(1) பக்கங்களின் எண்ணிக்கை 18

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(3) ஆதாரங்குறிப்பவர் கருக்கொப்பம்

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தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

_____ துறை

அரசாணை எண். ___ 3389

மு. கோப்புத் தாள் எண்.

அச்சகம்
பலவகை

நாள் : 28.11.1889

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மடிக்கவோ கண்டபடி கையாளவோ கூடாது

ஆவண. எ-1—18,000—15-6-87.

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3389

30th April 1883, No. 1262 W., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

Read—the following papers:—

From K. F. NORDMANN, Esq., Officiating Superintending Engineer, Third Circle, to the Chief Engineer, Public Works Department, dated Bellary, 19th March 1883, No. 2412.

I have the honor to submit, for the sanction of Government, an estimate of Rs. 22,380 for constructing stables for the Field Battery at Bellary with corrugated iron roofing, as per standard design approved in G.O., No. 2985 W., dated 13th November 1882.

1 Detailed and Abstract Estimate.
1 Abstract (duplicate).
1 Specification.
1 Report.
1 Site Plan.

2. Provision is made for three blocks of stables, each to accommodate thirty-eight horses, or 114 horses in all. In the standard design the cost of stabling per horse is estimated at Rs. 137-8-0, but according to the present estimate the cost is Rs. 196-5-0.

3. With a view to meet the wishes of His Excellency the Commander-in-Chief a reduction has been effected in the estimate by substituting "ven teak" for "Moulmein teak," and the estimate has now been finally approved by the Military authorities.

4. A quantity of teakwood, valued at Rs. 6,879, has been purchased on the authority given in paragraph 2 of G.O., No. 1610 W., dated 27th June 1882; but, as the scantlings are for a different design, this timber can only partly be utilized for the stables on the present design. Endeavours will be made to use the timber on other works; but, in the meantime, sanction is solicited to the value being debited to "Stock."

No. 689 C.

Submitted for the approval of Government in the Military Department.

(By Order.)

(Signed) J. PENNYCUICK, Major, R.E.,
Dy. Chief Engineer, P.W.D.

28th March 1883.

No. 1927, Military.

Approved.

(By Order.)

31st March 1883. (Signed) E. L. HANKIN, Colonel,
Secretary to Government.

Report to accompany the estimate for constructing three blocks of stables for the Royal Artillery at Bellary; each block to accommodate 38 horses. Amount of estimate Rs. 9,570.

The estimate and plan have been prepared at the request of His Excellency the Commander-in-Chief.

2. The object in view in the present design is to reduce the cost of stabling horses to a minimum consistently with suitable shelter and accommodation for the animals. This has now been brought down to an average of Rs. 84 for each horse.

3. Those parts of the foundations on which the structure may be said to rest have been allowed a depth of 3 feet, the lowest of the 3 feet being of concrete, as at that distance below the ground surface hard gravel is met with. All the pillars are to be of hammer-dressed stone in mortar, as stone is easily procured in Bellary and answers well the purpose for which it is required; should other material be used, such as brick or wood, no great difference in price would result. The end walls are to be of burnt brick in mortar and the dividing walls of burnt brick in mud.

4. The wood to be used is ven teak, and of correct scantlings. The roof will consist of rafters, reepers and pantiles with plaster stripes and borders. The omission of flat tiles may be looked on as an advantage as contributing in some degree to roof ventilation.

5. The flooring to be of gravel 9 inches deep; the drains of concrete coated over with asphalte $\frac{1}{2}$ inch deep.

6. The three blocks should, under ordinary circumstances, be completed in six months.

17th April 1883. (Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, Public Works Department.

Specification to accompany the estimate for constructing three blocks of stables for the Royal Artillery at Bellary; each block to accommodate 38 horses. Amount of estimate Rs. 9,570.

Excavation.—The trenches to be excavated to the required depth and breadth and the bottoms well watered and tamped.

Concrete.—For foundation to be laid down as directed in Section VII of the Public Works Department Standard Specifications.

