows, and as was agreed at the meeting, we may be faced with a considerable programme of sterilization of low-quality water, by chlorination or otherwise.

G.E. Rhodes.
Lt. Col. R.E.
16. 2. 44.

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G.E. Rhodes.
Lt. Col. R.E.
16. 2. 44.

(x) I have already mentioned the matter to P.H. Sub-Comm.

G.E.R.

A new file is being started — on this subject

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(translation) Lt. Col. Laboon. Translation herewith GEN 7.

Reports on the Rome Aqueducts and on the means necessary to assure the water supply to the city following eventual destructions made by the Germans

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Rome is supplied with water by 4 aqueducts; precisely : Acqua Vergine Aqueduct with 64.00 cubic meters capacity every 24 hours; Acqua Felice -22.00 cubic meters; Acqua Paola -60,000 cubic meters ;Acqua Pia- Marcia - 350 MB. It is expected that some of these aqueducts will be seriously damaged when the Germans will ~~withdraw~~ evacuate Rome.

The worse damage would be done if the supply of Acqua Marcia would be cut, as this water system reach all the city districts and offer the best guarantee as far as potability. The other three water systems do not offer the same security as far as potability and in addition in view of their low levels, reach only small sections of the city.

Attached you will find a plan of the Acqua Marcia Aqueduct and its distribution system.

Should the service of Acqua Marcia Aqueduct be interrupted, it will necessary till completion of the necessary repair works , to supply, emergency even with ~~temporary~~ means , the water of the other aqueduts if not damaged . For this purpose it will be advisable to ohave on hand large quantities of purification chemicals. If Chlorine gas is not available, 4o or 50 tons of Calcium or Sodium Hypochlorite

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Acqua Vergine Aqueduct with 54.00 cubic meters capacity every 24 hours; Acqua Felice -22.00 cubic meters; Acqua Paola -60,000 cubic meters ;Acqua Pia- Marcia - 350 M3.It is expected that some of these aqueducts will be seriously damaged when the Germans will ~~xxxxxx~~ evacuate Rome.

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Acqua Marcia Aq. consists of brick channels, of batteries of ~~xxxxxx~~ high pressure syphons, in cast iron and in steel , ~~xxxx~~ and many masonry structures. Therefore to be able to make quick repairs it will be necessary to have on hand the various materials ,

./.

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2) xkxx(pine boards, Fir beams, bridge planks 4-5 cm, bridge planks 1½ - 2 cm, round support pilings, form lumber) 6

that are mentioned later on, as their present stocks will be found destroyed and greatly deplated.

To reconstruct the canal-bridges it will be necessary to have on hand large quantities of timber, at least 400 cubic meters of lumber for this type of works. About 10 Quintals of nails of various sizes will be needed; also about 2000 meters of iron stripe, 2 point staples, about 500 square meters of zinc sheets to line the timber boxes, scaffolds, windlasses, ropes of various sizes and lenghts in addition to complete sets of tools for carpenters.

Also for the eventual reconstructions of brick channels it will be necessary to have on hand about 200 M3 of timber for structures and gravel and sand and several tenths of thousands of hard bricks and at least 2000 quintals of regular cement. It would also be advisable to have ready also about 200 quintals of super cement. Naturally it will be necessary to have wheel-barrels, shovels, picks and masons tools.

To repair promptly any damaged syphon, (which have variable diameters, from 750 m/m to 450 m/m and pressures up to 20 atmospheres) it will be necessary to have ready steel pipes should be necessary to install same. While it is practically impossible now to find cast iron pipes of such diametre and able to stand such high pressures, it should not be difficult to obtain steel sheets

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It would be advisable therefore to prepare about 3000

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square meters of such steel sheets, enough to ~~xxxid~~ make at least 200 meters of pipes and joints of each of the diameters of the syphons (750- 700 - 650 -600- 450). Also it will be necessary to have ready about IO tons of lead , wool (Oakum) and ~~xxxxxx~~ bands for ~~corked~~ caulked joints and if this materail should not be available, lead in cakes for welded joints and IO quintals of ropes ~~xx~~ tar impregnated. It will necessary to have also the tools necessary for such coupling operations.

Nothwistanding that the repair of the pipes of the internal distribution system ~~is~~ will not be so urgent as that of the external system, it will also be necessary to prepare materals for constructing steel pipes in various sizes from 400 to 50 mi limeters. Also for this purpose it would be ~~enough~~ to have on hand about 2000 sq.met 4 to 5 mm thick steel sheetsenough to prepare about 4 Kilometers of such pipes that in uneven ground , are particularly realiable .

