

Northern Pacific Railway Company. Engineering Department Records.

# **Copyright Notice:**

This material may be protected by copyright law (U.S. Code, Title 17). Researchers are liable for any infringement. For more information, visit <a href="https://www.mnhs.org/copyright">www.mnhs.org/copyright</a>.



N. P. 1757 6-24

		BE	CIT	OR	ENGI	TREE
OFFICE	OF.	about the	-	الناسان	Code IV VILLENIA	of abidehidah

684

FILE NO.

SUBJECT:

AUBURN CONCRETE PLANT

1912 TO 1924

PART 1

Sa.65

Re: Inventory of Auburn Concrete Plant products for 1923.

Seattle, Wash., October 30, 1923.

Mr. H. E. Stevens, Chief Engine . Saint Paul Minn.

Dear Sir:-

I enclose herewith, in duplicate, on Form 317, inventory of manufactured products, corrugated reinforcing rods, supplies, raw material, etc. on hand at Auburn Concrete Vlant as of October 31, 1923.

One copy is for your files and the other for use of Engineering Dept. Accountant.

Yours truly,

(Signed) A.R. COOK

GES:L Encl.

ee MFC Y

	Arithmetic'
	ith, checked
	n. verification
150	Recap.
	Recap. checked
	Doson varified

0/0 DAS #10

# Northern Pacific Railway Company

INVE	NITC	YOU

1	7,6	-	AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED I
TOP !	1,000	CONTRACTOR AND SERVICE	
THE PARTY	No		1
300	Inton		

No.	
Lister's Sheet No.	1

Listed by	. Springer	
Called by	# WARRIES # 29 2001 4 3	
Location of Material	Aubura Concrete Plant	

Auburn Concrete Plant Store, Getober 31, 1923. 192 Division Scattle LOT WEIGHT DESCRIPTION Unit Class'n No. RECAPITULATION sheet se. 5032,16 2-3-4 Reinforcing Rods 409,97 11,16 sire malthoid Paper Total New Material 6255.96 461,30 Supplies 6717,16 11 16 17 21 22 27 28 30 35 36

				8
1-A	Frogs, Switches and Parts	TEXAS DE LA COMPANION DE LA CO		
1-B	Track Fastenings			
1-C	Track Tools			
2-A	Interlocking & Signal Material	The second		
2-B	Telegraph & Telephone Material			
3	1-B Track Fastenings 1-C Track Tools 2-A Interlocking & Signal Material 2-B Telegraph & Telephone Material 3-B rick, Lime, Cement, Stone, Etc. 4-Lumber, Bridge & Building 5-A Switch Ties, Treated & Untreated 5-B Cross Ties, Treated & Untreated 6-B Cross Ties, Treated & Untreated 7-B Ballast all kinds 8-Rail, except scrap 9-A Fuel & Water Station Material 9-B Elevators, & Coal & Ore handling Machinery 9-C Steam Derricks, Shovels, Ditchers, etc. 0-Chemicals for Timber Treatment 1-Bolt, Nuts, Washers, etc. 2-Springs for Locomotives & Cars 3-Flues, Boiler 4-Tubing, Ferrules & Soft Metals 5-Bar Iron & Steel, etc. 3-Sheet Steel, No. 13 & Heavier 4-Heavy Forgings for Locomotives 0-Car Castings Iron & Steel 0-Car Castings Iron &			
4	1-B Track Fastenings 1-C Track Tools 2-A Interlocking & Signal Material 2-B Telegraph & Telephone Material 3 Brick, Lime, Cement, Stone, Etc. 4 Lumber, Bridge & Building 5-A Switch Ties, Treated & Untreated 5-B Cross Ties, Treated & Untreated 5-B Cross Ties, Treated & Untreated 6 Iron Bridges, Turntables, etc. 7 Ballast all kinds 3 Rail, except scrap 3-A Fuel & Water Station Material 4-B Elevators, & Coal & Ore handling Machinery 4-C Steam Derricks, Shovels, Ditchera, etc. 5 Chemicals for Timber Treatment 6 Bolt, Nuts, Washers, etc. 7 Springs for Locomotives & Cars 8 Flues, Boiler 8 Tubing, Ferrules & Soft Metals 8 Bar Iron & Steel, etc. 9 Springs for Locomotives & Cars 9 Fries, Boiler 9 Tubing, Ferrules & Soft Metals 9 Bar Iron & Steel, etc. 9 Car Forgings, etc. 9 Car Castings for Locomotives 9 Car Forgings, etc. 9 Car Castings Iron & Steel 9 Car Castings Iron & Steel 9 Brass Castings & Journal Bearings 9 Air Brake Material 9 Mechanical Appliances for Locomotives 9 Passenger Car Trimmings 9 Electrical Material for Cars 9 Shop Fuel 9 Foundry Supplies 9 Wheels, Tires, Axles & Centers 9 Lumber, Trees, Axles & Centers 9 Pipe, Iron & Steel 9 Pipe, Fittings 9 Electric Lighting Material for Buildings, etc. 9 Pipe, Fittings 9 Electric Lighting Material for Buildings, etc. 9 Pipe, Fittings 9 Electric Lighting Material for Buildings, etc. 9 Pipe, Fittings 1 Electric Lighting Material for Buildings, etc. 9 Pipe, Iron & Steel			
			-	
			-	
-				
			4	
11				
12	Springs for Locomotives & Cars			
13	Flues, Boiler			
14	Tubing, Ferrules & Soft Metals			
15	Bar Iron & Steel, etc.	No.		
16	Sheet Steel, No. 13 & Heavier			
17	Heavy Forgings for Locomotives	THE STATE OF		THE STATE OF
18	Car Forgings, etc.			
19				
20				
21				-
	1-B Track Fastenings 1-C Track Tools 2-A Interlocking & Signal Material 2-B Telegraph & Telephone Material 3 Brick, Lime, Cement, Stone, Etc, 4 Lumber, Bridge & Building 5-A Switch Ties, Treated & Untreated 5-B Cross Ties, Treated & Untreated 6-B Cross Ties, Treated & Untreated 6-B Cross Ties, Treated & Untreated 7-B saliast all kinds 8 Rail, except scrap 9-A Fuel & Water Station Material 9-B Elevators, & Coal & Ore handling Machinery 9-C Steam Derricks, Shovels, Ditchers, etc. 0 Chemicals for Timber Treatment 1 Bolt, Nuts, Washers, etc. 2 Springs for Locomotives & Cars 3 Flues, Boiler 4 Tubing, Ferrules & Soft Metals 5 Bar Iron & Steel, etc. 6 Sheet Steel, No. 13 & Heavier 7 Heavy Forgings for Locomotives 9 Locomotive Castings Iron & Steel 0 Car Castings Iron & Steel 1 Brass Castings & Journal Bearings 2 Air Brake Material 3 Mechanical Appliances for Locomotives 4 Passenger Car Trimmings 5 Electrical Material for Cars 7 Shop Fuel 8 Foundry Supplies 9 Wheels, Tires, Axles & Centers 1 Lumber, Locomotive & Cars 1 Trucks for Locomotives & Cars 1 Floating Equipment Material 6 Locomotive Deliers, Fireboxes, etc. 1 Trucks for Locomotives & Cars 1 Floating Equipment Material 1 Locomotive Boilers, Fireboxes, etc. 1 Trucks for Locomotives & Cars 1 Machinery & Machine Tools 1 Floating Equipment Material 1 Locomotive Boilers, Fireboxes, etc. 1 Trucks for Locomotives & Cars 1 Machinery & Machine Tools 2 Locomotive Boilers, Fireboxes, etc. 3 Trucks for Locomotives & Cars 4 Material in Process of Manufacture 5 Floating Equipment Material 6 Locomotive, Train & Station Supplies 9 Fuel for Locomotives 9 Fuel for Locomotives 9 Fuel for Locomotives 9 Fuel for Equipment Material 1 Floating Equipment Machine			
			-	
33				
34	Material in Process of Manufacture			
35	Floating Equipment Material			
36	1-C Track Tools 2-A Interlocking & Signal Material 2-B Telegraph & Telephone Material 3 Brick, Lime, Cement, Stone, Etc. 4 Lumber, Bridge & Building 5-A Switch Ties, Treated & Untreated 6-B Cross Ties, Treated & Cross Ties, Treated & Untreated 6-B Cross Ties, Treated & Cross Ties, Treated & Untreated 6-B Cross Ties, Treated & Untreated 6-B Cross Ties, Treated & Cross Ties, Tr			
37	2-A Interlocking & Signal Material 2-B Telegraph & Telephone Material 3 Brick, Lime, Cement, Stone, Etc. 4 Lumber, Bridge & Building 5-A Switch Ties, Treated & Untreated 6 Iron Bridges, Turntables, etc. 7 Ballast all kinds 8 Rail, except scrap 9-A Fuel & Water Station Material 9-B Elevators, & Goal & Ore handling Machinery 9-C Steam Derricks, Shovels, Ditchers, etc. 10 Chemicals for Timber Treatment 11 Bolt, Nuts, Washers, etc. 12 Springs for Locomotives & Cars 13 Flues, Boller 14 Tubing, Ferrules & Soft Metals 15 Bar Iron & Steel, etc. 16 Sheet Steel, No. 13 & Heavier 17 Heavy Forgings for Locomotives 18 Car Forgings, etc. 19 Locomotive Castings Iron & Steel 20 Car Castings Iron & Steel 21 Brase Castings & Journal Bearings 22 Air Brake Material 23 Mechanical Appliances for Locomotives 24 Passenger Car Trimmings 25 Electrical Material for Cars 27 Shop Fuel 28 Foundry Supplies 29 Wheels, Tires, Axles & Centers 20 Lumber, Locomotive & Car 31 Machinery & Machine Tools 20 Locomotive Bollers, Fireboxes, etc. 31 Trucks for Locomotives & Cars 32 Trucks for Locomotives & Cars 33 Trucks for Locomotive & Car 34 Material In Process of Manufacture 35 Floating Equipment Material 36 Locomotive Bollers, Fireboxes, etc. 37 Trucks for Locomotives & Cars 38 Machinery & Machine Tools 39 Locomotive Bollers, Fireboxes, etc. 30 Lumber, Locomotives & Cars 31 Trucks for Locomotives 32 Locomotive Bollers, Fireboxes, etc. 33 Trucks for Locomotives 40 Floating Equipment Material 51 Locomotive, Train & Station Supplies 52 Locomotive Train & Station Supplies 53 Floating Equipment Material 54 Locomotive, Train & Station Supplies 55 Floating Equipment Material 56 Locomotive, Train & Station Supplies 57 Floating Equipment Material 58 Locomotive, Train & Station Supplies 59 Floating Equipment Material 50 Locomotive, Cars 50 Floating Equipment Material 51 Locomotives 51 Commissary Supplies 52 Pipe, Iron & Steel			
38	Ice, & Packing for Ice Houses		1818	
39	Fuel for Locomotives			
40	Fuel for Stations & Cars			
41	Commissary Supplies			
42	Pipe, Iron & Steel			3527
43	Pipe Fittings	TO THE REAL PROPERTY.		
44	Electric Lighting Material for Buildings, etc.			
45	Hardware			
46	Rubber & Leather Goods, etc.			
47				
48	2-B Telegraph & Telephone Material 3 Brick, Lime, Cement, Stone, Etc. 4 Lumber, Bridge & Building 5-A Switch Ties, Treated & Untreated 5-B Cross Ties, Treated & Untreated 6 Iron Bridges, Turntables, etc. 7 Ballast all kinds 8 Rail, except scrap 9-A Fuel & Water Station Material 9-B Elevators, & Coal & Ore handling Machinery 9-B Elevators, & Coal & Ore handling Machinery 9-B Steam Derricks, Shovels, Ditchera, etc. 10 Chemicals for Timber Treatment 11 Boit, Nuts, Washers, etc. 12 Springs for Locomotives & Cars 13 Flues, Boiler 14 Tubing, Ferrules & Soft Metals 15 Bar Iron & Steel, etc. 16 Sheet Stepl, No. 13 & Heavier 17 Heavy Forgings for Locomotives 18 Car Forgings, etc. 19 Locomotive Castings Iron & Steel 19 Locomotive Castings Iron & Steel 20 Car Castings Iron & Steel 21 Brass Castings & Journal Bearings 22 Air Brake Material 23 Mechanical Appliances for Locomotives 24 Passenger Car Trimmings 25 Electrical Material for Cars 26 Electrical Material for Cars 27 Shop Fuel 28 Foundry Supplies 29 Wheels, Tires, Axles & Centers 20 Lumber, Locomotive & Cars 21 Locomotive Boilers, Fireboxes, etc. 22 Locomotive Boilers, Fireboxes, etc. 23 Trucks for Locomotives 24 Passenger Guident Raterial 25 Iconomotive Boilers, Fireboxes, etc. 26 Locomotive, Train & Station Supplies 29 Fuel for Locomotives & Cars 30 Lumber, Locomotive & Cars 31 Machinery & Machine Tools 32 Locomotive, Train & Station Supplies 34 Piniting 35 Floating Equipment Material 36 Locomotive, Train & Station Supplies 37 Pipe Fittings 38 Pipe Fittings 39 Pipe Fittings 40 Pipe Iron & Steel 50 Pipe Iron & Steel 51 Commissary Supplies 52 Pipe, Iron & Steel 53 Pipe, Fron & Steel 54 Piniting 55 Lectric Lighting Material for Buildings, etc. 56 Hardware 57 Leather Goods, etc. 57 Jeps Chemicals & Painters' Supplies 58 Pipe Iron & Steel 59 Pipe Iron & Steel 50 Pipe Iron & Steel 50 Pipe Iron & Steel 51 Commissary Supplies 52 Pipe, Iron & Steel 53 Pipe Iron & Steel 54 Printing 55 Pipe Iron & Pipe Iro			
	1-B Track Fastenings 1-C Track Tools 2-B Intelocking & Signal Material 2-B Telegraph & Telephone Material 3 Brick, Lime, Cement, Stone, Etc. 4 Lumber, Bridge & Building 5-A Switch Ties, Treated & Untreated 6 Iron Bridges, Turntables, etc. 7 Ballast all kinds 8 Rail, except scrap 9-A Fuel & Water Station Material 9-B Elevators, & Coal & Ore handling Machinery 9-C Steam Derricks, Shovels, Ditchers, etc. 10 Chemicals for Timber Treatment 11 Bolt, Nuts, Washers, etc. 12 Springs for Locomotives & Cars 13 Flues, Bolier 14 Tubing, Ferrules & Soft Metals 15 Bar Iron & Steel, etc. 16 Sheet Steel, No. 13 & Heavier 17 Heavy Forgings for Locomotives 18 Car Forgings, etc. 19 Locomotive Castings Iron & Steel 20 Car Castings Iron & Steel 21 Brass Castings & Journal Bearings 22 Air Brake Material 23 Mechanical Appliances for Locomotives 24 Passenger Car Trimmings 25 Electrical Material for Cars 26 Electrical Material for Cars 27 Shop Fuel 28 Foundry Supplies 29 Wheels, Tires, Axles & Centers 30 Lumber, Locomotive & Car 31 Machinery & Machine Tools 31 Locomotive Bollers, Fireboxes, etc. 32 Trucks for Locomotives & Cars 33 Trucks for Locomotives & Cars 34 Material in Process of Manufacture 35 Floating Equipment Material 36 Locomotive, Train & Station Supplies 37 Oil Houss Material 38 Ice, & Packing for loc Houses 39 Fuel for Locomotives & Cars 40 Commissary Supplies 41 Pipe, Iron & Steel 42 Pipe, Iron & Steel 43 Pipe Fittings 44 Electric Lighting Material for Buildings, etc. 47 Pipe, Iron & Steel 48 Rubber 2 Leather Goods, etc. 47 Jeps, Chemicals & Painters' Supplies 48 Pipe, Iron & Steel 49 Rubber 2 Leather Goods, etc. 40 Jeps, Chemicals & Painters' Supplies 40 Rubber 2 Leather Goods, etc. 47 Jeps, Chemicals & Painters' Supplies 40 Rubber 2 Leather Goods, etc. 47 Jeps, Chemicals & Painters' Supplies 40 Electric Lighting Material for Buildings, etc.			
				-
				-
	TOTAL			A
	TOTAL			

# Arithmetic.. ith. checked en. verification Recap. checked Recap. verified

# Northern Pacific Railway Company

## **INVENTORY**

No.	
Lister's	
Sheet No.	

Listed by C. B. Springer

rugated Rein urn Concrete	forcing Bars Piant	Store, October	31	Loca	tion of		Aubur					
	DESCRIPTION		New or S. H.	Quantity or Number		WEIGHT	Total Weight	Price	Unit	Amoun		Class'n
1		Forward	-	AB all to	•	Mais	170576	OL COMPANY	7. 10.303	7.470	en de	
2 Size	Length	No.Pes.					110536			3477	27	
3 & Rd.	451	2		00			444	No. no. tot	100 10000 101010 W	D fairs 8		
A 20 0	35*	389		90		1.502		4.00			40	
5 0 0	17' 6"	6				a	20450	1 3333	C-11 ( 3/2)	818.		
6 ** **	61	2		105		a	100000	2.84	2011 - 1800 2011 - 1800	4.	49	
7 9 9	31 61	22		77		10	18	Hom to a	al dissert	-	51	
8 0 0	31	24		72		a	116	0.000		ATT THE ST	229	
g ## ##	21 30	2			6"		108	200 4 201	gl4 (helf renn al	3.	07	
10	Total 3" Re				THE PERSON		7				20	
11	1000 g 111	4010110		13970	0		20992	2010 20 1		834.	96	
12 &* Sq.	451	0.4		7500			apriliasis I	EATHOU S	aprilage	A S. S. C.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
13 " "	31'	84		3780			omano Ja	orioscus				
14 ** **	301	24		944			restructions	2 101 183	74 H 05		75	
15 ** **	16' 6"			810			846	a par lis	1974 B 18	Reports .	No.	
16 ** **	15' 6"	378		2706			prefer	o antel	offense is	Shousti-		
17 ** **	13' 6"	288		5859 3888				5 W 3 V 3	merca de	a November		
18 ** **	12' 6"	3		121	0.00		aloc ata geosty	Totalijos Sviši vets	id is yes	mano d	18	
19 ** **	6' 6"	opp					tive 5 3	M to est	1001 103 1019			
20 ** **	41	277		1800	(i) **			1500 24150	to lunch			
21 ***	31	17		20			Ton: Bump!	nd de Stat	ant date	930E3E M	18 S	
22 ** **	2,10.			5) *	No.		21-980-10	History (10)	entitle d	Nac Al		
23 ** **	21 611	103		291'				- C	1817117-5-1		D2	
24	2.0	21		521			38 289 #	i sallet	on a St	() (a) (a)	10	
				20015	40	1.913		2.84	cwt.	1087.	11	
25 26 5/8" Rd.	71 60					10 gts, 890	The Ball	National S		NO 25 D		
	71	8		60		eliqqnê -	a C. sia	Place of	Pised Br	Septimp (	30	
21	41 61	4		71				_ontint	9 3 45	all and		
20	41 5*	2		9				365)7514	onla de	Parent .		13
23	41	3		13'	3 **							
30	31 2#	2		8								
31		52		1641	3 44	7						
32	31	7		51								
33	•	3		6	Shinso							
34				2881	11"	.043	301# 2	2.14	wt.	6.4	4	
35		No. of the Control of								A Track		
36	8.											
37			111	100-100-10	18 34	100000	A STATE OF THE STA	1217	100 100 100		146	1313

INVENTORY

1-B	Track Fastenings			
1-C	Track Tools			-
2-A	Interlocking & Signal Material			-
2-B	Telegraph & Telephone Material			-
3				-
	Brick, Lime, Cement, Stone, Etc.		-	-
4	Lumber, Bridge & Building			-
5-A	Switch Ties, Treated & Untreated			_
5-B	Cross Ties, Treated & Untreated			3000
6	Iron Bridges, Turntables, etc.			
7	Ballast all kinds			
8	Rail, except scrap			
9-A	Fuel & Water Station Material			
9-B	Elevators, & Coal & Ore handling Machinery			
9-C	Steam Derricks, Shovels, Ditchers, etc.			
10	Chemicals for Timber Treatment			
11	Bolt, Nuts, Washers, etc.			
12	Springs for Locomotives & Cars			
13	Flues, Boiler	-		-
14	Tubing, Ferrules & Soft Metals		-	
15	Bar Iron & Steel, etc.	-		-
				-
16	Sheet Steel, No. 13 & Heavier	-		-
17	Heavy Forgings for Locomotives		-	
18	Car Forgings, etc.			
19	Locomotive Castings Iron & Steel			
20	Car Castings Iron & Steel			
21	Brass Castings & Journal Bearings			
22	Air Brake Material			
23	Mechanical Appliances for Locomotives			1
24	Passenger Car Trimmings			
25	Electrical Material for Locomotives			
26	Electrical Material for Cars	HARAMAN		
27	Shop Fuel			
28	Foundry Supplies			
29	Wheels, Tires, Axles & Centers			
30	Lumber, Locomotive & Car	-		
31	Machinery & Machine Tools			
32	Locomotive Boilers, Fireboxes, etc.		-	-
-	Trucks for Locomotives & Cars	_	-	
33	Material in Process of Manufacture			
34				
35	Floating Equipment Material			
36	Locomotive, Train & Station Supplies	A TRANSPORT		
37	Oil House Material			
38	Ice, & Packing for Ice Houses		1	-
39	Fuel for Locomotives			11
40	Fuel for Stations & Cars			
41	Commissary Supplies		1	
42	Pipe, Iron & Steel		BIS	
43	Pipe Fittings			
44	Electric Lighting Material for Buildings, etc.	E PARLON		
45	Hardware			
46	Rubber & Leather Goods, etc.			
47	Glass, Drugs, Chemicals & Painters' Supplies			-
48	Stationery & Printing			-
49	Power Plant Equipment			-
		- Villey A.		-
50	Scrap, All Kinds	-		
A DOS				
		N. S.	T.T.	
				1

Inc. varidistion
Recap.
Recap. checked

## Arithmetic... ith. checked ... en. verification Recap. Recap. checked. Recap. verified ...

# Northern Pacific Railway Company

## INVENTORY

No.	
Lister's Sheet No.	2

C. E. Springer Listed by...

	numertad Datudamaina Dada			1	Caller	d by		Auburn	<i>(</i> ) -				
iox	rugated urn Con	Reinforcing Rods crete Plant	October	31	Locat	ion of	Material .	Audurn	Montt	rete i	lant		
		crete Plant Sto	re,	22	was work &	19	2	Division	130 m 9 9	40			
		DESCRIPTION		New or S. H.	Quantity or Number	-	WEIGHT	Total Weight	Price	Unit	Amount		Class'n I
	04		No.	S. H.		Pcs.	Unit.						
1	Size	Length	Pos.		Hr.	-			Sale street		CLOH		
2	1 1/8"		11		5371	2*	3,38					.12	
3	•	28' 4"	3		85			287			document of the second	.95	
4		24' 4"	496		12069'	4"		40794			1272	-	
5	18	20' 0"	127		2540		112	8585	510 (015)		267	.85	
6	43	19, 8,	40		790			2670	3.75	11 "	100	.15	
7	*	19' 0"	58		1102		п	3785	3.12		116	.22	
8	41	17' 6"	1		17'	6"		59	H & B	93	1	84	
9		15' 4"	348		5336		10	18036	000 1 18 1	*	562	.72	
10		13' 6"	. 9		121'	6"		411		180 18	12	.82	
11	"	11, 0,	124		1364		99	4610			143	.83	
12	н	4' 0"	39		156			527			16,	.44	
13	10	g: 6"	9		31	6"	69	107	Danmanfa	4	3,	34	
14	а	3' 0"	14		42		18	142	44	20	4.	43	
15	00	21 6"	29		721	6 18	- 41	245	10	93	7.	64	1
16		29' 0" are	h 17		493		10	1666			51.	98	
17	п	25' 0"	n 14		350			1183		80	36.	.91	
18		Total 1 1/8" F	id.		25107	6 **	3.38	84863	ers, Pors	102 -415	\$2676		
19								anather public	1 10 ses	MR ALA	nulsia 1		
20	la" Rd.	51 4"	6		32		5.31	170	#2.94	owt.	5	.00	
21											H HO '	10	
	de Rd.	Plain 33' 9"	126		42521	6*			1971	nonco al cre	Lipus	02	
23	n	271 2"	31		8421	2"			pality.	7111712		Uli	
24	0	61 9"	24		162				130		September 1		
25	9	4*10*	6		29		5.20 ARK	Units not to	noruht o	Olimp State	12015	3-3-	
26	7				52851	8"	4.17	22057	2.94		648	48	
	14" Sq.	U Bare7'	61		427			2267#			123,		
	1" Rd.	121	18		216				En Branco		Paule		
29		4 /	8		32						University of		
30	4	3	11		33			-					
31					281		2.67	750#	2.09	11	15.	68	
	1" Sq.	9	2		18	-77	QIL -						
33	4	41 50	3 .		131	3"							
34	4	31 4#	9		301								
35	4	31	15		45		357/433						700
36	4	2'10"	7		19'1	10 9							
37		4			126'	1"	3.4	429#	2.09			97	
31		Par	rward				0.00	110536			3477.		

William Str. Ple most

INVENTORY

1-A 1-B	Frogs, Switches and Parts  Track Fastenings		-	-
1-C	Track Tools		-	-
2-A	Truck Tools			-
	Interlocking & Signal Material		-	-
2-B	Telegraph & Telephone Material		_	-
3	Brick, Lime, Cement, Stone, Etc.			-
4	Lumber, Bridge & Building	_	_	-
5-A	Switch Ties, Treated & Untreated		_	_
5-B	Cross Ties, Treated & Untreated		_	
6	Iron Bridges, Turntables, etc.			_
7	Ballast all kinds			
8	Rail, except scrap			_
9-A	Fuel & Water Station Material			_
9-B	Elevators, & Coal & Ore handling Machinery			
9-C	Steam Derricks, Shovels, Ditchers, etc.			
10	Chemicals for Timber Treatment			
11	Bolt, Nuts, Washers, etc.			
12	Springs for Locomotives & Cars			
13	Flues, Boiler			
14	Tubing, Ferrules & Soft Metals			
15	Bar Iron & Steel, etc.	A THE STATE OF		
16	Sheet Steel, No. 13 & Heavier			
17	Heavy Forgings for Locomotives			
18	Car Forgings, etc.			
19	Locomotive Castings Iron & Steel			
20	Car Castings Iron & Steel			
21	Brass Castings & Journal Bearings			
22	Air Brake Material			
23	Mechanical Appliances for Locomotives			
24	Passenger Car Trimmings			
25	Electrical Material for Locomotives			
26	Electrical Material for Cars			Non.
27	Shop Fuel			
28	Foundry Supplies			
29	Wheels, Tires, Axles & Centers			Take,
30	Lumber, Locomotive & Car			
31	Machinery & Machine Tools			
32	Locomotive Boilers, Fireboxes, etc.	THE REAL PROPERTY.		
33	Trucks for Locomotives & Cars			
34	Material in Process of Manufacture			
35	Floating Equipment Material			
36	Locomotive, Train & Station Supplies	Walles Va		TAN
37	Oil House Material			TAN
38	Ice, & Packing for Ice Houses	TO DE LA		
39	Fuel for Locomotives	1 1 1 1 1 1 1 1 1	7	
40	Fuel for Stations & Cars			
41	Commissary Supplies	The Caralle		
42	Pipe, Iron & Steel			
43	Pipe Fittings			
44	Electric Lighting Material for Buildings, etc.	TO SERVICE SER		
45	Hardware	HURAL		
46	Rubber & Leather Goods, etc.			75
47	Glass, Drugs, Chemicals & Painters' Supplies	-		
48	Stationery & Printing			
49	Power Plant Equipment			
50	Scrap, All Kinds			
-				-
			-	
77				

# Arithmetic...' Tyith. checked en. verification Recap. Recap. checked Recap. verified

# Northern Pacific Railway Company

#### INVENTORY

No	
Lister's Sheet No.	4

Called by C. E. Springer

Called by Location of Material Auburn Concrete Plant

Corrugated Reinforcing Rods Auburn Concrete Plant, Store, Division Seattle 192 LOT WEIGHT DESCRIPTION Lbs Forward 5406.08 2 Size Length No.Pes. 3 5/8" Sq. 81 60 8 5" 181 61 3 31 6" 60 210 236' 6" 1.33 315# 2.14 cwt. 6.74 7 8 1 m Rd. 41 8 9 31 10 7 3.85 11 0.67 0.167 215# 5.14 11 20 Rd. 301 43 1290 11.05 13 4 59 23# 1219 2336 0.167 390 2.76 10.76 14 15 Plain Plates for Piles 162 1/8"x1/8"x1"-3%" 2 hole 1.25ea7744# 5.13 397.26 Total Reinforcing 78789# \$5832,16 18 19wire Mesh 20 14240 Sq.Ft. 02879 Sq.ft.409.97 21 22 Annealed Wire No. 16 150# 4.80 cwt. 7.20 No. 11 110# 3.60 3.96 25 26 Cement and Sacks 27 28 Malthoid Paper ly Rolls 750 Sq. Ft. 1.78 Roll 2.67 30 31 32 33 34 35 36 37 6255. 96

1-A	Frogs, Switches and Parts			
1-B	Track Fastenings			
1-C	Track Tools			-
2-A	Interlocking & Signal Material			-
2-B	Telegraph & Telephone Material			-
3	Brick, Lime, Cement, Stone, Etc.			-
4	Lumber, Bridge & Building			-
5-A	Switch Ties, Treated & Untreated		-	-
5-B	Cross Ties, Treated & Untreated			-
6	Iron Bridges, Turntables, etc.		-	-
7	Ballast all kinds		-	-
8			-	-
9-A	Rail, except scrap	_		-
9-B	Fuel & Water Station Material		-	-
	Elevators, & Coal & Ore handling Machinery		-	-
9-C	Steam Derricks, Shovels, Ditchers, etc.	_	-	-
10	Chemicals for Timber Treatment			-
11	Bolt, Nuts, Washers, etc.			
12	Springs for Locomotives & Cars			_
13	Flues, Boiler			
14	Tubing, Ferrules & Soft Metals		S TEST	
15	Bar Iron & Steel, etc.			
16	Sheet Steel, No. 13 & Heavier			
17	Heavy Forgings for Locomotives			
18	Car Forgings, etc.			
19	Locomotive Castings Iron & Steel			
20	Car Castings Iron & Steel			
21	Brass Castings & Journal Bearings			
22	Air Brake Material			
23	Mechanical Appliances for Locomotives			
24	Passenger Car Trimmings			
25	Electrical Material for Locomotives			7
26	Electrical Material for Cars			
27	Shop Fuel			
28	Foundry Supplies			-
29	Wheels, Tires, Axles & Centers			-
30	Lumber, Locomotive & Car			
31	Machinery & Machine Tools			
32	Locomotive Boilers, Fireboxes, etc.			
33	Trucks for Locomotives & Cars			-
34	Material in Process of Manufacture			-
35	Floating Equipment Material		-	-
36	Locomotive, Train & Station Supplies			-
37	Oil House Material			
	Ice, & Packing for Ice Houses	-		-
38				_
39	Fuel for Locomotives	-		_
40	Fuel for Stations & Cars	-		
41	Commissary Supplies			
42	Pipe, Iron & Steel	-		
43	Pipe Fittings			234
44	Electric Lighting Material for Buildings, etc.			
45	Hardware		9	
46	Rubber & Leather Goods, etc.			
47	Glass, Drugs, Chemicals & Painters' Supplies			
48	Stationery & Printing			
49	Power Plant Equipment			
	Scrap, All Kinds	A PLANT COLOR	111111111111111111111111111111111111111	
50	Oct. 40, 711.		1000	
50				

	Arithmetic '
	Arith. checked
1	den. verification
	Recap.
	Recap. checked
	Recap. verified

## **INVENTORY**

No.	
Lister's	
Sheet No.	