Masonry.—Brick in mortar and brick in mud to be carried out as directed in Section XI, and the dressed stone in mortar as directed in Section XII of the Public Works Department Standard Specifications.

Wood-work.—The wood to be of the best obtainable ven teak, cut to proper scantlings.

Roofing.—The roofing to consist of rafters, reepers and pantiles, with plaster stripes (9 inches wide and 3 feet apart) and borders.

Flooring.—The floor will be covered with gravel to a depth of 9 inches, well watered and tamped.

Drains.—The drains will be of concrete, coated with $\frac{1}{2}$ inch asphalte and prepared in accordance with Section XXII of the Public Works Department Standard Specifications.

3389

Detailed Estimate.

Construction of three Blocks of Stables for the Royal Artillery at Bellary; each Block to accommodate 38 Horses.

Detail of Work.	Number.	Measurement in Feet. L.	B.	D.	Area or Contents.	Total Quantity of each Description of Work.
Excavation.						
End walls	2	25	2½	3	375	
Dividing walls (between centre pillars)	1	115½	1½	1½	260	
Centre pillars	18	2½	2½	3	337½	
Outer pillars	36	2½	2½	3	562½	
Drains	2	160	3	1	960	
Total C. Feet of Earthwork	...	...	...	...	...	2,479
Foundation. *Concrete.*						
End walls	2	25	2½	1	125	
Centre pillars	18	2½	2½	1	112½	
Outer pillars	36	2½	2½	1	182½	
Drains	2	160	3	1	960	
Total C. Feet of Concrete	...	...	...	...	...	1,380
Brick in Mortar.						
End walls	2	24½	2	2	196	
Brick in Mud.						
Dividing walls (between centre pillars)	1	115½	1½	1½	260	
Rough-dressed Stone in Mortar.						
Centre pillars	18	2	2	2	144	
Outer pillars	36	1¾	1¾	2	220½	
Total C. Feet of Rough-dressed Stone in Mortar	...	...	...	...	...	365
Superstructure. *Brick in Mortar.*						
End walls (including gables)	2	24	1½	12	864	
Total C. Feet of Brick in Mortar	...	...	...	...	...	1,060
Brick in Mud.						
Dividing walls (between centre pillars)	1	125	¾	8	750	
Total C. Feet of Brick in Mud	...	...	...	...	...	1,910

2

Construction of three Blocks of Stables for the Royal Artillery at Bellary, &c.—cont.

Detail of Work.	Number.	Measurement in Feet. L.	B.	D.	Area or Contents.	Total Quantity of each Description of Work.
Superstructure—*cont.*						
Hammer-dressed Stone in Mortar.						
Centre pillars	18	14½	1½	1½	587½	
Outer pillars	36	6½	1½	1¼	365⅝	
Total C. Feet of Hammer-dressed Stone in Mortar ...	...	...	...	...	...	953
Wood-work.						
Ridge piece	1	154	¼	¾	51⅓	
Bressummers	2	154	¼	¾	74⅝	
Rafters	204	16	1⅞	½	408	
Total C. Feet of Teakwood, wrought and fixed ...	...	...	...	...	...	534
Roofing.						
With reepers, pan-tiles, stripes and borders ...	2	155	16	...	49·60	
Total Squares of Roofing ...	...	...	...	...	...	49·60
Plaster one Coat with Whitewash.						
End walls, including gables	4	25½	12	...	1,224	
Dividing walls (between centre pillars) ...	1	135	17	...	2,125	
Total Squares of Plaster, &c. ...	...	...	...	...	...	33½
Flooring.						
Gravelling	1	152	24	...	3,648	
Deduct for pillars and dividing walls ...	...	...	...	...	190	
Total Squares of Flooring less deductions ...	...	...	...	...	...	34½
Asphalte.						
Drains	2	160	3	...	960	
Total Squares of Asphalte ...	...	...	...	...	...	9·60

Abstract of the foregoing Estimate.

