Public Works (1896) Department.

G.O., No. 3489

DATED 20/4/96.

[Despatch Abstract.]

Lock Estimates aggregating Rs 31200 for constructing a new — south of Manneru river and for converting Chippakam north floodgate into a — Buckingham Canal Sanctioned

[P. W. 26.
1,000—95-10-95.]

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

No. 348 I., 20th April 1896.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Read—the following papers :—

From the Officiating Executive Engineer, Buckingham Canal Division, to the Superintending Engineer, II Circle, dated 28th October 1895, No. 1666.

In my inspection notes for September 1895, I observed that it would be well to build locks for the reach Chippaleru to Manneru (133 to 159 miles), on which you remarked that a special report should be made.

2. The reach 26 miles long is a good one comparatively, but there are several bad bits in it, notably at 142 to 143, 145 to 146, 149 to 150 and 151 to 154. These bits of 6 miles give trouble yearly, and especially at 143 where the banks are very high and the soil of pure sand; the cost of maintaining this mile is out of all proportion to the grant for a mile of canal.

3. By building the locks now recommended, all these clearances would be obviated and the gradual silting up of canal bed caused by the daily ebb and flow of tides from both ends of the reach would be stopped.

4. This is the longest reach of canal in the sub-division, and it would be worth while to make it efficient and easily navigable. There is no doubt the locks would pay for their construction in the long run as, except at ramp and inlets after construction, hardly any clearance would be necessary and the grant for maintenance would be relieved of a large sum annually.

5. I would wish to bring to notice that the reach throughout is gradually silting up and, although extensive clearance may not now be necessary throughout this long reach, it will be required in a few years and the cost of so doing will then be considerable.

6. At the Chippaleru north flood-gate, the new lock could be built in conjunction with the existing flood-gate and the cost would be small. At Manneru south, I do not think, from what I know of this troublesome river, that it would be advisable to build the new lock at the flood-gate. Looking down the river from Karedu village, it is very obvious that the set of the river is dead on to the flood-gate and it is merely a question of time for the breaking in of the river here, as erosion is going on yearly and there is only 100 yards of land between the flood-gate and the river border where there was double this distance not many years ago.

7. I would recommend that a lock be built at 158/7 where there is a straight reach, and it is clear of the escape where the river broke through in 1893. At 158/7, the lock would be safe and there would be no fear of the Manneru river encroaching on this site.

8. To sum up: The advantages to be derived by building the locks now recommended, are—

Firstly.—A reach of canal 26 miles long would be made efficient and easily navigable with water held up to H.T. level.

Secondly.—The daily tidal flow would be stopped and the consequent erosion of sides of canal and widening of same; also the silting up of bed from the erosion so caused.

Thirdly.—No work would be required to be done in the six miles reported on in paragraph 2 of this report in the months, January to March, when the water-level is low and labour scarce on account of the harvest; at any time labour cannot be had at the 143rd mile and has to be imported from Ramapatam.

Fourthly.—Economy in maintenance of canal.

Fifthly.—Funds would then be available from maintenance to spend on sectioning berms and banks, rectifying drainage and keeping off land floods which carry lots of silt into the canal.

9. In conclusion, I would beg to observe that, if approved, I shall be glad to submit plans and estimates for the construction of the locks now recommended.

No. 273 B.C.

Forwarded to the Chief Engineer for Irrigation, with a recommendation that the Chippaleru north flood-gate be converted into a lock, and a new tidal lock be built at 158/7. The question of building these two locks has been considered by me for some time past, and as their construction will effect great economy in canal maintenance and there are now funds to build them, I have no hesitation in recommending the two locks to be built. The construction of these two locks will make the Buckingham canal quite complete and efficient and no further works, in addition to those already approved, will be necessary.

3rd November 1895.

(Signed) W. M. ELLIS, Capt., R.E.,
for Offg. Superintending Engineer, II Circle.

To the Superintending Engineer, II Circle, dated 15th November 1895, No. 55 B.C.

From the Executive Engineer, Buckingham Canal Division, to the Superintending Engineer, II Circle, dated 30th January 1896, No. 2534.