Listed by C. R.	Springer	ABONE TAIL OF THE	
Called by			

Supplies on hand

Auburn Concrete Plant

Auburn Concrete Plant

Store, Getober 31, 1923. 192 Division Seattle

			New	Quantity	LOT	WEIGHT	Total Weight	linë 2	Date of the last	must be	Class'n N
	DESCRIPTION		or S. H.	or Number	Pcs.	Lbs	Weight	Price	Unit	Amount	Class'n I
1	Coal	Tons		5			. Ala	3.76	ton	18,8	)
2	Engine Dil	Gal.		10	150			3.12	gal	3.1	3
3	Valve 011			- 6			ishen.	.50		3.00	
4	Coal Oil			8		1,535	a stuffe	.145		1,10	
5	Car Gil			75			, Imakeras	.252	68	18.90	
6	60 D. Nails	Lbs.					100#	2,81	Cwt.	2,8	
7	20 D. Nails						200#	3.86	6	7.7	
8	10 D. Nails						130#	3.08		4.00	
9	8 D. Nails						100#	3.13		3,1:	
0	6 D. Nails						60#	3.68		2,20	
1	4 D. Nails						5#	3.68	THE PERSON OF	200	
2	Sheet Iron 28 x8 x1/8	6 Sheets					120#	2.75		3,30	,
3	" " 24"x8'x1/8"						1080/	4.82		96.40	
4		LO "					EALS SELVED	6.04	ASSESSED FOR THE PARTY OF THE P	16.9	
5	2"x12'-16' 818 6 pcs.	LO2 FEM						23.08		4.4	1200
6		203 "					( automat	S gold	10	4.69	
17	1"x8"+16" " 8 "	85 *					8100			1.9	
18		304 "					die descon	22.00		6,69	
19		000 " "						22.00		261.80	A LANGE
20	Total Suppl						Ings west	0.18 3 51	THE PARTY OF	3461.20	
21								167	SOLD BED	19 2 19	118/
22								isvit		New York	
23								891/88	TOTAL PROPERTY.	DP.	197
24								150	S Allega		
25						ings, etc	thus not t	innsaM g	111 12	iloara	The
26							ets.	5000 to			
27						silugit2	esmica &	alsolman	977,697.0	subto in the	
28								instruction		1009	
29									A TOTAL		
30						.)		Table 1			
31									77/23		
32					180						
33											
34											
35											
36											
STATE OF THE PARTY.			_					-		t.	

# INVENTORY

1-A	Frogs, Switches and Parts		-	
1-B	Track Fastenings			
1-C	TIACK TOOIS			_
2-A	Interlocking & Signal Material			
2-B	Telegraph & Telephone Material		2 12 19	
3	Brick, Lime, Cement, Stone, Etc.			
4	Lumber, Bridge & Building	well a		
5-A	Switch Ties, Treated & Untreated	10 10 to 10		
5-B	Cross Ties, Treated & Untreated			of contract
6	Iron Bridges, Turntables, etc.			
7	Ballast all kinds			
8	Rail, except scrap			
9-A	Fuel & Water Station Material			
9-B	Elevators, & Coal & Ore handling Machinery			
9-C	Steam Derricks, Shovels, Ditchers, etc.			
10	Chemicals for Timber Treatment			
11	Bolt, Nuts, Washers, etc.			
12	Springs for Locomotives & Cars			
13	Flues, Boiler			1
14	Tubing, Ferrules & Soft Metals			
15	Bar Iron & Steel, etc.			
16	Sheet Steel, No. 13 & Heavier			
17	Heavy Forgings for Locomotives	THE COMMENT		N. S.
18	Car Forgings, etc.		90.93	14
19	Locomotive Castings Iron & Steel			
20	Car Castings Iron & Steel	The Steep and St		
21	Brass Castings & Journal Bearings			
22	Air Brake Material	NO SERVER		
23	Mechanical Appliances for Locomotives			27
24	Passenger Car Trimmings			
25	Electrical Material for Locomotives			
26	Electrical Material for Cars	E RISE		
27	Shop Fuel			
28	Foundry Supplies			
29	Wheels, Tires, Axles & Centers			
30	Lumber, Locomotive & Car			W.
31	Machinery & Machine Tools			
32	Locomotive Boilers, Fireboxes, etc.			
33	Trucks for Locomotives & Cars	1		
34	Material in Process of Manufacture			
35	Floating Equipment Material			
36	Locomotive, Train & Station Supplies		-	
37	Oil House Material			
38	Ice, & Packing for Ice Houses		-  -	
39	Fuel for Locomotives			
40	Fuel for Stations & Cars			
41	Commissary Supplies		-	-
42	Pipe, Iron & Steel			
43	Pipe Fittings		-	1
44	Electric Lighting Material for Buildings, etc.			1
45	Hardware		-	
46	Rubber & Leather Goods, etc.		-	100
47	Glass, Drugs, Chemicals & Painters' Supplies	-	-	-
48	Stationery & Printing		-	
49	Power Plant Equipment		-	223
50	Scrap, All Kinds		-	
30	Scrap, All Kinds			2
				-4
				44
				4
			Carlo Carlo	

Recay. Recay, checked

Arithmetic	
Arith. checked	
n. verificati	on
Recap.	
Recap. checker	
Recap. verified	

# INVENTORY

No.	
Lister's Sheet No.	1
Sneet No	

Listed by	. Springer	
Called by		AND THE RESERVE
	Animara Congress	Plant

Renufactured product on hand Location of Material Auburn Concrete Plant

Auburn Concrete Plant Store, Cotober 31, 1923, 192 Division Seattle

	New Qu		Quantity LOT WEIGHT		WEIGHT	Total						
DESCRIPTION			or S. H.	Or Number	Pcs.	Lbs	Total Weight	Price	Unit	Amount	A	Class'n No.
1 24° B.C.Pipe	652	pes		4416	4		bet	1.00	1. 1	. 639	0.4	0
2 36" B.C.Fipe	300	维		1000				2.8	, 4	448	0.0	0
3 30 B.C.Piles	37	n		630				1.60		110	7.0	0
4 25 A.C.Piles	20			725		yzanto	aski anilb	1.90	46	137	7.5	0
5 20 R.C.Piles	33	112		660			1/10	2.00	yati n	125	0.0	0
6 15* R.G.Piles	43	. 19		045			238	1.00		122	0.5	0
7 10 * R.C.Piles .	42	-81		420		2		1.90		90	3.0	0
8 Single Track Slabo	. 20	No.						138.00	00.	270	0.0	0
9 Bouble Track Slabs	10							125.00	19	136	0.0	0
10 36" Look Joint Concrete Pi	po 2						10632		2010 x 65	lio	cha	rge
11 . Concrete Fence Posts	11							17378	best	No	chs	*60
12 Concrete File Ends	26	,		4.11				ren taxonin t		20_	gha	TEO
13						125 /44.	est in ora	J not gove	ellan-	02207	2.4	0
14							1947.50					
15 Charged to M & S on :											- 1	
16 ARC Entry * 3*580	11 64			A Land					BOULEN	2 3 1 1 1 1 1 1 1		
17								100 3	eta om par	Tecenal		5.00
18							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Audios	144.00	Carrier ou		
19		1.77		1 - 5 - 5 - 5				) is nevi	mage 1	10 ekayar		
20								Baten.	is mail	E somets		PT Yellow
21							(amuqua	0.500	Selection of			
22						S years		euch abl	tes con			
23				- 1				1910	e elicit i	TE CALL BASE		
24		-J*										
25												
26						Apto a		<u>13. Ininerille</u>				
27						. 545ggs	a diam					200
28			150				E O LEGIS		8818 P			
29			1			2/31			10577			
30		A.										
31												
32				70.75		ATOT			1			
33												
34												
35												
36						2						
37												Wind the
			-						•			
						The state of		10000			1	

	S. O. Pales and D. L.		
1-A	Frogs, Switches and Parts	-	
1-B	Track Fastenings	-	
1-C	Track Tools		
2-A	Interlocking & Signal Material		
2-B	Telegraph & Telephone Material		
3	Brick, Lime, Cement, Stone, Etc.		
4	Lumber, Bridge & Building	Walf, Y	
5-A	Switch Ties, Treated & Untreated	Shakil San	
5-B	Cross Ties, Treated & Untreated		
6	Iron Bridges, Turntables, etc.	132	
7	Ballast all kinds		
8	Rail, except scrap		
9-A	Fuel & Water Station Material		
9-B	Elevators, & Coal & Ore handling Machinery		
9-C	Steam Derricks, Shovels, Ditchers, etc.		
10	Chemicals for Timber Treatment		
11	Bolt, Nuts, Washers, etc.	THE PURPLE	
12	Springs for Locomotives & Cars	-	
13	Flues, Boiler		
14	Tubing, Ferrules & Soft Metals		
15			
	Bar Iron & Steel, etc.		
16	Sheet Steel, No. 13 & Heavier		
17	Heavy Forgings for Locomotives	-	
18	Car Forgings, etc.		
19	Locomotive Castings Iron & Steel	9	
20	Car Castings Iron & Steel	-	
21	Brass Castings & Journal Bearings	3.09	
22	Air Brake Material		
23	Mechanical Appliances for Locomotives		
24	Passenger Car Trimmings		1 1 1 1 1 1
25	Electrical Material for Locomotives		
?6	Electrical Material for Cars		
2!	Shop Fuel		300
28	Foundry Supplies		
29	Wheels, Tires, Axles & Centers		
30	Lumber, Locomotive & Car		
31	Machinery & Machine Tools		
32	Locomotive Boilers, Fireboxes, etc.		VAN S
33	Trucks for Locomotives & Cars		
34	Material ir Process of Manufacture		
35	Floating Equipment Material		
36	Locomotive, Train & Station Supplies		
37	Oil House Material	100	
38	Ice, & Packing for Ice Houses		
39	Fuel for Lecomotives		
40	Fuel for Stations & Cars		1
41	Commissary Supplies		
42	Pipe, Iron & Steel		
43	Pipe Fittings		
44	Electric Lighting Material for Buildings, etc.		
45	Hardware	The Late 1 Alexander	
46	Rubber & Leather Goods, etc.		
47	Glass, Drujs, Chemicals & Painters' Supplies		
48	Stationery & Printing		
49	Power Plant Equipment		
50	Scrap, All Kinds		
30			
		1	
	TOTAL		
	TOTAL		

4 0

erith, exerted

Al.

(S) M

23

- 12 00

926 Seattle, Washington, October 31st, 1923. Re: Transfer of Manufactured product from D.A.S. # 10, to Material & Supplies Account. Mr. H.E. Stevens, Chief Engineer, St. Paul, Minn. Dear Sir: In compliance with your instructions of October 25th, 1923, I have prepared and hand you herewith ARC Entry S-580, crediting D.A.S. # 10, Auburn Concrete Plent with the value of manufactured product and charging same to M & S Cl # 3. In making this transfer, we have used same prices as shown on August 31st, 1923 Inventory, and annual report, as outlined in my letter to you dated September 10th, 1923. Yours truly A. R. Quan Cy MFC ANB

Ju65

Saint Paul, August 20, 1923.

Mr. H. E. Stevens,

Chief Engineer.

Referring to your letter of April 11th, to which was attached a file of papers from Mr. Newton in regard to the manufacture of concrete pipe.

I attach a comparison of cost of 24" and 36" concrete pipe for the C.B. & ... and Northern Pacific Railway, from which you will note that the Northern Pacific pipe costs 35 percent more than the Burlington pipe.

In your letter of April 11th you asked that I make a personal inspection of their plant at the first opportunity. I have not visited the plant, but I have gone over the plans with Mr. Haggander of the Burlington and I understand the general working conditions.

Their plant consists of a building adjacent to a concrete plant. The concrete plant consists of a gravel bin supported directly on the ground, from which the materials are elevated by a bucket elevator to a small bin above the mixer. Each pipe form is supported on a small tram car which can be moved to and from the mixer by hand. The concrete remains in the form on the car until it has set a sufficient amount to permit handling. There is a small hand derrick for moving the forms. Other than the concrete mixer, hand derrick and cars, there are no movable parts in the plant.

The cost of the Aurora plant was \$12,000, as compared with \$15,576 for the Auburn plant. By explanation of the difference in cost of the pipe manufactured at the two plants is as fellows:

#### First:

The plant which I have described as costing \$12,000 is incomplete. It requires one or two locomotive cranes in addition for handling materials to and from the plant and a rental for the locomotive cranes sufficient to cover the cost of the investment and operation is not included in the cost of manufacturing pipe.

Second:

The Northern Pacific is required to pay 50 percent more for Portland cement than is paid by the Burlington.

Third:

The cost of washing, screening and handling gravel and sand at Auburn is more than four times the cost of gravel at Aurora. It is my understanding that the material at Aurora is excavated at a gravel pit during the ballast operations and is handled at the concrete plant with locomotive cranes. All of the material at Auburn is excavated, screened and moved to the plant by hand.

#### Fourth:

The Northern Pacific labor cost is 40 percent higher than the cost of the Burlington.

The depreciation on the Northern Pacific plant, interest on the plant investment and the cost of concrete products is greater than at the Burlington plant, due to the larger investment in

the plant, and the carrying charges have a larger stock of finished products.

#### Sixth:

The cost of repairs at the Northern Pacific plant is three times that of the Burlington. This is probably due to the maintenance of that portion of our plant which handles gravel and sand, and maintenance of machinery parts which are included in our plant investment, while repairs to movable parts at the Burlington plant include only those required for maintaining the locomotive crane, which is not charged to the plant.

It has been our practice to fix the price of concrete products in advance, and the price covers all overhead charges. I have made a study of the overhead charges at Auburn over a period of ten years and the overhead charges developed should have wiped out the original cost of the plant. In the early years of plant operation, interest charges, taxes and pit charges were not considered and the depreciation in those years was insufficient to meet them. In the last few years additions to the sale price have been made with the idea of providing a sufficient amount to cover the under charges of the earlier years. You will note that I have given a price for 24" pipe of \$1.65 and for 36" pipe of \$2.38. We are actually charging in 1923 for 24" pipe \$1.90 and for 36" pipe \$2.80. At these prices the cost of plant will probably be wiped out in 1923.

Mr. Newton's letter is returned herewith.

Saint Paul, August 20, 1923.

Mr. H. E. Stevens.

Chief Engineer.

Referring to your letter of April 11th, to which was attached a file of papers from Mr. Newton in regard to the manufacture of concrete pipe.

I attach a comparison of cost of 24" and 36" concrete pipe for the C.B. & Q. and Northern Pacific Railway, from which you will note that the Northern Pacific pipe costs 35 percent more than the Burlington pipe.

In your letter of April 11th you asked that I make a personal inspection of their plant at the first opportunity. I have not visited the plant, but I have gone over the plans with Mr. Haggander of the Burlington and I understand the general working conditions.

Their plant consists of a building adjacent to a concrete plant. The concrete plant consists of a gravel bin supported directly on the ground, from which the meterials are elevated by a bucket elevator to a small bin above the mixer. Each pipe form is supported on a small tram car which can be moved to and from the mixer by hand. The concrete remains in the form on the car until it has set a sufficient amount to permit handling. There is a small hand derrick for moving the forms. Other than the concrete mixer, hand derrick and cars, there are no movable perts in the plant.

The cost of the Aurora plant was \$12,000, as compared with \$15,576 for the Auburn plant. My explanation of the difference in cost of the pipe manufactured at the two plants is as follows:

#### First:

The plant which I have described as costing \$12,000 is incomplete. It requires one or two locomotive cranes in addition for handling materials to and from the plant and a rental for the locomotive cranes sufficient to cover the cost of the investment and operation is not included in the cost of manufacturing pipe. Second:

The Northern Pacific is required to pay 50 percent more for Fortland cement than is paid by the Burlington.

Third:

The cost of washing, screening and handling gravel and sand at Auburn is more than four times the cost of gravel at Aurora. It is my understanding that the material at Aurora is excavated at a gravel pit during the ballast operations and is handled at the concrete plant with locomotive cranes. All of the material at Auburn is excavated, screened and moved to the plant by hand.

## Fourth:

The Northern Pacific labor cost is 40 percent higher than the cost of the Burlington.

The depreciation on the Northern Pacific plant, interest on the plant investment and the cost of concrete products is greater than at the Burlington plant, due to the larger investment in

the plant, and the carrying charges have a larger stock of finished products.

#### Sixth:

The cost of repairs at the Northern Pacific plant is three times that of the Burlington. This is probably due to the maintenance of that portion of our plant which handles gravel and sand, and maintenance of machinery parts which are included in our plant investment, while repairs to movable parts at the Burlington plant include only those required for maintaining the locomotive crane, which is not charged to the plant.

It has been our practice to fix the price of concrete products in advance, and the price covers all overhead charges. I have made a study of the overhead charges at Auburn over a period of ten years and the overhead charges developed should have wiped out the original cost of the plant. In the early years of plant operation, interest charges, taxes and pit charges were not considered and the depreciation in those years was insufficient to meet them. In the last few years additions to the sale price have been made with the idea of providing a sufficient amount to cover the under charges of the earlier years. You will note that I have given a price for 24" pipe of \$1.65 and for 36" pipe of \$2.38. We are actually charging in 1923 for 24" pipe \$1.90 and for 36" pipe \$2.80. At these prices the cost of plant will probably be wiped out in 1923.

Mr. Newton's letter is returned herewith.

#### Comparison of Cost of Reinforced Concrete Pipe manufactured by C.B.& Q. Railway and N.P. Railway 1922 Operation

24 Inch Congrete Pine

411%

Depreciation on Plant

Repaire to plant

Taxes on plant

Insurance on plant

Gravel pit charge

1.31

.75

.04

.13

.11

3.88

24 1	C.B.& O.	Pipe		N.P.Ry.					
Material	Quantity	Price	Amount	Material	Quantity	Price	Amount		
Cement	6.24 sax	80.475	\$ 2.96	Cement	5.60 sax	\$0.606	\$ 3.39		
Reinf. Bars	16.6 lbs.	1.785	.30	Rods	25.3 lbs.	2.006	.51		
Gravel		.31	.19	Gravel	.91 c.y.	0.933	. 84		
Mesh	65 s.f.	2.64	1.72	Mesh	65 s.f.	2.558	1.66		
Wire		3.37	.01	Wire	3/4 1b.	.04	.03		
			5.18	Cement 5.60 sax \$0.606 Rods 25.3 lbs. 2.006 Gravel .91 c.y. 0.933 Mesh 65 s.f. 2.558 Wire 3/4 lb04  Labor  Overhead Expense Cost 8 ft. length Cost per foot \$1.65  Overhead Expense N.P. Fuel, oil, etc.		6.43			
Stor	e handling 39		.15			4			
			5.33						
Labor			2.08	Labor			2.90		
Supe	rvision 5%		.10						
			7.51				9.33		
Overhead Ex	pense		2.33				3.88		
Cost 8 ft.	length		\$ 9.84				\$13.21		
Cost	per foot	\$1.23		Cost	t per foot	1.65			
Over	## Store handling 3%								
Fuel, oil	The state of the s		.2500	Fuel, oil,			.49		
		cy .	.3409				0		
n			.1909				0		
Interest Ra			.0454						
			.1607	mat'ls & i	inished produc	ot at 6%	1.05		
			0000		7774		2 773		

.9583

.2790

.0995

.0062

2.3309

31%

Office of Bridge Engineer, Saint Raul, August 20, 1923.

Int. Depr. Taxes & ins. on Plant

Interest on finished product

Taxes on finished product

Proportion of repairs to plant, etc.

24 Inch Congrete Pine

# Comparison of Cost of Reinforced Concrete Pipe Manufactured by C.B.& Q. Railway and N.P. Railway 1922 Operation

# · 36 Inch Concrete Pipe C.B.& Q.

36 Inch Concrete Pipe

Material   Quantity   Price   Amount   Material   Quantity   Price   Amount						N.P. I	Ry.	
Reinf.Bars 52 lbs. 1.785 .93 Reinf.Bars 36 lbs.2.006  Bravel 1.22 c.y31 .26 Gravel 1.25 c.y923 1  Mesh 92 s.f. 2.64 3.43 Mesh 93 s.f.2.558 2  Mire 3/4 lbs. 3.37 .03 Wire 3/4 lb04 9  Store handling 3% .23 7.95  Labor 2.69 2.69 4  Supervision 5% .13 10.77  Overhead Expense 31% 3.34 Overhead Expense  Cost 8 ft. length  Cost per foot \$1.76 Cost per foot \$2.38   Overhead Expense  Proportion of Engr. Salary  " Gen. Foreman Salary  Interest Raw Mat'ls at 6%  Proportion of repairs to Plant  Repairs to Plant  Repairs to Plant	terial	Quantity	Price	Amount	Material			Amount
ravel 1.33 c.y31 .36 Gravel 1.35 c.y933 1. esh 92 s.f. 2.64 3.43 Mesh 92 s.f. 2.558 3. ire 3/4 lbs. 3.37 .03 Wire 3/4 lb04 .  Store handling 3% .23 abor .369  4.3 cost 8 ft. length .13 cost 9 foot \$1.76  Overhead Expense .5. cost 8 ft. length .76  Overhead Expense .5. cost 8 ft. length .76  Overhead Expense .5. cost 9 ft. length .76  Overhead Expense .5. cost 9 ft. length .76  Overhead Expense .7. cost 9 ft. length .70 cost 9 f	ement	8.56 sax	\$0.475	\$ 4.07	Cement	8.00sax	\$0.606	\$ 4.85
### ### ### ### ### ### ### ### ### ##	sinf.Bars	52 lbs.	1.785	.93	Reinf.Bars	36 1b	3.2.006	.72
### ### ### ### #### #### #### #### ####	ravel	1.22 c.y.	.31	.36	Gravel	1.25 0.3	7923	1.15
Store handling 3%	esh		2.64	2.43	Mesh			2.35
Store handling 3%  23 7.95  abor Supervision 5%  2.69 Supervision 5%  2.13 10.77  Verhead Expense 31% Cost per foot \$1.76    Overhead Expense C.B.& Q.  all oil, etc.  reportion of Engr. Salary  " " Gen. Foreman Included above  Interest Raw Mat'ls at 6%  Interest on Plant investment, raw  mat'ls & finished product at 6%  Interest, Depreciation, Taxes, Ins.on Plant  Repairs to Plant  1.6	ire			.03	Wire	3/4 16	04	.03
Store handling 3%  2.33 7.95  Supervision 5%  Supervision 5%  2.69  Supervision 5%  2.69  10.77  Verhead Expense 31%  Cost 9er foot \$1.76    Overhead Expense  C.B.& Q.  Supervision 5%  Overhead Expense  Supervision 5%  Supervision 5%  Supervision 5%  Overhead Expense  C.B.& Q.  Supervision 5%  Supervision								9.10
Supervision 5%	Store ha	andling 3%		7.95				
rerhead Expense 31%  ost 8 ft. length Cost per foot \$1.76   Overhead Expense  C.B.& Q.  reportion of Engr. Salary  " Gen. Foreman Salary  " Terest Raw Mat'ls at 6%  commercial Freight on raw mat'l  reportion of repairs to Plant  reportion of repairs to Plant  Terest Repairs to Plant  Overhead Expense  Overhead Expense  N.P.  Fuel oil, etc.  Engr. Salary  Foreman Included above Interest on Plant investment, raw mat'ls & finished product at 6%  Repairs to Plant  Repairs to Plant		eion 5%		2.69				4.24
See Section of repairs to Plant   Single   Sin	Dapostze			10.77				13.34
Overhead Expense  Overhead Expense  C.B.&Q.  Coportion of Engr. Salary  " Gen. Foreman Salary  " Terest Raw Mat'ls at 6%  Commercial Freight on raw mat'l  Coportion of repairs to Plant  Cost 8 ft. length  Cost per foot \$2.38  Overhead Expense  N.P.  Fuel oil, etc.  Engr. Salary  Foreman Included above  Interest on Plant investment, raw  mat'ls & finished product at 6%  Coportion of repairs to Plant  Coportion of Plant  Cost 8 ft. length  Cost per foot \$2.38   Overhead Expense  N.P.  Fuel oil, etc.  Interest on Plant investment, raw  mat'ls & finished product at 6%  Cost per foot  A.S.  Cost per foot  A.S.  Repairs to Plant  Cost 8 ft. length  Cost 8 ft. length  Cost 8 ft. length  Cost 8 ft. length  Cost per foot  A.S.  Cost per foot  Cost per foot  A.S.  Cost per foot  Cost per foot  A.S.  Coportion of Expense  Interest oil, etc.  Coportion on Plant  Coportion of repairs to Plant  Cost 8 ft. length  Cost per foot  A.S.  Fuel oil, etc.  Coportion of Expense  Interest on Plant investment, raw  Mat'ls & finished product at 6%  Coportion of repairs to Plant  Coportion of Plant  Cost per foot  Cost per	erhead Ext	pense 31%			Overhead Ex	pensa.		5.70
Overhead Expense  C.B.& Q.  Overhead Expense  C.B.& Q.  Overhead Expense  C.B.& Q.  Overhead Expense  N.P.  Fuel oil, etc.  Interest Raw Mat'ls at 6%  Interest on Plant investment, raw mat'l  Overhead Expense  N.P.  Fuel oil, etc.  Interest on Plant investment, raw mat'l  Overhead Expense  N.P.  Fuel oil, etc.  Interest on Plant investment, raw mat'ls & finished product at 6%  Interest, Depreciation, Taxes, Ins.on Plant  Overhead Expense  N.P.  Fuel oil, etc.  Interest on Plant investment, raw mat'ls & finished product at 6%  Interest, Depreciation, Taxes, Ins.on Plant  Overhead Expense  N.P.  Fuel oil, etc.								\$19.04
C.B.& Q.  Interest Raw Mat'ls at 6%  Interest, Depreciation, Taxes, Ins.on Plant  C.B.& Q.  N.P.  Fuel oil, etc.  Fuel oil, etc.  Fuel oil, etc.  Fuel oil, etc.  Interest oil, etc.  Fuel oil, etc.  Interest on Plant investment, raw  mat'ls & finished product at 6%  Interest, Depreciation on Plant  Repairs to Plant  I.S.  Repairs to Plant			\$1.76				3.38	
roportion of Engr. Salary  " " Gen. Foreman Salary  nterest Raw Mat'ls at 6%  commercial Freight on raw mat'l  nterest, Depreciation, Taxes, Ins.on Plant  roportion of repairs to Plant  Fuel oil, etc.  Engr. Salary  Foreman Included above  Interest on Plant investment, raw  mat'ls & finished product at 6% 1.8  Depreciation on Plant  Repairs to Plant  1.6								
roportion of Engr. Salary  " " Gen. Foreman Salary  nterest Raw Mat'ls at 6%  Interest on Plant investment, raw  mat'ls & finished product at 6%  nterest, Depreciation, Taxes, Ins.on Plant  roportion of repairs to Plant  Engr. Salary  Foreman Included above  Interest on Plant investment, raw  mat'ls & finished product at 6% 1.8  Depreciation on Plant  Repairs to Plant  1.6								.80
" " Gen. Foreman Salary  Interest Raw Mat'ls at 6%  Interest on Plant investment, raw  Interest, Depreciation, Taxes, Ins.on Plant  Coportion of repairs to Plant  Foreman Included above  Interest on Plant investment, raw  mat'ls & finished product at 6%  Depreciation on Plant  Repairs to Plant  1.6			arv					0
Interest Raw Mat'ls at 6%  Important Freight on raw mat'l  Interest on Plant investment, raw mat'ls & finished product at 6%  Interest, Depreciation, Taxes, Ins.on Plant  Repairs to Plant  Interest on Plant investment, raw mat'ls & finished product at 6%  1.5  1.5  1.6  1.7  1.7  1.7  1.8  1.9  1.9  1.9  1.9  1.9  1.9  1.9	n 1			rv		AND DESCRIPTION OF THE PROPERTY OF THE PROPERT		0
mmercial Freight on raw mat'l mat'ls & finished product at 6% l.sterest, Depreciation, Taxes, Ins.on Plant Depreciation on Plant l.sterest to Plant Repairs to Plant l.sterest last last less than less t	terest Ray						stment. r	
terest, Depreciation, Taxes, Ins. on Plant Depreciation on Plant 1.6 coportion of repairs to Plant 1.6								
coportion of repairs to Plant Repairs to Plant 1.0					Depreciation	n on Plant		1.89
				THE OUT L'AMES				1.09
iterest on finished product Insurance on Plant								.06
	IVAG ON Fir	nichad nrodu	ot					.19
Gravel Pit charge	AVOS ON TIN	arader brond						.16
				37% - 3 34	VALOR 2.20		421%	5.70

Office of Bridge Engineer, Saint Paul, August 30, 1923.

