M.R.O. 1—77,005—8-6-37.

(1) Number of pages 62

(2) Date of repair

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 3008 Press
231 – 232 Mis.

Dated 12 – 12 1870.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 12th December 1870.

No. 231. Read the following Note by the Chief Engineer for Irrigation, dated Fort Saint George 18th November 1870, No. 235 :—

In G. O. of the 14th February 1867, No. 438, an estimate, Rupees 1,870, was sanctioned for the repair of the Pedda Cuncherla Tank, which had breached in 1854, owing, as was at the time reported, to the omission of a proper escape. The returns to be expected from the restoration of the tank were estimated at 87 per cent.

2. A report of the failure of the work, with an account of its history, is given in the Superintending Engineer's letter as per margin. It shows that the requirements of the tank were not sufficiently considered in the first instance, and that, even had it not been breached again, it would have irrigated but very little land.

No. 145, 26th January 1869.

3. After some discussion and correspondence Colonel Moberly has submitted an estimate, Rupees 21,430, for restoring the tank on a considerably enlarged scale, and for constructing a large sluice and a sufficient surplus weir. The tank as now designed would hold 5·84 millions of cubic yards, which would be an ample supply for 730 acres, and in favourable seasons sufficient for 1,000 acres. The area of the drainage basin is reported to be 16 square miles, and the annual rainfall 21 inches. A drainage of 4·4 inches or a little more than one-fifth of the rainfall would fill the tank, and so probably the tank would generally be filled.

To Superintending Engineer No. 147, 4th February 1869.
From do. do. No. 163, 2nd March 1869.
To do. do. do. No. 163, 22nd March 1869.

4. As regards returns the Revenue Statement forwarded by Colonel Moberly shows that agreements have been taken for the cultivation of 719·32 acres; that the water rate on this area, at 4 Rupees an acre, will be Rupees 2,879-4-0; and that, after deducting the assessment of the land which will be submerged by the tank, Rupees 2,240-6-11 will remain as the gross return on the outlay required for its reconstruction.

5. I do not feel sure that the amount of the estimate represents the entire cost of making the tank efficient—

First.—No special precautions are provided for at the breach. Here it would probably be advisable to insert a core of puddle to prevent risk of leakage: the rear slopes at this part I would make 3 to 1.

Secondly.—Wherever the maximum water level, when the full depth is passing over the weir, would be above the top of the old bank, a puddle bank will be requisite, the base of which should be placed 3 or 4 feet below the surface of the old bank.

Thirdly.—Unless the soil of both old and new bund is good, a puddle or water-tight layer will be necessary all along.

Fourthly.—No revetment has been provided. At the breach such a protection and aid to stability seems to be essential, and probably at least in some parts, elsewhere it will be requisite to the stability of the interior slope.

6. The estimates provide for a bund with its top 9 feet above full tank level. This height with a weir of such ample dimensions might be reduced to 7½ feet, and this would apparently reduce the estimate to the extent of Rupees 2,500. The Superintending Engineer has suggested the reduction of the height of the bund above weir level to 6 feet. This might possibly suffice, but it may be wiser to allow the additional half-yard.

7. The length of the bund is 7,000 feet, and of this about 1,000 yards will probably need to be revetted; the cost would be about—

	Rs.
1,000 × ⅔ × 2½ = 1,666 cubic yards at 1½ Rs.	2,500
Gravel backing 1,000 × ½ × 3 = 1,500 at 12 As.	1,125
Also for puddle the allowance may be—	
2,100 cubic yards at 3 yards the Rupee	700
Sundries	475
Total for additional work ...	4,800

8. With these alterations the amount of the estimate will be 21,430 *plus* 4,800 *minus* 2,500 *equal* 23,730 Rupees, and upon this sum the anticipated revenue will give a return of 9·4 per cent. Taking the area and circumstances of the drainage basin into account, it is not probable that the work will be very remunerative. I understand from Colonel Moberly, with whom I have had an opportunity of discussing the principal features of the project, that the population is scanty, and that consequently it may be sometime before the area, which the tank would irrigate, will be taken up. The restoration of the tank has, however, been strongly urged by the local Revenue Officers, and, as the returns will be likely at least to cover the bare interest on the money, I do not see any objection to the sanction of the estimate.

9. The puddle walls should be 3 feet wide at top, and the level of the top should be one foot above maximum water level, when the full discharge is passing over the weir.

10. I will send to the Superintending Engineer a design for a sluice approved by the late Chief Engineer for Irrigation, in order that Colonel Moberly may, should suitable materials be available, consider whether it would be preferable to substitute it for that included in his estimate.

No. 232. ORDER THEREON, 12th December 1870, No. 3,008.

IRRIGATION, No. 23.

THE Government sanction the estimate of Rupees 23,730 for restoring the Pedda Cuncherla Tank in the Vinuconda Talook of the Kistna District, and direct its entry in the Budget of 1871-72, now under preparation.

2. The remarks of the Chief Engineer for Irrigation will be communicated to Colonel Moberly, and this officer will be good enough to have the arrangements

of the work revised, so far as may, on examination, be found necessary, and, should any considerable alteration of the sanctioned amount be ascertained to be requisite, he should make a further report on the project.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Superintending Engineer, 2nd Division.
,, Controller of Public Works Accounts.
,, Chief Engineer for Irrigation.
,, Revenue Department.

Exd. S. T. Augustin.

No. 9. Read the following Proceedings of the Board of Revenue, dated 18th January 1867, No. 358.

Read the following letter from the Collector of the Kistna District, to the Secretary to the Board of Revenue, dated Circuit Cutcherry at Vinukonda, 28th December 1866.