With reference to your No. 304 B.C., dated 18th November 1895, communicating memo. No. II/55 B.C., dated 15th November 1895, from the Chief Engineer for Irrigation, I have the honour to forward for sanction estimates for constructing a new lock in canal south of Manneru river at 158 miles 7 furlongs, and for conversion of Chippaleru north flood-gate into a lock, amounting to Rs. 18,200 and 13,000, respectively, with enclosures as noted in margin. Early sanction is requested as the locks cannot be completed before the north-east monsoon, unless construction is soon put in hand. As both the Manneru and Chippaleru rivers pass high floods, this is very desirable.

Lock of south of Manneru River.

1 Site plan.
1 Section.
1 Report.
1 Data.
1 Price list.
1 Detailed estimate for temporary diversion.
1 Abstract do. do.
1 Detailed estimate for lock.
1 Abstract do. do.
—
9
—

Conversion of Chippaleru north flood-gate into a lock.

1 Site plan.
1 Section.
1 Report.
1 Data.
1 Price list.
2 Detailed and abstract estimates for temporary diversion.
1 Detailed estimate for lock.
1 Abstract do. do.
—
9
—

2. The reason why I have not considered it safe to utilize the Manneru south flood-gate for the new lock is briefly stated in the report. The new right flood bank to the Manneru, together with the protective works to the river's right border, sanctioned in G.O. No. 498 I., dated 29th June 1894, will probably, if carefully maintained, enable the existing canal line and south flood-gate to be held on to for many years, if not for good, but it is impossible to say what the effect of a maximum flood may be. If the river *does* burst into the canal again it will not hurt the new lock—a direct cut can be made through the breach into the river, and the south flood-gate and canal diversion in which it is placed, abandoned. This ultimate solution of the problem can be left to time to work out. It is in many respects not an unsatisfactory method of dealing with the Manneru (*vide* remarks made by me three years ago in report printed with G.O. No. 335 I., dated 13th April 1893).

3. I somewhat distrust the value of L.R.T. at the Chippaleru river, viz., 18·81. It seems to me too high. It was fixed by the gauge establishment employed many years back, but I find from the lock registers now maintained at locks that the tidal values, as then ascertained, are seriously inaccurate in some cases. As it is very troublesome to lower the sill of existing flood-gates, I have not allowed for doing so in the estimate for the Chippaleru north lock, but have instructed the Sub-divisional officer to watch the low tides of February and March. If they go lower than —1·19 M.S.L., the flood gate sill *must* be lowered, and a revised estimate allowing for this can be forwarded.

Enclosures.

Report to accompany estimate for conversion of Chippaleru north flood-gate into a lock.

	RS.
Amount of estimate	13,000

2. The design for this lock is similar to that in the general type plan for tidal locks, submitted with this office No. 1295, dated 15th August 1894.

3. The principal levels are as follow:—

M.S.L.	20·00
H.S.T.	23·00
L.R.T.	18·81
Sill	14·00
Floor	13·25

4. The reach is a long one; its length from this lock to the new lock to be constructed on the south bank of the Manneru at mile 158/7 being 26 miles. It is therefore not possible that the water of a high spring tide can run to one general level. H.S.T. in design of this lock is therefore taken from the Chippaleru river, and not from the Manneru, where it is 0·35 foot higher.

5. Coping to walls or height of lock = H.S.T. + 6" = 23·50. Height of walls from sill to coping = 23·50 — 14·00 = 9·50.

6. Batter for walls 1 in 4 or 2·37, which may be taken as 2·50 feet, making width of the walls 4 feet at base.

7. The sill of the lock to be 4·81 feet below L.R.T., *i.e.*, 14·00, or on the same level as that of the existing flood gate. The sill of the existing flood-gate to be raised 6 inches for additional gate, instead of the old sill being lowered, as originally proposed in general type report.

8. The width of wings in superstructure at base will be 4 feet, and the full width of masonry platform at the heel post will be 6 feet. The length of wings in superstructure will be 1½ the height, and is equal to 15 feet, with an extra allowance of 9 inches for the support of revetment.

9. *Existing flood-gate.*—The height of existing flood-gate from sill to coping level is 15 feet.

10. *Gates.*—New gates are required, as no existing gates are available for transfer to this lock.

11. *General.*—All other particulars in regard to construction can be gathered from the report that accompanied the general type plan.

Report to accompany estimate for constructing a lock in canal, south of Manneru river, at 158/7 mile.

	RS.
Amount of estimate	18,200

2. The design for this lock is similar to that in the general type plan for tidal locks, submitted with this office No. 1295, dated 15th August 1894.