Componson of lest of Remfield conente Pape Info by CB & Q Ry and In PRy 1922 Opralm 36 m Concrete pipe mp Ry amt math and nath Quant Quant Ponce Pnece Cement 8.56 Aax 0.475 4.07 Cement 8.0 606 4,85 52 lls Remf Bars 1,785 93 Remy Bors 36 lls 2,006 .72 1,22 Cy growal .21 26 1,25 923 115 gravel 928F 92 SF Andsolve 2.64 243 mush 235 2558 3/4 ll 3/4 ll 3.37 04 03 Wire 03 une 772 910 Atre handling 3% .23 109 795 80 269 424 13 1077 1523 13.34 Costo profile lugar Orighad Expine 334 761 5.70 1411 19.04 Out prift. 2.85 2.38 1.76 Pull It 80 Tuel Oil et Portotion of Ever palay Forman meludid alone In gen Formen Palony Introd Rom mats @ 60% Interest on Plant investint raw Introd, Depocialin Taxes Is un mit matte and funded Product @ 6% Commercial Fright on row math 151 Depreciation of Plant 189 Proporting of set repairs to plent Repairs to Plant 109 morrage on Plant 06 Taxes on Busher Probt 19 Taxes on Plant 4.37 16 gravel Pit Charge 570 425

										1
Componson	8) Col 8	7			18 978 E					
Remfored my	Concrete	Pila								
ante by	CR & OR	and PRPRI								
10000	2 - 21		R BUILDING SE							
A CONTRACTOR OF THE PROPERTY O	922 Oprati	ion								
24 in Conerate pripal										
0 CB48		1 on	PRy							
math Quant Price	annit	CO COLUMN TO SERVICE S	aunt	Prier						
Cement 6.24 Dock \$10,475	296	Cement	5.6 Doels	.606	3,39					
Renf Reds 166 lls 1,785		Rodo	2528	2.006	51					
gravel ,89 Cy .21	30	Gravel	.91cy	.923	84					
Matsber 65 Sq # 2.64	172	mech	65 Ag ft	2.558 hd=	1.66			1		
Miles 65 Sqift 2.64 Wine 34 lb 3.37 ext_	01	Work	34 els-	:04	03					
4 00	518				6.43					1//
Store Handling 3%	15	Report t	Dans							
	533	Fuelos	& Amplia		75					
Salor Dupensión 5%	208	l la	lor	3-63	290				RIGHT	
Dupomorión 5%	10							19 10		
	751				1057	9.33				
Overhand Expense	233	and	wand Expe	nze	264	3.88				
Por ft 1.23	984		wand Expensed 8 ft Cen	not !	1321	A COLUMN	197 33			
Pr 11 123		pr.	et	1.65						
1 0									75	7
									1/	1081
CBQ.				nt					1/2/1/	63/
Charlied Expenses									1/13	3411
Ful, Ool etc	2500	Fuel O	I etc	12000	49				4	4/1/4/
Proportin of Eny Salary	3409	Eigne	in Salan	7	730		,1237			10 Atto
Proportin of Eng Salang Dalong	.1909	Forener	n uchidal o	lone	0					19
1 1 100 100 100 100 100 100 100 100 100	10,511		on Plant un							
Commercal Fraction Raw Math	non 1607		and finished po	7.1	1.05		.4990	3/4		
Int, Depreciation Taxes + Insurar ?	A 19583		nation of		1.31					
Proportion of set report to plant et			s to plant		.75		TO BELLEVI		TO SEE	
Int on fushed product	0995		on plan		.04		03918			
Taxes on fished poolet	0062		s on plan		./3	TO S	U 625	13		
	2,3309		l Pit Charge		11					
			"		388	= 4/2	. 87			
	3/0/0			THE RESERVE OF		1,5	10.			A CONTRACTOR

AUBURN CONCRETE PLANT COST AND PROPOSED SELLING PRICE OF PRODUCT ON HAND AT END OF 1922 1920 Charges prorated to cost of products manufactured in 1921 and 1922 Dit charge insurance Interest Some Some Some Deprécation Proposed S.P. Repairs habor, Mtris, Some pit insurance charge Taxes Total repairs habor, Miris sum weight fremewals and General 7+8 2092 9527 001 1338 1397 133700 125 218 877 3983 .081 1928 2009 047 454 737628 2475 5240 559 1208 11285 1.061 11121 (1182 1/3750 115539 11077 . 960 . 986 1273 2 6512 307 5239 397 1 1030 7 10980 0 12407 876.01 à 17220 1 1048 02.032 0 1114 5 1006 0 1015 0 1.163 0 184 1560 9 13850 0 2 16098 8 165854 2 (303 1 1961 6) 017 1 1280 1 1292 1 006 1160 6 1160 1919 12330 1 526 1.023 2.841 2.864 3.012 300 1 1820 2660 \$ 40263 10050 36598 37603 1700 86 2 .029 3 1.055 1.084 010 6330 6505 6914 11/2 18.4 \$ 1.022 \$ 1. 496 \$ 1018 \$ 1011 \$ . 007 145170 915 \41832 \42747 2000 4168 109911 114,079 1,434 210425 1868 49 9010 114223 375 3.867 101346 105713 1.334 101346 105213 25040 105 12477 124.87 721 10627 1000 17627 4,51 1580 72 256 . 448 97 83 7.87 756.95 1091 20786 .06 103- 1037 6.96 . 33 1070 144 24764 24908 ,01 .03 .29 ortwater barrels less Cost of Forms X is deducted from the total cost of 24 bbls. the the 23733 Propil S.P. (3) In the tabulation to right of red line 1) The 1920 charges have been protested to cost the total charges exclusive of repairs, renewals results will be as shown on bottom I'me marked X Repairs + Tenewals of products infgd in 1921 and 1922 Of course if cost of forms is taken out of infing. labor, meterials and general expense, but L+M+Gent. cost then this fam would be taken care of under including total dep. inv. as quen in 1 The unit costs and total costs as tabulated Dit Change 137 depreciation resulting in a slight increase Gtal 15838 Ins. of Tax column 3 Tave been provoted above to left of red line are made up on the on i formly to the cost of manufactured assumption that all charges during any year are Interest 1 in making up this table it was assumed. products on hand on the bosis of weight charge to the products made during that some 132 that the plant impostment was totally deprecated @ Above total costs and unit prices do not 1.e. the fotal in cal 3 of index 1816-66 has included treight or materials and supplies to 3) The cost of water barrols includes cost of plant nor cost of loading products at been included in proposed selling price. It forms. The cost of forms is properly and AXB 4144460 = 1.714 per 1000 # (Dep) allowance is made for solvage value of plant charge but 1921 report includes them under (1) Col. 24 gives gropd S.P. it depreciated then the deprecation as shown in columns cost of infing Probably intention is to make 15, 25, 27 and 28 should be reduced by proper amount Investment (Coh 3) is not included out an AFE! Later, 4 cost of forms (99,72)

COST AND PROPOSED	TE PHANT SELLING PRICE OF P	PRODUCT ON HAND AT	END OF 1922	1920 Charges dede	oded from 1920 Sale	es) vom is may in 8	1923			
	TOTAL	THE RESIDENCE OF THE PARTY OF T			UNIT COST		total Cost	Weights	Pit Chy: Ins. Tax Dhit char Interest and for Pit Cha. Depreciation Tax, intered depreciation	Proposed+ Selling Hard Price
1 2 3 4	7 8 9	10 11 12	13 14 15	17 18	19 20 21	22 23 24	25 26 16	6 5	27 28	29
Year Kind No. him. Ft.	Repairs habor Suns Suns and Renaus and General 778	Charge and Taxes Interest	50m 10 +11 × 12 9 + 13 Depreciation	and Renauds and Gent	1+18 Pitarge & Taxes	Interest 20 +21427 19+23	Depreciate Propod S.P. 14+15	5 Weight wit		19+28
1927 24 Pipe 530 4240 1922 36 Pipe 154 1232 1921 30 Pipe 154 1232 1921 30 Pipe 154 1232 1921 30 Pipe 150 1918 25 2 2 50 1919 20 25 58 2 1160 1917 15' 29 435. 1918 15' 47 420 1918 57: Slabs 10 1918 0.T. Slabs 10 1921 Water 86/4 201	3604 556157 559761 1514 233×34 234748 (2414× (86446 88860 132 34800 N 4932 297 27207 272504 3 1366 2 148390 N 149756 1005 3 36598 × 37603 175 4330 6505 915 41832 42747 2085 186849 193934 3867 101346 1057132 11(3) 24948 (3) 24959	477/ 8220 82360 1999 3440 34450 (476) 890 (8670 45 2 37 0 225 392 2 675 2 27 60 1560 2 13850 504 3.6 2 1850 61 49 29 458 279 1686 2441 1960 12090 1334 1072 6610	7727 6 86 2 31 2 22150 20 16 0 98 1 16 58 54 N 38 8 70 16 0 4 40 263 158 409 69 14 218 24 23 45 170 144 16491 2104 25 881 9010 114223 482 44 (3) 250 03 125	1.031 (1.107) 0.031 (1.107) 0.031 (1.107) 0.005 (0.1,069) 0.1,069 0.1,		194 224 1.545 280 .314 2218  (111) (.128 (1.766) 045 .061 1.047  045 .061 1.047  138 1.190 \$5. 119 .138 1.190 \$5. 119 .138 1.190 \$5. 119 .138 1.152 \$4. 1152 \$4. 110 9696 173.775  4610 -9016 119229 179 22 317502	324 1.519 1023 324 1.764 2047 359 1.780 561 363 1.515 909 343 1.419 596 5180 175575 2985 48200 162429 1624 60 12567 12627	723800 4700 (171600 6600 79 10520 5260 81 (147020 5260 249400 4300 101500 3500 14000 3500 94 (14000 2000	3520 .808 1480 1200 35.1 (.46 2150 .43 27050 .43 27050 .43 208 .48 2370 .48 2370 .48 188 .45 1157 .68,10 632 .6320 158 .77	2129 3.10 (1.59 1.42 1.50 25 1.73 1.34 1.56 1.34 1.56 1.47 1.82.18 1.68.91 1.25.57
19m Water Bbls VN	17 3 4733 3 9750	73 39 393 75 43 431	455 3 10 ros 128	008 3 442 3	493 01 02	18 21 3 469	58 522 5.80	8250 378	1840 77	5.20 3 11.17 X
Repairs + Renewals 224 L+Mans Gen/. 15089	247.09 24737  22407 1508870 1531272  Column Column No No. Index 181666  7 20 8 21:	13194 18531 1493 Skide Rule Calcul General Notes:	201389 1733162 6418 648343 - Accts for small a	discrepances is in totals)	Hote W.B. are report but price billed out is not therefore been sho	shown shipped out in 1922) is at which they were t known and they have own above as on hand.	Divestment Cat. 3	4,114490# opol SP if depreciated so is not included.	8421. 15313 Col. 9 73,734 Propid	ellmy Price.
105. 4 tax 185.  Ins. 4 tax 185.  Interest 1693  Total 17373  6411	10 23 11 24 12 25 Col. 3 on Index 1816-66	cost of products onto to left of red line	es have been included in o and therefore do no and therefore do no and in 1927 and 1927 and total costs as total are arode up on assu	ilated above	form total cost then shown on bottom Iv forms is taken out care of video depo	the results will be (for 19 10 19 m) in e marked X. of course if them this item would be to recention resulting in a slight	cost of exclusive aken labor, me exposse	lation to right of.  ne the total charges  of repairs + renewl  terials and general  have been provoted	Pitche 137 Insurance 185	
	558 per 1000 # (Dep)	The cost of a forms. The cost of investment but	Myear are charged to to some year charges includes of forms is properly a 1921 report includes obothy intention is to	the cost of addition to capital them under	of index 1816 -1  solvage value of	ecosod, ie, the total in co be has been included in Pro Hallowance is made for Jant they the deprecent	of the Above co.	son handi son handi strand unit prices nelude transportation is and supplies not boading products.	8421 = 2,047 4,114490 = 2,047	Col. 13

St. Paul, Minn., July 14, 1923.

Mr. M. F. Clements, Bridge Engineer.

Dear Sir:

Will be glad to have reply to my letter of April llth with letter from Mr. Newton of March 23rd, about prices at which the CB&Q bill out their reinforced concrete pipe, and in which a requested you to have this statement analyzed and compared with similar items for the Northern Pacific.

Yours truly,

REG:WP

Chief Engineer.

# RAILWAY REVIEW 537 SOUTH DEARBORN STREET CHICAGO

CHICAGO May 21, 1923.

Mr. H. E. Stevens, Chief Engineer, Northern Pacific Ry., St. Paul, Minn.

Dear Sir:

I wrote to you February 5th saying that I had a number of views of your concrete products plant at Auburn, Wash., and I solicited a letter from you giving us a description of the work that you are doing in this plant.

Perhaps, I worded my letter in such a way as to give you a wrong impression. I did not mean to ask you to burden yourself with preparing an extensive article for publication. If you would write me a letter giving just an outline of what you are doing I could put it in shape for publication myself. You can give us as many or as few particulars of the work as you find time for, considering the question of doing justice to the importance of the work. Or, if you have some assistant or subordinate at that place who would like to try his hand at writing something for publication, we will be glad to allow him our usual compensation for whatever description he could prepare and send in to us.

I think if you could see the views we have you would like to supplement them with at least sufficient description so that we could publish them.

On second thought, believe I will enclose proofs of the cuts which we have made and then leave it to your judgment whether you will be glad to give us at least a little description to go with them.

I might say I obtained these photographs from the Portland Cement Association.

Yours very truly,

Managing Editor.

CFB AS



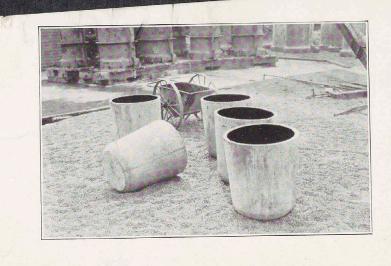
## NORTHERN PACIFIC RAILWAY COMPANY

NORTHERN PACIFIC RAILWAY CO., ST. PAUL. MINN.

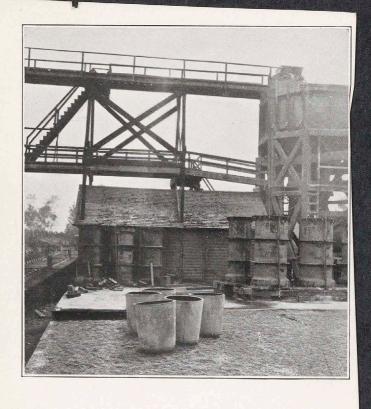
#### **FORM 321**

This Envelope is R'y, B exclusively for R'y, B and when so used on local or Interline Mail, U. S. Postage is not required.

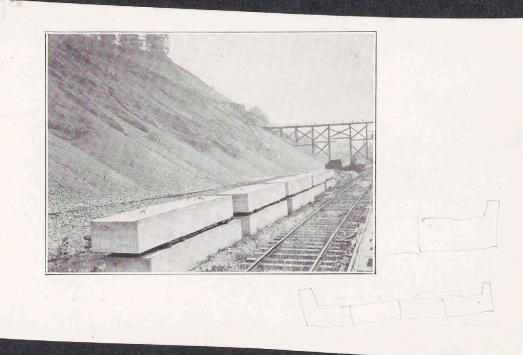
Provided—It is handled entirely by the employes of the sending Co., or jointly by them and employes of the Co. addressed without intervention by another carrier.



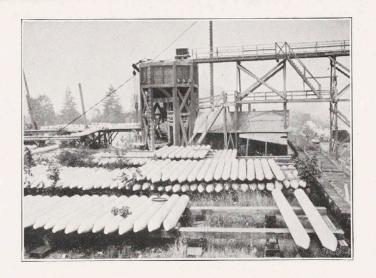
Concrete Producte Plant
Nor Par Ry. auhum Wash
(Knig Ca) photo GS Eaton
July 1922



Concrete Products Plant
Nor Pac Ry. - auburn
Wash (Kning G)
Photo 95 Faton
July 1927



Co-crete Products Plant
Non Pac Ry aubun Wash



Corcrete Broducts Plant
Nor Pac Ry author Wash
Photo 7/22



Converte Broducts Blant
Mor Par Ry

auburn, Wash

FEB 1923

# RAILWAY REVIEW 537 SOUTH DEARBORN STREET CHICAGO

CHICAGO February 5, 1923.

Mr. H. E. Stevens, Chief Engineer, Northern Pacific Ry., St. Paul, Minn.

Dear Sir: -

We have a number of very good photographs of some of the recent views in and about your concrete products plant at Auburn, Wash. This interests us very much and we should like to give our readers some description of the work you are doing here.

Would you like to write us a letter telling what you think the engineering reader would like to know? For example, what the plant is producing, how it operates and what results you are obtaining?

Yours truly,

CFB: AM

Managing Editor.

Clyde F. Burns

#### Saint Paul, April 11, 1923.



Mr. M. F. Clements:

Referring to Mr. Newton's letter to me of March 23rd, quoting prices at which the CB&Q bill out their reinforced concrete pipe.

I wish you would have this statement analyzed in detail and compared with similar items of cost for the Northern Pacific plant.

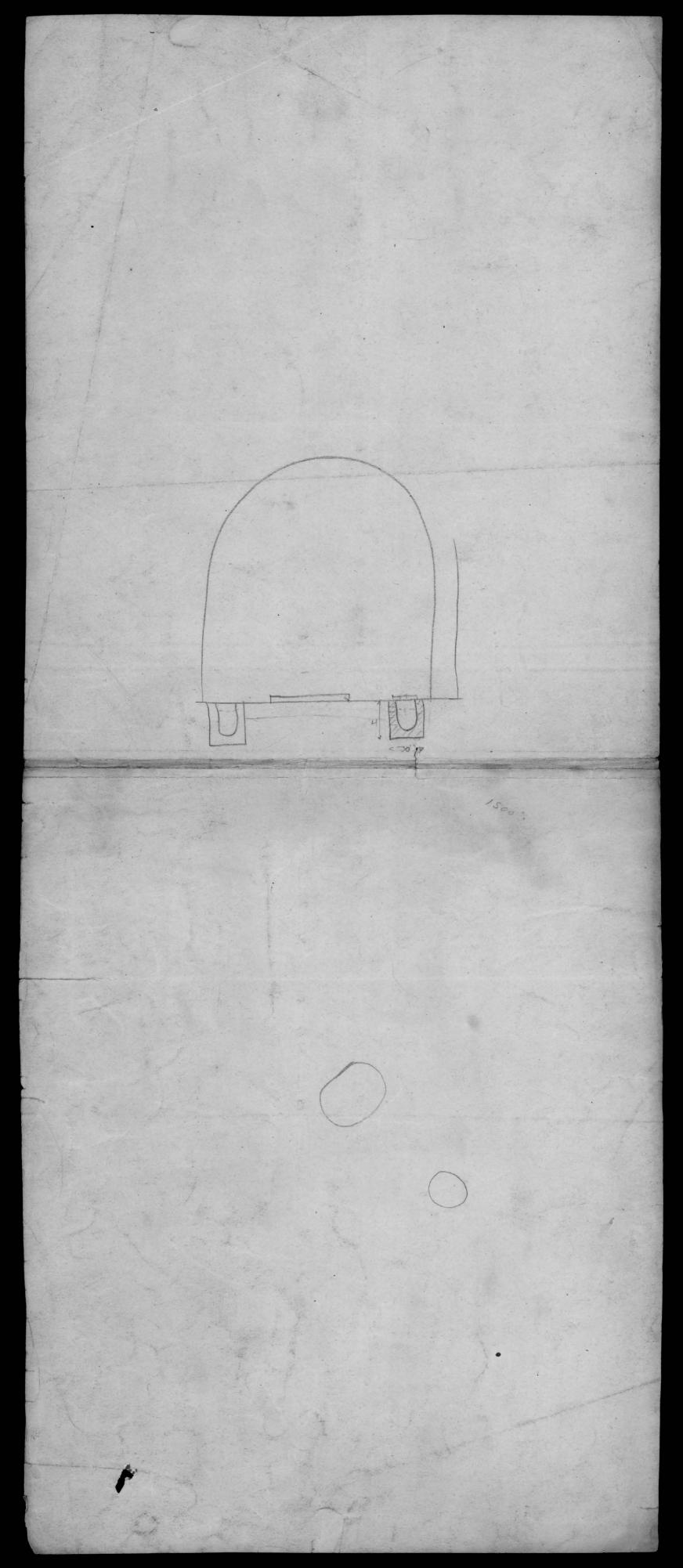
The statements are not quite clear to me and I am inclined to think you will have to get additional information from the CB&Q, and I also think it will be advisable for you to make a personal inspection of their plant at the first opportunity.

Chief Engineer.

HES-ar

Encl.

5   3675 89   9 00   205 80   21 00   1050 50   1047   10   (32 5)   21 3 30   13402 51   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82   1914 62   22 2 16   30 82 2 16 2 16   30 82			SUMMARY	— Auburn Congrete Plant
CAPITAL CAPITA	AR TOTAL ADDINGTOLATERS FROM REPAIRS	San 25 SINKING FIND		DEPRECIATION ON PRODUCTS MANUFACTURED
Marinestrant   Description		THE RESIDENCE AND PERSONS ASSESSMENT AND PARTY AND PERSONS ASSESSMENT AND PARTY AND PA	"DEPRECIATION.	W. The state of th
13573 40  13573		Col. 12	COL.1	
4   35.17560   638 49   782 84   100 60   750 85   1646 67   245 85   245 85   745 254   6546 25   234   1914 65   2240   6341   546 85   257 6   63.5				
\$ \\ \begin{align*}{cccccccccccccccccccccccccccccccccccc			13037 40	
6 13727 76 51 87 207 78 155 00 584 55 1546/8 566 46 57.9 82 13/47 94 // 54086 19 30 19/4 62 660 0 0 0 0 2660 0 240 643 72 168 0 470 78 90 — — — — — — — — — — — — — — — — — —	14 1367589 638 49 782 24 106 00 780 43	166867 24595 245 2	95 13429 94 8569 69 22 34 1914 6	62 2240 0.241 540 55 2576 0.3/6 813 02 3435 0.163 561 05
7 (6132 72 2404 96 798 86 598 00 794 64 198) 52 3/27 10 3706 92 12425 60 3322/ 01 22 00 5/09 62 6432 0.232 500 0.5/8 73 52 3/2 0.668 2 0.800 3565 0.180 606 7/ 73 22/2 16/4 64 2) 18 52 4/0 06 16/32 72 00 745 73 30 190 873 30 1913 85 358788 72 94 90 8837 82 2428331 42 7 850783 65/2 4/98 /295 83 5200 0.201 634 28 — — 4044 0.891 2388 26 37 2500 328 28 // 28 65 2800 /8 16/32 72 15/2 15/2 15/2 15/2 15/2 15/2 15/2 15/	15 1367589 000 80580 91 00 105039	1947 18 (32 57) 213	38 1346251 621216 3082 1914 6	62 4240 0292 1239 42 1072 0392 420 00 284 0.899 255 20 — — — — — — — — — — —
7 (6132 72 2404 96 798 86 598 00 794 64 198) 52 3/27 10 3706 92 12425 60 3322/ 01 22 00 5/09 62 6432 0.232 500 0.5/8 73 52 3/2 0.668 2 0.800 3565 0.180 606 7/ 73 22/2 16/4 64 2) 18 52 4/0 06 16/32 72 00 745 73 30 190 873 30 1913 85 358788 72 94 90 8837 82 2428331 42 7 850783 65/2 4/98 /295 83 5200 0.201 634 28 — — 4044 0.891 2388 26 37 2500 328 28 // 28 65 2800 /8 16/32 72 15/2 15/2 15/2 15/2 15/2 15/2 15/2 15/	16 1372776 51 87 80775 156 00 584 43	154818 36644 579 8	32 13147 94 1154088 16 59 1914 6	62 66 08 0.180 1/9 2 00 2680 0.240 643 72 168 0.470 78 90 — — — — — — — — —
18 16/32 72 0 00 745 55 501 00 873 30 1919 85 858798 7294 90 8 637 80 2429331 22 7 8507 63 6512 6199 1295 69 3200 0.201 634 25 — — 4040 0.591 2369 26 37 2500 928 20 11 2565 260 19  9 16/32 72 72 72 72 72 72 72 72 72 72 72 72 72				
9 /6/32 72 750 77 530 27 /// 5 11 /// 5 24 10 5531 75 74 50 77 50	77 76732 72 240496 788 88 338 00 794 64	138/ 52 3/27/0 3706 9	12 12423 60 23221 01 22 00 3 / 08 6	02 6432 0.238 7030 79 2320 0.378 738 32 372 0.668 208 30 3363 0.780 606 37 73 2272 7674 64 21 19 52 47 0 06
20 LABE 17 AL FA SA	018 16132 72 0 00 745 55 301 00 873 30	191985 358798 7294	00 883782 2429331 227 55078	83 6512 0.193 1295 89 3200 0.201 634 20
17 1841   5) 77 507 18 129 44 2 657 12 1865 75 11 165 50 6056 15 18 18 18 18 18 18 18 18 18 18 18 18 18	19 16132 72 720 4 53027 166 21 4	848 50 1861 19 9176 8	19 7676 St. 1871 B. S. 1871 B. 1871	
17 184	920 (45513) 142 10 460 60 5 133 54	594 14 (584 W) 85827	5 9462 96 7/8 44 5 100	
12 15 16 16 16 16 10 10 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16				
	2/ (394) 3 3 4 2 3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	637.44 2500 10 114683		
	22 1566 7 23 6 65 30 40 70	525 80 2616 74 14085 1	4 3448 36 11822 07 18 6 3133	
	23 1335 67 138 206 90			
	24			
		<b>1000 1000 1000 1000 1000 1000 1000 100</b>		
*NOTE: Depreciation includes interest, repairs, gravel pit charge and percentage of capital investment.				



H. Stevens.

ANNUAL REPORT
AUBURN CONCRETE PLANT
1920

Office of Asst.Chief Engr. & Engr.Mtce.of Way, Seattle, Washington, February 10th, 1923.

