Baca Unit 
Buffalo Canal

Vortex June Sand

May 1933
PROPOSED VORTEX TUBE SAND TRAP
FOR
BACA CANAL
TRINIDAD COLORADO

Irrigation Investigations
Bureau of Agr. Eng., U.S. Dept of Agriculture
Colorado Experiment Station
Fort Collins, Colorado
February 1934

Note: Sections of tube to be riveted together.

Flow

River Wall
Plan of Installation

Outlet Tube
Regulating Gate

Stakes to be 3 or 4' apart

Backfill carefully

Tube 4' higher on this end
Yellow Sheet #2

Wooden Apron
Elevation 100.00

Earth bank

3'-4' wide headgates.

Wooden Floor
Elev. Flow 100.0

Drainage to River

Estimated Elev.
River 300' S.
1985
Yellow Sheet #1

US Highway #50

Buffalo Creek

3-4' wide gates in head gate structure at this point.

Flesh board wooden apron wasteway to River.

Waste to River

Arkansas River
THE ARKANSAS VALLEY
SUGAR BEET & IRRIGATED LAND COMPANY
HOLLY, COLORADO

February 11, 1933

R. L. Parshall,
Senior Irrigation Engineer,
U. S. Department of Agriculture,
Ft. Collins, Colorado

Dear Mr. Parshall:

May I drop you a line rather hurriedly and informally?

Since the La Junta meeting, think perhaps I have located a place on the Buffalo Canal where we could work with your Department and install a sand sluicing device. The small red circle on the Land Company map shows its approximate location.

Buffalo Creek discharges large quantities of sand. The Buffalo Canal takes in its share of River sand. At the junction of these two waterways we have a combined headgate and wasteway, as indicated on the yellow sheet #1. I believe that if a sand sluicing device were constructed at point A in front of the headgate an enormous quantity of sand could be prevented from going into the Buffalo Canal.

The Buffalo Canal during an irrigation season runs from 10 to 100 c.f.s. daily; the water is clear and ideal for observation; not a bad place to waste the sand and push it down the River after it has been removed from the Canal.

If you would care to investigate this location, please command me.

Sincerely yours,

Oscar Hettig
Superintendent

OKH mr
Fort Collins, Colorado
February 14, 1932

Mr. Oscar Hallbeck, Superintendent
The Arkansas Valley Sugar Beet &
Irrigated Land Company
Holly, Colorado

Dear Mr. Hallbeck:

I was indeed pleased to receive your letter of February 11, stating that there is a possibility of using your Buffalo Canal intake as a likely place for installing a sand trap.

Resulting from my discussion before the association at La Junta last week, I find that the Oxford Farmers Ditch Company are somewhat interested in a similar installation. It is very likely that it will be necessary for me to make a more complete examination of the Oxford Farmers condition, and if this be true I will let you know sometime previous and will meet you at Holly during this same trip. Because of the lack of enough funds, it will not be possible for us to undertake an extensive program; however, we feel that some effort should be made in the connection of field studies of this device.

Thank you for your interest in this matter, I beg to remain

Yours very truly

RLP:MG

Senior Irrig. Engineer
Fort Collins, Colorado
April 3, 1935

The R. Hardesty Mfg. Company
Denver, Colorado.

Dear Mr. Haines:

Attention Mr. E. L. Haines

This is to acknowledge receipt of your letter of March 30 stating prices on galvanized iron vortex tube for the Buffalo Canal sandtrap. I am very grateful to you for this information, but can not give you a definite order at this time. I am hoping to be able to inform you shortly in this matter.

Yours very truly,

Senior Irrigation Engineer

RLP/b
March 30, 1933

Mr. R. L. Parshall  
Senior Irrigation Engineer  
Colorado Experiment Station  
Ft. Collins, Colorado

Dear Mr. Parshall:

Our quotation on the vortex tube sand traps for the Buffalo Canal, which you described to us and which is shown on the print which you left as our office, is as follows, f.o.b. Denver, Colorado:

five 5-foot long sections of vortex tube and five 5-foot sections of cover plates, all made of 16 gauge galvanized sheet iron.  
Total price, f.o.b. Denver, Colorado ——— $28.32

If 14 gauge galvanized sheet iron is used instead of 16 gauge, the price would be $30.96 f.o.b. Denver.

Our quotation is based on five 5-foot sections rather than on four 6-foot sections to make the required 24 feet over all, because 5-foot lengths eliminate a large part of the sheet waste. These 5-foot lengths will, incidentally, provide enough material for laps when the sections are joined together in the field, and will still leave about 24 feet over all net length.

We should be very glad to have your order for this material, and we will be very much interested in the results which you obtain with this type of sand trap.

Yours very truly,

THE R. HARDESTY MFG. CO.

E.L. Haines  
Business Department
R. L. Parshall  
Senior Irrigation Engineer  
Colorado Experiment Station  
Fort Collins, Colorado

**SOLD TO**  
**ADDRESS**  
**SHIPPED TO**  
**DESTINATION**  
**B/L MAILED TO**

**DATE**

5  
1  
33  

**CUSTOMER'S ORDER**  
Mr. Parshall  
1-3  
SALESMAN  
H.D. Brown

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5 foot sections of tapered vortex tube for a sand trap - 14 ga, galv. sheet iron</td>
</tr>
<tr>
<td>5</td>
<td>5 foot x 12&quot; cover plates</td>
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All according to Mr. Parshall's drawing attached

**REMARKS:**  
Wanted May 8th, 1933.

30 days net.

**OUR ORDER NO.:**  
A 2458

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**ACKNOWLEDGMENT:**

Thank you.

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**IF YOU HAVE OCCASION TO WRITE OR TELEPHONE US, PLEASE REFER TO OUR ORDER NUMBER.**

**SHEET (1) OF (1)**
The Thompson Mfg. Company
30th and Larimer Streets
Denver, Colorado.

Dear Mr. Powell:

Attention Mr. B. F. Powell

This is to acknowledge receipt of your letter of April 1 stating prices on galvanized iron vortex tube for the Buffalo Canal sandtrap. I am very grateful to you for this information, but am unable to give you a definite order at this time. I hope to be able to inform you shortly concerning it.

Yours very truly,

Senior Irrigation Engineer

Fort Collins, Colorado
April 5, 1955

RLP/b
April 1, 1933

Mr. R. L. Parshall
Ft. Collins, Colorado

Dear Mr. Parshall:

In reply to your letter, we are pleased to quote you on four vortex tubes as per your blue print as follows:

24' of 14 gauge galvanized vortex tube. Weight, 345#. Price, $22.28

24' of 16 gauge galvanized vortex tube. Weight, 281#. Price, $28.67

These of course will be made as per your sketch with butt strap joints. However, where you specify four sections 6' long, we will have to splice these sections in the middle here in the factory because our light roll will not take a section longer than 5'. The 12" x 6' strips, however, will be in one piece. We can assure you that the tube will be fabricated exactly as you desire it and we trust you will favor us with this business.

I was very sorry not to be able to attend Engineers day the other Saturday but I was tied up here in Denver.

With kind personal regards, we remain

Very truly yours,

THE THOMPSON MANUFACTURING COMPANY

B.F. Powell-H
Sales Engineer

Save with Steel
Vortex Tube Sand Trap

For
Buffalo Canal
Arkansaw Valley Sugar Beet & Zinc Land Co
Folly, Colorado

Irrigation Investigations
Colorado Experiment Station
Fort Collins, Colo.
March 1933

Cover Plate

Section of near end of tube

Sections

Flow

Diagram Image