Naples Jan 3I,43

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UFFICIO SUPERIORE DEL GENIO CIVILE
CON SEDE IN NAPOLI

Ing. Pettinato 4

RELAZIONE SUGLI ACQUEDOTTI DI ROMA E SUI MEZZI ED AP-
PROVVIGIONAMENTI RITENUTI INDISPENSABILI PER ASSICU-
RARE IL SERVIZIO IDRICO A SEGUITO DELLE DISTRUZIONI
DA PARTE DEI TEDESCHI IN RITIRATA -

La città di Roma è servita da quattro Acquedotti e precisamente da quelli dell'Acqua Vergine, portata circa 64.000 mc. nelle 24 ore; dell'Acqua Felice, portata 22.000 mc.; dell'Acqua Paola, portata 60.000 mc.; ed infine dell'Acqua Pia - Marcia, portata 350.000 mc.

Con la ritirata dei tedeschi, si avranno certamente distruzioni, la cui entità potrebbe essere molto grave.

Il danno maggiore si avrebbe con l'interruzione del flusso dell'Acqua Marcia, acqua che viene attualmente distribuita in tutti i quartieri cittadini e che presenta le maggiori garanzie dal lato della potabilità, mentre le acque degli altri acquedotti non hanno gli stessi requisiti igienici e, data le quote di origine relativamente basse, vengono distribuite in zone non molto estese.

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L'insieme dell'Acquedotto dell'Acqua Vergine e la

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DA PARTE DEI TEDESCHI IN RITIRATA -

La città di Roma è servita da quattro Acquedotti e precisamente da quelli dell'Acqua Vergine, portata circa 64.000 mc. nelle 24 ore; dell'Acqua Felice, portata 22.000 mc.; dell'Acqua Paola, portata 60.000 mc.; ed infine dell'Acqua Fia - Marcia, portata 350.000 mc.

Con la ritirata dei tedeschi, si avranno certamente distruzioni, la cui entità potrebbe essere molto grave.

Il danno maggiore si avrebbe con l'interruzione del flusso dell'Acqua Marcia, acqua che viene attualmente distribuita in tutti i quartieri cittadini e che presenta le maggiori garanzie dal lato della potabilità, mentre le acque degli altri acquedotti non hanno gli stessi requisiti igienici e, date le quote di origine relativamente basse, vengono distribuite in zone non molto estese.

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L'insieme dell'Acquedotto dell'Acqua Marcia e la sua consistenza risultano schematicamente dall'unito allegato.

In caso d'interruzione dell'Acqua Marcia finchè non si fosse proceduto alle più urgenti riparazioni

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di questo acquedotto, si dovrebbero distribuire, anche con mezzi di fortuna, le acque degli altri acquedotti, nella favorevole ipotesi che questi fossero lasciati efficienti: da qui la necessità di poter disporre di un notevole quantitativo di sostanze sterilizzanti. E' consigliabile, a questo scopo, provvedere, in aggiunta di Cloro gassoso, 40 o 50 tonnellate di Ipoclorito di calcio o di sodio, sostanze che possono essere facilmente immesse nell'acqua nelle dosi volte a volta necessarie.

L'Acquedotto dell'Acqua Marcia è costituito da canali in muratura, da batterie di sifoni in ghisa ad alta pressione ed in acciaio, nonchè da varie opere d'arte. Per riparare, quindi, con rapidità i danneggiamenti, occorre predisporre vari materiali,quelli qui di seguito vengono sommariamente indicati tenendo presente che le acque e l'attraversature esistenti saranno certamente rese inutilizzabili dai sabotaggi tedeschi.

Per il ripristino di ponti-canali è indispensabile

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sporre di un notevole quantitativo di sostanze steri lizzanti. E' consigliabile, a questo scopo, provvede re, in mancanza di Cloro gassoso, 40 o 50 tonnellate di Ipoclorito di calcio e di sodio, sostanze che pos sono essere facilmente immesse nell'acqua nelle dos volte a volte necessarie.

L'Acquedotto dell'Acqua Marcia è costituito da canali in muratura, da batterie di sifoni in ghisa ad alta pressione ed in acciaio, nonchè da varie ope re d'arte. Per riparare, quindi, con rapidità i dan neggiamenti, occorre prefinporre vari materiali,que li qui di seguito vengono sommariamente indicati te nendo presente che le scorte e l'attrezzatura esisten ti saranno certamente state inutilizzabili dai sabotag gi tedeschi.