### SUMMARY

Col	umns	
	Total Investment 12/31/1919.	16853,51
2	Additions to Capital Investment during 1920	192,20
ī	Total Investment 12/31/1920	17045.71
3	Interest on depreciated investment 6% on 7676.62	460.60
4	Gravel pit charges	.00
5	Repairs and Renewals (material only)	133.54
6	Sum of Columns 3-4-5.	594.14
7	Sinking Fund, 1921	594.14
8	Sinking Fund Total 12/31/1921	8582.75
9	Depreciated Investment 12/31/1921	8462,96
10	Manufacturer's Cost (Operation Expense of Plant	
	November and December, 1920)	1716.44

## STATEMENT OF COST OF OPERATION SEASON OF 1 9 2 0

	Total	Operation	Sinking Fund	Capital Account
Inventory 12/31/1919 Material	12217.46	12217.46		
Material and Supplies recd 1920	1770.61	1536.12	133,54	100.95
Labor on Steel Shed Capital a/c	91.25			91.25
Labor Repairs and Renewals charg Operation A/C	ed 1124,89	1124.89		
Labor Operation (exclusive of repairs and renewals)	591,55	591,55		
Less Inventory 1/1/21 Material	12572,40	12572,40		
Credit Reinforcing Rods Shipped	629,31	629.31		
Out	2594.05	2268.31	133.54	192,20
Manufactured product on hand 12/31/19	24961,50	pro star of	Annual State	
Manufactured product shipped away 1920	14837,00	apoli -		
Manufactured product on hand 1/1/21	10124,50			
Interest on depreciated invest- ment 6% on \$7676.62	460.60 3054.65	2268,31	460,60 594,14	AND DESCRIPTION OF THE PARTY OF
	3034,65	16,0033	00.20 7.2	10~3~0

## CREDITS TO AUBURN CONCRETE PLANT

## MANUFACTURED PRODUCT SHIPPED AWAY DURING 1920 and BILLED OUT ON BOOKS

		Lin.				
Pipe	Pcs.	Ft.	Price	Operation	Investment	Total
24"	498	3984	\$2.00			7968.00
36"	166	1328	3.00			3984,00
Piles						
30 ft.	19	570				
25 ft.	4	100				
20 ft. Total I	14 Piles	280 950	1.90			1805,00
Slabs S	Single		er gesterner i er er er			
8			135,00			1080.00
						14837.00
	to Auk			, Operation Accoun	t, for reinfo	reing
Reinfor	reing re	ds shi	pped out			629,31
Charges	to Auk 1920.	ourn Co	ncrete Plant	, Operation Accoun	t, Material r	eceived
200 # 1 Lumber Coal 50 Drayage Lumber		re idles and mis	eived c.supplies	893.70 14.71 253.18 325.64 3.00 26.64 19.25		
		Tot	al Material	1536.12	1536.12	1536.12
Pay Ro	11 1920					
Nov. Pay Dec. Pay	Roll (	Repair Repair	s & Renewals	830.27 294.62	1124.89	
		of rep	ion exclusivairs & reneve e Operation	rals) 591.55	591.55 1716.44	1716.44 2623.25

## MANUFACTURED PRODUCT ON HAND DECEMBER 31st, 1920

Pipe	No.	Pes.	Lin.Ft.	Price Per Foot	Amount	
24"		11	88	2.00	176.00	
36 H		27	216	3.00	648.00	824.00
Piles						
30.1		14	420	1.90	798.00	
251		10	250	1.90	475.00	
201		58	1160	1.90	2204.00	
151		33	495	1.90	940.50	
101		42	420	1.90	798.00	5215.50
Slabs						
Single	Track	21		135.00	2835.00	
Double	Track	10		125.00	1250.00	4085.00
						\$10124.50
Charles A.						

1	Rinforce Pipe	d Concrete			Pile	es		Slak	S
On Hand	24"	36"	301	251	201	THE RESERVE	101	Single	Double
1/1/1920	509	193	33	14	72	33	42	29	10
Made 1922	0	0	0	0	0	0	0	0	0
Shipped 1920	498	166	19	4	14	0	0	8	0
On Hand 12/31/20	11	27	14	10	58 3	33 4	42	21	10

## INVENTORY OF MATERIAL ON HAND JANUARY 1, 1921

Corrugated	Reinforcing Re	ods		Price	
Size	Length	Unit Wt.	Weight	Per Cwt.	Amount
1-1/8" Rd. 1-1/8" Rd. 1" Sq. 1" Rd. 3/4" Sq. 3/4" Rd. 5/8" Sq. 5/8" Rd. 1/2" Sq. 1/2" Rd. 1/2" Rd. 1/2" Rd. 1/4" Rd. 1-1/4" Rd.	2433'-4" 43041'-1" 396'-11" 32 42710'-8" 2782'-6" 1487'-8" 1389'-6" 4608'-8" 22095' 21452'-3" 19774' 94'-9" 13261'-11"	3.38# 3.38# 3.4# 3.67# 1.913 1.502 1.33 1.043 0.85 0.688+ 0.67 0.375 5.31 0.167	8200 145479 1350 117 81705 1479 1979 1449 3918 15221 14373 7415 503 2215	3.85065 3.12 2.09 2.09 2.84 2.84 2.14 2.14 2.68 3.75065 2.68 3.14 2.94 2.94 2.76	307.59 4538.94 28.22 2.45 2320.42 42.00 42.35 31.00 105.00 586.10 385.20 232.83 14.79 61.13
	Forcing rods 5762'-11" 36000'	4.173 0.167	24048 6012	2.94 2.76	707.01 165.93
for concre 2-1/8"x1-1/	forcing plates ete piling /8"x1'-3-3/4" 57 pcs. 1.25 e		11948 327411	5,13	612.83
Reinforcing in Stamped	g rods to be the flum	aken from Aubu	ırn Concrete Pl	ant stock fo	or use

## AFE 905-20 Transfer not yet made on book account

1/2" Rd. 17'-6" 134 pcs. 2 35' 532 " 18 27'-6" 10 "	36201 0	.67 .67	1	1571# 12475# 184#	2.68 2.68 2.68	42.10 334.33 4.93
3/8" Rd. 56'-0" 780 pcs. 43		.375		16380# 30610#	3.14	514.33 895.69
Wire Mesh Reinfo:	reing for Pi	pes Styl	Le #153			
	15033 " " 45033 " "	0032				1441.06
Annealed Wire #16 335#	4.27 cwt.	14.30				
#16 200# #12 400# #11 75#	5.95 Cwt. 3.98 cwt. 4.58 cwt.	11.90 15.92 3.44				45.56
Malthine Paper 4-1/2 rolls	1.40					6.30
		total	material	on hand	1/1/1921	12572.40

**O**\_6-

#### AUBURN CONCRETE PLANT

Statement of additions to Capital Investment charged to Investment account for 1920.

#### Steel Shed AFE 1200-14 ED 146-20

#### Labor Charges from Pay Roll 1920

November	Draftsman making sketch	4.75
	Labor building steel shed	70.57
	Labor building steel shed	<u>15.93</u> 91.25

#### Material charges for 1920

December	ll squares Drayage	roofing	37.29 4.00	
		steel shed	59.66	100,95
	To	tal Addition to	Capital Account	192.20

Statement of charges for Repairs and Renewals charged to Investment Account during 1920.

#### Material

Feb.	1 bronze plate for boiler		.47
	1 set knives for bolt cutter		2.35
H	1/4" Wood block		1.07
11	50 ft. Wire		13.55
11	1 doz. Crosby clamps		4.29
11	(1100# nails	41.60	
	(22 sheets galv.iron	32.71	
	(Pipe fittings	7.70	
	(Oil can	2.04	
	(18# 1/2" nuts	1.41	
	(175# nails	6.43	
	(2-10 ct. Galv. water pails	1.11	
	(1-1/2" Globe valve	.74	
	(2 Gal. Boiler Paint	.94	
	(1 Repaired can	.95	
	(125# 1/2" x 10" Bolts	5.25	
	(18# 5/8" Washers	1.71	
	(6 Padlocks	2.89	
		105.48	
	Store Expense	6.33	111.81
	Total		133.54\$133.54

Re: Anual Reports Auburn Concrete Plant 1920-1921 and 1922

Seattle, Washington, OFFICE OF

Mr. H.E. Stevens, Chief Engr.,

St. Paul, Minn.

Dear Sir:

Enclosing herewith annual reports for the Auburn Concrete
Plant for 1920, 1921 and 1922:

In checking over the 1920 accounts with Mr. Park's record, subsequent to sending you the annual report for 1920, we found some differences and have revised the 1920 report to make it agree with the corrected accounts.

cost figures for 24" and 36" pipe for the three year period ending December 31st, 1922, indicate that 1923 product can be sold for approximately \$2.00 per foot for 24" reinforced concrete pipe and \$3.00 per foot for 36" reinforced concrete pipe and recommend that these prices be authorized for all 1923 sales including pipe carried over from 1922, price for piles and slabs, and depreciation charge for pipe, piles and slabs, to remain as at present. Please advise authorized 1923 prices as we are now shipping out pipe on 1923 orders and should make charges for same soon.

No pipe was made in 1920. The plant was being over-hauled during November and December of that year and operation costs, amounting to \$1716.44, accrued, which are properly a portion of the expense to be pro rated to cost of product manufactured during

past two years. See Sheets "A" and "B" attached for analysis of pipe costs for 1920-1922 inclusive.

The plant at the present time is carrying concrete piles listed at \$6802.00; concrete slabs listed at \$3545.00, as follows:

26 pcs. 30' piles made 1921

29 " 25' " (2 1918

58 " 20' " made 1919

33 " 15' " " 1917

42 " 10' " " 1917

17 S.T. Slabs " 1918

10 D.T. Slabs " 1918

It is also carrying stock of various sized reinforcing rods listed at \$8777.00, most of which was in stock prior to 1918 when the plant was turned over by Mr. Perkins. Of this stock, only the 3/8" and 1/4" rods, amounting to \$408.00, are suitable for manufacture of pipe.

Very few piles have been made since 1919.

Interest charge on the money tied up in the above items is considerable, and I would suggest that the Central and Eastern Divisions draw on this stock for all items' which can be used to advantage in their territory. Copy of inventory of October 31st, 1921, showing detail of rods, was furnished the Store Department, and also furnished your office.

In regard to interest charge on Investment. Should interest be charged on <u>Depreciated Investment</u> as per the statement made up by Mr.Clements - see your file 1816-54 - or has the Auditor made

a yearly interest charge as per the amount shown on his <u>Investment</u>
Account?

Please furnish me with statement showing total footings of Auditor's charges to Operation Account and Investment Account as of December 31st, 1920,

31st, 1921, 31st, 1922.

There was considerable correspondence during the past year in regard to differences between the Auditor's record and the record kept in this office, and I understand Auditor has made a complete check of the concrete plant accounts, using data furnished by this office, but I have not been advised of his final results.

Yours truly.

(Signed) A. R. COOK

CES/R

encls

cc to Mr. M.F. Clements

## AUBURN CONCRETE PLANT ANALYSIS OF COSTS FOR 1920 - 1921 - 1922.

24" R.C.P.		36" R.C.P.			R.C.Piles			S.T.Slabs				
Lin.Ft.	Weight	Cost	Unit Cost Per Ft.	Lin.Ft.	Weight	Cost	Lin.Ft.	Weight	Cost	No. Slabs	Weight	Cost
1930 Operation Cost 1716.44 Pro rated on basis of weight .0001762986 per Lb. 1931 7153 1922 7834 Weight Total Lin.Ft.14976	2909970# 3183390# 6093360	1074.25 11126.10 10326. 64	1.33 1.56	2048 2976 5024	1303 300 1748400 2951600	520.37 4485.16 5671.43	2.24 1890 2.19 675 2565	415800 142020 557820	98.34 2155.59 726.67	1.08 4	133200	23.48 484.46
Total Mfg.Cost 1920,1921,1922		22526.99				10676.96			2980.60			507.94
Average Mfg.Cost per ft.			1.504				2.135			1.162		136.99 ea.
Depreciation Per Foot Cost Recommended Sales Price for Pipe sold in 1923 including product carried over from 1922			.23 1.13 2.00				.33 2.48 3.00			1.78 1.90		

Office of Assistant Chief Engineer and Engineer Mtce. of Way Seattle, Washington, February 17,1983.

1904 1112610 1032669 1112610 567143 215559 215559 117474

#### ANALYSIS OF COSTS FOR 1920- 1921 - 1922.

Inventory 1/	1/1920
1920-1921-19	
Depreciation	1921
n state	1922

1920 Sales 1921 Sales 1922 Sales Inventory 12/31/1922

Surplus 3 yrs.operation

Sinking Fund, 1920 594.14 1921 2885.75 1922 2616.74

Balance Profit on Plant

		24"	36*
Pipe	1921	7153 7824	2048 2976
		15976	5024

Office of Assistant Chief Engineer, and Engineer Mtce. of Way, Seattle, Washington, February 17th, 1923.

24"RCP		36"R	CP	
Cr.	Dr.	Cr.	Dr.	Total
	8144.00		4632.00	
	22526.99		10676.96	
	1573.44		675.84	
	1721.28		982.08	
7968.00		3984.00		
10815.20		4843.20		
14626.40		8907.20		
9964.00		4250.40		
43373.60	33965.71 9407.89	21984.80	16966.88 5017.92	14425.81
	5401.65			1440.01
				4908.35
				9517.46

Saint Paul, March 10th, 1923.

Mr. M. F. Clements:

I am attaching Mr. Cook's annual report covering operation of the Auburn concrete plant.

He is asking a number of questions about accounting distributions. I wish you would check this matter over with Mr. Cribbs as soon as you have opportunity, and let me have your recommendation as to the basis on which the plant products should be charged out.

In this connection, I have written Mr. Newton asking him to advise what system of bookkeeping is used by the Burlington in handling their concrete plants. As soon as I hear from him will send you the file.

Chief Engineer.

HES-ar

Encl.

Re: Accrued interest on slabs, piles and rods carried in stock at the Auburn concrete plant

> Seattle, Washington, February 20, 1923.

Mr.H.E. Stevens, Chief Engr.,

St. Paul, Minn.

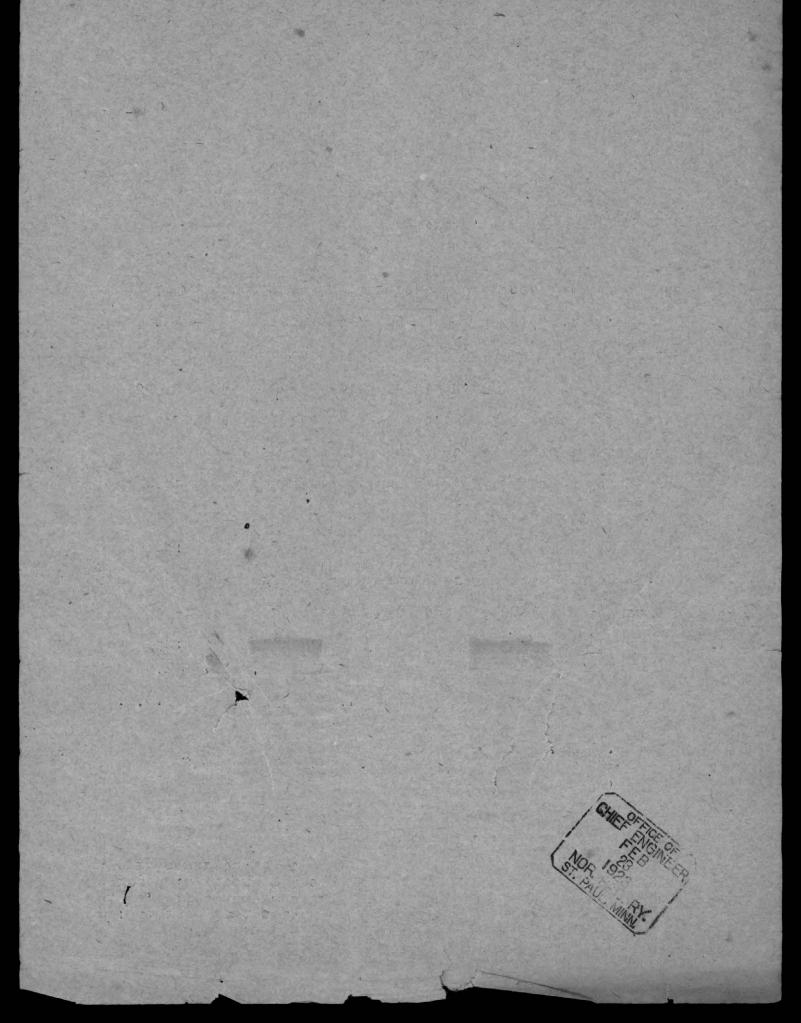
Dear Sir:

Referring to report covering operation of the Auburn concrete plant for the last three years sent to you a few days ago:

You will note from these and past reports that we have been carrying a considerable number of piles and a few slabs for several years. It would seem that we should add to the price of these articles to cover accrued interest during the period they have been carried in stock.

We have also been carrying quite a large amount of reinforcing rods of sizes that do not enter into our work. This stock is also accumulating interest and prices should be made accordingly.

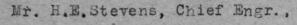
Yours truly,



Re: Annual Reports Auburn Concrete Plant 1920-1921 and 1922

Seattle, Washington,

February 17th, 1923



St. Paul, Minn.

Dear Sir:

Enclosing herewith annual reports for the Auburn Concrete Plant for 1920, 1921 and 1922:

In checking over the 1920 accounts with Mr. Park's record, subsequent to sending you the annual report for 1920, we found some differences and have revised the 1920 report to make it agree with the corrected accounts.

Cost figures for 24" and 36" pipe for the three year period ending December 31st, 1922, indicate that 1923 product can be sold for approximately \$2.00 per foot for 24" reinforced concrete pipe and \$3.00 per foot for 36" reinforced concrete pipe and recommend that these prices be authorized for all 1923 sales including pipe carried over from 1922, price for piles and slabs, and depreciation charge for pipe, piles and slabs, to remain as at present. Please advise authorized 1923 prices as we are now shipping out pipe on 1923 orders and should make charges for same soon.

No pipe was made in 1920. The plant was being over-hauled during November and December of that year and operation costs, amounting to \$1716.44, accrued, which are properly a portion of the expense to be pro rated to cost of product manufactured during

past two years. See Sheets "A" and "B" attached for analysis of pipe costs for 1920-1922 inclusive.

The plant at the present time is carrying concrete piles listed at \$6802.00; concrete slabs listed at \$3545.00, as follows:

26 pcs. 30' piles made 1921
(27 1921) 19 20
29 " 25' " (2 1918
58 " 20' " made 1919
33 " 15' " " 1917
42 " 10' " " 1917

17 S.T. Slabs " 1918
10 D.T. Slabs " 1918

It is also carrying stock of various sized reinforcing rods listed at \$8777.00, most of which was in stock prior to 1918 when the plant was turned over by Mr. Perkins. Of this stock, only the 3/8" and 1/4" rods, amounting to \$408.00, are suitable for manufacture of pipe.

Very few piles have been made since 1919.

Interest charge on the money tied up in the above items is considerable, and I would suggest that the Central and Eastern Divisions draw on this stock for all items which can be used to advantage in their territory. Copy of inventory of October 31st, 1921, showing detail of rods was furnished the Store Department, and also furnished your office.

In regard to interest charge on Investment. Should interest be charged on <u>Depreciated Investment</u> as per the statement made up by Mr.Clements \_ see your file 1816-54 - or has the Auditor made

a yearly interest charge as per the amount shown on his <u>Investment</u>
Account?

Please furnish me with statement showing total footings of Auditor's charges to Operation Account and Investment Account as of December 31st, 1920,

" 31st, 1921, " 31st, 1922,

There was considerable correspondence during the past year in regard to differences between the Auditor's record and the record kept in this office, and I understand Auditor has made a complete check of the concrete plant accounts, using data furnished by this office, but I have not been advised of his final results.

Yours truly,

CES/R

encls

cc to Mr. M.F. Clements

## A

## ANALYSIS OF COSTS FOR 1920 - 1921 - 1922.

		24" R.C.P.			36"	R.C.P.		R.C.Piles			S.T.Slabs	
Lin.Ft.	Weight	Cost	Unit Cost Per Ft.	Lin.Ft.	Weight	Cost	Lin.F&.	Weight	Cost	No. Slabs	Weight	Cost
Weight Total Lin.Ft.14976 Total Mfg.Cost ?	2909970# 3183390# 6093360	1074.25 11426.10 10326.64	1.32 1.56	2048 2976 5024	1205200 1748400 2951600	520.37 4485.16 5671.43	2.34 1890 2.19 675 2565	415800 142020 557820	98.34 2155.59 726.67	1.08 4	133200	23.48 484.46
1920,1921,1922		22526.99				10676.96			2980.60			507.94
Average Mfg.Cost per ft.			1.504				2.125			1.162		126.99 ea.
Depreciation Per Foot Cost Recommended Sales Price for Pipe sold in 1923 including product carried over from 1923	}		.33 1.12 3.00				.33 2.46 3.00			1.78 1.90		

Office of Essistant Chief Engineer and Engineer Mtce. of Way Seattle, Washington, February 17,1923.

Moond

#### ANALYSIS OF COSTS FOR 1920- 1921 - 1922.

Inventory 1/1	1/1920
1920-1921-192	32 Mfg.Cost
Depreciation	1921
	1922

1920 Sales 1921 Sales 1922 Sales Inventory 12/31/1922

Surplus 3 yrs.operation

Sinking Fund, 1920 594.14 1921 2885.75 1922 2616.74

Balance Profit on Plant

		24"	36"
Pipe	1921	7152 7824	2048 2976
		15976	5024

Office of Assistant Chief Engineer, and Engineer Mtce. of Way, Seattle, Washington, February 17th, 1923.

24"	RCP	36*R	CP	
Cr.	Dr.	Cr.	Dr.	Total
	8144.00 22526.99 1573.44 1721.28		4632.00 10676.96 675.84 982.08	
7968.00 10815.30 14626.40 9964.00		3984.00 4843.20 8907.30 4250.40		
43373.60	33965.71 9407.89	21984.80	16966.88 5017.92	14425.81
				4908.35
				9517.46

Tacoma, Wash., Aug. 5th, 1921R PAG.

Mr. H. E. Stevens, Chief Engineer, St. Paul, Minnesota.

Dear Sir:

Replying to your wire of July 27th, 1921, B-18, and July 30th, 1921, B-20, re Auburn Concrete Plant.

I hand you herewith in duplicate statement of sales of manufactured product for 1918, 1919 and 1920, segregated into amounts
credited to Operation Account and Investment Account (depreciation).
Also statement showing expenses and receipts for the same three
year period ending December 31st, 1920.

The amount which appears on the books as having actually been charged off to depreciation for the three year period is \$5261.53 based on sales of manufactured product. The blue print statements sent me with your letter of May 4th, 1921, compiled by Mr. Clements from the various annual reports, base depreciation on yearly plant output. Your letter to me of date February 1st, 1919 enclosing Mr. Clements' letter of date January 30th, 1919 together with blue print statement, authorizes the use of units as recommended by Mr. Clements and the yearly reports and accounting for products sold since that date has been handled in accordance therewith, the depreciation charge for manufactured product sold being shown as credit to Investment Account on the Form 1924 covering each sale.

On the manufactured product carried on inventory as on hand December 31st, 1920, amount \$10124.50, the amount to be charged out

to depreciation if sold at inventory value would be \$2571.23.

Depreciation actually charged out for 1918 - 1919 - 1920

\$5261.53

Proportion of value of manufactured stock on hand 12/31/1920 which will be applied to depreciation when stock is sold

Total

2571.23 \$7832.76

Depreciation shown by Mr. Clements on his blue print statement for this three year period is as follows:

Interest	\$1736.42
Gravel Pit charges	407.55
Repairs	1264.37
Sinking fund	4829.94
	\$8238.32

The difference between the two statements arises from the fact that during portion of 1918 no depreciation appears in the cost record here, for sales, the total depreciation charge for 1918 being only \$591.45 on sales of \$20241.92.

The statements I am sending you, while not in the form you asked for, probably contain the desired information and are in accordance with accounting record as kept.

Yours truly,

CES-S

Principal Assistant Engineer.

encls.

#### STATEMENT OF EXPENSES AND RECEIPTS FOR 1918 - 1919 - 1920

	Additions to Capital Invest- ment during year charged to Investment Account.	Repairs and Renewals charged to Investment account (de- preciation)	Cost of late and materia including Royalty on pipe charge to Operation Account.	al ed
1918 1919 1920	0.0 720.79 192.20	873.30 211.64 179.43	27270.03 22075.38 3297.38	5
Total for 3 years	912.99	1264.37	52642.62	
Amount of Capital Additions to Capit Amount of Capital	al Investment dur	ing 1918 - 191	19 - 1920	16132.72 912.99 \$17045.71
			Credits	Charges
Raw Stock on hand Manufactured produ Cost of labor and	ct on hand 1/1/19			5766.28 3580.28
on pipe 1/1/1918	to 12/31/1920 (0	peration A/C)		52642.72
Cost of additions 12/31/1920 charg Cost of repairs 1/	ed to Investment	Account		912.99
Investment Accou				1264.37 64166.64
	- 1919 - 1920 (Am d Investment Acco factured product) See Sheet	unt }		5261.53
Surplus not charge	d out			69428.17 377.57
Sales of manufactu years 1918 - 191 Inventory 12/31/19 Inventory 12/31/19	9 - 1920 -See She 20 Raw Material	et 2 )	47363.78 12217.46 —? 10124.50	
			69705.74	69805.74

Office of Principal Assistant Engineer, Tacoma, Wash., August 5th, 1921.

## STATEMENT OF SALES OF MANUFACTURED PRODUCT FOR 1918 - 1919 - 1920.

			Total	Credit Operation Account	Credit Investment Account (depreciation
1918	24" R.C.P.	668 pcs.	8625.06	8463.74	161.32
	36" R.C.P.	244 pcs.	4065.49	3975.35 55.00	90.14
	48" R.C.P.	2 pcs.	60.34	2016.00	0.09
	25' Piles	66	2475.00	2475.00	
	15' Piles	9	143.16	118.17	24.99
	Single Trac	k Slabs	2856.87	2547.21	309.66
		Total Sales for			
		1918	20241.92	19650.47	591.45
1919	24" R.C.P.	471 pcs.	6126.80	4736.02	1390.78
	36" R.C.P.	161 pcs.	2884.80	2366.19	518.61
	48" R.C.P.	8 pcs.	245.76	189.97	55.79
	30' Piles	51 pcs.	2371.50	1833.17	538.33
	20' Piles	10 pcs.	320.00	247.36	72.64
	15' Piles	14 pcs.	336.00	259.73	76.27
		Total Sales for 1919	12284.86	9632.44	2652.42
1920	24" R.C.P.	498 pcs.	7968.00	7199.38	768.62
	36" R.C.P.	166 pcs.	3984.00	3475.41	508.59
	30' Piles 25' Piles	19 pcs.)	1805.00	1265.27	539.73
	20' Piles Slabs S.T.	14 pcs.) 8 pcs.	1080.00	879.28	200.72
		Total Sales for 1920	14837.00	12819.34	2017.66
			SUMMARY		
1918			20241.92	19650.47	591.45
1919			12284.86	9632.44	2652.42
1920			14837.00	12819.34	2017.66
Total	l Sales for 1	1918 - 1919 and 1920	47363.78	42102.25	5261.53

Dffice of Principal Assistant Engineer, Tacoma, Wash., August 5th, 1921.

#### AUBURN CONCRETE PLANT

#### STATEMENT OF EXPENSES AND RECEIPTS FOR 1918 - 1919 - 1920

	Additions to Capital Invest- ment during year charged to Investment Account.	Repairs and Renewals charged to Investment account (de- preciation)	Cost of la and materi including Royalty on pipe charg to Operati Account.	al ed
1918	0.0	873.30 211.64	27270.0 22075.3	
1919	192.20	179.43	3297.3	
Total for 3 years	912.99	1264.37	52642.6	2
Amount of Capital Additions to Capi Amount of Capital	tal Investment dur	ring 1918 - 191	19 - 1920	16132.72 912.99 \$17045.71
			Credits	Charges
Raw Stock on hand Manufactured produ	act on hand 1/1/19			5766.28 3580.28
on pipe 1/1/1918 Cost of additions	3 to 12/31/1920 (	Operation A/C)		52642.72
12/31/1920 charge Cost of repairs 1	ged to Investment	Account		912.99
Investment Accor				1264.37 64166.64
	- 1919 - 1920 (An ed Investment Accourant ufactured product) See Sheet	ount )		5261.53
Surplus not charge	ed out			69428.17
Sales of manufactory years 1918 - 19 Inventory 12/31/1 Inventory 12/31/1	19 - 1920 -See She 920 Raw Material	eet 2 )	47363.78 12217.46 10124.50 69705.74	69805.74

Office of Principal Assistant Engineer, Tacoma, Wash., August 5th, 1921.