Quantity.	Description of Work	Rate.	Per	Amount.	Total.
		Rs. A. P.		Rs. A. P.	Rs.
2,479	C. ft. of earthwork	3 8 0	1,000 C. ft.	8 11 0	
1,380	„ of concrete	12 8 0	100 „ ...	172 8 0	
1,060	„ of brick in mortar	15 0 0	100 „ ...	159 0 0	
1,010	„ of brick in mud	10 0 0	100 „ ...	101 0 0	
365	„ rough-dressed stone in mortar	12 0 0	100 „ ...	43 13 0	
953	„ hammer-dressed stone in mortar	13 14 0	100 „ ...	132 3 0	
534	„ teakwood, wrought and fixed	3 0 0	1 C. ft. ...	1,602 0 0	
50	Sqrs. roofing	11 12 0	Square ...	587 8 0	
33½	„ plastering	1 12 0	„ ...	58 10 0	
34½	„ gravelling	2 0 0	„ ...	69 0 0	
9⅗	„ asphalte	11 0 0	„ ...	104 8 0	
	Total ...	...	...	3,038 13 0	
	Contingencies at 5 per cent. ...	...	...	151 3 0	
	Total cost of one block of stabling ... or average cost per horse Rs. $\frac{3189}{38}$ = Rs. 84.	...	...	...	3,190
	Total cost of 3 blocks of stabling 3 × 3,190 = ...			...	9,570

Order—dated 30th April 1883, No. 1262 W., Public Works.

The plan of stabling approved in G.O., No. 2985 W., dated 13th November 1882, being found too costly, a revised design has been prepared by the Chief Engineer, the cost per horse at Bellary being reduced to Rs. 84. The plan, estimate, specification and report will now be circulated for information and guidance in supersession of the design previously approved.

2. As, however, the Government of India have recently declined to allow any expenditure on stables, the sanction of that Government will be necessary before the funds provided in the budget for 1883-84 can be utilised. The Government of India will now be addressed on the subject.

(Here enter No. 1263 W., dated 30th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineers, Third, Fourth, and Fifth Circles,
„ Military Department,
„ Examiner, Public Works Accounts,
} with copies of Plan

Lt.-Col. A. F. Goodall.
Spare Copies

BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of | 1883 | Madras.

PUBLIC WORKS.

Dated April, 30th.

Read.

Encl.

G.O., 30th April 1883, No. 1262 W.

APRIL.

Horse Stables at Bellary

Passing orders on revised plans and estimates for — and on the question of stabling Government horses generally.

3389

30TH APRIL 1883, No. 1263 W., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

LETTER—from

COLONEL R. H. SANKEY, C.B., R.E.,
Secretary to the Government of Madras,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

In my letter, No. 1956 W., dated 2nd August 1882, the views of His Excellency the Commander-in-Chief as to the necessity for providing shelter for horses in Southern India were laid before the Government of India, and it was intimated that the Chief Engineer had under consideration the question of an inexpensive design of stable suitable for the purpose. The design has now been submitted and approved by His Excellency the Commander-in-Chief and Government. The cost per horse will not exceed Rs. 84, as estimated for the station of Bellary. Accommodation for 114 horses at that station can thus be provided for Rs. 9,570,* and I am to request the approval of the Government of India to the utilization of the funds provided in the Final Issue of the Military Works Budget of the current official year on definite estimates being sanctioned.

* As per estimate.

2. Copies of the plan, estimate and specification are herewith forwarded for information.

3. I am to take this opportunity to intimate that on further consideration of the subject of providing shelter for the Cavalry and Artillery horses of this Presidency, and in deference to the views of the Government of India as conveyed in the Budget Orders, No. 232 M.W., dated 12th March 1883, His Excellency the Commander-in-Chief has no desire to press for stables being constructed at Bangalore and Secunderabad, though holding that such shelter, in the interests of men as well as horses, is very necessary at Bellary, Kamptee, and Madras. In these views His Excellency the Governor in Council entirely concurs.