1. I have the honor to forward, herewith, the following estimates for the repair of two ruined tanks in the Talook of Vinukonda, and for digging a branch channel from Bantumilly Canal to the village of Bantumilly :—

		Rs.	A.	P.
1	Estimate for Pedda Cuncherla Tank	1,870	0	0
1	Do. for Pameedypad Tank	1,390	0	0
	Total...	3,260	0	0
1.	Do. for Bantumilly branch channel	740	0	0
	Total ..	4,000	0	0

2. I have inspected the Cuncherla tank, and am able to urge strongly its immediate repair. This tank was repaired in 1854, but, owing to the omission to provide a proper escape, it breached the same year, and funds have never since been available for its re-construction. Some dry land will be submerged in the bed, and the land to be irrigated now bears a dry assessment ; these items, which do not appear to have been reported to the Superintending Engineer, will have to be deducted from the expected wet Cist, as shown in the accompanying tabular form, but the returns will still be Rupees 87 per cent. on the cost.

3. The Pameedypad tank I have not seen ; but the profits to be derived will be very great; and I strongly recommend that funds be made available as soon as possible.

4. During the Jummahbundy of this talook, the existence of a large number of ruined tanks has been brought to my notice ; I have visited several, and shall request the attention of the Superintending Engineer to them shortly.

5. The Bantumilly branch channel is greatly needed to supply the cattle of the salt traders with drinking water; it will eventually be available for irrigation, and I hope for navigation also; at present sanction is solicited for the minor work only.

From the Superintending Engineer, 2nd Division, to the Collector of the Kistna District, dated Camp at Kannootula, 17th December 1866, No. 156.

1. With reference to your letter, No. 255, dated 27th October 1866, I have the honor to state that the restoration of the tank of Pedda Cuncherla must, under the orders of Government, be considered a "new work," and I therefore request you will be good enough to submit the estimate for the sanction of Government through the Board of Revenue.

1 Plan
1 Estimate amounting to Rupees 1,870.

2. The restoration of the tank is highly advisable, as the cost will be Rupees 1,850, whilst the returns promised by the Deputy Collector and Tahsildar of Vinukonda are Rupees 2,471 per annum, or upwards of 133 per cent.

3. If funds be speedily allotted for the work, it could be executed before the next irrigation season, and immediate returns derived from the expenditure.

4. The Yadasts enclosed with your letter are returned.

Proceedings of the Madras Government, Revenue Department, 1*st February* 1867.

From the Superintending Engineer, 2nd Division, to the Collector of the Kistna District, dated Camp at Kannootula, 17th December 1866, No. 137.

1 As requested in your letter, No. 40, dated 20th February last, I have the honor to forward an estimate for the restoration of the ruined tank in the village of Pameedypad, in the Vinukonda Talook.

Rupees 1,390, with one plan.

2. From your letter it appears that the villagers have already agreed to take up eighty acres, paying an annual assessment of Rupees 480. This of itself will return upwards of thirty-three per cent. on the proposed expenditure, but as you mention that 285 acres are fit for cultivation as wet, it may reasonably be hoped that the returns may prove much larger.

3. As, under the orders of Government, the restoration must be considered a "new work," and the estimate exceeds the amount which the local authorities can sanction, I request you will be good enough to submit it, through the Revenue Board, for the approval of Government.

From the Superintending Engineer, 2nd Division, to the Secretary to Government, Public Works Department, dated 19th December 1866, No 81.

1. I have the honor to forward plan and estimate, as per margin, amounting to Rupees 740, for constructing a branch channel from the Bantumilly Canal, for the supply of good water to the village of Bantumilly, where the wells have a brackish taste, and are unfit for drinking purposes.

1 Survey Plan.
1 Estimate.

2. The bunkahs will be made fifteen feet wide, to allow for the channel being eventually widened for the purposes of irrigation.

3. The estimate has been prepared in compliance with the Collector's request in his letter, No. 215, dated 13th September 1866, a copy of which I have the honor to enclose.

From the Collector of the Kistna District, to the Superintending Engineer, 2nd Division, dated Masulipatam, 13th September 1866, No. 215.

1. With reference to paragraphs 10 and 11 of Mr. Chase's Report to the Board of Revenue, dated 18th July last, No. 257, and paragraph 1 of the Board's Proceedings thereon of the 15th ultimo, No. 5,711, on the operations of the public works in this district, I have the honor to inform you that since the late cyclone, there has been a great want of good water at Bantumilly for drinking purposes, both for the inhabitants of the village, and the Lambadies who resort to that place to purchase salt, and request that, if there are any available funds at your disposal, you will be pleased to order a small channel to be excavated as far as the village of Bantumilly, and to the drinking tank near to it from the main channel lately completed.

2. A very small branch will suffice for the present for drinking puposes, but it is probable that it will hereafter be found advisable to give it sufficient capacity for irrigating the land about Bantumilly.

Recommended for the sanction of Government.

No. 10. ORDER THEREON, 1st February 1867, No. 288.

Miscellaneous.

1. Approved.

2. The Bantumilly branch channel being designed in the present stage to supply water for drinking purposes, its cost must be charged to Local Funds.

3. The necessary orders in regard to the other works will be issued in the Public Works Department.

(True Extract.)

(Signed) W. HUDLESTON,
Secretary to Government.

To the Board of Revenue.
„ the Public Works Department.

Exd. S. T. Augustin.

Proceedings of the Madras Government, Public Works Department, 14*th February* 1867.

No. 243. Read the following Proceedings of the Madras Government in the Revenue Department:—

Sanctioning estimates, amounting together to Rupees 4,000, for the restoration of the Pedla Cuncherla and Pameedypad tanks, and for the excavating of a channel for the conveyance of good water to Bantumilly in the Kistna District, and intimating that the cost of the latter work will be debited to Local Funds. (Here enter 1st February 1867, No. 288.)

No. 244. ORDER THEREON, 14th February 1867, No. 438.

CIVIL WORKS, No. 33.

The Government sanction the estimates amounting in the aggregate to Rupees 3,260 for the restoration of the Pedda Cuncherla and Pameedypad tanks in the Kistna District. Colonel Winscom will submit an application for funds after the 1st April next.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 2nd Division.
„ Controller of Public Works Accounts.
„ Accountant General.
„ Revenue Department.