3. The principal levels for this lock are as follow :—

M.S.L.	20·00
H.S.T.	23·35
L.R.T.	17·10
Sill	12·60
Floor	11·85
Coping to walls or height of lock	H.S.T. + 6″ = 23·85
Height of walls from sill to coping	23·85 — 12·60 = 11·25

4. Batter for walls 1 in 4 or 2·81, which may be taken as 3 feet, making width of the walls 4′ 6″ at base.

5. Sill of lock 4·50 feet below L.R.T., *i.e.*, 12·60.

6. The width of wings in superstructure at base will be 4′ 6″, and the full width of masonry platform at the heel post will be 6′ 6″. The length of wings in superstructure will be 1½ the height and is equal to 18′ 6″.

7. *Gates.*—New gates are required, as no existing flood-gates are available for transfer to this lock.

8. *Site.*—The site of the lock is thrown well back from the river, and the existing flood-gate on the south bank of the Manneru has not been utilized for conversion into a lock, as it is not improbable that the river may, as it has done before, burst through the flood bank and turn the flood gate.

9. *General.*—All other particulars in regard to construction can be gathered from the report that accompanied the general type plan. The cost of this lock is considerably greater than that of other tidal locks, owing to the temporary diversion having to be taken through heavy cutting, and to new gates being necessary.

(Signed) A. S. RUSSELL,
Ex. Engineer, Buckingham Canal.

No. 444 B.C.

Forwarded to the Chief Engineer for Irrigation, with reference to his No. II/55 B.C., dated 15th November 1895, for favour of obtaining the early sanction of Government.

(By order.)

26th February 1896.

(Signed) W. M. ELLIS,
for Supg. Engineer, II Circle.

No. 76 I.

Submitted to Government with a recommendation that the estimates forwarded by the Superintending Engineer, II Circle, be sanctioned.

1st April 1896. (Signed) R. R. E. DRAKE-BROCKMAN, Col., R.E.,
Chief Engineer for Irrigation.

Order—No. 348 I., dated 20th April 1896.

The following estimates are sanctioned from the balance of the amount reserved for unforeseen works of the Buckingham Canal, which will then be reduced to Rs. 1,64,967 :—

Irrigation.
43. Minor Works and Navigation.
Minor Works for which Capital and Revenue accounts are kept.
Buckingham Canal.
Capital Account.
I. Works.
2. Main Canals and Branches.
9. Navigation.

	RS.
1. Constructing a new lock south of Manneru river at 158 miles 7 furlongs ...	18,200
2. Converting Chippaleru north flood-gate into a lock	13,000
Total ...	31,200

2. This sanction is registered as No. 10 I. of 1896-97.

(True Extract.)

Under Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, II Circle, with plans and estimates.
" Examiner, Public Works Accounts.
" Revenue Department.

Exd. T. K. Narayana Aiyangar.
Spare Copies

IRRIGATION.
ACCOUNT.

Govt. of {1896} Madras.
PUBLIC WORKS.

Dated April, 20th.

Recd. *Encl.*

G.O. No. 348 I., 20th April 1896.

APRIL.

Lock

Estimates aggregating Rs. 31,200 for constructing a new lock south of Manneru river at 158 miles 7 furlongs, and for converting Chippaleru north flood-gate into a lock, Buckingham canal, sanctioned.

A

Ro. 348 I a/20 April 1896

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following

From Supg Eng. II Circle, No. 273 WC d/ 3.11.95
To do. 55 WC d/ 15.11.95
From do. 444 WC d/ 26.2.96
No 763 I d/ 1.4.96

Print with 2 Reports

Submitted to Govt with a recommendation that the estimates forwarded by the Supg Eng. II Circle, be sanctioned.

A.S.H 10.4.96

Order hereon.

The following estimates are sanctioned from the balance of the amount reserved for unforeseen works of the Buckingham Canal which will then be reduced to Rs. 164,967

+Rs 196,167

Irrigation.

43. Minor Works & Navign.

Minor Works for which Capital & Rev. Accts are kept.

Buckingham Canal.

Capital Account

I. Works

2. Main Canals & Branches.

9. Navigation

		Rs
1.	Constructing a new lock south of Manneru river at 158 miles, 7 furlongs	18,200
2.	Converting Chippalem north flood gate into a lock	13,000
	Total	31,200

2. This sanction is registered as

No. 10 I of 1896-97.