I have the honor to be,
Sir,
Your most obedient servant,

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

OOTACAMUND,
27th April 1883.

Exd. C. Howarth.
Spare Copies

BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated April, 30th.

Recd. — *Encl.*

30th April 1883. No. 1263 W.

APRIL.

Horse Stables at Bellary

PASSING orders on revised plan and estimates for — and on the question of stabling Government horses generally.

3389

2ND OCTOBER 1889, No. 2756 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

READ—the following papers:—

From the Superintending Engineer, V Circle, dated 14th November 1888, No. 3697.

Memorandum to the Superintending Engineer, V Circle, dated 17th November 1888, No. 4558 C.

From the Superintending Engineer, V Circle, dated 7th December 1888, No. 4160.

Memorandum to the Superintending Engineer, V Circle, dated 12th December 1888, No. 5026 C.

From the Military Department, dated 5th February 1889, No. 929.

From the Superintending Engineer, V Circle, dated 2nd February 1889, No. 5211.

Note by the Acting Chief Engineer, Public Works Department, General Buildings and Roads Branch, dated 26th September 1889.

The papers under disposal refer to the collapse during the cyclone on the 31st October 1888 of a block of stables at St. Thomas' Mount by which eight horses, the property of Government, were killed.

2. In regard to the construction of stables for Government horses it is observed that in 1882 a committee considered the question and decided that Rs. 137-8-0 per horse was the cheapest rate at which suitable stables could be constructed. This was approved in G.O., No. 2985 W., dated 13th November 1882, but as the rate was afterwards thought to be too high, a standard design and specification were circulated for guidance with G.O., No. 1262 W., dated 30th April 1883. These gave the cost per horse at Rs. 84; but the specification was drawn up with special reference to the rates prevailing in the Bellary division, and the average cost was therefore subject to fluctuations in accordance with local rates.

3. The stables at St. Thomas' Mount were constructed almost in accordance with the standard plan of 1883, but cross or partition walls 6 feet high and 9 inches thick, were added to strengthen the building. The Executive Engineer, Chingleput division, reports that these cross walls "were removed by the Military Department, and, as far as can be ascertained, without the consent of the Public Works Department."

5.

4. Taking into consideration the broadside collapse of the building, the Chief Engineer has no hesitation in saying that the accident was mainly due to the removal of the cross walls, which would have constituted a material support to the outer and middle pillars. It is probable that the walls were removed in order to make the stables more airy and commodious, and no doubt that object was fully attained, but taking into consideration the weight of the tiled roof, it is evident that without support the pillars on which it rested were very liable to become unsettled on any unusual lateral pressure being applied to them.

5. It therefore appears to the Chief Engineer that the standard design and specification of 1883 are defective in that no cross walls are provided, and he would recommend that they be revised accordingly.

6. Meanwhile the Superintending Engineer, V Circle, will report, with reference to para. 8 of his letter of the 7th December 1888, what action he has taken in view to strengthening the five remaining blocks of stables at St. Thomas' Mount.

(Signed) R. R. E. DRAKE-BROCKMAN, Lt.-Col., R.E.,
Ag. Chief Engineer, P.W.D.,
General Buildings and Roads Branch.

ORDER—dated 2nd October 1889, No. 2756 W., Public Works.

Communicated to the Military Department for information and for favor of remarks with special reference to the recommendation made in para. 5 of the Chief Engineer's note.

(True Extract.)

(Signed) R. R. E. DRAKE-BROCKMAN, Lt.-Col., R.E.,
Ag. Joint Secy. to Govt., P.W.D.

To the Military Department.
" Superintending Engineer, V Circle.

Exd. J. Moses.
Spare Copies

3389

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BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated October, 2nd.

Recd.

Encl.

G.O., 2nd Oct. 1889, No. 2756 W.

OCTOBER.