Exd. S. T. Augustin.

MEMORANDUM.

REQUESTED for reference the under-mentioned papers :—

GO No. 3008 of 12 December 1870 together with all the original Enclosures connected therewith

4 Bundles

Returned 25-5-71

OFFICE OF THE CHIEF ENGINEER FOR IRRIGATION,
10 — 7 — 1874.

D. M. Hawkins

Head Clerk.

To

The Registrar of the Public Works

Detailed Estimate No 3 of 1870-71

Kistna District

Estimate for the Restoration of Peddacherla Tank in Vinnakonda Taluq.

Particulars of Work	Number	Length	Breadth	Depth	Contents	Cubical Contents
					Measurements	
Earth Work.						
Widening & Raising Tank bund and closing breach						
Proposed crest of bund 29 feet above bed of tank Top width of bund 9 ft Slopes 2½ to 1 Proposed full tank level 20 ft Absorbed or 70 ft above datum						
Raising from North end of tank up to Calingulah	1	600	18.36	6.21		22413.28
Widening from South of Calingulah up to No 1 Section	1	600	175.00			9000.00
Raising do do	1	600	15.91	6.08		58039.68
Widening Section No 1 & No 2	1	600	82.125			52875.00
Raising do do			18.39	6.26		69072.84
Widening from No 2 Section to No 3	1	600	189.5			113700.00
Raising do do			19.26	6.84		72043.04
Widening No 3 Section to No 4	1	600	222.125			133275.00
Raising do do			20.19	7.46		89643.60

First footing Course & sluice	1	10.50	9.25	4.00	388.50
2d do do	1	10.375	9.125	4.00	379.68
3d do do	1	10.25	9.75	4.00	399.87
4th do do	1	10.125	2.00	4.00	81.00
Portion of do	1	10.25	4.0	4.0	41.00
5th do do	1	10.125	2.0	4.0	81.00
Steps	1	1.25	2.0	1.5	7.50
do		12.0	2.0	1.0	24.00
Side walls to steps	2	8.75	1.50	2.75	36.09
do above		8.75	1.5	2.00	26.25
do do	1	8.75	1.5	1.00	13.12
				Cubic feet	20052.86

Deductions

For tunnel		8.0	2.0	2.0	32.00
For Semicircular spaces	area 2	8.0	1.52	12.0	16.
do Steps in wing walls		3.5	1.75	6.0	36.75
do for Arch work as stated below					31.109
For well 0.1 3.1 3.1	4	area 1.52	17⅓		26.61
		Total deductions			287.69
	1	Net cubic feet			19845.35
		Cyc. Stone in Chimneys			735
Arch work		8.0	6.25	2.0	100.
		Cubic feet of Arch			100
Pointing Squares					
	4				32.0
Rough stone apron		33.0	12.0	2.0	792.
	4	Cubic feet			792.
		Cyc. Rough Stone apron			29.333
Sluices	12	area 0.54	0.125	6.0	4.620
do do	2	0.1875	area 0.54	6.0	1.215
do do	2	0.166	0.54	6.0	1.075
Sluices	4	0.125	area 0.54	6.00	1.62
		Cyc. yds of Arch work			5.53
Stone facing in front of Arches including Sluices	10	1.5	2.5	3.0	118.0
		Cubic feet			118.0
		or Cyc. yds of Stone facing			4.37
Excavating foundations & filling in		80.0	54.5	22.5	98100.0
do Slopes of foundations		80.0	21.0	21.0	35280.0
					133380.0
Deductions	2	33.0	10.0	6.0	3960.0
		Net Cubic feet			129420.0
		or Cubic yds of Earth work			4793.33

No 5 - Caliguls to be Constructed at the north flank of the tank.

Foundations

Front returns & wings	2	13.75	3.41	4.0	375.10
Rear wings	2	34.0	3.00	4.0	816.00
do Returns	2	5.42	2.14	4.0	92.79
Body wall	6	300.0	2.5	4.0	3000.00

Superstructure

Front returns & wings	2	13.75	2.16	4.5	267.30
Rear wings	2	34.0	2.0	3.75	510.00
Rear returns	2	6.10	1.52	3.00	55.63
		Cubic feet			5116.82
		or Cyc. yds of rough stones in them			189.50

Rough Stone apron

Front of Caligula	-	302.0	4.0	2.0	2416.0
Rear of Caligula	-	300.0	30.0	2.0	18000.00
do	2	25.0	4.5	2.0	450.0
do	2	2.5	1.5	2.0	15.00

9-12-757 Enclosure in a letter from the Supg Engr 2nd Division to the Chief Engr for Irrigation No 90 of 232 Septr 70

No 316/70.
Office 4 6/70

No 31 of 1870-71.
From 12th Decr 70 to 1251.
Detailed Estimate for the Restoration of Pedda Cancherla Tank in Venkatonda Valley amounting to Rupees 21,430— inclusive of masonry works

Abstract Estimate
Kistnah District.

Work. Estimate for the Restoration of Pedda Cancherla Tank in Venkatonda Valley.

Quantity	Particulars	Rate	Amount	Total
	Earth work.			
	No 1. Widening and Raising Tank bund and closing breach			
83419	Cubic Yards of Earth work	2 6/10	3034 3 6	
	Sundries & Superintendence		735 12 6	13770
	No 2 Excavating a Main Irrigation Channel.			
10560.	Cubic Yards of Earth work		660	
	Superintendence & Sundries		30	690
	No 3 Raising bunds to the proposed Surplus Channel			
2600.	Cubic Yards of Earth work	1	162 8	
	Sundries & Superintendence		7 8	170
	Masonry work			
	No 4 Irrigation Sluice			
735.0	Cubic yds Stone in Chinamunn	5	3675	
100.0	Cft of arch work brick in do	4	25	
32.0	Squares of Pointing	2	64	
29.333	Cyds of Rough Stone for Apron	1	29 5 3	
5.58	Cft of Teak wood for Shutters	3 8	19 5 9	
	Carried over		3812 11	14630