Per il ripristino di ponti-canali è indispensabi le poter disporre di notevoli quantitativi di legnam me, almeno 400 mc. fra bordonali di pino, travi di abe te, tavole da ponte e mezzanelle, sostacchini, murali. Occorrono inoltre una diecina di quintali di chiodi assortiti, circa 2000 metri di bandelle di ferro, staf

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fe e 2 punte pure di ferro,circa 500= mq. di lamierino di zinco per rivestimento delle casse in legname,scale, argani,paranchi,funi di vari diametri e lunghezze,nonchè attrezzature complete per falegnami e carpentieri.

Anche per l'eventuale rifacimento di tratti del canale in muratura occorre legname da armature,200 metri cubi almeno,e inoltre sabbia e ghiaia,alcune diecine di migliaia di mattoni forti,e almeno 2000 quintali di cemento normale: sarebbe prudente avere anche circa 200 q/li di cemento fuso. S' avvia aggiungere pale,picconi, carriole,calderelle e attrezzature da muratore.

Per le ripercussioni urgenti dei sifoni, che hanno diametri variabili da 750 m/m a 450 m/m e pressioni che raggiungono le 20 atmosfere di esercizio,è opportuno predisporre i materiali necessari per approntare tubazioni di acciaio, subito che occorressero.

Mentre infatti è pressochè impossibile trovare nello attuale momento tubi di ghisa di quei diametri ed atti a resistere a pressioni così elevate,non dev'essere difficile provvedere lamiere di acciaio di 8 - 10 m/m di spes

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chè attrezzature complete per falegnami e carpentieri.

Anche per l'eventuale rifacimento di tratti del cemale in muratura occorre legname da armature, 300 metri cubi almeno, e inoltre sabbia e ghiaia, alcune diecine di migliaia di mattoni forti, e almeno 2000 quintali di cemento normale: sarebbe prudente avere anche circa 200 q/li di cemento fuso. E' ovvio aggiungere pale, picconi, carriole, calderelle e attrezzature da muratore.

Per le ripartenze urgenti dai silos, che hanno diametri variabili da 750 m/m a 450 m/m e pressioni che raggiungono le 20 atmosfere di esercizio, è opportuno predisporre i materiali necessari per approntare tubazioni di esercizio, subito che occorressero.

Sembra infatti è pressochè impossibile trovare nelle attuale emergenza tubi di ghisa di quei diametri ed atti a resistere a pressioni così elevate, non dev'essere difficile provvedere lamiere di acciaio di 8 - 10 m/m di spessore che, opportunamente saldate con l'elettricità o con l'ossigeno e acetilene, possono formare tubi e gomiti 2727
delle lunghezze e dei diametri più appropriati. A questo proposito si fa rilevare che le varie unità tecniche delle Truppe Alleate sono dotate di saldatrici elettriche alimentate da gruppi elettrogeni - I tubi di acciaio presentano il vantaggio di non essere fragili come quelli

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di ghisa e di essere di questi notevolmente più leggieri e perciò molto più facilmente trasportabili, cosa questa da tenere in considerazione dato le odierne condizioni delle strade. Richiedono inoltre minori quantitativi di materiali per le giunzioni.

Sarebbe perciò cosa ben fatta preparare una scorta di dette lamiere, circa 3000 mq., sufficiente per la costruzione di almeno 200 metri di tubi, con i relativi manicotti, per ciascuno dei diametri dei sifoni (750 - 700 - 650 - 600 - 450). Naturalmente bisognerà anche provvedere una 10.na di Tonn/te di piombo, in lana e in nastro per fare possibilmente i giunti a freddo, e, in mancanza, in pani per giunzioni a caldo, e 10 Q/li di corda catramata. Indispensabile anche la attrezzature completa per i posatori.

Per quanto il ripristino di parti danneggiate delle rete di distribuzione interna abbia una importanza secondaria in confronto al sollecito rifacimento delle tubazioni dell'Acquedotto esterno, si ravvisa necessario predisporre i materiali per la costruzione di tubi e manicotti di acciaio di diametri variabili fra i 400 e i 50 m/m. All'uopo basteranno lamiere di acciaio di 4 o 5 m/m di spessore; la scorta di tali lamiere potrebbe essere di circa 2000

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Napoli, li 31 gennaio 1944

L'INGEGNERE DIRIGENTE
DELL'UFFICIO DEL GENIO CIVILE DI NAPOLI
SERVIZIO GENERALI

Visto: IL CAPO DELL'ISPETTORATO

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Visit of
Ing. Tattinco
Genio Civile
7.11/2/44.