AUBURN CONCRETE PLANT

#### STATEMENT OF SALES OF MANUFACTURED PRODUCT FOR 1918 - 1919 - 1920.

			Total	Credit Operation Account	Credit Investment Account (depreciation
1918	24" R.C.P.	668 pcs.	8625.06	8463.74	161.32
	36" R.C.P. 48" R.C.P.	244 pcs. 2 pcs.	4065.49	3975.35	90.14
	20' Piles	z pes.	2016.00	55.00	5.34
	25' Piles		2475.00	2016.00	
	15' Piles		143.16	118.17	24.99
	Single Trac	k Slabs	2856.87	2547.21	309.66
		Total Sales fo			
		1918	20241.92	19650.47	591.45
1919	24" R.C.P.	471 pcs.	6126.80	4736.02	1390.78
	36" R.C.P.	161 pcs.	2884.80	2366.19	518.61
	48" R.C.P.	8 pcs.	245.76	189.97	55.79
	30' Piles	51 pcs.	2371.50	1833.17	538.33
	20' Piles 15' Piles	10 pcs.	320.00	247.36	72.64
	To. Lifes	14 pcs. Total Sales for	336.00	259.73	76.27
		1919	12284.86	9632.44	2650 40
			12204.00	3032.44	2652.42
1920	24" R.C.P.	498 pcs.	7968.00	7199.38	768.62
	36" R.C.P. 30' Piles	166 pcs. 19 pcs.)	3984.00	3475.41	508.59
	25' Piles 20' Piles	4 pcs.) 14 pcs.)	1805.00	1265.27	539.73
	Slabs S.T.	8 pcs.	1080.00	879.28	200.72
		Total Sales for			
		1920	14837.00	12819.34	2017.66
			SUMMARY		
1918			20241.92	19650.47	591.45
1919			12284.86	9632.44	2652.42
1920			14837.00	12819.34	2017.66
Total	Sales for 1	918 - 1919 and 1920	47363.78	42102.25	5261.53
		THE RESERVE OF THE PARTY OF THE			

Office of Principal Assistant Engineer, Tacoma, Wash., August 5th, 1921. Res Inventory and sports covering Auburn Concrete Plant

Tacoma, March 37, 1930.

Mr. H. E. Stevens, chief Engineer, St. Paul, Minn.

Dear Sir:

I am enclosing to you herewith three copies of the Auburn Concrete Plant inventory as of December 31st, 1919.

Department, I am enclosing a statement showing amount of pipe shipped during January and February, the amount of pipe on hand warch 1st, requisitions which have been covered by Store Orders, pipe not yet shipped, and requisitions for pipe not covered by Store Orders and not shipped. There have been no shipments of piles, slabs or reinforcing steel since the first of the year. The Store Department, however, has made a shipment of reinforcing bars which we advised Mr. Robson we could not receive as we did not have the force to take care of them. I understand that these bars are in the freight house at Auburn.

I am also enclosing blue print forms showing record of shipments during January, amount of pipe on hand, number of

が

slabs on hand as of March 1st, also number of piles on hand as of the same date.

Yours truly,

ARC-R encls

Principal Assistant Engineer

Re: Report on Auburn Concrete Plant for 1918.

Tacoma, Wn., Feb. 10, 1919,

Mr. H. E. Stevens, Chief Engineer, St. Paul, Minnesota.

Dear Sir:

I am enclosing to you, herewith, in duplicate a report on the Auburn Concrete Plant's operations for 1918, which has been made out in practically the same form as submitted last year.

I have discussed this matter with Mr. Clements Friday, the 7th inst., and I think that we practically agreed as to how the accounts should be handled although there was some difference in opinion as to the price at which the manufactured material should be billed. In connection with this matter, I am having a detailed analysis of the cost made up with which I can check with Mr. Clements' statement when submitted.

Yours truly,

Principal Assistant Engineer

ARC-R encEs.

on clament has a copy of

Years niport attack

705

## W. G. MCADOO, DIRECTOR GENERAL OF RALROADS NORTHERN PACIFIC RAILWAY

(Sheet #1)

Tacoma, Wash., January 31, 1919.

Report on Auburn Concrete Plant for 1918.

#### SUMMARY OF INVESTMENT ACCOUNT FOR 1918

W	Investment Acct. at end of season 1917 Dec.	31-1917	\$8490.13
	Labor and material for repairs and renewals charged to investment acct, during 1918.  For details see sheets 15-16-17		873,30
			9363,43
	Depreciation on manufactured product on hand 1/1/16)	787,67	
	Deduct depreciation on manufactured pro- duct sold during 1918 and charged to in- vestments	591,45-	
		196.22	
	Depreciation at close of season 1918	6807.62	
	Total Investment	-	9363,43
	Total depreciation for 1918	7003,84	7003,84
	Balance in investment account 12/31/1918	8	2359.59

# UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF RAILROADS NORTHERN PACIFIC RAILWAY.

(Sheet #2)

#### STATEMENT OF COST OF OPERATING AUBURN CONCRETE PLANT FOR 1918

Ch	ar	ge	8
PRODUCTION OF			

Supplies and material on hand 1/1/18  Manufactured product on hand 1/1/18  Cost of Labor and Material for 1918  Royalty on pipe .6512 lin ft 24" @ .05 325.60  3200 " " 36" @ .05 160.00	5766.28 / 3580.28 / 26784.41 /
Total Charge -	36616.57
Credits	

Manufactured product shipped away during 1918 and charged out on books See sheet #3 for detail

Manufactured product on hand Dec. 31, 1918. See sheet #4 for detail

Empty cement sacks on which adjustment not yet made. See sheet #4

Inventory of material and supplies on hand 12/31/1918. See sheets 5 and 6

Total Credits

19650.47

14978.76

248,20

8742.98

43620,41

Depreciation charged to Investment .2883032 of \$24293.31 (cost of 1918 noperation)

7003.84

43620.41

43620,41

(Sheet #5,

#### CREDITS TO AUBURN CONCRETE PLANT

Manufactured Product shipped away during year and billed out on books.

					Credit to Operation	Bredit to In.	Total Credit.
Pipe						( kgo	We.
24"	668	pcs.	5344	lin ft.	8463.74	161.32	8625.06
36"	244		1952		3975.35	90.14	4065.49
18"	2	•	16		55.00	5.340	60.34
Piles							
301	0	pes	. 0	lin ft.			
251	66	ν <b>"</b>	1650	@ 11501	2475.00		2475.00
100	63		1260	@ M. o .	2016.00		2016.00
51	9	•	135	• qu	459> 118.17	24.99 Dp	143.16
Slabs						, IA	
Single	22	pcs	•		2547. 21 Wed . lander	309.66 Dy	2856.87
Double	0						
					19650.47	591.45	20241.92

mt 5743

(Sheet #4)

248, 20

248.20

	Manufac	tured	Prod	uct	on 1	nai	nd Dec.	31, 1918		
Pipe										
24"	212	pcs.	1696	lin	ft	@	1.60	2713.60		
36"	188		1504			0	2.10	3158.40	* 1988	
48"	8	•	64			0	3.84	245.76	6117.76	
Piles										
30 t	35	•	1050			0	1.55	1627.50		
251	2		50			0	1.50	75.00		
201	10	•	200			@	1.60	320.00		
151	47		705	"		@	1.60	1128.00		
101	42		420			0	1.20	504,00	3654.00	
Slabs				N	0					
Single	29	9		n i		0	135.00	3915.00		
Double	10					0	125.00	1250.00	51.65,00	14978.76

1241 empty cement sacks on which adjustment not yet made @ 20g per sk.

#### UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF RAILROADS

#### NORTHERN PACIFIC RAILWAY (Sheet #5)

### STATEMENT OF COST OF AUBURN CONCRETE PLANT FOR 1918 Inventory of Material and Supplies on hand 12/31/1918.

Reinfercing rods	Length	Lin.ft.	Unit. wt. per foot.	Weight	t	
880 pcs 3 sq.	61-6"	5720				
120 " " "	131-6"	1620				
237 " " "	151-6"	3673.5				
28 0 0	161-6"	1600.5				
28 " " "	171-6" 351	490 2485				
	33.	15589	1.913#	29822#	3.473 cwt	1035.72
170 . 48 .	351	4830	1,010//	NO COLOT	0.410 040	1000.12
138 " #"	301-6"	5181-6"				
17 " " " " " " " " " " " " " " " " " " "	271-6"	2365				F4 14 37 18
× 259 " " "	61-6"	1683-6"		101		S. A. Paris
61 " "	171-6"	1067-6"		A		
123 " " "	31.30	3991-9#	00	Just May		12
321 " " "	41	1284	10			500%
	-×	12148-3"	0.67#	8140#	3.617 cwt	294.42
907 " 3/8 "	71-10"	7105				
128 " " "	131-4 "	1706-8"		Contracts.		
203 # " "	101-8 "	2165-4"				
6 " "	171-3 "	103-6"				D.
634 " "	21	12681	0 375#	4630#	3.95 cwt	188.82
		12348-6"	0.375#	4030#	0.00 000	100,02
32 " 1½" rd	61-9"	<b>31</b> 6 896-6"				Slalo?
Ç 33 " " "	271-2"	1112,6"	4.173#	4642#	4.45 cwt	206.57
005 # 1 1/0	151-4"	4370		101.0		
285 " 1 1/8 sq.	191	2261				
119 " " "	201	3360				
299 " " "	241-4"	7275-8				Piles
233		17266,8		58361#	3,473 *	2026,88
× 14 " 5/8" rd	81-2"	144-4"	1.04 #	119#	3,473 "	× 4.13
pyo } " rd				3000#		P. PO 70.38
4570# 2 1/8# x	1/8"x1!-32	" plates for	piling	5758#	2,703C pc	s 123,55
poinforcing rods D	eed on GSK	4916 for Wh	nich no		1	
invoice has been	recd and W.	hich are not	yet charg	gea out.	1	
175 pcs. 1 1/8" rd	15'-4"				no	charge -
485 " 1 1/8" "	241-4"				1	01101 80
200 " " "	281-10"				1	
90 " " " "	301-8"				1	
140	19'-10"				1	<b>经</b> 通过的人工
285 " " "	1910.					3950.45

### UNITED STATES RAILROAD ADMINISTRATION W. G. MEADOO, DIRECTOR GENERAL OF RAILROADS

### NORTHERN PACIFIC RAILWAY (Sheet #6)

Scrap reinforcing rods.  Brot forward	3950.45
80 pcs 3" sq 7'6" 600 · 170.5	
770.5 1.913# 1474# \$10.00 ton 12600 lin ft 44" wide Style 153 Mesh 42 rolls 46200 sq ft) 16425 " 48" " 542 " 65700 " ")	7.37
.03108 per sq. foot - 111900 " "@	3477.85
1443 sks Olympic Cement 2.5957 per bbl. 625 # No 16 Annealed Wire 4.32 " 100# 400 # No 12 " " 3.98 " " 150 # No 11 " " 4.58 " " 10# 6-d Nails ) 15# 8-d " )	936.40 27.00 15.92 6.87
90# 20-d "	5.63 6:30 1:31
3# " 3/4"  5# 1/16" Rainbow Packing)13# 30  3# Lamp Black  80 Tons Roslyn Coal	3.90 .33 232.00 60.80 10.57 .28
Total value of material and supplies on hand	8742.98
mx Ax	348 20

## UNITED STATES RAILROAD ADMINISTRATION W. G. McADOO, DIRECTOR GENERAL OF RAILROADS

#### NORTHERN PACIFIC RAILWAY

(Sheet #7)

#### SUMMARY OPERATION FOR 1918

#### PIPE

	24"	36"	Slabs	Piles	Total
Cement	2418.86	1728.91	1261.03	589.45	5998, 25
Mesh	1503,30	1109.30			2612.60
Bars	1052,27	523.71	1618,27	1528,53	4722.78
Wire	34,89	15,69	8,89	10.93	70.40
Royalty	325,60	160.00			485.60
Labor	2195.16	1386,36	955,50	1318,83	58 <b>85</b> , 85
Sand and Gravel	528.30	389,42	378,70	176.91	1473,33
Mathine Paper			18,58	-18.58	18,58
Matritue Paper	8058.38	5313,39	4240.97	3624,65	21237,39
General	1071,41	7760.30	940,55	283,66	3055.92
	9129.79	6073,69	5181,52	3908.31	24293,31

General expense includes cost of coal, oil, form lumber, time of plant superintendent, doing clerical work, cost of pumping water, handling coal and cinders and other general items that cannot be charg-

ed directly to each product. Cost of general items is prorated on basis of weight of product manufactured during 1918.



### UNITED STATES RAILROAD ADMINISTRATION W. G. MEADOO, DIRECTOR GENERAL OF RAILROADS

## W. G. MEADUG, DIRECTOR GENERAL OF RAILBOADS NORTHERN PACIFIC RAILWAY

(Sheet #8)

Operation Cost Per Lin Ft 24" Pipe compared with cost for 1916 and 1917.

Product for 1918 - 814 pcs. 6512 lin ft.

	1918	1917	1916	
Cement	.371	.300	.280	
Sand and Gravel	.081	.064		
Mesh	.231	.223	2219	
Bars	.161	.115	.097	
# 16 Wire	.005	.004	.004	
Labor	.337	/199	.192	
Royalty	.050	.050	.050	
General	/165 1/401	1,082	1.084	
Depreciation	1,805	.238 1,320	1.264	



# UNITED STATES RAILROAD ADMINISTRATION W. G. MOADOO, DIRECTOR GENERAL OF RAILROADS NORTHERN PACIFIC RAILWAY

(SHEET #9]

Operation Cost per lin. ft. 36" pipe compared with cost for 1916 and 1917.

Product for 1918 - 400 pcs. 3200 lin. ft.

	1918	1917	1916	
Cement	. 540	.436	.409	
Sand and Gravel	.122	.096		
Meah	.347	.299	.295	
Reinforcing Bars	.164	.162	.140	
Annealed Wire	.005	.005	.004	
Labor	.433	.230	.227	
Royalty	,050	.050	.050	
General	.238 1.899	.169 1.447	1,447	- Total
Depreciation	.548	.318	.240	_
	2.447	1.765	1.687	

### OPERATION COST PER LINEAL FOOT FOR PILES

Preduct 30' 25' 20' 15' Pes. 35 45 73 27 Feet 1959' 1125 1469 405

	7	01		251	20	)'	1	51
James D	1918	1917	1918	1917	1918	1917	1918	1917
Cement	.144	.116	.144	.116	.149	.118	.144	.116
Sand and Gravel	.043	.034	.044	.035	.044	.035	.043	.034
Annealed Wire	.003	.0005	.003	.003	.008	.004	.004	.006
Labor	.233	.237	.324	.189	.372	.238	.413	. 259
Reinforcing Rods	. 373	.394	.377	.311	.384	.320	.375	.328
Gen <b>eral</b>	.071	.092	.068	.087	.070	.095	.076	.098
	.867	.784	.960	.741	1.022	.809	1.055	.841
Depreciation	.259	.172	.277	.163	.295	.178	.304	.185
	1.117	.956	1.237	.904	1. 317	.987	1.359	1.026

# UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF RAILROADS NORTHERN PACIFIC RAILWAY

(Sheet #11)

## OPERATION COST OF PILES FOR 1918 Exclusive of Depreciation.

	30 t 35 pcs 1050 lin ft	25' 45 pes 1125 lin ft	20 <sup>†</sup> 73 pcs 1460 lin ft	15 <sup>t</sup> 27 pcs 405 lin ft
Cement	151,28	162,08	217.74	58,35
Sand and Gravel	45.43	49.27	64,69	17.52
Annealed Wire	2.14	2,72	4.45	1,62
Labbr	244.13	363,99	542.87	167.84
Reinforcing Bars	391,54	423,82	561.13	152,04
General	74,79	76,64	101,64	30.59
	909.31	1078,52	1492,52	42 7.96

# UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF RAILROADS NORTHERN PACIFIC RAILWAY

0

(Sheet #12)

## OPERATION COST PER SLAB COMPARED WITH 1917 Product for 1918 Single 37 pcs. Double 11 pcs.

	Single		Dou	
	1918	<b>1917</b> n	1917	1918
Cement	27.014	21,803	23,773	19,176
Sand and Gravel	8.113	6.402	7.139	5,634
Annealed Wire	.186	.265	.181	2256
Malthine Paper	.287	,553	.387	.553
Labor	19810	13.719	20,232	13,797
Reinforcing Bars	34.477	46,024	31,147	38,948
General	19,924	11,772	18,487	10,393
	709. 911	100,538	101,346	887,757
Depreciation	31.6.87	211,118	29,218	19,527
The second of the second	141. 598	122,656	130,564	108,284

## UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF MAILROADS NORTHERN PACIFIC RAILWAY

(Sheet #13)

## TOTAL MATERIAL USED IN MANUFACTURED PRODUCT FOR L918 AND AVERAGE UNIT COSTS FOR SAME

	Amt. used during 1918	Average price for 1918	Average price for 1917
Sand and Gravel Cement Mesh Reinforcing Bars f	-3028 cu yds 11102 sacks 81682 sq. ft.	.73 pr cu yd .540 " sk .032 " sq ft	0.576 per c.y. 0.43 "sk. 0.0272 "sq ft.
pipe	38736 #	.0407"# )	
pipes	59656 #	.0256*#	.03252 pr #
slabs	49723 #	,0326"# }	
Wire for pipe	967#	.0523*#	.0441 "#
" piles	200#	• •	
" slabs	170#		•
Malthine Paper 11.	2 rolls 5600 sq.ft	{ .0033ipr sq ft .010 " lin "	.0108pr lin ft

#### PRODUCTS MANUFACTURED AND ON HAND

	Pipe			Piles				Slabs		
	24"	36"	48*	301	251	201	151	101	Sin.	Dou
On hand from last season	<b>C60</b>	32	10	•	23	0	29	42	14	0
Total 1918 Product	814	400	-	35	45	73	27	0	37	11
Total shipped 1918	668	244	2	0	66	63	9	0	22	0
Broken and unfit for use	706									1
Surplus on hand	212	188	8	35	2	10	47	42	29	10
Unfilled orders on hand	0	0	0	0	0	0	0	0	0	0



#### UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF RAILROADS

#### NORTHERN PACIFIC RAILWAY



(Sheet #14)

#### COMPARISON OF LABOR COSTS FOR 1917 AND 1918

	SEPTEMBER PAYROLL 1918 Time	Rate	Amount
Plant Supt. 1 mo	1 mo	160.00	160.00
Engineer	208 hrs 26 days	5.27	137.02
	376 hrs 47	5.00	235.00
2 Steel men	192 hrs 24 "	4.75	114.00
Form men	240 hrs 30 *	4.50	135.00
Pump man			582.75
6 Concrete moulders	1036 hrs 1292 "	4.50	1363,77
Total	Amount of September Payro	11 -	1909

Same time computed on basis of wages paid during last half of 1917.

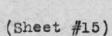
T	ime				Rate	Amount
208 376 192 240 1036	hrs	47 24 30			121.00 4.125 3.575 3.575 3.30 3.025	99.00
	1 208 376 192 240	376 " 192 " 240 " 1036 "	1 mo 208 hrs 26 376	1 mo 208 hrs 26 days 376 " 47 " 192 " 24 " 240 " 30 " 1036 " 1292 "	1 mo 208 hrs 26 days 376 " 47 " 192 " 24 " 240 " 30 " 1036 " 1292 "	1 mo 208 hrs 26 days 376 * 47 * 3.575 192 * 24 * 3.575 240 * 30 * 3.30 1036 * 1292 * 3.025

40.2%

#### UNITED STATES RAILROAD ADMINISTRATION

W. G. NICAGOO, DIRECTOR GENERAL OF RAILROADS

#### NORTHERN PACIFIC RAILWAY



#### AUBURN CONCRETE PLANT

Statement of Items for Repairs and Renewals charged to Investment.

#### Material

Spur gears Foreign frt. chgs. on same Grindstone 3/4" water hose 100 ft. For adjustment on pipe bil but not shipped doz. white wash brushes 2-3/4" hoze nozzle and 2 r 1 chain, hook, 2 trowels 2-#210 mortar mixers 1 pc. smoke stack screen 12-12" hacksaw blades doz. 12" flat files Belt lacing 3 padlocks 1-12" monkey wrench 3-1" Ells 3-1" Tees doz. 1" couplings 1/2 " doz" 3-2" Ells 3-1" Tees foreign frt. chgs. on same grade g	.led	24.27 .39 3.91 22.77 37.39 5.54 2.58 5.50 1.85
Store expense	3.30	36.32
Repairs on steam pump Drayage Jaws for bolt elippers 300 lin.ft. 3/4" wire cabl 5# rainbow packing l/16" 320 ft. BM l" Lumber 10 sheet metal screens 1/16"x12"-4" 20 lin.ft. l½" black pipe 20 " " l" " " 2 sledge handles 2 shovels  Store Expense	1.50 6.40 18.14 2.37 1.65 .25 1.35 31.66 3.16	40.82 2.00 3.46 67.03
		287.65



## UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF RAILROADS

(Sheet #16)

## NORTHERN PACIFIC RAILWAY

	Brought	Forward	\$	287.65
6 sheets #22 1 12-12" Hacksa	black iron w blades	7.04 .76 7.80		
		.78		8.58
Drayage				2.00
10 pcs. sheet	metal screen	17.12		
GAO Ft PM T.11	mber	13.74		
2 doz. 3/4" b	olts-31 long ex.nuts.	1.00		
4 " 3/4" h		32.31		75 54
store expense		3.23		35.54
24 pcs. sheet	; iron 1/8"x			166.85
21x81		1 To 1 1 1 1		
1920# AS&MA 3	1 CO	22.56		05.00
Tahor of boil	ler maker	3.42		25.98 14.88
Labor opr.Der	ot.loading ties	and the second	Talls.	14.00
	The second secon			
Labor Charge	s from Payroll			
Ammil Pana	irs screens			62.35
April Repa	ir 24" template			5.40
11	36" "			5.40 21.82
u	Henry Town	lne		4.75
1	00220			17.95
"				9.36
ı				3.30
May "		ground		29.83
				3.45
	steam line t	o mixer		5.70
	engine			3.80
	pump mixer engine			.85
	water pipe 1	ine		1.70
94110	screens			7.95
	grindstone s	tand		3.30
	slab forms pump			0.96
	m engine			2.86
	" bunkers		The same of	1.70
July	" screens			20.51 3.33
	" engine			.16
		r pay)	4	4.77
	" pump " bunkers			1.70
	m pile platfor	cm		2.45
August	" engine			3.29
	" pump			8.79
	" concrete bu			1,98
Gant auham T	sharpening tool			46.37
September F	water pip	e line		849.48
			Forward	11.00

#### UNITED STATES RAILROAD ADMINISTRATION

W. G. 1 2 200, DIRECTOR GENERAL OF RAILROADS

#### NORTHERN PACIFIC RAILWAY

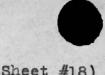
(Sheet #17)

I	849.48	
September	Repair water pipe line " engine " pump	10.63 6.60 5.27
October	" engine	1.33
Nov. & Dec.	No charges.	

Total charges for repairs) \$ 873.30 and renewals during 1918)



#### UNITED STATES RAILROAD ADMINISTRATION W. G. MCADOO, DIRECTOR GENERAL OF RAILROADS NORTHERN PACIFIC RAILWAY



(Sheet #18)

Cost of manufacturing pipe, piles and slabs considerably increased over cost in previous years on account of general increase in cost of both labor and material.

. No 48" pipe was made during 1918, and forms for 48" pipe are practically worn out and useless.

Chargesto investment 873,30 consist of ordinary repairs and renewals, 300 ft of 2" wire cable, 100 ft. of 2" water hose and a few tools and miscellaneous items as per list attached.

Plant as a whole is in a fair state of repair.

(Sheet #1)

Tacoma, Wash., January 31, 1919.

Report on Auburn Concrete Plant for 1918.

## SUMMARY OF INVESTMENT ACCOUNT FOR 1918

Investment Acct. at end of season 1917  Labor and material for repairs and rener charged to investment acct. during 1916  For details see about 1		\$8490,13
For details see sheets 15-16-17		873.30
Depreciation on manufactured product on hand 1/1/16		9363, 43
Deduct depreciation on manufactured pro- duct sold during 1918 and charged to in	787,67	
	591,45	
	196.22	
Depreciation at close of season 1918	6807.62	
Total Investment		9363.43
Total depreciation for 1918	7003,84	7003,84
Balance in investment account 12/31/1	918	2359.59

### STATEMENT OF COST OF OPERATING AUBURN CONCRETE PLANT FOR 1918

44.4		52,123	(5000)	650
(E) (E)	2.5%	100		S.
SERVICE OF			And a	100

	Supplies and material on hand 1/1/18 5766	, 28
in a	Wanufactured around on hand 1/1/10	STATE OF STA
43	Cost of Labor and Material for 1918	.41
100	Dave 1+ v Am mine 6512 lin ft 24" 68 .00 360,00	
	3200 * * 36* 0 .05 160.00 485	.60
	Total Charge - 36616	. 57

#### Credits

Manufactured product shipped away during 1918 and charged out on books See sheet #3 for detail	19650,47
Manufactured product on hand Dac. 31, 1918. See sheet #4 for detail	14978.76
Empty cement sacks on which adjustment not yet made. See sheet #4	248, 20
Inventory of material and supplies on hand 12/31/1918. See sheets 5 and 6	8742.98
Total Credits	43620,41

Depreciation charged to Investment . 2883032 of \$24293.31 (cost of 1918 operation)

7003.84

43620.41

43620,41

#### CREDITS TO AUBURN CONCRETE PLANT

Manufactured Product shipped away during year and billed out on books.

						Credit to Operation	gredit to In.	Total Credit.
Pipe								
24*	668	pes.	5344	lin	st.	8463.74	161.32	8625.06
36"	244	•	1952	•	•	3975.35	90.14	4065,49
48"	2	•	16	•	•	55.00	5.34	60.34
Piles	4	4						
301	0	pcs.	. 0	lin	ft.			
251	66	•	1650	•		2475.00		2475.00
201	63	•	1260	•	•	2016.00		2016.00
151	9	•	135	•	•	118,17	24.99	143,16
Slabs								
Single	22	pcs				2547,21	309,66	2856,87
Double	0	•						
						19650.47	591,45	20241.92

	Manufac	tured	Prod	uct	on he	ind Dec.	31, 1918		
Pipe									
24"	212	pes.	1696	lin	ft e	1.60	2713.60		
36*	188	•	1504		• 0	2.10	3158.40		
48*	8	•	64	•	• 6	3.84	245,76	6117.76	
Piles									
301	35	•	1050		* G	1.55	1627.50		
251	2	•	50	•	* 6	1.50	75.00		
201	10	•	200	•	. 6	1.60	320.00		
15'	47	•	705	•	• 6	1,60	1128.00		
101	42		420			1.20	504.00	3654.00	
Slabs									
Single	29				ø	135.00	3915.00		
Double	10		, , , , , , , , , , , , , , , , , , ,		6	125.00	1250.00	5165.00	14978.76

1241 empty cement sacks on which adjustment not yet made @ 20g per sk. 248.20

248,20

### STATEMENT OF COST OF AUBURN CONCRETE PLANT FOR 1918 Inventory of Material and Supplies on hand 12/31/1918.

Reinforcing rods	Length	Lin.ft.	Unit. wt. per foot.	Weigh lbs.	6	
880 pes 3° sq. 120 " " " " 237 " " " " 97 " " " 28 " " " 71 " " "	6'-6" 13'-6" 15'-6" 16'-6" 17'-6"	5720 1620 3673.5 1600.5 490 2485 15589	1.915#	29822#	3.473 cwt	1035.72
138	35' 30'-6" 27'-6" 6'-6" 17'-6" 3'-3"	4830 518'-6" 2365 1683-6" 1067-6" 399'-9"				
321	7'-10" 13'-4 " 10'-8 " 17'-3 "	12148-3" 7105 1706-8" 2165-4" 103-6" 1268'	0.67#	8140#	3.617 owt	294.42
32 " 14" rd	61-9*	12348-6° 216 896-6°	0.375#	4630#	3.95 ewt	188.82
285 " 1 1/8 sq. 119 " " " "	16'-4" 19' 20'	1112.6" 4370 2261 3360 7275-8		4642#	4.45 cwt	206, 5"
299 " " " " " rd	24'-4" 8'-2" 1/8"x1'-3 <del>1</del>	17266.8 144-4	3.38 # 1.04 #	58361# 119# 3000# 5758#	3.473 * 3.473 * 2.346 * 2.7030 pcs	2026.83 4.15 70.23 123.13
invoice has been 175 pcs. 1 1/8" rd 485 " 1 1/8"	eed on GSK recd and Wi 15'-4" 24'-4"	4916 10r W	alch no	ged out.	no	ha <b>rge</b>
200 " " " " " " " " " " " " " " " " " "	28'-10" 30'-8" 39'-8" 19'-10"					3950, 5

Scrap reinforcing rods. Brot for	7ard 3950.45
80 pcs 3" sq 7'6" 600 31 # # 5'6" 170.5	
770.5 1.913# 1474# 12600 lin ft 44" wide Style 163 Mesh 42 rolls 462 16425 " " 48" " " 542 " 657	00 sq ft)
.03108 per sq. foot	3477.85
1443 shs Olympts Cement 2.5957 per bbl. 625 # No 16 Annealed Wire 4.32 * 100# 400 # No 12 * 3.98 * * 150 # No 11 * 4.58 * * 10# 6-d Nuile ) 15# 8-d * )	936.40 27.00 15.92 6.87
90# 20-d " ) 135# @ 4.17 per C # 20# 60-D " ) 135# @ 4.17 per C # 20# Gear grease .0655# 3# Canvas packing 3/8" ) 2# Paston " * " )	5: 63 6:32 1:31
3/4" 5# 1/16" Rainbow Packing)13# .30 3# Lamp Black .11 80 Tons Roslyn Coal 2.90 114 Pcs. 4"x4" - 20' 3040 ft BM @ 20.00 50 Gal Car Oil @ .2114 Gal. 3 " Goal Oil @ .095 "	3.90 .33 232.00 60.80 10.57 .28
Total value of material and suppli	es on hand

#### SUMMARY OPERATION FOR 1918

#### PIPE

	244	36*	Slabs	Piles	Total
Cement	2413.66	1728.91	1261.03	589.45	5998.25
Besh	1503.30	1109.30			2612,60
Bars	1052,27	523.71	1618.27	1528.53	4722.78
Wire	34.89	15.69	8,89	10.93	70.40
Royalty	325,60	160.00			485,60
Labor	2195,16	1386.36	955.50	1318,83	5885.85
Sand and Gravel	528.30	389.42	378.70	176.91	1473,33
Mathine Paper			18.58	120.58	18,58
	8058.38	5313.39	4240.97	3624.65	21237.39
General	1071.41	7260.30	940.55	283.66	3055,92
	9129.79	6073.69	5181,52	3908.31	24293.31

General expense includes cost of coal.cil, form lumber, time of plant superintendent, doing clerical work, cost of pumping water, handling coal and cinders and other general items that cannot be charg-

ed directly to each product. Cost of general items is provated on basis of weight of product manufactured during 1918.