4.37	Cyds of Rubble stone in Foundation		3812	ft	14630
	front of Parapet		43	11	2
4793	Cyds of Excavating foundation				
	" filling in		92 6	748	4 6
	Sundries & Superintendence			224 11 4	4830
	No 5 Caliguloh to be				
	Constructed at the Right flank				
	of the Tank				
189.5	Cyds of Rough stone in				
	Chinam for the yards		5		947
773.37	do of Rough stone as found		1		773 5 10
12.0	Square of Pointing		2		24
1411.0	Chic yds of Turf work				
	for Excavating foundations		10		
	" filling in		1 6		132 4 6
	Sundries & Superintendence			92 13 8	1970 4 10
				Grand Total Rupees	21430

Superintending Engrs Office
2nd Division Berawada
23rd September 1870

H Hudleston Colonel R.E.
Superintending Engr 2nd Div

Manekbaee
15th October 1870

G Boswell
H Meeten

9-12-95

Enclosure in a letter from the Supg Engr 2d Divn to the Chief Engr for Irrigation No 90 d/23d September 1870.

Dis 5th/70.
W 4746/70

No 31 of 1870-71-

Abstract Estimate for the Restoration of the Pedda Cancherla Tank in Venkatanda Taluq amounting to Rupees 21,430 — a — including masonry works.

From 12th Decr/70 to Rs 2231-

Vide Estimate No 4

23

Specification & report to accompany the Estimate for Constructing an Irrigation Sluice for Pedda Kuncherla Tank Taluq Rupees 4830-

1. The foundations of the Sluice are to be 11¼ ave wide & 6 deep. Front and rear wings to be 3½ ft long. 8¼ ave ft wide at the end of side walls & 4¼ ave ft at the extremities & 6 ft deep. Counterforts to be 3¾ ave ft long 2½ ft wide & 6 ft deep. That of the Culvert in front of Sluice to be 9⅞ ave ft long and 9¼ ave ft wide and 6 ft deep.

Superstructure

2 Front and rear wing walls to be 33 ft long 4½ ave ft wide and 29 ft high at side walls and at the extremities to be 2¼ ave ft wide & 7 ft high, top width of wings to be 1½ ft throughout.

3 Length of tunnel to be 9 ft. Side walls to be 4 ft wide and 2 ft high, the Arch to be Semi-circular having a radius of 4 ft and total height of 3 ft to the offset.

4 Arch to be 2 ft thick and over it to be built up solid to a height of 13 ft to receive the face walls 9 ft long 3 ave ft wide & 11 ft high.

5 Counterforts to be 2½ ft square at bottom and 1¼ ft top and the heights to be 24-0 18¼ & 12 ft respectively

6. The water to be led to the tunnel by a vertical Semicircular well 2 ft in diameter

with openings into it through steps built segmentally of masonry each 4 ft high and 2 ft wider than the one above the openings to be 1¼ ft high with arch of ½ ft radius.

7 A flight of steps each 2 ft long 6 inches rise 9" broad to reach the upper shutters will be constructed.

8 Rough stone apron in rear of sluice between wings to be 33 ft long 12 ft wide 2 ft deep.

9 The whole work to be constructed of stone in Chunam except the faces of the small arches which are to be of cut stone in Chunam and pointed neatly.

Cts 1-16/70.

J. Crosbie Colonel R.E.
Engineer D.P.W.

Supdt Engrs office 21st Dec 1870
Received 23rd Supdt D.P.W.

Vide Estimate No 5

Specification Report to accompany the Estimate for constructing a Calingulah at the North flank of the Peddatumicherla Tank. Amounting to Rs 1970—

1 The body wall of Calingulah to be 300 ft long. 2 ft broad at top and 3 ft at bottom having a batter of 6" on each side & 4 ft deep.

2 Wing walls in front will be curved with a radius of 4 ft for a length of 4, The returns to be 9 ft long and 4 ft wide at bottom and 2.83 at top.

3 The length of rear wings (curved) to be 34 ft and the breadth to run from 4' to 3' at bottom and from 2.83 to 2.15 at top as shown in plan. The rear returns of wings to be 8' long outside & 2½' broad at bottom & 1.79 at top.

Superstructure

4 Wing walls from front returns to the rear of body 13.75 ft long 2.83 ft broad at bottom & 1.5 at top & 4.5 ft high. Rear wings (curved) to be 34 ft long 2.83 to 2.15 broad at bottom & 1.5 ft at top and 4.5 high at body & 3 ft at returns. Rear returns to be 8½ ft long outside and 1.79 wide at bottom and 1.25 at top.

5 Rough stone apron in front of the body to be 300 X 4' X 2' & in rear 300 X 30 X 2' as

shown in plan

6. The work to be constructed of Rough stone in Chunam and pointed neatly

Capt RE

Supt

Supt Engrs Office 2d Divn

Received 23d Sept 1870

Supt Engrs

9-12-95

Enclosure in a letter from the Supg Engr 2d Div to the Chief Engr for Irrigation No 90 of 23d September 1870.

25.7.70
Ff 7.7.70

Specification reports of the Masonry works for the Restoration of the Pidda Kanchchi Tank in Vinukonda Taluq—

From 13th Dec 70 L 231.

29

No. 90

Superintending Engrs Office
2nd Division

Bapatla 23rd September 1870

From Colonel F. J. Moberly R.E.
Superintending Engineer 2nd Div.

To Major I. Williams R.E.
Chief Engineer for Irrigation &c.

Enclosures —
1 Survey
2 Plans
1 Detailed Estimate of Earth & Masonry works —
1 Abstract of ditto Rs 21,430.—
2 Specification Reports
7

Sir

I have the honor to forward plans &c for restoring the tank at Peddakanchchila in the Vinukonda taluq Kistna District, regarding which I beg to refer you to previous correspondence noted in the margin.