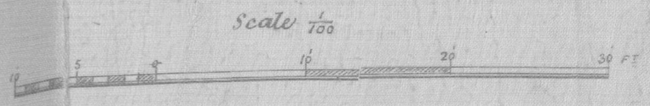
Royal Artillery Stables at St. Thomas' Mount

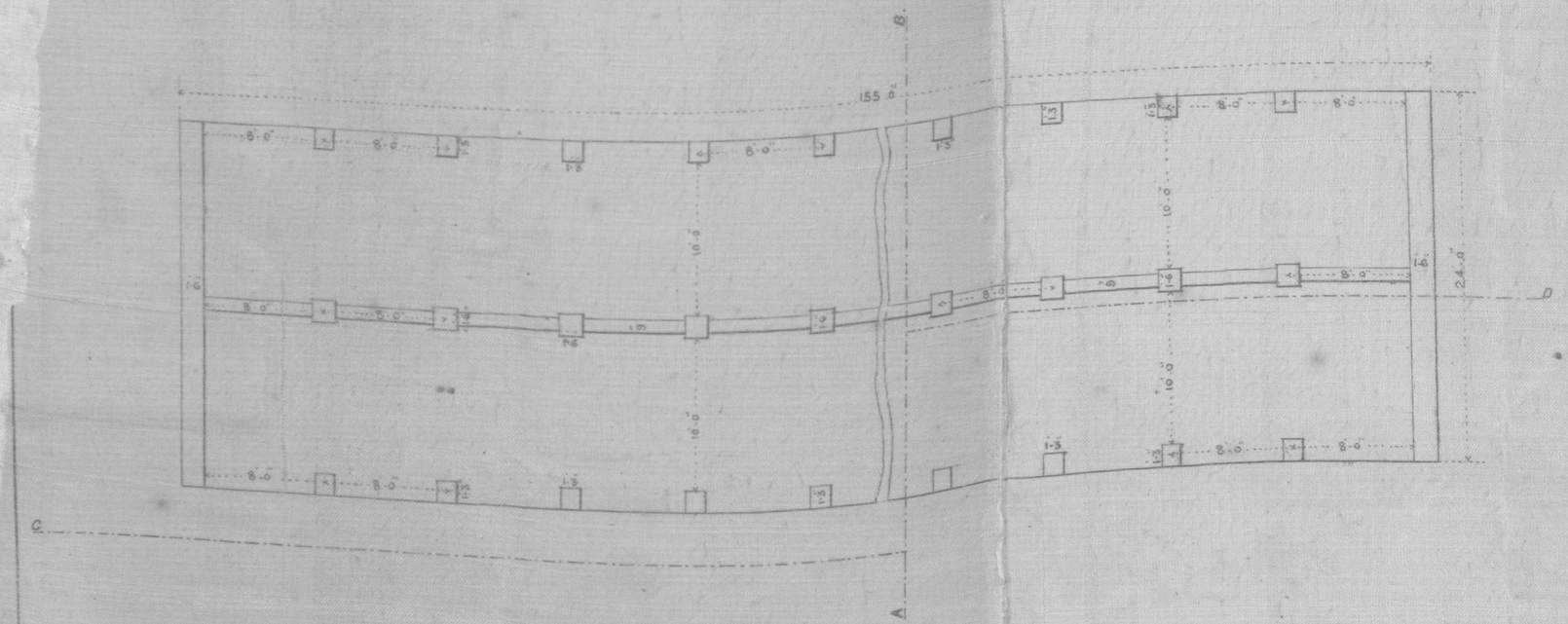
Orders on correspondence relating to the failure of a block of —.