### Operation Cost Per Lin Ft 24" Pipe compared with cost for 1916 and 1917.

Product for 1918 - 814 pcs. 6512 lin ft.

	<u>1918</u>	1917	1916	
Cement	.371	.300	.280	
Sand and Gravel	.081	.064		
Nesh	.231	.223	219	
Bare	.161	.115	.097	
# 16 Wire	.005	.004	.004	
Labor	.337	/199	.192	
Royalty	.050	.050	.050	
General	/165 1/401	.127 1.082	1,084	
Depreciation	1.805	.238 1.320	.180 1,264	-

## Operation Cost per lin. ft. 36" pipe compared with cost for 1916 and 1917.

Product for 1918 - 400 pcs. 3200 lin. ft.

	1918	1917	1916	
Cement	. 540	.436	.409	
Sand and Gravel	.122	096	la participation of the state o	
Heah	. 347	.299	.295	
Reinforcing Bars	.164	.162	.140	
Annealed Wire	.005	.005	.004	
Labor	.433	.230	.227	
Royalty	.050	.050	.050	in i
General .	1.899	.169 1.447	1,447	
Depreciation	. 548	.518	.240	
	2.447	1.765	1.687	

#### OPERATION COST PER LINEAL FOOT FOR PILES

	是是这个大型的问题。这个人的是是是是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一			Principle of the Control of the Cont	
	Preduct	301	251	201	151
63				ACCOUNT OF THE PARTY OF THE PAR	
	Pos.	35	45	73	27
		10501	7798	1460	AOK.
	Feet	1959'	1125		405

	4	01		251	2(	01	1	51
Drivers, Co.	1918	1917	1918	1017	1918	1917	1918	1917
Cement	.144	.116	.144	.116	.149	.118	.144	.116
Sand and Gravel	.043	.034	.044	.035	.044	.035	.043	.034
Annealed Wire	.003	.0005	.003	.003	.008	.004	.004	.906
Lebor	. 233	.237	. 324	.189	.372	. 238	.413	. 259
Reinfording Rods	. 373	.304	.377	.313	.384	. 320	.375	.328
General	.071	.092	.068	.087	.070	.095	.076	.058
	.867	.784	.960	.741	1.922	.809	1.055	.841
Depreciation	. 250	.172	.277	.163	.295	.178	.304	.185
	1.117	.956	1.237	.904	1. 317	.987	1.359	1.026

## OPERATION COST OF PILES FOR 1918 Exclusive of Depreciation.

	30' 35 pcs 1050 lin ft	25' 45 pcs 1125 lin ft	20' 73 pcs 1460 lin ft	15' 27 pcs 405 lin ft
Cement	151.28	162.08	217,74	58.35
Sand and Gravel	45,43	49,27	64.69	17,52
Annealed Wire	2.14	2,72	4.45	1,62
Labbr	244.13	363.99	542.87	167.84
Reinforcing Bars	391,54	423.82	561.13	152.04
General	74.79	76.64	101.64	30.59
	909.31	1078,52	1492.52	42 7.96

(Sheet #12)

# OPERATION COST PER SLAB COMPARED WITH 1917 Product for 1918 Single 37 pgs. Double 11 pcs.

	1918	Single <u>1917</u>	1917 De	uble <u>1018</u>
Cement	27.014	21.803	23.773	19,176
Sand and Gravel	8.113	6.402	7.139	5,634
Annealed Vire	.186	.265	.181	2256
Malthine Paper	.387	.553	↓387	.583
Labor	19810	13.719		13,797
Reinforcing Bars	34, 477	46,024	31.147	38,948
General	19,924	11,772	18.487	10,393
Depreciation	109,911	100,558	101.346	887,787
	316.87 141. 598	211,118 122,656	29.218	19.527

66 63

1

## TOTAL MATERIAL USED IN MANUFACTURED PRODUCT FOR 1918 AND AVERAGE UNIT COSTS FOR SAME

	Amt. used during 19	55 S S S S S S S S S S S S S S S S S S	verage for 1		ce			rage r 19	prio	:• —		
Sand and Gravel Cement Mesh Reinforcing Bars for	2028 cu y 11102 sack 81682 sq. 1	9	. 540	pro	k		0.	43	per c			
pipe Reinforcing * *	38736 #		.0407"# }									
piles Reinforcing " "	59656 # 49723 #				.0326*#				.03252 pr #			
Wire for pipe	967#		.0523*#				0441	•	#			
" " piles	208# -	8/										
" " slabs	170#	170# * *										
Walthine Paper 11.2 roll	ls 5600 sq.f		( .003	31pr	sq f lin			0108	pr li	n £		
	PRODUCTS I	ANUFA	CTUREL	AND	ON H	AND						
		Pipe	pe Piles			8	Slabs					
	24"	36*	48*	30!	25'	201	151	10	Sin.	Dou		
On hand from last season	60	32	10		23	0	29	42	4.4	0		
Total 1918 Product	814	400		35	45	73	27	0	37	11		

668

188

212

0

Total shipped 1918

Broken and unfit for use

Surplus on hand

Unfilled orders on hand

#### COMPARISON OF LABOR COSTS FOR 1917 AND 1918.

	SEPTEM	BUR PAYROLL 1	918	
	Time		Rate	Amount
Plant Supt. 1 me			160.00	160.00
2 Steel men	376 hrs	26 days	5,27	137.02
Form men	192 hrs		5.00 4.75	235.00
Pump man	240 hrs		4.50	135,00
& Concrete moulærs	1036 hre		4.50	582,75
Tol	tal Amount of	September Pay	roll -	1363,77

Same time computed on basis of wages paid during last half of 1917.

	Tir	<b>12</b>	Rate	Amount
Plant Supt. 1 mc	1 1		121.00	121.00
2 Steel Nen	376		4.125 3.575	107.25
Porm Man Pump Man	192	* 30 *	3,575	85,80 99,00
& Concrete Moulders	1036	* 1294 *		39 1.74
Increase for 1918 over	1917			390.96

40.2%

Statement of Items for Repairs and Renewals charged to Investment.

#### Material

Foreign frt. chgs. on same.  Grindstone  3/4* water hose 100 ft.  For adjustment on pipe billed  but not shipped  doz. white wash brushes  -/4* hoze nozzle and 3 pails  chain, hook, 3 trowels  -/4* hoze nozzle and 3 pails  chain, hook, 3 trowels  pc. smoke stack screen 10.13  12-12* hacksaw blades  for doz. 13* flat files  las  12* hacksaw blades  -18* monkey wrench  set lacing  parlocks  -1* Tees  doz. 1* couplings  for lis  -1* Tees  24  912 ft. lumber  -1* Tees  912 ft. lumber  -1* Tees  912 ft. lumber  -1* Tees  35.02  Score expense  Jaws for bolt clippers  300 lin.ft. 3/4* wire cable  5* rainbow packing 1/16* 1.50  380 ft. BM 1* Lumber  1/16*x12*-4*  20 lin.ft. 12* black pipe  2 store Expense  3 shovels  Store Expense  3 1.65  3 shovels  Store Expense  3 1.65	Sour gears		24.27
Crindatone 3/4* water hose 100 ft.  For adjustment on pipe billed but not shipped 37.39 \$ doz. white wash brushes 5.54 2-2/4* hoze nozzle and 2 pails 1 chain, hook, 2 trowels 2-#alO mortar mixers 1 po. smeke stack screen 10.13 12-12* hacksaw blades 76 \$ doz. 12* flat files 1 .29 Selt lacing 3 padlocks 1-12* monkey wrench 88 3-1* Ells 2-1* Tees 4 doz. 1* couplings 1/2 * 1* 2-1* Tees 3-1* Fils 3-1* Fils 3-1* Fils 3-1* Tees 3-4 912 ft. lumber 17.33 35.02 Score expense 3.00 Jawa for holt clippers 3.46 300 lin.ft. 3/4* wire cabls 54 rainbow packing 1/16* 1.50 320 ft. BW 1* Lumber 10 sheet metal ocreens 1/16*x12*-4* 20 lin.ft. 14* black pipe 3.37 30 * 11* 18* 3 shovels  Store Expense 3.16 34.83			
### ### ### ### #### #### #### ########		TO A PROPERTY OF	
For adjustment on pipe billed but not shipped 37.39 dox. whits wash brushes 5.54 2-7/4" hoze nozzle and 3 pails 2.58 lehain, hook, 3 trowels 5.50 2-200 mortar mixers 1.85 lpc. smoke stack screen 10.13 l2-13" hacksaw blades 76 doz. 13" flat files 1.39 Selt lacing 07 3 padlocks 99 l-12" monkey wrench 88 l-1" Tees 24 doz. 1" couplings 43 l/2" doz. 1" couplings 43 l/2" doz. 1" couplings 17.33 lpc. score expense 7.30 35.32 Score expense 8.30 lin.ft. 3/4" wire cable 57.03 55 rainbow packing 1/16" 1.50 320 ft. BM 1" Lumber 6.40 lo sheet metal screens 1/16 x12'-4" 18.14 20 lin.ft. 1.50 black pipe 2.37 20 " 1" " 1.50 32 sledge handles 35 shovels 8.35 31.66 Store Expense 7.16 34.83	3/4" water hose 100 ft.		28.77
but not shipped  dox. whits wash brushes  2-7/4" hoze nozzle and 3 pails  37.39  1 chain, hook, 3 trowels  5.50  2-#210 mortar mixers  1 pc. smoke stack screen 10.13  12-12" hacksaw blades  1.85  1 doz. 13" flat files  1.39  Selt lacing  307  3 padlocks  99  1-12" monkey wrench  36  2-1" Tees  402. 1" couplings  43  3-1" Fils  3-1" Fils  3-1" Tase  912 ft. lumber  17.33  33.02  Store expense  3.46  300 lin.ft. 3/4" wire cable  57.03  58 rainbow packing 1/16"  1.50  330 ft. BM 1" Lumber  1/16"x12"-4"  20 lin.ft. 1/4" black pipe 2.37  20 " " 1" " 1.65  2 gledge handles  3 shovels  Store Expense  3.16  34.83	For adjustment on pipe bil'	led	
dox. white wash brushes 2-3/4" hoze nozzle and 3 pails 2-58 1 chain, hook, 3 trowels 2-E210 mortar mixers 1 pc. smoke stack screen 10.13 12-13" hacksaw blades 2 doz. 13" flat files 3 paclocks 3 pacl	but not shipped		
1 chain, hook, 3 trowels 1 chain, hook, 3 trowels 2-#sl0 mortar mixers 1 pc. smoke stack screen 10.13 12-13" hacknaw blades 2 doz. 12" flat files 3 padlocks 1-12" monkey wrench 3 padlocks 1-12" monkey wrench 3-1" fles 2-4 doz. 1" couplings 43 1/2 " 3" " 23 3-1" flis 3-1" fles 3 doz. 1" couplings 17.33 33.02 35-1" fles 912 ft. lumber 17.33 33.02 Score expense  Repairs on steam nump Drayage Jaws for bolt clippers 300 lin.ft. 3/4" wire cable 5% rainbow packing 1/16" 1.50 320 ft. RW 1" Lumber 10 sheet metal screens 1/16"x12'-4" 18.14 20 lin.ft. 12" black pipe 2.37 20 " 1" " 1.65 2 sledge handles 3 shovels  Store Expense  Repairs Expense  8 1.35 31.66 8 54.83	dox. white wash brushes		
1 chain, hook, 3 trowels 2-#210 mortar mixers 1 pc. emoke stack soresm 10.13 12-13" hacksaw blades .76 2 doz. 13" flat files 1.39 Belt lacing .07 3 padlocks 1-12" monkey wrench .88 3-1" Ells .36 7-1" Tees .34 2 doz. 1" couplings .43 1/2 " 3" .33 3-1" Fils .77 3-1" Fles .74 30 12 ft. lumber .77 33.02 Sobre expense .73	2-3/4" hoze nozzle and 3 p	aila	
1 pc. emoke stack screen 10.13 12-12* hacksaw blades 76 doz. 12* flat files 1.29 Belt lacing 07 3 padlocks 99 1-12* monkey wrench 88 3-1* Ells 26 7-1* Tees 44 doz. 1* couplings 43 1/2 * 4* 23 3-1* Flis 17 3-1* Tees 24 912 ft. lumber 17.33 33.02 Score expense 7.30 36.32  Repairs on steam pump 40.82 Brayage Jaws for bolt clippers 3.46 300 in.ft. 3/4* wire cable 57.03 5* rainbow packing 1/16* 1.50 320 ft. BM 1* Lumber 6.40 10 sheet metal screens 1/16*x12*-4* 18.14 20 in.ft. 11* black pipe 3.37 30 * 11* 15* 1.35 3 shovels  Store Expense 7.16 34.83	1 chain, hook, 3 trowels		
12-12" hacksaw blades   76   doz. 12" flat files   1.39   Selt lacing   .07	2-4810 mortar mixers		1.85
12-13" hacksaw blades   .76   .39	1 po. smoke stack screen	CONTROL OF THE PROPERTY OF THE	
# doz. 13" flat files   1.07   3 padlocks   99   1-12" monkey wrench   88   3-1" Elle   36   36   37   36   37   30   36   37   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   36   32   30   30   30   30   30   30   30	12-13 hacksaw blades		
### Pack	doz. 13" flat files		
1-12" monkey wrench 36 3-1" mile 36 2-1" Tees 34 \$\frac{1}{2}\ \text{doz. 1" couplings}  43 1/8 " \$\frac{1}{2}\ \text{Tees}  24 3-\frac{1}{2}\ \text{Tees}  24 912 ft. lumber  \qu	Belt lacing		
3-1" Files			
2-1" Tees	1-12" monkey wrench	ALL SHOWS AND ADDRESS OF THE PARTY OF THE PA	
doz. 1 couplings			
1/2   1   1/3   1/3   1/3   1/3   3/4   3/4   3/4   3/4   3/4   3/3	7-1" Tees		
3-1" Tees 912 ft. lumber 912 ft. lumber 912 ft. lumber 913 ft. lumber 913 ft. lumber 914 ft. lumber 915 ft. lumber 915 ft. lumber 916 ft. lumber 917 ft. 30			
Tees   17.33   33.02   33.46   33.46   33.46   33.46   33.46   33.46   33.46   33.46   33.46   33.46   33.02   33.46   33.46   33.46   33.02   33.46   33.46   33.46   33.02   33.46	1/3 * 1		
### 17.53 #### 33.02 ####################################			
### Store expense ### ### ### ### ### ### ### #### ##	3-1 Tees		A Property of
### Store expense ### 3.30	912 ft. lumber		
### ### ### ### ### ### ### ### #### ####			98 99
Drayage  Jawe for holt clippers  3.46  300 lin.ft. 3/4" wire cable  57.03  5% rainbow packing 1/16" l.50  380 ft. BM l" Lumber 6.40  10 sheet metal screens  1/16"xl2'-4" 18.14  20 lin.ft. lå" black pipe 3.37  30 " " l" " 1.65  2 sledge handles  3 shovels  Store Expense 2.16 34.83	Soors expense	3.30	00.00
Drayage  Jawe for holt clippers  3.46  300 lin.ft. 3/4" wire cable  57.03  5% rainbow packing 1/16" l.50  380 ft. BM l" Lumber 6.40  10 sheet metal screens  1/16"xl2'-4" 18.14  20 lin.ft. lå" black pipe 3.37  30 " " l" " 1.65  2 sledge handles  3 shovels  Store Expense 2.16 34.83			40.83
Jawe for bolt clippers  300 lin.ft. 3/4" wire cable  5% rainbow packing 1/16" l.50  380 ft. BM 1" Lumber 6.40  10 sheet metal screens  1/16"x13'-4" 18.14  20 lin.ft. 14" black pipe 3.37  30 " " 1" " 1.65  2 sledge handles  3 showels  Store Expense 2.16 34.83			
300 lin.ft. 3/4" wire cable 57.03 5# rainbow packing 1/16" 1.50 380 ft. BM 1" Lumber 6.40 10 sheet metal screens 1/16"x13'-4" 18.14 20 lin.ft. 14" black pipe 3.37 30 " 1 1" " 1.65 2 sledge handles 35 3 showels 1.35 31.66 Store Expense 2.16 34.83	Town for hold aligners		3.46
5# rainbow packing 1/16" 1.50 330 ft. BM 1" Lumber 6.40 10 sheet metal screens 1/16"x13'-4" 18.14 20 lin.ft. 11" black pipe 3.37 30 " 1" " 1.65 3 sledge handles 35 3 showels 1.35 31.66 31.66 2.16 34.83	200 tim ft 3/4" wire oabl		
380 ft. BM 1" Lumber 6.40 10 sheet metal screens 1/16"x12'-4" 18.14 20 lin.ft. 14" black pipe 3.37 30 " " 1" " 1.65 2 sledge handles 35 3 shovels 1.35 31.66 31.66 31.66	Ed watches machine 1/16"	1.50	
10 sheet metal screens 1/16"x12'-4" 20 lin.ft. 11" black pipe 3.37 20 " " 1" " 1.65 2 sledge handles 1.35 3 shovels 1.35 Store Expense 3.16 34.83	TOO PA THE 18 Toumber		
1/16 x13 -4 1 18.14 20 lin.ft. 11 black pipe 3.37 30 1 1 1 1.65 3 sledge handles 3.5 3 shovels 1.35 31.66 31.66 2.16 34.83	10 about matel moreons		
20 lin.ft. 11" black pipe 3.37 20 " 1" " 1.65 2 sledge handles 35 3 showels 1.35 31.66 Store Expense 2.16 34.83	1/18#-121_4#	18.14	
30 " 1" " 1.65 2 sledge handles 35 3 showels 1.35 31.66 31.66 2.16 34.83	20 lin ft. 11 black pipe		
3 sledge handles .35 3 shovels .1.35 31.66 31.66 3.16 34.83		1.65	
3 shovels 1.35 31.66 31.66 3.16 34.83	2 sledge handles	.35	
Store Expense 31.66	3 shovels	1.35	
Brote gylone.			
	Store Expense	3.16	34.83
1 Page 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			287.65

	Brought Forward		287.65
6 sheets #22 black ir 13-12" Hacksaw blades	on 7.04 .76 .780 .78		8.58
Drayage 10 pos. sheet metal a 640 ft. BM Sumber 2 doz. 3/4" bolts-32" 4 " 3/4" hex.nuts.	long 45 1.00		3.00
Store expense	32.31		35.54
24 pos. sheet iron 1/			166.85
1920# ASAMA 3269 6 kegs spikes Labor of boiler makes Labor opr. Dept. loading	82.56 3.42	4	25.98 14.88
Labor Charges from P	ayroll		
Way bunks  " bunks  " blab  " blab  " sores  " eteam  " engin  " pump  " sixer  " sores  " grind  " slab  " pump  " engin  " slab  " pump  " engin	pipe line  forms storage ground ns line to mixer s engine pice line ns stone stand forms		62.35 5.40 5.40 21.83 4.75 17.95 9.36 3.30 29.83 19.40 3.45 5.70 3.80 .85 1.70 7.95 1.70 7.95 1.70 3.30 0.96 2.86 1.70 3.30 0.96 3.30 3.30
August some sharpeni	(back pay)  respectively.  rete bucket  ng tools  respectively.	Forward	1.6 4.77 1.70 3.45 3.39 1.32 8.79 1.98 46.27
VA.	ter pine line	Towns	

-13 -

	Brought	Forward			849.48
September	Repair	water p	ipe line		10.63
October		nump engine			5.37
Nov. & Dec	. No c	harges.			

Total charges for repairs) \$ 873.30 and renewals during 1918

Cost of manufacturing pipe, piles and slabs considerably increased over cost in previous years on account of general increase in cost of both labor and material.

No 48" pipe was made during 1918, and forms for 48" pipe are practically worn out and useless.

Chargesto investment 873,30 consist of ordinary repairs and renewals, 300 ft of 4" wire cable, 100 ft. of 4" water hose and a few tools and miscellaneous items as per list attached.

Plant as a whole is in a fair state of repair.

STATEMENT OF COST OF AUBURN CONCRETE PLANT JANUARY 1, 1918 to SEPTEMBER 30, 1918 INCL.

		Detroubled	
Charges	Operation	Investmen	t Total
Manufactured Product on hand 1/1/18 Cost of operation & supplies 1/1/18 to 9/30/18	3580.28		3580.28
Total cost 1/1/18 to 9/30/18	33523.49 \$37103.77	1414.40	34937.89
Credits			
Manufactured product shipped away &) charged out on books see sheet #2			
for details )	13379.55	591.45	13971.00
Manufactured product shipped away but not yet billed out. See sheet			
#2 for details.	4850.80		4850.80
Manufactured product on hand 9/30/18) See sheet #2 for details	14358.98		14358,98
Empty cement sacks	1112.00		1112.00
Inventory material on hand 9/30/18 ) See sheet #3 for details	9633.88 \$43335.21	591.45	9633.88 43926.66
Profit for 1918 Less amount charged to Investment Balance available for depreciation of or plant betterment	plant)		5710.89 591.45 \$5111.44
Balance in Investment a/c 1/1/18 as) per annual report E.M. of W.			8490.13
Labor and material for repairs and ) renewals 1/1/18 to 9/30/18 charged )			
to Investment			9904.53
Deduct amount credited to Investment) for depreciation and interest  Balance in Investment a/c not allowin for 1918 depreciation(except \$591.45			591.45 \$9313.08
Deduct product on pr		feetimed.	4728.88

Office of Principal Asst. Engr., Tacoma, Wash., Oct. 10, 1918.

#### CREDITS TO AUBURN CONCRETE PLANT

Manufactured product shipped away and charged out on books:

Pipe			#	
24" 509 pcs. 36" 239 "	4072 lin ft	103	513.07	
48" 1 "	8 " "	10	.80	
piles				
20' 20 pcs.	400 lin ft 135 " "	526 498	210,40	
Slabs			632,94	
Single 20 pcs.		31.647	-1621.30	A3 7073 00
Total valu	e of Manufactur	ed product bill	ed out	\$13971.00
Manufactured produ				
Pipe				Marking 18
24" 136 pcs. 36" 5 "	1088 lin ft 40 " "	1.60 1740.8 2.10 84.0	The state of the s	
Piles .				
25' 44 pcs. 20' 43 "	1100 lin ft 860 " "	1.50 1650.0 1.60 1376.0		4850.80
Manufactured Produ	et on hand 9/28	/1918		
Pipe				
24" 158 pcs.	1264 lin ft			
36" 152 " 48" 9 "	1216 " "	2.10 2553.0 3.84 276.4		
Piles				
30' 35 piles	1050 lin ft	1.55 1627.	50	6.77
25' 24 "	600 " "	1.50 900.		
20' 13 "	260 " "	1.60 416. 1.60 1128.		
Slabs	2615			
Single 31 Double 10		35.00 4185. 25.00 1250.		14358.98
Empty cement sack	s for which			
adjustment not ye	t made 11120 @	.10		1112.00
		FORWA	RD	34292.78

Inventory Oct. 1, 1918.

Material on hand.

1

325#	No.16 Wire for pipe	5.38	cwt. 17.48	
125#	No.11 " " pile			
73723#	Wire mesh " pipe		" 3414.37	
3000#	t# round for pipe a		" 111.00	
7255#	3/8" square teinf. r		" 296.00	
7960#	in n	" " slabs3.80	" 302.48	
40404#	30 0	" slabs 3.70	* 1494.95	
58359#	1-1/8" "	" for piles 3, 70	" 2159.28	
4642#	12" round "	" "slabs 4.41	" 204.71	
4570#	plates 24"x1/8"x1'-	32 for		
	piles	4.07	" 182.81	
			4751.23	
5231	bbls cement	2.62	1371.57	
25	tons coal	2, 90	72,50	
		Total credits		\$43926.66

24. F sleel 164 82 54 36

#### Comparison of Labor Costs for 1917 and 1918.

#### SEPTEMBER PAYROLL 1918

	Time	Rate	Amount
Plant Supt. 1 mo.	1 mo.	160.00	160.00
Engineer	208 hrs. 26 days	5.27	137.02
2 Steel men	376 hrs. 47 "	5.00	235.00
Form men	192 hrs. 24 "	4.75	114.00
Pump man	240 hrs. 30 "	4.50	135.00
6 concrete moulders	1036 hrs. 1292"	4. 50	582.75
Total amount Septem		Section 18 Section 18	\$1363.77

Same time computed on basis of wages paid during last half of 1917

	Tir	ne			Rate	Amount	
Plant Supt.	1 m	CT SECOND		to Wayn	121.00	121.00	
Engineer	208	hr		days	4.125	107.25	
2 Steel men	376		47		3.575	168.02	
Form man	192	- 99	24	0	3. 575	85.80	
Pump man	240	#	30	B	3.30	99.00	
6 concrete moulders	1036	**	129	ł "	3.025	391.74 972.81	
Increase for 1918 ove	r 1917		en 1 .		and because the	390.96	40.

40.2%

# Results of Operation, April to September 30th, 1918.

		No.of pcs.made Jan.1 to Sept.10 1918	Lin.ft.	Established price for bill-ing out 1918 product.	Total Value.
15' Concret	e Piles	27	405	1.60	648.00
20' "	0	73	1460	1.60	2326.00
25' "		45	1125	1.50	1687.50
30' "		35		40 1.55	1627.50
24" concret	e pipe	748	5984	1.60	9574.40
36 " "		364	2912 -	2.10	6115.20
Single slab	8	37		135.00	4995.00
Double slab	8	11		125.00	1375.00
		lue of output 1/1, established for 1			\$28348,60

.

#### Average Cost of Material

	1917	1918	
Cement per sack	0.43	0.534	1-25
Mesh per sq. ft.	0 0272	0.0315	15
Reinforcing bars per cwt.	3.252	# 3.04	25
Wire per cwt.	4.41	4.73	
Malthine, roll	4.00	1.59	

<sup>#</sup> Note. New stock purchased during past year at prices ranging from \$3.70 to \$4.08 per cwt. Low average price due to considerable amount of old stock carried over from 1917 and inventoried at prices considerably below present market values.

Approximate cost for 1918 for 24" concrete pipe based on average prices paid for material used January 1st to September 30th, 1918. Labor cost taken from Payroll distribution.

	1917 Cost per ft	Per Pipe	Unit Cost	1918 Cost per pipe	1918 Cost per ft
Cement	.2997	550#	.576 sack	3.168	.396
Sand & gravel (Labor)	.0640	24 cu ft	.02747 cui	rt .660	.083
Mesh	.2233	16.67linf r .66-2/3 sq f	t t.0315 sq i	rt 2,100	.263
Re bars 2"-8' 1.33#) ) " " 3/8" 62'-8" 29.97#)	.1150	31.30#	3.04 cwt	.951	.119
Wire Nails		3#	4.13 "	.124	.015
#16 Wire .47 lin ft	.0043	0.5#	4.73 "	.024	.003
Form Lumber		15 FBM 2	0.00 M	.300	.038
Labor	.1988			3,380	.425
Royally	.0500			.400	.050
General	.1267 1.0818			.653 11.760 2.587	.082 1.474 .324
22% depreciation 1917 cost per ft 1918 approximate cost pe 1918 approximate cost pe	.2380 \$1.3198 r pipe r foot			\$14.347	1.798

Price used for billing out 1918 output 1.60 per ft.

Approximate cost for 1918 for 36" concrete pipe based on average price paid for material used January 1st to September 30th, 1918. Labor costs taken from Payroll distribution.