Chief Engrs No 147. 4th Feby 1869
168. 22nd March 69

2 I have drawn up the project now with a view to keeping water 20 ft above the bed of the Channel of the Upparagu which the embankment will completely close.

3 The area drained by this stream is 16 square miles over which there is an average rain fall of 21 inches affording 585446400 cubic feet of water at 75 % of the whole. 21,700000

4 The area submerged will be 23,38,019 square feet with an average depth of 6.74 feet. the contents being 157,690,175 cubic feet. or sufficient for 730 acres at 216,000 cubic feet per acres 25,8000

5 There are nearly 3000 acres available but there is little hope at present of getting

the whole space intended for cultivation.
I have therefore limited my project to provi-
=ding for a smaller area - the statement of
Return shown by the Collector gives a profit of
Rs 2240-6-11 or 10.5 per Cent on the Cost of the
work; if Ryots come in from other parts, it will
not be difficult to increase the height of the
bank by 6 feet and to provide for 1310 acres
with 28309259 6 cubic feet averaging 7.82 ft
deep and covering an area of 36173732 square feet
the Sluice has been planned with a view to making
such increase & to facilitating its working at
various heads.

6 The stream has a fall of 8.9 feet per
Mile and as it comes down very rapidly from the
rising & bending hills, I have thought it advisable
to place a Calingula 300 ft long at the extremity
of the bank with an easy discharge into the
Kondlaim into which the Upper ghat falls
naturally about ½ mile below the site of the bank.
The position appears in my opinion
generally favourable; and I believe that with
20 ft of well consolidated bank, as already
exists we need not raise it to more than 6 feet
instead of 9 ft above H.F.L. marked R in mill
Reduce the Estimate to Rs 15430 and giving a
Return 14.5 per Cent

I have the honor to be
Sir
Your most Obedt Servt
[illegible]
Asst Engineer

To Supt Wks dated
18th Nov: 70 —
9-12-91

Dept No 90
No 5726.

From

The Supg Engineer
2nd Division

To

The Chief Engineer
for Irrigation

D/ 23rd September 1870
Rec 20th Oct —

Forwards Plans &c &c for restoring the Tank at Pedda Cancherlah in Vincondah Taluq, Kistna district for sanction

Rupees 3,46,170

Rupees 12 Dec/70 L. f. 231

Enclosure
1 D Cart

No 145

Supt Works Office

Camp Cattapatam
26th January 1869

From Lieut Col F. J. Moberly R.E.

Supt Division No 2

To Colonel A. T. Anderson R.E.

Chief Engineer for Irrigation

Sir,

I Regret to have to bring to your notice the failure of the project for the restoration of the Pedda Kyncherla tank in the Vinconda Taluq, Kistna District. Many of the papers were destroyed by Lieut Colonel Kincaid till the close of his superintendence and some it is believed are lost, but I believe the following is the history of the work.

2. The tank is a fine construction a long bank without any Calingers which was breached many years ago about 1858 it is said that the breaches were closed but the only Sluices were still in the natural soil at the ends of the bank. The first flood took it off to a fresh channel along the face of the bank for about 600 yards till it forced its way through a gap of 81 feet the sill generally being 8½ ft below the level

of the floor of the lowest of the 3 Sluices.

3 On application from the Collector, and Estimate for the restoration of the tank was prepared by Mr. Cowper and on his death forwarded by Mr. Dran Blin who succeeded to the Charge of the range. This Estimate amounting to Rs. 1870 provides for closing the breach, strengthening the bank, and building a Caligula 90 ft. long above and was Sanctioned by Government in order No 438. 14th February 1867.

4 Lieut Col Hiris com inspected the tank about that time, and in May modified the plan. He severed the Range Officer to build a Caligula 75 ft long in the line and Directed a Drain cut. The Estimate amounted to Rs. 1990 but the Range Officer was desired to keep within the Sanctioned Amount and Rs. 380 in addition were given for the Drain of the bund.

5 The bund was then accordingly lightly Overseer Mahomed Casim in Charge of the Range during Mr. Franklin's absence on leave. It is built of a very inferior material, and absolutely without any foundation, resting on sheer rock sloping in the direction of the stream. Mr. Dran Blin

requested to be returned

in evidence for this said that no provision was made for foundation in the Estimate, which is true, but he did not appear to have examined as to the possibility of accidental omission.

6 The flood of last year has Carried away only a portion of the lower basin, and two walls, being wedge shaped spaces between their bottom & the Sandstone rock. I have very little hope of the work standing.

7 Mr Lee in Charge of the Range, and before he began to build, the Overseer appears to have discovered that the Caligula was nearly useless. He reports that a work 11 ft in height will only give 2. 23/4 of water on the floor of the lowest Sluice and none on the others. Mr. Dran Blin on his return proposed to remedy this by raising the walls 6 ft.

8 Lieut Colonel Hiris com on 12 March declined to allow this but proposed to abandon the irrigation of the high level land, and in another letter suggested the irrigation of the low lying fields by a Channel to be led from one of the 5 Vents in the new Caligula. He also ordered Mr Dran Blin to stop filling the work till the subject could be fully examined. Why this

wa[illegible] ... I cannot discover
a Considerable Number of letters passed
only serving to show that Mr Franklin
did not understand how to Examine
such a project. Among them are two
Estimates and for the Sair of Repartment, b
the branch by Amounting to Rs 1770, the other
for the Caling[illegible] the Calingula Canal Amounting
of Rs 956 the original Cost being Rs 2220, abt
230 Rs in Excess of Sanction.

9 An addition to these Estimates Amounts to a further Sum will be Needed for Excavating a Channel about 1 Mile long and Cutting 2 Drainages to Reach the Low Land which Lieut Col Pinscom proposes to Irrigate.

10 I am not Clear as to the Sufficiency of the Discharge over the Calingula but seeing I have made the Most Money is wanted to Complete the Work, the returns from which are I Conclude also over Rated. I have thought it better Not to Take any Further Steps till I proceed upon my Instructions and [illegible]

I have the honor to be
Sir
Your Most Obt Servant

Lieut Colonel
Superintending Engineer

To the Supt. Engr. 2d Div.
No 147 Off. 6th July 69

9-12 p.m.