1/4

Rueds 1/4

DESPATCHED
4 MAY 96

To

The Chief Engr for I. ✓
Supg Engr II with plans & estimates (14) ✓
Eng. I. Wks
Rev: Dept.

1/4

P. W. CURRENT No. 3402

~~H.E.~~

No. 335 I of 13-4-93 ✓
- 498 I - 29-6-94 ✓

Estimates for a new lock south of Manneru river at $\frac{158}{7}$ miles & for converting Chippaleru north flood gate into a lock – Buckingham Canal. Encls 19 (4 plans)

Recd: 4-4-96

7.E.I. 15/4

W.S. 20/4

Registered 20/4

Issue

Rnedy

S.J.

11-4-96

6/4

E. I. Form No. 1—500—14-5-96

H.E. 6/4 R 11/4.

Letter from the Offg: Executive Engineer, Buckingham Canal Dn: to the Supg: Engineer, 2nd Circle, d/ 28-10-95, No. 1666.

In my Inspection Notes for September 1895, I observed that it would be well to build locks for the reach Chippaleru to Manneru, 133 to 159 miles, on which you remarked that a special report should be made.

2. The reach 26 miles long is a good ~~one~~ comparatively, but there are several bad bits in it, notably at 142 to 143, 145 to 146, 149 to 150, and 151 to 154. These bits, of 6 miles give trouble yearly and especially at 143 where the banks are very high and the soil of pure sand, the cost of maintaining this mile is out of all proportion to the grant for a mile of Canal.

3. By building the Locks now recommended, all these clearances would be obviated and the gradual silting up of Canal bed caused by the daily ebb and flow of tides from both ends of the reach, would be stopped.

4. This is the longest reach of Canal in the Sub Dn. and it would be worth while to make it efficient and easily navigable. There is no doubt the locks would pay for their construction in the long run as except at ramp and inlets after construction hardly any clearance would be necessary and the grant for maintenance would be relieved of a large sum annually.

5. I would wish to bring to ~~your~~ notice that the reach throughout is gradually silting up and although intensive clearance may not now be necessary throughout this long reach, it will be required in a few years and the cost of so doing will then be considerable.

6. At the Chippalera North Flood gate, the new lock could be built in conjunction with the existing flood gate and the cost would be small.

At Manneru South I do not think, from what I know of this troublesome river, that it would be advisable to build the new lock at the Flood gate. Looking down the

the river from Karedu village, it is very obvious that the set of the river is dead on to the flood gate and it is merely a question of time for the breaking in of the river here, as erosion is going on yearly and there is only 100 yards of land between the flood gate and the river border where there was double this distance not many years ago.

7. I would recommend that a Lock be built at 158 VII, where there is a straight reach and it is clear of the escape where the river broke through in 1893. At 158 VII, the Lock would be safe and there would be no fear of the Manneru river encroaching on this site.

8. To sum up the advantages to be derived by building the locks now recommended, are

Firstly A reach of Canal 26 miles long would be made efficien and easily navigable with water held up to H. T. level.

Secondly The daily tidal flow would be stopped and the consequent erosion of sides of Canal and widening of same, also

also the silting up of bed from the erosion so caused.

Thirdly. No work would be required to be done in the six miles reported on in para 2 of this report in the months January to March when the water level is low and labour scarce on account of the harvest; at any time labour cannot be had at the 143rd mile and has to be imported from Ramapatam.

Fourthly. Economy in ~~the~~ maintenance of Canal.

Fifthly Funds would then be available from maintenance to spend on sectioning berms and banks, rectifying drainage and keeping off land floods which carry lots of silt into the Canal.

9. In conclusion, I would beg to observe that, if approved, I shall be glad to submit plans and estimates for the construction of the Locks now recommended.

273 BC
No. 3/7 11.95 Forwarded to the Chief

3 R.

Chief Engineer for Irrigation with a recommendation that the Chippalum North floodgate be converted into a lock and a new tidal lock be built at 158/7. The question of building these two locks has been considered by me for some time past, and as their construction will effect great economy in Canal maintenance and there are now funds to build them, I have no hesitation in recommending the two locks to be built. The construction of these two locks will make the Buckingham Canal quite complete and efficient and no further works, in addition to those already approved will be necessary.