	1917 Cost per ft	used per	Unit Cost	1918 Approx Cost pipe	1918 Approx. Cost ft.
Cement	.4361	800#	.576 sk	4.608	.576
Sand & Gravel (Labor)	.0960	36 cu ft	.02747 cu f	t .989	.123
Mesh 22.33 lin ft	. 2991	89-1/3 sqf	* pa 6160.	2.814	. 352
Re bars 1.33#) " "3/8"-91'-4" 43.62#)	,1615	44.95#	3.04 cwt	1.366	.171
Wire Nails		3#	4.13 "	.124	.015
#16 Wire 52 lin ft	.0048	0.54#	4.73 "	.026	.003
Form Lumber		21 FBM	20.00 H	420	.053
Labor	.2300			4,287	.536
Royalty	.0500		2006000	.400	.050
General	,1694 1,4469		* 1	15,976	1,997
	.3183			3,515	
1918 approx. cost per pip 1918 approx. cost per foo				\$19.491	\$2.436

Price used for billing out 1918 output \$2.10 per ft.

Approximate cost for 1918 for 30 ft. Concrete Piles based on average prices paid for material used January 1st to September 30th, 1918. Labor costs taken from Payroll distribution.

	1917 Cost per ft	Material used per pile	Unit Cost	1918 Approx. Cost prpile	1918 Approx co per ft.
Cement	.1164	800#	.576 sk	4.608	.154
Sand & Gravel (Labor)	.0342	48 cu f	t .02747 c	ift 1.320	.044
Re.bars 115-1/3 lin ft 1-1/8" 390.1 Re.bars 121-1/3 lin ft 1 26 plates 34:8	# ) 6#).3042	445.17#	3.04 cwt	13.533	. 451
#11 Wire 30 lin ft 45.1	7# .0005	116#	4.73 "	.055	.002
Labor	.2367			7.614	.254
General  Depreciation 22% 1917 Total cost per ft	.0918 .7838 .1724 0.9562			.741 27.871 6.131	.025 .930 .205
1918 approx. cost per 1918 approximate cost	pile			34,002	1.135

Price used for billing out 1918 output \$1.55 per ft.

Approximate cost for 1918 for 25 ft. Concrete Pile based on average prices paid for material used January 1st to Sept. 30th, 1918. Labor costs taken from Payroll distribution.

	1917 Cost per ft	Material used per pile	Unit Cost	1918 Approx.cost per pile	1918 Approx.cos per foot	•
Cement	.1163	666#	.576 sk	3, 836	.153	
Sand & gravel(Labor)	.0346	40 cu ft	.02747 cu	ift 1.113	.045	
Re. bars 97-1/3 lin f 1-1/8" 329 104 linft 17 22 Plates 29 376	.21#).310 .37#) .45#)			t 11.431	.457	
#11 Wire - 30 lin ft	.0034	1.16#	4.73 "	.055	.002	
Labor	.1892			8.032	.321	
General Depreciation - 22%	.0867 .7407 .1630			.591 25.058 5.513	.024 1.002 .220	
1917 Total cost ft. 1918 approx.cost per 1918 approx. cost pe	pile			\$30.571	\$1.222	To the second

Price used for billing out 1918 output \$1.50 per ft.

,498

Approximate cost for 1918 for 20 ft. Concrete Pile based on average prices paid for material used January 1st to Sept. 30th, 1918. Labor costs taken from Payroll distribution.

	1917 Cost per ft	Material used per pile	Unit	1918 Approx.cost per pile	1918 Approx cost foot.
Cement	.1173	544#	.576 sk	3.133	.157
Sand & Gravel (Labor)	.0349	32-2/3 0	uft .02747 cu ft	.898	.045
Re.bars.79-1/3 lin ft 1-1/8" 268.33#) 86-2/3 lin ft 14" 14.47#) 18 plates 24.10#) 306.90	.3200	306.90#	3.04 cwt	9.330	.467
No.11 Wire 30 lin ft	.0042	1.16#	4.73 cwt.	.055	.002
Labor	.2380			7.577	. 37 9
General Depreciation 22%	.0947 .8091 .1780			.482 21.475 4.725	.024 1.074 .236
1917 Total cost per ft 1918 approx.cost per pile 1918 approx.cost per ft.	.9871			26,200	1.310

Price used for billing out 1918 output \$1.60 per ft.

Approximate cost for 1918 for 15 ft. Concrete Pile based on average price paid for material used January 1st to Sept. 30th, 1918. Labor costs taken from Payroll distribution.

Trom Payroll distribution.					
	1917 Cost per ft	Material used per pile	Cost	1918 Approx. est pr.pi	1918 ap- prox cost le per ft
Cement	.1162	400#	.576 sk	2.304	.154
Sand & Gravel (Labor)	.0342	24 cu ft	.02747 cu	ft .660	.044
Re bars 58-1/3 lin ft 1-1/8" 197.3# 69-1/3 lin ft ½" 11.51# 14 plates 18.74# 227.55	.3281	227.55	3.04 cwt.	6.917	.461
No. 11 Wire 30 lin ft	.0056	1.16#	4.73 cwt	.055	.002
Labor	.2587			6.555	.437
General  Depreciation 22% 1917 Total cost per ft	.0985 .8413 .1851 \$1.0264		¥-1	.393 16.884 3.714	.026 1.125 .248
1918 approx. cost per pile 1918 approx. cost per ft.		16		\$20.598	\$1.373

Price used for billing out 1918 output \$1.60

Approximate cost for 1918 for single track slab (16'x7' with parapet) based on average prices paid for material used January 1st to Sept. 30th, 1918. Labor cost taken from Payroll distribution.

	1917 Cost	Material used per slab	Unit Cost		apprexi- cost per
Cement	21.8032	5000#	.576 sk		28.800
Sand & Gravel (Labor)	6,4024	300 cuf	.02747	cuft	8,241
Re bars 410.5 linft2 784.06#) 388.14 " "3" 260.44#) 13.5 " "11" 56.54#)	46,0237	1101#	3.04 c	wt :	33.470
#16 Wire 362 lin ft	.2648	3,58#	4.73	11	1169
Labor	13.7189				25.962
Malthine Paper	.5530	153 sq ft	1.42 F	tolls	.483
Meneral Depreciation 22% 1917 Total cost per slab	11,7722 100.5382 22,1184 \$122.6566				6.228 03.353 22.737
1918 approx. cost per slab				\$1:	26.090
Price used for hilling out 19	18 output			23	52.180

Price used for billing out 1918 output \$135.00 per slab.

103.353

Approximate cost for 1918 for double track slab (16'x6' plain) based on average prices paid for material used January 1st to Sept. 30th, 1918. Labor costs taken from Payroll distribution.

	1917 Cost per slab	Material used per slab	Unit	1918 approximate cost per slab
Cement	19.1757	4400#	.576	25.344
Sand & Gravel (Labor)	5.6343	264 cu ft	.02747 cu ft	
Re.bars 381.5 lin ft 3 728.67		981.33#	3.04 cwt	29.832
#16 wire 350 lin ft	.2562	3,46#	4.73 cwt	.164
Laber	13.7971			25.850
Malthine paper 51 lin ft 36" wide	.5528	153 sq ft	1.42 1	on .483
General	10.3929	•		5.771 94.696
Depreciation 22%	19.5267			18,939
1917 Total cost per slab 1918 approx. cost per slab	108.2838			113,635

Price used for billing out 1918 output \$125.00

94.70

30.30

## SUMMARY

# Cost for 1918 compared with cost for 1917.

					Cost for 1917 including 22% for deprecia- tion.	Cost for 1918 including 22% for depreciation.	Price used for bill- ing out 1918 output.
24"	concrete	pipe	per	ft.	1.32	1.798	1.60
36"				•	1.76	2.436	2.10
30'		pile	, 11		0.96	1.135	1.55
251					0.90	1.222	1,50
201		**			0.99	1.310	1.60
15'		10			1.03	1.373	1.60
	gle slab	per	slab		122.65	126.09	135.00
	ble slab				108.28	113,63	125.00

Memo of weight of finished product and raw material for figuring freight charges for output of Auburn Concrete Plant.

	Finished Product	Cement	Reinforcing
24" Pipe	3255#	550#	69#
36 " "	4700#	800#	108#
48" W	5630#	1000#	232#
30' Pile	6600#	800#	447#
251 N	5260#	666#	377 jr
20 "	4300#	544#	308#
15' "	3500#	400#	229#
Single Slab	33300#	5000#	1105#
Double Slab	30900#	4400#	985#

# Inventory of Material on hand 12/31/1919

Corrugated	reinf	orging	rode.
the same distriction of the con-	AND THE REAL PROPERTY.	Wat To All All Co.	A WILLIAM A

Size		No. of	Pos. Length	Unit Wt.	Weight	Price	
3/4 "80	4516"	95	4328 6"		MOTHUR	Price	Amount
•	31 10 1	50	1550				
	30 10 11	50	1500				
	16161	431	7311 *6 *				
11	15'6"	985	15267 16 #				
1	13'6"	492	6642				
	9101	41	369				
	840#	31	168				
	7101	3	31				
	6161	943	6123				
	6101	61	366				
•	5101	16	80				
. 10	4131	13	51				
•	316"	. 30	1105				
	3101	103	309				
•	3161	39	97161 44083	1.913	84331#	2.84	\$2395.00
3/4 "rd	36 10 "	40	1440				
•	3710"	. 19	703				
	39 10 "	16	624				
•	3510"	106 m	. 3710				
	31 16"	37	1165'6"				
	39 16 #	30	885				
	2716"	20	550				
#	2416"	7	171161				
•	17'6"	38	665		11/2 11/2		
	17'0"	3	51				
	13'0"	11	1.31				
•	11 *6"	11 Forward	126 6 1		84331#		\$2395.00

Inventory of Material on hand 18/31/1919

Size		No.of	Pos. Le	ngth	Unit Wt.	Weight	Price	Amount
		Brought	forward 1	022 16		84331#		\$2395.00
3/4"	rd 10 '9"	2		21 '6'				
	10 13"	2		20'6'				
	916"	1		9'6'				
•	8101	157	1	2564				
•	716"	43		31.5				
	61911	7		4713	•			
	5161	191	3	050 16				
n	413"	60		255				
	4100	24		96				
11	316"	17		59 16				
	3101	16		481				
	2131	10		2216	•			
•	2101	7	13	14	N 3,50	3#20184#	\$2.84	573.22
1/2"	sq 10'0"	4	The second	40				
	9131	3		27 19				
	810	94		753				
	716"	68		510				
	6161	49		31816	3 10			
	5161	93	had all y	551 1	3 11			
	5101	253		1265				
	4131	44		187				
•	410	62		248				
	3101	38		114				
	218	140		3731	4 n			
•	2101	101	•	202 4549-	11 0.	35# 3867#	2.68	103.6
1/2	"rd 35'0'			566				
	33161			21				
	31 10			193				
11	30 16			80				

#### Inventory of Material on hand 12/31/19

Size		No. of Po	Uni s. Length Wt	Weight	Price	Amount
	1	Brought for	'dr28936'6"	107563#		\$3071185
1/2"rd	3014"	30	910			
•	2716"	72	1980			
•	1716"	166	2905			
	15'6"	241	3735 16 1			
	14'6"	1	14 '6"			
•	7101	43	301			
•	6191	394	2659 16"			
	61811	282	1833			
•	613"	79	493 '9"			
•	516"	17	93'6"			
	513H	17	89 13#			
•	4101	731	2884			
•	31411	9	30			
•	3131	134	403			
•	31011	336	1008			
•	210"	51	103	32413#	2.68	868.67
1-1/8"rd	39 18 1	140	5553141			
•	30 18 1	90	2760			
	28110	51	1.47016#			
•	34 14 H	771	18761			
•	30101	123	2460			
•	1970"	56	1064			
•	1514"	447	6854	Same of the second		
•	10'6"	31	32516"			
•	10.34	4	41			
•	9101	3	27			
•	716"	8	15			
•	710"	36	245			
	516	6	33			
•	410"	49	196			
	For	ward	3980514"	139976#		\$3940.53

Inventory of Material on hand 12/31/19

Size	No.of	Pos.	Length	Unit Wt	Weight	Price	Amount
	Brought f	orward	39805 <b>14</b> "		139976#		\$3940.52
1-1/8*rd	3161 9	1	31 16 "				
	3101 14		43				
9	216" 29	)	7286				
•	2910" 17	,	493 0	mrved fo	r arch		
•	25'0" 14	1	350		•		
•	18'0"	3	40848 4	3.38#	138067#	3.13	4307.69
1 m sq.	1910"	4	76				
n	7101	8	14				
0	6'0" 1	7	103				
• 160	513"	8	42	, we see that			
•	4110	16	7784	n			
" 1" rd	3131	30	9716 40811 316	0" 3.4#	1390#	2.09	29.05
1-1/4"sq. 5/8"sq.	SELECTION OF THE PARTY OF THE P	5 79		9" 5.31#		2.94	5.26
	716"	6	45				
•	616"	30	195				
	4101	57	228				
•	316"	47	164 16	3"			
	31011	17	51 1513	1.334	3012#	2.14	43.06
5/8" rd	14 16 "	17	3461	g #			
	916"	16	152				
	910"	18	162				
	8101	10	80				
	7161	29	2171	6"			
	6161	53	3441	6"			
	5101	53	265				
	4101	35	140				
	S10 m	24	1655	68 1.04	3# <u>1726#</u>	3.14	\$36.94
		y	'orward		283359#		\$8363371

## Inventory of material on hand 12/31/19

Size	No. c	f Pos.	Length	Unit Wt	Weight	Prine	Amount
	Brought	for'd			283359#		\$8362.71
3/8" 89	.5'6"	12	66				
•	313"	6	1916	0.48#	41#	3.14	1. 39
3/8"	56'0"11	49	64344				
	17'3" 1	46	2518'6	•			
	14141	25	358 14				
	13'3"	1	13'3				
	10'9"	7	7513	11			
	718"	3	1514				
	210"	27	54 67378 8	<u>"0</u> .375#	25267#	3.14	\$793.38
1/4 sq.	8 10 11 0 123 11 0 120 11	97 6201 826	776 11885'3 1376'8 14038		2344#	2.76	64.69
Plain r	ceinford	ing ro	ods				
l}"rd	27 12 II 619 II	30 32	815 316			a Tombo	
	3319#	140	4725	4 2008	24020#	0.04	WOO 20
1/4" rd	30 0 1	1200	5756 36000	4.173#	34019# 6013#	2.94	706.16
Plain r	ceinford d-1/8 "x	ing vi 3-3/4"	ates for	concre	te piling	1946# 5.13	612.83
		Tota	al reinf	ording r	ods 353807#		10706.98
Width 48"		7500	Sq 30	ipes Sty	<u>le #1.53</u>		
#16	ed Wire	4100	Weight 335#		4.30	0.32	1441.06
#12 #11			400# 85#	4.58			33.66
					Forward		12181.71

# Inventory of material on hand 12/31/19

Brought forward	\$12181.71
Malthine Paper 42 rolls @ 1.40	6.30
Lumber for slab forms lin ft FBM	
4'x4' 20' average length 1240 1653 )	29.45
@ 18.00 pr M less 2% + Puro.Exp	
Total material on hand 12/31/1919	\$12217.46

# MANUFACTURED PRODUCT ON HAND DECEMBER 31st-1919

Pipe	Pcs	Lin Ft.	Price per	
24"	509	4072	2.00	8144.00
36"	193	1544	3,00	4632.00
Piles		The state of the		
30	33	990		
25	14	350		
20	72	1440		
15	33	495		
10	42	420		
		3695	1,90	7020.50
Slabs				
Single	29		135.00	3915.00
Double	10		125.00	1250.00
				24961.60

Note-+-This inventory is based on prices recommended for product now on hand-as shown on sheet #11. of annual report.

These prices are exclusive of cost of loading product for shipment fromplant.

Inventory of tools and pipe on hand 12-31-1919

	age in	% of orig.	Value new	Present Value
L Hand forge #21 Champion	6	50	5.76	2.88
l Anvil	38	50	7.98	3.99
1 #3 bolt cutter(new easy)	54	80	5.40	4.32
l grindstone	157	50	2.91	1.45
1 set pipe dies 1/4" to 1" with stock	()			
1 set pipe dies 1" to 2" with stock	111	50	18.68	9.34
l set pipe dies 2½"	1			
2 pipe cutters 1" to 2\frac{1}{2}" Saunders #2 and 3	} 11	50 50	1.49	.75 1.10
l pr. 18" tin snips	54	50	2.25	1.12
1 ratchet drill with 1-3/4" bit and 1-1" bit	11	50	10000	5.00
2-50 ' 3/4" water hose	157	50	22.77	11.38
1 cross out saw - 6 ft.	11	50	3.50	1.75
1 ship auger - 3/4"	11	50	1.22	.61
1-18" Stillson wrench	54	50	1.60	.80
1-36" " ""	4/2	100	6.75	6.75
1-12" menkey wrench	162	50	.96	.48
1-24" " "	29	50	1.43	.72
1 hack saw	11	80	.65	.52
6 ball pein hammers		50	3.58	1.76
1-4# sledge	93	50	.37	.18
1-8# sledge	11	50	1.00	.50
1 machinist hammer	195	50	.52	.26
6-S wrenches	11	50	2.10	1.05
1-12" flat file-new		100	•36	.36
1 cold chisel	6	50	.25	.12
1 set taps and dies 4"-3/4" with sto	ck ll	50	9.56	4.78
2 pinch bars	11	100	1.75	1.75
1 claw bar		75	1.00	.75
2 peavies handled	11	50	2.60	1.30

	Book Page	Orig Value	new new	Pres- ent Value
Forward -				65.77
3 picks handled	109	50	1.23	.61
4 coal accops #2	11	50	3.20	1.60
3#2 shovels	11	50	2.02	1.01
1 ax. SB	4	50	1.90	.95
	159	50 50	1.85	.92 .25
300-ft 3/4"hemp rope(on boom)	11/2	50	9.39	4.70
1 double block 3/4" rope 4" sheave.		50	.63	.31
2-	- 117 -115 - 109	50 50 50	.79 .79 1.18	.40 .40 .59
3 pick handles new	117	100	.37	.37
1 sledge handle new	117	100	.10	.10
5 joints stove pipe 5"-6"	12	50	1.54	.77
1 poker for donkey engine	11	80	.55	.44
1 spike maul		100	.75	.75
1 stenciling brush	1.5	50	.30	.15
2 bambeo brooms	11	50	1.26	.62
2 pump swrings-new	1	100	.28	.28
3 wheel barrows	11	50	15.75	7.87
3 concrete carts recd Nay-1914	9	50	45.00	22.50
3 concrete carts-1018-18 recd Apr-'1'		50	56.81	28.40
3 lug hobks	11	50	7.50	
\dagger #88	12	50	14.00	7.00
1 pipe vise Reed Mfg.Co.#22	11	50	2.75	1.37
1 bench vise GM Yost Mfg.Co.#104	11	50	5.75	2.88
1-5-gal oil can - Sept 1918	180	50	1.06	.53
2-1-qt oil cans	11	50	.33	.16
1 plasterers trowel-SH-Apr 1918	158	50	1.50	.75
1 bolt cutter from 2" to 1"	11	50	23,50	11.75
2 car repairer's lanterns	106	50	2.01	1.00
1 white wash brush 8"-May-(19)-new	4	100	1.05	1.05
1 3/4" globe valve-new-July-1919	10	100	1.78	1.78
8 pump valves-Rubber 3 man - new(Plant Rubber	lop	100	0.5	
3-14" water glasses-new	38	100	.92	.92
BO-ft			rward	172.94

	Pa <sub>l</sub>	ge in 1 Book	% of orig	Value new	FAT Pres. Fat Value
	Brou	ght For	ward		172.94
20 ft }" wrt pipe(black)new-Ju	ne '19	12/2	100	1.45	1.45
60 ft l" " " " " "		12/2	100	5,28	5.38
80 ft l½" " " " - 2	oft oft	171	100	2.60	2.60 7.80
40 ft 3/4" " " "		12/2	100	2.38	2.38
4 % couplings-new		12/2	100	.16	.16
1 3/4" " "		12/8	100	.07	.07
5 1" " "		12/2	100	.50	.50
5 2" " "			100	.50	.50
8 2 2 1 " "		11	100	1.20	1.20
10 g" ells-new		12/2	100	.80	<b>,</b> 80
3 3/4" " "		12/2	100	. 34	.34
6 1" " "		12/2	100	,75	.75
5 1 <sup>1</sup> / <sub>3</sub> " " "		11	50	3.00	1.50
3 2" ellb		1	100	.40	.40
1 2½" ell		11	100	15	,15
2 3/4" tees.		5	100	.06	.06
4 1" "-new		162	100	.26	.26
7 lin Tees-new		162	100	.60	. 60
1 2½" Tee			100	. 30	.30
2 la pluga			100	.06	.00
1 14" plug			100	.03	.03
2 12" "			100	•06	•06
1 2" "		11	100	.03	,03
1 1" cap		1.1	100	.03	.03
1 110 "		1.1	100	.05	.05
1 2" "		11	100	.08	.08
3 21 "	*	5	50	.40	.20
2 13"-22" bushings			100	.06	.06
3 1" - 2" "		11	100	.06	.06
1 12" - 12" bushings		1	100	.03	.03
2 2½" flange whichs		54	50	1.38	.69
1 2½" union		1	100	.47	.47
2 1½" union	-	14/2	100	.50	.50
	Forwa:	rd -	-		202.39

	Page in Mtl Book	% of Original cost	Value new	Pres. Val. Fot
Brought Forward				202.39
1 - 3/4" - 12" reducer-new		100	.25	.25
11 sheets wrt iron 24"x8'-0"x1/8"-8 recd Jany-1919 1 chisel point(for rail hammer)from Bridge.		195	76.45	76.45

\$279.09

#### AUBURN CONCRETE PLANT Inventory December 31, 1919.

Second hand pipe stored at Auburn Concrete Plant in small steel shed-salvage from various water pipe connection at plant value 50% of new

2½" Pipe	Lin Ft	Value New	Dwag Value	
4 pcs 21'6"	86	State of the State	Pres. Value	
1 pc 21'4"	21'4"			
1 pc 20'6"	20'6"			
1 pc 18'6"	18'6"			
1 pc 17'6"	17'6"			
The state of the	163'10"	24.60	12.30	
2" Pipe				
2 pcs 20'6"	41'0"			
4 pcs 21'0"	841			
3 pcs 201	601			
1 pc 18'	181			
1 pc 16'	16'			
1 pc 151	15'			
1 pc 6*	61		the first of the second	
	240' 10¢	24.00	12.00	
			## • UV	
1" Pipe				
1 pc. 23'	231			
1 pc. 11'	11'			
1 pc. 10'	10'			
1 pc. 8'	8¹			
	521 4¢	2.08	1.04	
3/4" Pipe				
1 pc. 11'	111			
1 pc. 10'	10'			
1 pc. 9'	91			
2 pc. 8'	16'			
	46 44	1.84	.92	
			26.26	2
			For'd	2

Second hand pipe stored in tool shed at Auburn Concrete Plant(salvage from various water pipe connections(at plant value 50% of new galf.

galf.		Forwar		26.26
1" Pipe	Lin.Ft.	1 01 HOL		
1 pc. 5'	51			
1 pc. 4'	4'			
1 pc. 2'6"	216"			
1 pc. 2'3"	213#			
1 pc. 2'	21			
1 pc. 1'10"	1'10"			
1èn Pipe	171711 4d	.70	.35	
1 po. 7'6"	716"			
1 pc. 4'6"	416" 121 8¢	.96	.48	
	TO, OR	• 50	•••	
3/4" Pipe 1 pc. 6'	61			
1 pc, 5'6"	516*			
1 " 419"	4.0.			
1 " 4'3"	4130			
5 " 41	201			
1 " 3'3"	313"			
2 " 31	61			
2 " 219"	516"			
3 " 216"	716*			
1 " 2'2"	212"			
1 " 2"	21			
2 " 1'8"	314"			
4 " 1'6"	61			
1 " 1'3"	1,3,			
3 " 0'10"	216"			
1 " 019"	0,0,			
2 " 018"	1'4"			
3 " 017"	119"			
2 " 0'6"	1'			
2 " 015"	0'10"			
2 " 014"	0188	7 14	1 70	
k/2" Pipe	86 4 4 4	3.44	1.72	
1 pc. 5	5† 2½p	.12	2.61	2,61

Sheet #14
Pipe fittings stored in tool shed. Auburn Concrete Plant salvaged from various water connections at Plant value 50% of new galv.

<b>1</b>		Value new	Present value	
		Brot Forward		28.87
18 - 3/4" Ells	17¢	3.06	1.53	
2 - 1 " "	15¢	.30	.15	
1 - 1" "	20%	.20	.10	
4 - 3/4" Tees	3¢	.12	.06	
4 - 3/4" Unions	7\$	.28	.14	
1 - 1/2" Unions	5¢	.05	.03	
14 - 3/4" valves		6.16	3.13	
5 - 1" Globe valves	63¢	3,15	1.57	
1 - 2" valve		2.00	1.00	
			7.71	7,73
Total	second ha	nd pipe and	fittings	- \$ 36,58

Fotal second hand pipe and fittings

- \$ 36.58

ANNUAL REPORT AUBURN CONCRETE PLANT

1922

Office of Assistant Chief Engineer and Engineer Mtce. of Way,

Seattle, Washington, February 16,1923.