SUPERIOR INSPECTORSHIP OF THE CIVIL ENGINEERING

OFFICE OF NAPLES

RELATION ON THE ROMAN AQUEDUCTS AND ON THE WORKS AND TRENCHES WHICH ARE THOUGHT NEEDFUL TO ASSURE THE HYDRAULIC SERVICE AFTER THE DESTRUCTIONS MADE BY THE GERMANS I. RETREAT.-

ROME is furnished with four Aqueducts and exactly that of Acqua Vergine: discharge about 64.000mc. during 24 hours; that of Acqua Felice: discharge 22.000mc.; that of Acqua Paola: discharge 60.000mc.; and at last Acqua Pia-Marcia: discharge 360.000 mc.

The Germans retreating will cause certainly destructions, the entity of which could be very serious.-

The greatest damage would be the interruption of the flowing of Acqua Marcia; this water is at present, distributed to all the city-quarters, and it presents the greatest security for the drinkableness, while the waters of the other aqueducts have not the same hygienic qualities, and in consideration of their relatively low shares, they are distributed to less enlarged zones.-

64,000
22 000
60 000
360 000
506 000
Say 500 000
= 500.000 x 220
= 110 000 000 in Gallons Day.
∴ If lost ½ millions
110,000,000
1,500,000
= 73 gallons 21 day.
(Very high)

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RELATION ON THE ROMAN AQUEDUCTS AND ON THE WORKS AND PROJECTS WHICH ARE THOUGHT NECESSARY TO ASSURE THE REGULAR SERVICE AFTER THE DESTRUCTIONS MADE BY THE GERMANS I RETREAT.-

ROME is furnished with four Aqueducts and exactly that of Acqua Vergine: discharge about 64.000mc. during 24 hours; that of Acqua Felice: discharge 22.000mc.; that of Acqua Paola: discharge 50.000mc.; and at last Acqua Pia-Marcia: discharge 360.000 mc.

The Germans retreating will cause certainly destructions, the entity of which could be very serious.-

The greatest damage would be the interruption of the flowing of Acqua Marcia; this water is at present, distributed to all the city-quarters, and it presents the greatest security for the drinkableness, while the waters of the other aqueducts have not the same hygienic qualities, and in consideration of their relatively low shares, they are distributed to less enlarged zones.-

The whole of the Aqueduct of Acqua Marcia and its consistency result schematically from the annexed document.-

In the case of the interruption of the Aqueduct of Acqua Marcia, till the first-aid repairs would not be accomplished, it should be necessary to give, by all means, the waters of the other Aqueducts, if these ones had been left in efficiency.-

64,000
22,000
50,000
360,000
206,000
Say 500,000
= 500,000 × 220
= 110,000,000
1½ millions
110,000,000
1,500,000
= 73 lbs. tid
(Very high indeed)
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short bridges, and at least 2,000 quintals of normal cement.

It would be prudent to have also about 200 q. of cast-iron.

It is useless to add shovels, pick-axes, wheelbarrows, asbestos-cement boards, and all the other equipment for masons.-

For the flat-end repairs to the siphons, which have a diameter changing from 750 m/m to 450 m/m, and pressures which reach 6 atmospheres of exercise, it is advisable to arrange in advance the necessary materials to prepare steel-pipes, as soon as they might be necessary.-

In fact, while it is impossible to find at present cast-iron pipes of those diameters, and fit to withstand so elevated pressures, it must not be difficult to have steeled plates of 6-10 m/m of thickness, which opportunely soldered by the electricity or by oxygen and acetylene, can form pipes and clutches of more convenient lengths and diameter. At this aim, we point out that the several technical unities of the Allied troops have electric welderers supplied with electrodes proper.-

The steel pipes present the advantage to be not so brittle

it would be prudent to have also about 2 q. of cast-iron cut.