Acc. 145 No 280

From
The Supt. Engineer
& Draftsman
&
The Chief Engineer
for Irrigation

Dated 26th January 1869
Rec'd 3d Feby 69

Brings to notice
the failure of the project
for the restoration
of the Pedro Ximenez
tank in the Vencondah
Valley Nellore Distt.
together with the history
of the work and
requests instructions.

Rec'd 13th Dec. 1870 Ld 631.

Statement shewing the extent of lands to be converted from Dry into Wet under the Peddacum-
-cherla Tank Vuttukonda Taluq-

Villages	Items	Survey Extent	Assessment as per Accounts of F. 1279	Water tax at 4 Rs an acre	Total assessment	extent to be taken up by the tank	Sheet	Net profit to Government being the difference between Col 5 & 9	Remarks
		A C	Rs a P	Rs a P	Rs a P	A C	Rs a		
1. Peddacumcherla Government Village	Occupied lands	520 93	819 7 -	2083 11 6	2903 2 6	222 53	300 15 3		Peddacumcherla Ryots have filed written Agreements to Cultivate with wet crops- a c 522-84 of land-
	Govt waste	15 34	26 13 6	61 5 9	88 3 3	4 94	33 7 13 10		
	Porumboke lands	22 55	39 7 6	90 3 2	129 10 8	49 45			
Total		558 82	885 12 -	2235 4 5	3121 1 5	465 98	638 13 1	2240 6 11	
2. Yeringapolem Govt Village	Occupied lands	119 98	213 7 1	481 14 5	695 5 6				Yeringapolem Ryots have also filed similar agreements to cultivate with wet crops a c 119-98 of land-
		10 52	25 12 -	42 1 2	67 13 2				
Total		130 50	239 3 1	523 15 7	763 2 8				
3 Perum Allapalli Agraharam		10 "	" "	40 - -	40 -				These Agraharamdars have also filed agreements to cultivate 30 acres of their land with wet crops-
4 Madamanchi-pad Agra-haram	"	20 "	" "	80 - -	80 -				
Grand total		719 32	1124 15 1	2879 4 -	4004 3 1	465 98	638 13 1	2240 6 11	

Note. If the Tank be restored the remaining extent will also be cultivated with wet crops -

Sub Engineer Officiating
P. Bernard
12th November 1879

True Copy Sd/ Note Subbarow
Dy Collector

Sd/ J. Thornbury Collr &
Dist Engineer

No 147

Memo

With reference to the Papers Legislative Letter No 1055 dated 26th ultimo the undersigned has the honor to state that he is not prepared to express any opinion as to the measures which ought to be taken with regard to the Cumberland Canal, without further information

2. It would appear that attention was directed to the restoration of this Canal as far back as 1848 - and that from 1854, the Govt. sanctioned an Estimate for the work amounting to Rs. 2771 - of which 1828 - Rs. have been expended up to end of 1852/53, - and 2002 - up to end of 1855/56. It must have been in the year last mentioned that the Canal gave way, and it is undoubtedly that the immediate cause of the accident was the closing of the Escape at the head before the new work at the breach had become perfectly consolidated

Vide Work on Imperial Pub Works 1853 p 335/36

3. It does not appear that when the last Estimate was sent in, that any survey of the Canal was prepared - Nor is it known to those who do Cuttacky or elsewhere that such

become silted by such an accident as
hinder it's regular flowing any con
siderable quantity of water. heavy timber
has been purposely allowed to fall in
into from the canal - and in fact every
possible precaution has been taken
that it may be worth while to
expend a large sum
complete by the Supg. Engr. if
the Board of this Canal is such as
to render it capable of irrigating
the land which - and of answering
the collection calculated on
additional revenue of R. 3500

See report in Imprint P. Works 1853.

4 - The plan adopted by the
late Superintg. of building a
masonry work across the old breach.
appears to have proved unsuitable
& would probably have been taken
down & the original plan
followed the breach with earthwork
and building a Calingala at the
flank of the River.

5 - But the undersigned
is unable to judge of the

procedure which had also been adopted
without plans & estimates. the Supg.
Engr. is accordingly requested. after
inspecting the locality. to draw up
perfect survey of the Canal prepared.
with cross sections. and to draw up
plans for such works as he may
think best calculated to render
the Canal perfectly serviceable.

4th February 1854.

To
The Supg. Engr. 2nd Div
Northern

one enclosure.

3. From recent [illegible]
Calculate that at a level of 20' (the top
of the Calingala) there will be 14,311,200
cubic feet spread over an area of 4,680,000
square feet giving an average depth of
only 4 feet and a maximum in only a
small distance of 7.76 feet.

H-

From Hd Qrs 2nd Div R Bn 327.
J. 2 Feb. 69.

No 147

To

The Supg Engineer
2nd Div

Pass 4346/20
from 12 Decbr to 2 Jany.
Valid 4 Days
Despd 4 Feby 69
Packs
1 Wagon

States that he is not prepared to express an opinion as to the measures which ought to be taken with regard to the Pontoon Cherla Tank

1 Pass as above
Telegram Lieut Colonel Wilkie Royal Engineers
Bullock Trains at Calcutta
dirs Bullock Trains at Ca
Blank Pass Trains.
Rail Via Trichinopoly
5 -
4 months 4 Troops & Co -

No. 163

Superintending Engineer's
Office 2nd Division
Camp Chunnegamma
22 March 1869.

From

Lieut. Colonel F. J. Stoberly R.E.
Superintending Engineer
2nd Division

To

Colonel J. G. Anderson R.E.
Chief Engineer for Irrigation

Sir,

I have the honor to forward a survey and sections of the Dedda Cunchevla Tank prepared in March last after the Calingala was sanctioned.