Wm. Ellis Captain R.E.

for Offg: Supg Engineer,
II Circle.

LD.
6/11/95.

CHIEF ENGINEER
FOR IRRIGATION
11 NOV.95
No. 86 B C

From

The Supg Engineer
Second Circle

To

The Chief Engineer
For Irrigation

Dated 3d } November 1895
Despd 7 }

No. 273 BC

Locks on the Buckingham Canal —

Recommending the construction of 2 — for the reach Chippalevu to Manneru 133 to 159 mile

3660 B C

II
No 53 BC 7/15 11 95

Memo.

With reference to endorsement No. 273. B.C dated 3d November 1895, from the Supg. Engineer, Second Circle, the undersigned has the honor to request that estimates for the two locks recommended by the Supg. Engr, may be submitted.

To The Supg. Engineer,
Second Circle.

18/11

28bvc

3481

Pw 8-2
3600/96

Enclosure

7 SP

SUPG. ENGINEER'S O
No. 442 BC
7 FEB 1912
P. W. D.
SECOND CIRCLE.

Report to accompany estimate for Conversion of Chippalem North flood gate into a Lock.

Amount of Estimate Rs 13,000.

2. The design for this lock is similar to that in the general Type plan for Tidal locks, submitted with this office No 1295, dated 15th August, 1894.

3. The principal levels are as follow.—

M. S. L.	20·00
H. S. T.	23·00
L. R. T.	18·81
Sill	14·00
Floor	13·25.

4. The reach is a long one, its length, from this lock to the new lock to be constructed on the South bank of the Maunern at Mile 158/7, being 26 miles. It is therefore not possible that the water of a high Spring tide can run to one general level. H. S. T in design of this locks is therefore taken from the Chippalem River, and not from the Maunern, where it is 0·35 feet higher.

5. Coping to walls or height of lock = H. S. T + 6" = 23·50

Height of walls from Sill to Coping = 23·50 − 14·00 = 9·50

6. Batter for walls 1 in 4 or 2·37, which may be taken as 2·50 feet, making width of the walls 4 feet at base.

7. The Sill of the lock to be 4·81 feet below L. R. T. ie 14·00, or on the same level as that of the existing flood gate. The Sill of the existing flood gate to be raised 6" for additional gate, instead of the old Sill being lowered, as originally proposed in general Type report.

8. The width of wings in Superstructure at base will be 4 feet, and the full width of masonry platform at the heelpost will be 6 feet. The length of wings in Superstructure will be 1½ the height, and is equal to 15 feet, with an extra allowance of 9 inches for the support of revetment.

9. Existing flood gate.— The height of existing flood gate from Sill to Coping level is 15 feet.

10. Gates.— New gates are required, as no existing gates are available for transfer to this lock.

11. General.— All other particulars in regard to Construction can be gathered from the report that accompanied the general Type plan.

A S Russell.

Executive Engineer
Buckingham. Canal.

CHIEF ENGINEER
FOR IRRIGATION.
26 FEB. 96
No. 24 RC/13

Out E.15
3602/86

Report to accompany esti-mate for Conversion of Chippaleru North flood gate into a lock.

Estimate Rs 13,000

98

Report to accompany estimate for Constructing a Lock in Canal South of Mannēru River at $\frac{158}{7}$ mile

Amount of estimate Rs 18,200

2. The design for this lock is Similar to that in the general Type plan for tidal locks, Submitted with this office No 1295, dated 15th August 1894.

3. The principal levels for this lock are as follow.—

M. S. L. ———— 20·00
H. S. T. ———— 23·35
L. R. T. ———— 17·10
Sill ———— 12·60
Floor ———— 11·85.

Coping to walls or height of lock = H.S.T + 6" = 23·85.

Height of walls from Sill to Coping = 23·85 – 12·60 = 11·25

4. Batter for walls 1 in 4 or 2·81, which may be taken as 3 feet, making width of the walls 4'–6" at base

5. Sill of lock 4·50 feet below L. R. T, ie 12·60.

6. The width of Wings in Superstructure at base will be 4'–6", and the full width of masonry platform at the heelpost will be 6'–6". The length of Wings in Superstructure will be 1½ the height and is equal to 18'–6"

7. Gates.— New gates are required, as no existing flood gates are available for transfer to this lock.

8. Site.— The Site of the lock is thrown well back from the River, and the existing flood gate on the South bank of the Mannēru has not been utilised for conversion into a lock, as it is not improbable that the River may, as it has done before, burst through the Flood Bank & turn the Flood gate.