It is useless to add shovels,pick-axes,wheelbarrows, sledge-hammers, and all the other equipment for masons.-

For the fast-aid repair to the siphons, which have a diameter of 0,40 m, from 7,0 m/m to 450 m/m,and pressures which reach a normal grade of exercise, it is advisable to arrange in advance the necessary materials to prepare steel-pipes,as soon as they might be necessary.-

In fact, while it is impossible to find at present cast iron pipes of those diameters, and fit to withstand so elevated pressures, it must not be difficult to have steeled plates of 4-5 m/m of thickness, which opportunely soldered by the electricity or by oxygen and acetylene, can form pipes and sketches of more convenient lengths and diameter .at this aim, we point out that the several technical unities of the Allied troops have electric welderers supplied with electro-hydrogen.-

The steels pipes present the advantage to be not so brittle as the cast-ironed ones,and they are much lighter than the latters, and in consequence, they can be transported more easily, and this fact has a great influence owing to the actual conditions of the roads.Besides they require an inferior quantity of materials for the joints.-

It would be a very well done work to prepare a stock of the above mentioned plates,about 3.000 pieces which will be sufficient

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[illegible] brooms, and at least 2.000 quintals of normal re ent:

it would be prudent to have also about 2 q. of cast-iron

it is needless to add shovels, pick-axes, wheelbarrows, sledge-

crowbars and all the other equipment for masons.-

For the first-aid repairs to the siphons, which have a diameter

ranging from 700 m/m to 450 m/m, and pressures which reach

the execution of exercise, it is advisable to arrange in

advance the necessary materials to prepare steel-plates, as

soon as they might be necessary.-

As fact, while it is impossible to find at present cast-iron

pipes of these dimensions, and fit to withstand so elevated

pressures, it must not be difficult to have steeled plates of

millimeters of thickness, which opportunely soldered by the electri-

city or by oxygen and acetylene, can form pipes and elbowches

of more convenient lengths and diameter. At this aim, we point

out that the several technical entities of the allied troops

have electric welderers supplied with electrogenic groups.-

The steel pipes present the advantage to be not so brittle

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it would be important to have also about 2 [illegible] q. of electric wire.

It is useless to add shovels, pick-axes, sledgehammers, cast-iron bucket, and all the other equipment for masons.-

For the first-aid repairs to the siphons, which have a diameter changing from 750 m/m to 450 m/m, and pressures which reach 40 atmospheres, it is advisable to arrange in advance the necessary materials to prepare steel-pipes, as soon as they might be necessary.-

In fact, while it is impossible to find at present cast iron pipes of these dimensions, and fit to withstand so elevated pressures, it must not be difficult to have steeled plates of 4-1(c/s of thickness, which oportunely soldered by the electric clip or by oxygen and acetylene, can form pipies and clutches of very convenient lengths and diameter, at this aim, we point out that the several technical unities of the Allied Troops have electric welderers supplied with electro-chis [illegible] co pe.- It would prove prevent the advantage to be not so brittle as the cast-ironed ones, and they are much lighter than the latters, and in consequence, they can be transported more easily, and this fact has a great influence owing to the actual conditions of the roads. Beside they require an inferior quantity of materials for the joints.-

It would be a very well done work to prepare a stock of the above mentioned pieces, about 3, [illegible] which will be sufficient

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for the construction of, at least, 200 metres of pipe with relative clutches, for each diameter of the siphons(750-700 - 650 -600 - 550 - 450 - 400 -). Of course we must provide also for one 10cm zone of apron or banked leader, in order to weld, if possible the joints without preparations(a fresco) or tacking them, in blocks for joints with preparations(a caldo) and 10m. of tarred rope. It is needful also the complete equipment for the posatori.-

Though the restoration of damaged parts of the networ for the internal distribution has a secondary importance, in case of the ready restoration of pipes of the external aqueduct it seems necessary to arrange the millain-materials for steel pipes and clutches of diameters changing from 400 and 300 m.m. In that case, cast-ironed plates with a thickness of 4 or 5 m/m will be sufficient; the stock of these plates could be of about 2 000 sq. which are sufficient to get ready 4 km. of such pipings which present particular qualities of safety on deranged grounds.-

Naples, the 5th of January 1944

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ons of open or banded issues, in order to enable, as possible the joints without preparations(a freddo) or lacking them, in places for joints with preparations(a caldo) and ito.of tarred ropes.It is necessary also the complete equipment for the personnel.-

Though the restoration of damaged parts of the sewer, for the internal distribution has a secondary importance, in view of the ready restoration of pipes of the external aqueduct it seems necessary to arrange the building-materials for steel pipes and cisternes of diameters changing from 400 and 300 m.m in that case, cast-ironed plates with a thickness of 4 or 5 m/m will be sufficient; the stock of those plates could be of about 2000mq.which are sufficient to get ready 4ms.of such pipings which present particular qualities of safety on aerospace grounds.-

Naples, the 4th of January 1944

DIRECTOR GENERAL OF

R.O.S.P. GENERAL SERVICE

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