1 Survey & sections

2 The line Q R in plan and section shews the line of the embankment the former breach was opposite the point where the river takes its present bend to the south. Mr. Franklin reports that the bed is silted up, but I think the undulations of the ground prove the contrary, and in my inspection it certainly appeared to me impossible that the tank had ever held water.

3 From examination of the paper I Calculate that at a level of 20' (the top of the Calingala) there will be 14,311,200 cubic feet spread over an area of 4,680,000 square feet giving an average depth of only 4 feet and a maximum in only a small distance of 7.76 feet.

No. 163.

Forwarded to the Chief Engineer for Irrigation, as requested.

Superintending Officer
2nd Division
Beligamma
12 November 1869.

2373 | 22400 (9.11
P.W. 4746/pp | 21357
10430
9492
9380

5- But the ...
a small ... of ...

It is difficult to make out from the sluices to what standard it was proposed to raise the work, certainly far beyond the level of 20 ft. above datum since the floors of the sluices are now 18.8 - 18.32 & 21.90 respectively. I do not think any level less than 30 ft. could be of service giving a maximum of 17 ft. and average of 14 ft. The 2 pencil lines on survey show nearly the Contour at 20 & 25 above datum; the ground at the S. extremity of the bank being taken for this.

It is clear that a very much larger work is necessary than was contemplated by Colonel Wilsone. I do not see any way to undertaking any excavation of it on the larger scale for the next 2 or 3 months, but if you still think it worth doing will endeavour to carry it out hereafter.

I have the honor to be
Sir
Your most obedient Servant
Lieut. Elliott
Superintendent Division

* which was enclosed

After the letter under reply [illegible]
the Contents of the Tank at 20 feet would be
above the datum of the Survey

To the Supt Irrigation 2 Div.
No 163 of 22nd March 1869
Letter [illegible]
[illegible] 9-12-95

From
The Sub Engineer
2d Division
To The Chief Engineer
for Irrigation
Dated 22 March 1869
Received
No 163
Enclosure 1
Trans. of Pedro Le 1331.
Survey and Sections
of the Proaucheela
Tank, prepared in
March last after
the Caligala was
sanctioned, with
certain explanations.

[illegible]
Irrigation
Circumstances
Tulugan Cattle
answered
15/3

No 163. Inland 53/

Submitted

The undersigned has the honour to reply to the Superintending Engineer's 2nd Division letter No 163 of the 2nd Instant to say that he thinks no further expenditure, beyond what may be considered absolutely necessary to secure work already done, should be incurred upon the Pedda Cumchula Tank, at least until a fresh project for its restoration shall have been prepared on full sufficient data -

2. As forest can be judged from the meagre data furnished there is no probability of the restoration of this Tank being found to be advisable. There are no Revenue Statements in this Office, but from the Report on Inspection P.W. for 1853 it would appear that a Revenue of Rupees 3,600 was expected to be derived from lands to be brought under cultivation by irrigation. This would probably represent an area of at least 600 acres. In para 3 of the letter under reply it is stated that the Contents of the Tank at 20 feet above the datum of the Survey* would be

Page 60

*which was enclosed

about 14,311,200 Cubic Feet which at 216000 Cft. per acre would suffice for only about 66 or 67 acres or ~~little more than~~ one ninth of the area required to yield the returns expected - ~~because~~ ~~the~~ ~~Catchment~~ ~~Engineer to~~ ~~about the Catchment~~ ~~about the Level of the Intake~~ ~~above the Level of the Intake~~

3. Even if the ground is found to fall 15 feet a mile apparently which is not favorable slope for formation of a tank of any capacity

4. Lastly, as the Superintending Engineer remarks, clear proof of the Tank to be constructed at all, it must be on a much larger scale than was first provided for.

An accurate survey of additional work would ~~provide~~ allow of the Construction of the Levy and Bunds, but in addition there must be a reasonable probability of the supply proving sufficient - Information ~~therefore~~ is needed as to the area of the Catchment basin, and as to the rainfall, and perhaps from the Villagers some details of the kinds of floods in the Tank feeder, and in the larger stream into which this falls could be obtained

and levels, with bench & cross sections of these streams, would give the means of ascertaining approximately the supply of water available

5. Colonel Peabody Cave, with reference to other demands on the time and attention of his subordinates, determine whether it will be advisable immediately or shortly to have the investigations Completed - It will be well however that the project should not, at its present stage, be lightly dismissed, as it is necessary and Convenient, whenever such schemes are brought forward & obtain in any measure the support of the Government, that they should be so far Examined as to allow of a Conclusive opinion being formed of their merits, & should this opinion be unfavorable, that they may be entered in the Register of rejected projects, so as to prevent their being brought forward again.

19/3 W.

22nd March 84. E. H. Lee Budd 22nd Dec

Note by the Colonial Engineer for irrigations

Ref. No. 2.3.65.

No. 163

Copy of letter No. 14 dated 12th February 1867 from the Colonial Engineer to the Surveyor General on the subject of the Kupeni 1870 Scheme.

Sandy Ridge Estate Kupeni has applied for the Colonial Government to construct a road from the 185th mile post at the junction of the Kupeni Estate road with the Government road to the Estate. The road is required for the purpose of conveying the produce of the Estate to the port of Kupeni.

The road will be about 3 miles in length and will require the construction of a bridge over the Kupeni River.

The Surveyor General is requested to report whether he considers the road necessary and if so to state the probable cost of the bridge and road.

Colonial Engineer's Office
26th January 1870.

To
The Surveyor General

Sir,

I have the honor to request that you will be pleased to report whether you consider it necessary that the bridge and road applied for by Messrs Sandy Ridge Estate should be constructed and if so to state the probable cost of the same.