9. General.— All other particulars in regard to Construction can be gathered from the report that accompanied the general Type plan. The Cost of this lock is considerably greater than that of other tidal locks, owing to the temporary diversion having to be taken through heavy Cutting, and to new gates being necessary.

A Russell

Executive Engineer
Buckingham Canal

442 BC
4 FEB. 96
P.W.D.
SECOND CIRCLE

CHIEF ENGINEER
FOR IRRIGATION.
28 FEB. 96
No. 26 BC

Report to accompany estimate for Constructing a lock in Canal South of Manneru River at $\frac{158}{7}$ miles.

Amount of Estimate Rs 18,000

Oe. E.10
3407/96

50

Letter from the Executive Engineer, Buckingham Canal Division, to the Superintending Engineer, 2nd Circle, No. 2534 d/30th January 1896.

With reference to your No. 304 BC, dated 18th November, 1895; communicating memo No. II/55 BC, dated 15th November, 1895, from the Chief Engineer for Irrigation, I have the honor to forward for sanction estimates for constructing a new lock in Canal South of Manneru River, at 158 miles, 7 furlongs, and for Conversion of Chippaleru North floodgate into a lock, amounting to Rs 18,200/- & 13000/- respectively, with enclosures as noted in margin. Early sanction is requested, as the lock cannot be completed before the North East Monsoon, unless construction is soon put in hand. As both the Manneru and Chippaleru rivers pass high floods, this is very desirable.

Lock of South of Manneru River.
1. Site plan.
1. Section.
1. Report
1. Data
1. Price List
1. Detailed estimate for temporary diversion
1. Abstract — Do —
1. Detailed estimate for lock
1 Abstract — Do —
9

Conversion of Chippaleru North Flood Gate into a lock
1. Site plan
1 Section
1. Report
1. Data
1 Price list
2. Detailed estimates and abstracts for temporary diversion.
~~2 Abstract for Do~~
1 Detailed estimate for lock
1 Abstract for Do —
9

2. The reason why I have not considered it safe to utilize the Manneru South Flood gate for the new lock is briefly stated in the report. The new Right Flood Bank

to

to the Manneru, together with the protective works to the river's right border, sanctioned in G.O 498 I, dated 29th June, 1894, will probably, if carefully maintained, enable the existing canal line and South Flood Gate to be held on to for many years, if not for good, but it is impossible to say, what the effect of a maximum flood may be. If the river does burst into the canal again it will not hurt the new lock, a direct cut can be made through the breach into the river; and the South Flood Gate, and canal diversion in which it is placed, abandoned. This ultimate solution of the problem can be left to time to work out. It is in many respects not an unsatisfactory method of dealing with the Manneru, vide remarks made by me three years ago in report printed with G.O 335 I. dated 13th April, 1893.

3. I somewhat distrust the value of L.R.T. at the Chippaleru River, viz 18.81. It seems to me too high. It was fixed by the Gauge Establishment employed many years back, but I find from the lock registers now maintained at locks that the tidal values, as then ascertained, are seriously inaccurate in some cases. As it is very troublesome to lower the sill of existing flood gates, I have not allowed for doing so in the estimate for the Chippaleru North Lock, but have instructed the Sub-Divisional officer to watch the low tides of January and March. If they go lower than -1.19 M.S.L the Flood Gate Sill must be lowered, and a revised estimate, allowing for this, can be forwarded.

Enclosures 18

No. 444 B.C. / 26.2.96

Forwarded to the Chief Engineer for Irrigation, with reference to his No. II/55 B.C., dated 15th November '95, for favour of obtaining the early sanction of Government.

By order,

Executive Engineer,
for Superintending Engr.,
2nd Circle.

25/2/96

CHIEF ENGINEER
FOR IRRIGATION.
28 FEB. 96
No. 241BC

From

The Supg Engineer
Second Circle

To The Chief Engineer
For Irrigation

Dated 26 February 1896

Enclo: 18

OWS-1
3402/96

No. 444 BC

Constructing a new lock at South of Manneru river & conversion of Chippaleru North floodgate into a lock —

Forwarding for sanction plans & Estimates for —