3389

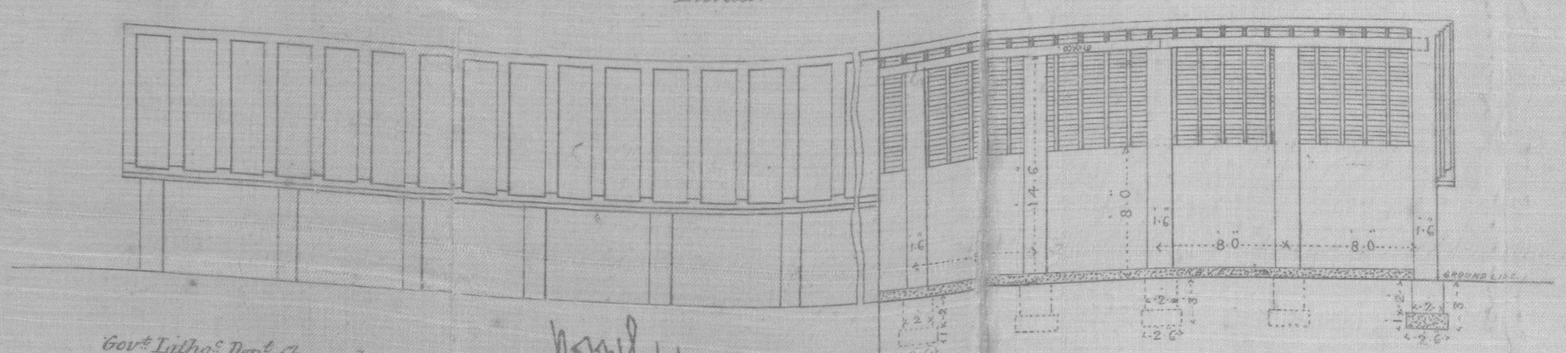
PLAN FOR COVERED STABLES.

Scale 1/100

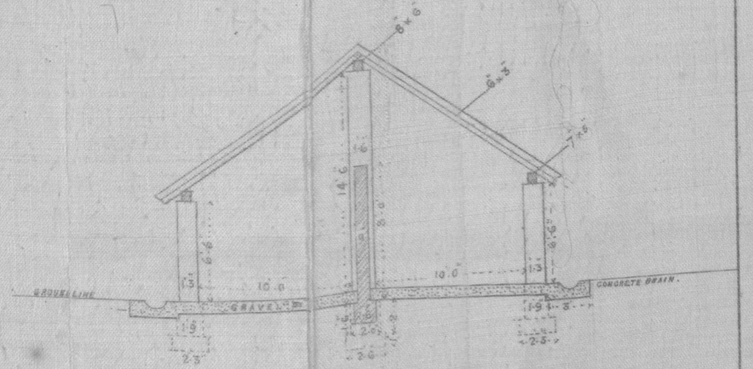




Elevation and Section at C.D.



Section at A.B.



Reference.

Walls between pillars = brick in mud. ——

End walls = brick in chunam. ——

Pillars = hammer dressed stone in chunam. ——

C. Burnett Major R.E.
Dy. Chief Engineer D.P.W.

Govt. Litho. Dept. Chepauk
Madras. May 1883.

W.H. Baldrey
Supt. and Manager.

Buildings.

No. 8081

Government of Madras.

MILITARY DEPARTMENT,

Fort St. George, the 21st November 1889.

RECEIVED GOVERNMENT
23 NOV. 89
P.W.D. DEPARTMENT, MADRAS.

From the Quarter Master General to the Secretary to Government, Military Department, No. 4144 A, dated, Ootacamund 16th November 1889.—

Adverting to G. O. No. 7364 dated 28th Ultimo, communicating for the remarks of the Commander-in-Chief, G. O. P.W.D. No. 2756 W of the 2nd Idem, relating to the Royal Artillery Stables at Saint Thomas' Mount, I am desired to report for the information of Government, that His Excellency proposes to convene a Committee at an early date, to report upon the Stables at that Station, and to consider the desirability of revising the existing standard plan of such buildings.—

2.— On receipt of the above Proceedings, a report on the subject will be submitted to Government.—

———

By Order

Order.— Communicated for the information of the Public Works Department with advertence to C. R. No. 2706 dated 2d October 1869.—

2.— The report promised in para 2 of the Quarter Master General's letter will be forwarded on receipt.—

(True Extract)

A. Kenney Herbert
Br. General
Secretary to Government.

To
The Public Works Department.

R25

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PWCnd. 11/1/57

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