I have the honor to be
Sir
Your obedient servant
Colonial Engineer

Colonial Engineer No. 14 of 1870
4 Feb 1870
Surveyor General No. 163.
9 March 1870
Colonial Engineer No. 163
22nd March 1870

3

After some discussion and correspondence between Mr Richards, Mr Hall, Mr Hunter and myself it was decided that the road should be constructed by the Government and that a bridge should be built over the Kupeni River at the point where the road crosses it. The road is to be 3 miles in length and 20 feet wide. The bridge is to be 60 feet long and 12 feet wide. The road is to be completed by the 1st of June 1870 and the bridge by the 1st of July 1870. The road is to be constructed by the Government and the bridge by the Estate. The road is to be maintained by the Government and the bridge by the Estate. The road is to be used by the Estate and the bridge by the Government. The road is to be used by the Estate and the bridge by the Government. The road is to be used by the Estate and the bridge by the Government.

To
The Surveyor General
2nd Division.

Dated 22nd March 1870
Despt 22nd March 1870

P.W. 4746/70
Requests to determine whether it will be advisable immediately or shortly to have the investigations in connection with the Pebble Creek Tank completed

designed would hold 5.84 millions of cubic yards, which would be an ample supply for 730 acres, and in favourable seasons sufficient for 1000 acres. The area of the drainage basin is reported to be 16 square miles, and the annual rainfall 21 inches. A drainage of 4.4 inches, or a little more than ⅕th of the rainfall would fill the tanks, and as probably the tanks would generally be filled

4. As regards returns the Revenue statement forwarded by Colonel Moberly, shows that agreements have been taken for the cultivation of 119.32 acres, that the water rate on this area at 4 Rupees an acre, yields Rupees 2879.4. or and that, after deducting the assessment of the lands which will be submerged by the tanks, Rupees 2340.6. will remain as the gross return on the outlay required for its reconstruction.

5. I do not feel sure that the amount of the estimate represents the entire cost of making the tanks efficient for the special precautions are provided for at the

the breach. Here it would probably be advisable to insert a cord of puddle to prevent risk of leakage. The real slopes at this part of would not be 3 to 1.

2nd. wherever the maximum water level, when the full depth is passing over the weir, would be above the top of the old bank, a puddle bank will be required, the base of which is to be placed 3 or 4 feet below the surface of the old bank.

3rd. unless the soil of both old and new bund is good, a puddle, or watertight, layer will be necessary all along

4th. no revetment has been provided. At the breach such a protection and aid to stability seems to be essential, and probably at least in some parts elsewhere it will be required to the stability of the interior slope.

6. The estimates provide for a bund with its top 9 feet above full tank level. This height with a view of such ample dimensions might be reduced to 7½ feet, and this would apparently

reduced

reduce the estimate to the extent of Rupees 2,500.
The Superintending Engineer has suggested the reduction of the height of the bund above weir level to 6 feet. This might possibly suffice, but it may be wiser to allow the additional half-yard.

The length of the bund is 7,000 feet and of this about 1000 yards will probably need to be revetted; the cost would be about

1000 × ⅔ × 2½ = 1666 Cyds at 1½ = 2,500

Gravel backing 1000 × ½ × 3 = 1,500 at 12 annas 1125

Also for puddle the allowance may be

2,100 Cyds at 3 yards the Rupee 700

Sundries 475

Total for additional works Rupees 4800

With these alterations the amount of the estimate will be 21,430 plus 4,800 minus 2,500 = 23,730 Rupees, and upon this sum the anticipated revenue will give a return of 9.4 per cent. Taking the area and circumstances of the drainage basin into account, it is not probable that the works will be very remunerative. I understand from Colonel Moberly, under whom I have had an opportunity of discussing the principal features of the project, that the population is scanty, and that consequently it may be sometime before the area which the tanks would irrigate will be taken up. The restoration of the tanks has however been strongly urged by the local Revenue Officers and, as the returns will be likely at least to cover the bare interest on the money, I do not see any objection to the sanction of the estimate.

9 The puddle walls should be 3 feet wide at top, and the level of the top should be 1 foot above maximum water level, when the full discharge is passing over the weir.

10 I will send to the Superintending Engineer a design for a sluice approved by the late Chief Engineer for Irrigation, in order that Colonel Moberly may, should suitable materials be available, consider whether it would be preferable to substitute it for that included in his estimate.

Fort St George
18th November 1870.

Colin Lindsay Major R.E.
Chief Engineer for Irrigation
To
The Secretary to Govt P.W.D.

Proceedings of the Madras Government
30th No. 3705
Dated the 18th December 1870.

Letter dated the 12th October 1870
from the Chief Engineer
for Irrigation.

Reads the following Minute
by the Governor.

Minute dated 18th November 1870.

The Government
sanction the estimate of
Rupees 23,130 for restoring
the Veddacherlo
Channel in the Vinukonda
Taluq of the Guntur
District, and direct its
entry in the Budget
of 1871-72, now under
preparation.

The remarks
of the Chief Engineer
for Irrigation will be
communicated to Colonel
Moberly, and the Officer
under

9-12-75

No 231
dt 26th Nov/70 R. 293

From the Chief Engineer
for Irrigation,
To the Secretary to Govt
of Madras.

No 4746
dated 18th Nov 1870.
Rec'd 23rd Nov 1870.
No 235 E.G.
Encl: 13 papers.

Submitting the estimate for restoring the Veddacherlo Tank, Vinukonda taluq, Kistna District.

No 3098 - 12th December 1870.

will be good enough to
have the arrangements
of the work revised, so far
as may, on examination,
be found necessary, and
should any considerable
alteration of the sanction-
-ed amount be ascertained
to be requisite, he should
make a further report
on the project.

23/11/70

45
5

To
The Supg Engineer of the 2nd Dn.
" Controller of P.W. Accounts.
" Chief Engineer for Irrigation.
21 Rems. Details

Desp 13/12/70

Govt. of {1870} Madras.

PUBLIC WORKS.

To The Superintending Engr.
2nd Circle

Dated

Recd. Encl. 13

G. O. 12th Dec 1870, No. 3008

Nos. 2314 232

Pedda Cuncherla Tank - Ure

estimate of Rs. 23,730 for the

Pedda Cuncherla Tank in

the Kistna District, sanctio

with remarks.