# SUMMARY

# Column

2	Total Investment 12/31/1921 Additions to Capital Investm	out dusting 1000)	17556.88
	For details See Sheet #11.	iene dating race)	97 96
2	Total Investment 12/31/1922		23,26 17533,62
3.	Interest on Depreciated Inve	atment	21000,02
	6% of 6088.38	30.116.110	365,30
4	Gravel Pit Charges		140.50
4 5 6 7	Repairs charged to Investmen		140.00
6	Total Columns 3-4-5		505,80
7	Sinking Fund 1922		303,00
	Depreciation, 1922	3122,54	
	Less Column 6	505.80	2616 74
8	Sinking Fund Total 12/31/22	303.80	2616.74
	Sinking Fund 12/31/1921	11468.50	
	Plus 1922 Sinking Fund	2616.74	74005 94
9	Depreciated Investment	2010.14	14085.24
	12/31/22		
	Column 1 Capital Investment	17533.62	
			7.10 70
	Less Column 8 Sinking Fund	14085,24	3448,38
10	Manufacturers Cost for 1922		16822.07
11	Depreciation Percent Cd. 10		.1856
12	Depreciation Amount		3122,54
		ALL TO THE RESIDENCE OF THE PARTY OF THE PAR	

# SUMMARY OF COST OF OPERATION FOR 1922

		Total	Operation Account	Investment Account
Inventory 1/1/1921				
Raw Material Supplies	11825.67 364.81	12190.48	12190.48	
Labor & Mtl.chgs for 1922 See Sheet 9 for details		16373.49	16396.75	23,26
Deduct Inventory 12/3 See Sheets 5 and 6 Raw Material Supplies	1/1922 11267.69 497.49	11765,16	11765,16	
Manufacturers Cost 19	22	16798.81	16822.07	23,26
Manufactured Product hand 1/1/1922 See Sheet 4 1921 Rep		18708.90		
Manufactured Product out 1922 - See Sheet		24103.60	21697.94	2405.66
Manufactured Product 12/31/1922 See Sheet 4	on hand	24561,40		
Interest on Depreciat vestment for year 19 on 6088.38		365.30		

### INVENTORY DECEMBER 31st, 1922.

# Reinforcing Rods

Piles Slabs	1-1/8" 1-1/4" 1" 1" 3/4" 3/4" 3/4" 5/8" 5/8"	Rd.  H Sq. Rd. Rd. Rd. Rd. Rd. Rd. Rd.	2441'-8" 27777'-4" 94'-9" 79'-1" 276' 1305' 15855' 1165'-7" 704' 809'-8" (6075'	3.38+ 3.38 5.31 3.4 3.67 1.502 1.502 1.502 1.043 1.33 0.6888	8200# 93887# 503# 337# 1013# 1960# 23814# 1751# 734# 1077# 4184#	3.7511 3.12 2.94 2.09 2.09 4.00 4.00 2.84 2.14 2.14 3.85		307.59 2929.27 14.79 7.04× 21.17× 78.40× 952.56× 49.73× 15.71× 23.05× 161.08
Slab Pipo Pep	1/4" \a	Rd. Sq. Sq. Sq. Sq. Rd. Rd. Plai: Rd. "	(9497'-6" 6581' 590' 826' 39890'-4" 47544' 2336' 1 4188' 5290'-5" tes for Piles	0.67 0.8635 0.85 5.311 1.913 0.375 0.167 0.167 4.173	6363# 5683# 502# 4387# 76310# 17829# 390# 699# 22077#	2.68 1.5878 2.68 5.4314 2.84 2.18 2.76 2.76 2.76 2.94		170.53 90.23 × 13.45 × 238.27 × 2167.20 388.67 10.76 19.29 649.06 ?
Hos Hos		Total	3-3/4"x2 hole Reinforcing	1.25 ea.	9156# 276672#	5,13	•	469.70 8777.55
Pigae	Anneale			2.36066	C Sq.Ft.			974,81
	160# No 88# No	11 Wi:	re	3.60 CWt 3.43 "		5.76 3.02		8.78
	Cement 129900#			.666625		865.95		
		y 1923) 9 10¢	turned (Credit	allowed		366.60		
	OUR SECRETARIAN PROPERTY AND ADDRESS OF THE PARTY OF THE	pty Saci	ks¹ on Hand @	.10		274.00		1506.55

Total Raw Material

7.04 ×
21.17 ×
15.71 ×
28.06 ×
20.73 ×
13.45 ×
238.7 \*

4089 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×
18.40 ×

\$11267.69

# Manufactured Product shipped during 1922 and billed out

on bo	oth.			Credited to	Credited to	
Pine	No.Pcs.	Lin.ft.	Price per Lin.Ft.	Operation Account	Investment Account	t Total Credit
Pipe 24"	778	6224	2.35	13257.12	1369.28	14626.40
36"	322 5	2536 40	3.45 3.95	7912.32 144.80	836.88	8749.20 158.00
Piles 30	10	300	1.90	383.70 21697.94	186,30 2405,66	570.00 24103.60

\* Price per lin.ft.credited to Investment Account as follows

24" RCP 0.22 36" RCP 0.33 Piles 0.621

#### STATEMENT OF OUTPUT FOR 1922

	R	C.P.			P17	es		Sla	58	Water Bbls.
	24"	36"	30	25	201	15	10	single	Doubl	0
On hand 1/1/1922 Made 1922	330 978	104 372	36	2 27	58	33	42	17	10	22
	1308	476	36	29	58	33	42	17	10	24
Shipped 1922	778	322	10							24
On Hand 12/31/22	530	154	26	29	58	33	42	17	10	0

# Inventory Manufactured Product on Hand December 31st, 1922.

R.C.Pipe	No. Pcs.	Lin.Ft.	Price per Ft.	Amount	
24" 36"	530 154	4240 1232	2.35 3.45	9964.00 4250.40	14214.40
R.C.Piles					
30' 25' 20' 15' 10'	26 29 58 33 42	780 725 1160 495 420	1.90 1.90 1.90 1.90 1.90	1482.00 1577.50 2204.00 940.50 798.00	6802.00
Slabs Single Track Double Track	17 10		135.00 ea. 125.00 "	2295.00 1250.00	3545,00
					\$24561.40

#### INVENTORY DECEMBER 31st, 1922.

# Reinforcing Rods

	1-1/8"	Rd.	24411-8	3.38+	8200#	3.7511	Cwt.	307.59
riles	1-1/8"	#	27777!-4"	3.38	93887#	3.12		2929.27
Shaps	1-1/4"		941-9"	5.31	503#	2.94		14.79
	1"	Sq.	79!-1"	3.4	337#	2.09		7.04×
		Rd.	276	3.67	1013#	2.09		21.17
	3/4"	Rd.	1305	1.502	1960#	4.00		78.40×
	3/4"	Rd.	15855	1.502	23814#	4.00		952.56×
	3/4"	Rd.	1165'-7"	1.502	1751#	2.84	. 927	49.73
	5/8"	Rd.	8091-8"	1.043	734# 1077#	2.14		15.71 × 23.05
	3/0	Sq.	(50751	0.6888	4184#	2.14		161.08
Stehn	1/2"	DA	94971-6"	0.67	6363#	3.85 2.68		170.53
	1/2"	Rd.	6581	0.8635	5683#	1.5878	4	90.23 ×
	1/2"	Sq.	5901	0.85	502#	2.68	a	13,45
	1-1/4"	Sq.	8261	5.311	4387#	5.4314	61	238.27 ×
del	3/4"	Sq.	398901-4"	1.913	76310#	2.84	-	2167.20
è e	3/8"	Rd.	47544	0.375	17829#	2.18		388,67
		Sq.	2336'	0.167	390#	2.76		10.76
	1/4" /	Bd Plat		0.167	699#	2.76		19.29
stalo?	1/4"	Rd. "	5290'-5"	4.173	22077#	2.94	0	649.06 ?
			ates for Piles		220117			
柳的	2-1/8"2			1.25 ea.	9156#	5.13		469.70
Hoof	57	Total	Reinforcing		276672#			8777.55
	Wire Me	sh						
Pyre	41294	iq. Ft.		2.36066	C Sq.Ft.			974.81
	Anneale	d Wire						
		. 11 Wi	re	3.60 CWt		5.76		
	88# No	. 15 '		3.43 "		3.02		8.78
	Cement							
	129900#			.666625		865.95		
	Empty s	acks re	turned (Credit	allowed	in			
	3666	@ 100				366.60		
	29 B.	٧.						
		pty Sac	eks on Hand @	.10		274.00		1506.55

Total Raw Material

7.04 · 21.17 · 15.71 · 23.06 · 90.73 · 13.45 · 238.7 · 40 89 7 · 78.40 · 95224

\$11267.69

-6-

# AUBURN CONCRETE PLANT

# INVENTORY DECEMBER 31st, 1922

Supplies		
Coal 25 Tons 50,000	6.48 N.T.	162.00
Valve Oil 20 Gals	50.85 C Gal.	10.17
Car Oil 150 Gals	22.37 C Gal.	33.56
Coal Oil 5 Gals	14.50 C Gal.	72
60-d Nails 200 #	4.39 Cwt.	8.78
20-d " 300 #	3.86	11.58
10-d " 175 #	3.08	5.39
6-d " 100 #	3.68	3.68
4"x4" Lbr. 9044 Ft.B.M.	14.00 M	126.62
Sheet Iron 24"x1/8"x8' So. Tacoms 1432 1400#		125.31
8 pcs. 2"x12"x16' 256' B.M.	18.61 M	4.76
10 " 2"x4" x16' 107' B.M.	16.96 M	1.81
Cotton Waste 30#	10.29 C#	3.09
Total	Supplies	497.47
	SALES AND THE RESIDENCE OF THE PARTY OF THE	

-7-

# AUBURN CONCRETE PLANT INVENTORY DECEMBER 31st, 1922

# Recapitulation

# Manufactured Product on Hand

14214.40	
6802.00	
3545.00	24561.40
8777.55	
974.81	
8.78	
865.95	
640,60	11267.69
	497.47
	\$36326.56
	6802.00 3545.00 8777.55 974.81 8.78 865.95

AUBURN CONCRETE PLANT

### SURTARY OF OPERATION FOR 1 9 2 2

	24" R.C.P. 978 Pcs. 7824 Lin. Ft.	36" R. C. P. 372 Pcs. 2976 Lin. Ft.	25' Piles 27 Pcs. 675 Lin. Ft.	22 Water Barrels	Total Operation Costs
Sand and Gravel Cement Rods Wire Mesh Labor	802,15 3259.00 483,42 22,69 1501.11 2840.48	457.84 1803.08 260.81 7.25 789.84 1571.57	36,92 108,94 328,73 1,00	1.85 6.67 4.14 .32 11.87 64.73	1298.76 5177.69 1077.10 31.17 2302.82 4662.90
Plant Operation (Genl. Expense)	1353, 92	743.61	60.40	3,51	2161.44
Repairs	63.96	37, 43	4. 56	, 26 3, 98	196.21 3.98
Paint Manufacturer's Cost	10326.64	5671.43	726,67	97.33	16822.07
Depreciation Less Pit Cl Gravel Pit Charges	hg. 1634.38 86.90	932.48 49.60	415.18 4.00		2982.04 140.50
Total	12047.92	6653, 51	1145.85	27 97.33 442	19944.61

#### -9-

# AUBURN CONCRETE PLANT

# INVENTORY DECEMBER 31st, 1921

Raw Material Supplies	11825.67 364.81	12190.48
Charges and Credits to Cperation Account		
Book footing for 1922	11535.11	
Add for amounts expended in 1921 Account AFE 905-20 but credited in 1922 Account		
Screen Sand and Gravel	1648.35	
General Expense and Repairs	3213, 29	
Operation Expense 1922	16396.75	16396.75
		28587.23
Deduct Inventory 12/31/22		
Raw Material	11267.69	
Supplies	497.47	11765.16
Manufacturer's Cost 1922 (Exclusive of depreciation or transportation)		16822.07

# Cost of Manufacturing per lineal foot

	24"RCP	36"RCP		R.C.Piles	
Sand & Gravel	Rate Cost	Rate .923	.15385	Rate .923	.05470
Cement	2.423Bbl41654	2.423	.60587	2.423	.161.39
Rods	2.00614Cwt .06179	1.98078	.08764	3.25057	.48701
Wire	.03986# .00289	.03986#	.00244	.03986#	.00148
Mesh	2.558C.Sq'.19186	2.5580 3	.26540		
Labor	.36304		.52808		.27573
Plant Operation (Genl.Expense)	.17305		.24987		.08948
Repairs	.00817		.01257		.00676
	1.31986		1.90572		1.07655
Depreciation le pit charge	.20894		,31333		.61507
Gravel Pit Chgs			.01667		.00593
Total exclusive	1		2.23572		1.69755
Lineal feet mar	ufactur- 7824		2976		675
Depreciation ch	narged 1721.28		982.08		419.18
Depreciation poft.	er lin.		.33		.621

# Statement of additions to Capital Investment during year charged to Investment Account for 1922

P.A.ET. 43	3 100 ft.	3/4" Water hose	11.76
•	5-3/4#	Rainbow Packing	3.45
P.A.ES. 47	5 1 Set	Knives for Bolt Cutter Per Exp. Leter E. O.P.	4.50
		8/3/22	.03
			19.74
		sand and Gravel used in	
making slab AFE 1376-192			43.00
Net Credit t	o Investme	nt Account	23,26

# Statement of minor repair items charged to Operation Account during 1922

1922	
January Payroll	101.03
February "	5.10
March "	21.53
April "	41.21
May "	15.89
June "	24.28
July "	10.92
March S-305 Repairs to Steam Governor	3.85
	22,71
	246.52
Credit	
Pro.chgd AFE 905-20 for 1922 Work 91.63	
" " " 1376-21 " " " <u>48.68</u>	140.31
Net total Expense for 1922 Repairs	106.21

ANNUAL REPORT AUBURN CONCRETE PLANT

1922

Office of Assistant Chief Engineer and Engineer Mtce. of Way,

Seattle, Washington, February 16,1923.

# SUMMARY

# Column

	Total Investment 12/31/1921		17556.88
2	Additions to Capital Investm	ent during 1922	)
	For details See Sheet #11.		23, 26
2	Total Investment 12/31/1922		17533,62
2 3.	Interest on Depreciated Inve	stment	
	6% of 6088.38		365.30
4	Gravel Pit Charges		140.50
	Repairs charged to Investmen	t	
5 6 7	Total Columns 3-4-5		505,80
7	Sinking Fund 1922		
	Depreciation, 1922	3122.54	
	Less Column 6	505.80	2616.74
8	Sinking Fund Total 12/31/22		
	Sinking Fund 12/31/1921	11468.50	
	Plus 1922 Sinking Fund	2616.74	14085.24
9	Depreciated Investment		
	12/31/22		
	Column 1 Capital Investment	17533.62	7440 70
	Less Column 8 Sinking Fund	14085,24	3448/38
10	Manufacturers Cost for 1922		16822.07
11	Depreciation Percent Cd. 10		.1856
12	Depreciation Amount		3122.54

# SUMMARY OF COST OF OPERATION FOR 1922

	Total	Operation Account	Investment Account
Inventory 1/1/1921			
Raw Material 11825.67 Supplies 364.81	12190,48	12190.48	
Labor & Mtl.chgs for ) 1922 See Sheet 9 for ) details	16373.49	16396.75	23.26
Deduct Inventory 12/31/1922 See Sheets 5 and 6 Raw Material 11267.69 Supplies 497.49	11765,16	11765,16	
Manufacturers Cost 1922	16798.81	16822.07	23.26
Manufactured Product on hand 1/1/1922 See Sheet 4 1921 Report	18708.90		
Manufactured Product shipped out 1922 - See Sheet 3	24103,60	21697.94	2405.66
Manufactured Product on hand 12/31/1922 See Sheet 4	24561,40		
Interest on Depreciated In- vestment for year 1922 6% on 6088.38	365.30		

# Manufactured Product shipped during 1922 and billed out

on bo	oth.			Credited to-	+Credited t	.0
Pine	No.Pcs.	Lin.ft.	Price per Lin.Ft.	Operation Account	Investmen Account	t Total Credit
Pipe 24"	778	6224	2.35	13257,12	1369.28	14626.40
36"	322 5	2536 40	3.45 3.95	7912.32 144.80	836.88 13.20	8749.2 <b>0</b> 158.00
Piles 30	10	300	1.90	383.70 21697.94	186,30 2405,66	570.00 24103.60

+ Price per lin,ft.credited to Investment Account as follows

24" RCP 0.22 36" RCP 0.33 Piles 0.621

# STATEMENT OF OUTPUT FOR 1922

	R	.C.P.			Pil	es		Sla	os	Water Bbls.
		36"	301	251	201	15	10	single	Doub.	le
On hand 1/1/1922 Made 1922	330 978	104 372	36	2 27	58	33	42	17	10	2 22
	1308	476	36	29	58	33	42	17	10	24
Shipped 1922	778	322	10							24
On Hand 12/31/22	530	154	26	29	58	33	42	17	10	0

# Inventory Manufactured Product on Hand December 31st, 1922.

R.C.Pipe	No. Pcs.	Lin.Ft.	Price per Ft.	Amount	
24" 36"	530 154	4240 1232	2.35 3.45	9964.00 4250.40	14214,40
R.C.Piles					
30 t 25 t 20 t 15 t 10 t	26 29 58 33 42	780 725 1160 495 420	1.90 1.90 1.90 1.90	1482.00 1377.50 2204.00 940.50 798.00	6802.00
Slabs Single Track Double Track	17 10		135.00 ea.` 125.00 "	2295.00 1250.00	3545.00
					\$24561,40

# INVENTORY DECEMBER 31st, 1922.

# Reinforcing Rods

1-1/8" Rd. 2441'-8" 1-1/8" " 27777'-4" 1-1/4" " 94'-9" 1" Sq. 79'-1" 1" Rd. 276' 3/4" Rd. 1305' 3/4" Rd. 15855' 3/4" Rd. 1165'-7" 5/8" Rd. 704' 5/8" Sq. 809'-8" (6075' 1/2" Rd. (9497'-6" 1/2" Sq. 6581' 1/2" Sq. 6581' 1/2" Sq. 39890'-4" 3/8" Rd. 47544' 1/4" Sq. 39890'-4" 3/8" Rd. 47544' 1/4" Rd. " 5290'-5" 7325 Plain Plates for Piles 2-1/8"x1/8"x1'3-3/4"x2 hole	3.38+ 8200# 3.38 93887# 5.31 503# 3.4 337# 3.67 1013# 1.502 1960# 1.502 23814# 1.502 1751# 1.043 734# 1.33 1077# 0.6888 4184# 0.67 6363# 0.8635 5683# 0.85 502# 5.311 4387# 1.913 76310# 1.913 76310# 0.375 17829# 0.167 390# 0.167 699# 4.173 22077# 1.25 ea. 9156#	3.7511 Cwt 3.12 " 2.94 " 2.09 " 4.00 " 4.00 " 4.00 " 2.84 " 2.14 " 3.85 " 2.68 " 1.5878 " 2.68 " 3.85 "	2929.27 14.79 7.04 21.17 78.40 952.56 49.73 15.71 23.05 161.08 170.53 90.23 13.45 238.27 2167.20 388.67 10.76 19.29 649.06
Total Reinforcing	276672#		8777.55
Wire Mesh			
41294 Sq. Ft.	2.36066 C Sq.Ft.		974.81
Annealed Wire			
160# No. 11 Wire 88# No. 15 **	3.60 CWt. 3.43 "	5.76 3.02	8.78
Cement 129900#	.666625	865,95	
Empty sacks returned (Credit January 1923) 3666 @ 10g 29 B.O.	allowed in	366,60	
3695 2740 Empty Sacks on Hand @	.10	274.00	1506,55
	Total Raw Materi	ial	\$11267.69

# AUBURN CONCRETE PLANT INVENTORY DECEMBER 31st, 1922

Supplies					
Coal	25 Tons	50,000#	6,48	N.T.	162,00
Valve Oil	20 Gals		50.85	C Gal.	10.17
Car Oil	150 Gals		22.37	C Gal.	33,56
Coal Oil	5 Gals		14.50	C Gal.	72
60-d Nails	200 #		4.39	Cwt.	8.78
20-d "	300 #		3.86	100	11.58
10-d "	175 #		3.08		5.39
6-d "	100 #		3.68		3,68
4"x4" Lbr.	9044 Ft.B.	М.	14.00	M	126,62
Sheet Iron 1432 140		So.Tacoma			125.31
8 pcs. 2"xl	2"x16' 256'	B.M.	18.61	М	4.76
10 " 2"x4	" x16' 107'	B.M.	16,96	MM	1.81
Cotton Waste	30#		10.29	C# .	3.09
		Total S	upplies		497.47

-7-

# AUBURN CONCRETE PLANT INVENTORY DECEMBER 31st, 1922

# Recapitulation

# Manufactured Product on Hand

Pipe	14214,40	
Piles	6802,00	
Slabs	3545.00	24561,40
Raw Material on Hand	L	
Reinforcing	8777.55	
Mesh	974.81	
Wire	8.78	
Cement	865.95	
Empty Cement Sacks	640.60	11267.69
Supplies		497.47
	Total	\$36326.56

AUBURN CONCRETE PLANT

#### SUMMARY OF OPERATION FOR 1 9 2 2

	24" R.C.P. 978 Pcs. 7824 Lin. Ft.	36" R. C. P. 372 Pcs. 2976 Lin. Ft.	25' Piles 27 Pcs. 675 Lin. Ft.	22 Water Barrels	Total Operation
Sand and Gravel	802.15	457.84	36,92	1.85	1298.76
Cement	3259.00	1893.08	108.94	6.67	5177.69
Rods	483.42	260.81	328,73	4.14	1077.10
Wire	22,60	7, 25	1.00	,32	31.17
Mesh	1501.11	789.84		11.87	2302,82
Labor	2849.48	1571.57	186,12	64.73	4662,90
Plant Operation					
(Genl. Expense)	1353.92	743.61	60.40	3.51	2161, 44
Repairs Paint	63.96	37.43	4.56	.26 3.98	196.21 3.98
Manufacturer's Cost	10326.64	5671.43	726.67	97.33	16822.07
Depreciation Less Pit (	Chg. 1634.38	932.48	415.18		2982.04
Gravel Pit Charges	86.90	49.60	4.00		140.50
Total	12047.92	6653,51	1145.85	97.33	19944.61

# 9-

# AUBURN CONCRETE PLANT

# INVENTORY DECEMBER 31st, 1921

Raw Material Supplies	11825.67 364.81	12190,48
Charges and Credits to Operation Account		
Book footing for 1922	11535.11	
Add for amounts expended in 1921 Account AFE 905-20 but credited in 1922 Account		
Screen Sand and Gravel	1648.35	
General Expense and Repairs	3213, 29	
Operation Expense 1922	16396.75	16396.75
		28587.23
Deduct Inventory 12/31/22		
Raw Material	11267.69	
Supplies	497.47	11765.16
Manufacturer's Cost 1922 (Exclusive of depreciation or transportation)		16822.07

# Cost of Manufacturing per lineal foot

	24"RCP		36"RCP		R.C. Piles		
	Rate	Cost	Rate	Cost	Rate	Cost	
Sand & Gravel	.923 Cy	.10252	.923	.15385	.923	.05470	
Cement	2.423Bbl.	.41654	2.423	.60587	2,423	.16139	
Rods	2.00614Cv	t.06179	1.98078	.08764	3,25057	.48701	
Wire	.03986#	.00289	.03986#	.00244	.03986#	.00148	
Mesh	2.5580.50	1,19186	2.5580.3	.26540			
Labor		.36304		.52808		.27573	
Plant Operation (Genl. Expense)	a de la companya de l	.17305		.24987		.08948	
Repairs		.00817		.01257		.00676	
		1,31986		1.90572		1.07655	
Depreciation le pit charge	33	.20894		.31333		.61507	
Gravel Pit Chgs		.01106		.01667		.00593	
Total exclusive of transportation Lineal feet manufactured		1.53986	·	2.23572		1.69755	
		7824		2976		675	
Depreciation ch to toal	arged	1721.28		982.08		419.18	
Depreciation pe ft.	r lin.	.22		.33		.621	

# Statement of additions to Capital Investment during year charged to Investment Account for 1922

P.A.ET. 433	100 ft.	3/4" Water hose	11.76
•	5-3/4#	Rainbow Packing	3.45
P.A.ES. 475		Knives for Bolt Cutter	4.50
		Par Exp. Latter E.O.P. 8/3/22	.03
			19.74
		and and Gravel used in	
making slabs AFE 1376-1921			43,00
Net Credit to	Investmen	t Account	23, 26

# Statement of minor repair items charged to Operation Account during 1922

autilig 1966	
1922	
January Payroll	101.03
February "	5,10
March "	21.53
April "	41.21
May "	15.89
June "	24,28
July "	10.92
March S-305 Repairs to Steam Governor	3.85
	22.71
	246,52
Credit	
Pro.chgd AFE 905-20 for 1922 Work 91.63	
" " 1376-21 " " " .48.68	140,31
Net total Expense for 1922 Repairs	106.21

H. C. Starten Co.

ANNUAL REPORT

AUBURN CONCRETE PLANT

1921

Office of Asst. Chief Engr. & Engr. Mtce. of Way, Seattle, Washington, February 10th, 1923.

-1-

# AUBURN CONCRETE PLANT 1921

# SUMMARY

### Columns

	그 그 그 그 그 그 그 그 그 그는 것이 없는 그는 것이 없는 것이 없다.	
2	Total Investment 12/31/1920 Additions to Capital Investment during 1	17045.71 921 511.17
~	Total Investment 12/31/1921	17556.88
3	Interest on Depreciated Investment 6% of	
	Gravel Pit Charges	129.44
4 5		
5	Repairs charged to Investment	637.22
6	Total Columns 3-4-5	001.22
7	Siking Fund 1921	
	Depreciation 1921 3522.9	
	Less Column 6 637.2	2885.75
8	Sinking Fund Total 12/31/1921	
	Sinking Fund 12/31/1920 8582.7	
	Plus 1921 Sinking Fund 2885.7	5 11468.50
9	Depreciated Investment 12/31/1921	
	Column 1, Capital Investment 17556.8	8
	Less Column 8 (Sinking Fund) 11468.5	
10	Manufacturer's Cost for 1921	18500.79
11	Depreciation percent Column 10	.1904
12	Depreciation amount	3522,97
TE	Depreciation amount	

# SUMMARY OF COST OF OPERATION FOR 1921

Inventory of 1/1/1921 Raw Mtl.& Supplies	Total 12572.40	Operation Account 12572,40	Investment Account
Labor and Material charges for 1921	18630.04	18118.87	511.17
Deduct Inventory 12/31/1921 See Sheet 6 Raw Material 11825.67 Supplies 364.81	12190,48	12190,48	
Manufacturers Cost for 1921	19011.96	18500,79	511.17
Manufactured Product on Hand 1/1/1921	10124.50		
Manufactured Product shipped out 1921 See Sheet 3	19681,40	17095.90	2585.50
Manufactured Product on hand 12/31/1921	18708,90		
Interest on Depreciated Investment for year 1921 6% on 8462.96	507.78		

# Manufactured product shipped away during 1921, and billed out on books

Pipe	No.Pcs.	Lin. Ft.	Price Per Lin.Ft.	Credited to Operation Account	Credited to Investment Account	Total Credit
24" 24" 24" Total 24"	6 5 <u>564</u> 575	48 40 4512 4600	2.75 + 2.00 + 2.35 /	119.26 72.28 9610.56 9802.10	12.74 7.72 992.64 1013.10	132.00 80.00 10603.20 10815.20
36" 36" Total 36"	27 152 179	216 1216 1432	3.00 ± 3.45 ¢	565.27 3793.92	82.73 401.28	648.00 4195.20
Piles 30' 25'	41 8	1230 200	1.90 1.90	1573.17 255.80	763.83 124.20	2337.00
Slabs Single Double	4 4 Spe	cial	135.00 191.50	439.64 666.00	100.36 100.00	540.00 766.00
	Total			17095,90	2585.50	19681.40

<sup>+ 1919</sup> Product

<sup># 1921</sup> Product

# Manufactured product on hand, December 31st, 1921

Pipe	No. Pcs.	Lin. Ft.	Price per ft.	Amount	
24" 36"	330 104	2640 832	2.35 3.45	6204.00 2870.40	9074.40
Piles					
30 t 25 t 20 t 15 t	36 2 58 33 42	1080 50 1160 495 420	1.90 1.90 1.90 1.90	2052.00 95.00 2204.00 940.50 798.00	6089.50
Slabs	No. Pcs.				
Single Double	17 10		135.00 ea. 125.00 "	2295.00	3545.00
					\$18708.90

### STATEMENT OF OUTPUT FOR 1921

		Pipe		Pi:	Les			,	S	lab	S	. V	Vater
	. 24"	. 36	30	25	.20	.15	.10	.Si	ngl	e.D	oubl	e.I	Bls.
On Hand 1/1/1921	. 11	. 27	14	10	.58	.33	.42		21		10		
Total 1921 Product.	.894	.256	63	0	. 0	. 0	. 0		0		4		2
Total Shipped Away	.575	.179	41	8	. 0	. 0	. 0		4		4		
Surplus on Hand.	.330	.104	36	2	.58	.33	.42	•	17		10		2
12/31/1921													

# INVENTORY JANUARY 1 9 2 1

Reinforcing Rods	Weight	Price	Amount	
1-1/8" Rd.  1" Sq.  1" Rd.  3/4" Sq.  3/4" Rd.  5/8" Sq.  5/8" Rd  1/2" Sq.  1/2" Rd.  1/2" Rd.  1/2" Rd.  1/4" Rd.  1/4" Sq.	145479# 1350# 117# 81705# 1479# 1979# 1449# 3918# 15221# 14373# 7415# 503#	2.84 2.84 2.14 2.14 2.68 3.85065 2.68 3.14	307.59 4538.94 28.22 2.45 2320.42 42.00 42.35 31.00 105.00 586.10 385.20 232.83 14.79 61.13	
Plain Round Rods				
1-1/4" Rd. 1/4" Rd		2.94 2.76	707.01 165.93	
Plates for Piles				
9557 pcs.	11948#	5.13	612.83	
Total Rods			10183.79	Control of the contro
Rods held for AFE 905-20 but not	charged ou	at .	895.69 11079.48	11079.48
Mesh 45033 sq. ft. Wire 1010 # Malthine Paper 4-1/2 rolls		0,32		1441.06 45.56 6.30
Total Raw Material	on Hand Ja	anuary 1-	1921	12572.40

# INVENTORY DECEMBER 31st, 1 9 2 1

Corrugated Reinfor	cing Rods	Weight	Price	Amount	
1-1/8" Rd. 1-1/8" 1-1/4" Rd 1" Square 1" Rd 1-1/4" Square 3/4" " 5/8" " 5/8" Rd. 3/4" " 3/4" Rd. 1/2" Rd. 1/2" Rd. 1/2" Rd. 1/2" Sq. 3/8" Rd.		8200# 119989# 503# 1327# 117# 4387# 78182# 1965# 1776# 7284# 23877# 1104# 1784# 15221# 29053# 1116# 9158# 1020#		948.43 42.06 50.67	
Plain Rods					
1-1/4" Rd. 1/4" Rd. Plates for Piles		24048# 2852# 9900#	2.94 2.76 5.13	707.01 78.72 507.87	
Total	Reinforcing Ro	ods		10947.45	10947.45
Wire Mesh Malthine Paper Annealed Wire	29257 sq.ft. 2 rolls 350#	0.293771 1.40 4.55 Cwt.			859.49 2.80 15.93
Total	Raw Material				11825.67
Miscellaneous Supp	lies		(3)		364.81 12190.48

# 1921 ACCOUNT

Inventory	1/1/1921	
CONTRACTOR OF THE PROPERTY OF THE PERSON OF	AT ANY PARTY SHAPE SHAPE THE PARTY OF THE PA	ю

<u> </u>				
Reinforcing Rods	327411# 30610#	10183.79 895.69	11079.48	
Mesh 45033 sq.ft. Wire 1010 # Mathine Paper 4-1/2			1441.06 45.56 6.30	12572.40
Charges and Credits	for Operat	ion Acct. 1921	22980.51	
Deduct Supplies on I Charged to Operation			364.81	22615.70
				35188.10
Deduct Inventory Ma	terial on H	and 12/31/1921	4	
Reinforcing Rods Wesh wire		10947.45 859.49 15.93		
Walthine Paper		2.80		11825.67 23364.43
Deduct Expense incu a/c AFE 905-20 which to Operation Accoun	h was credi			
Sand and Grave		1648.35		
	97.38 15.91	3213,29		4861.64
Net Ope	ration Cost	for 1921		\$18500.79

			SUMMARY OF OPERATION FOR 1921				Expended in 1921 for 905-	
	24" RCP 894 Pcs. 7152 Ft.	36" RCP 356 Pcs 2048 Ft.	30 Piles 63 Pcs. 1890 Lin.Ft.	Slabs 4 pcs. Slabs for Clarks Creek	Water Barrels 2 pcs.	Total Operation Acct.	20, Credited to Operation Acct. in 1922 Account	Total Including charges account AFE 905-20
Sand and Gravel		329.63	108.17	42.88	.20	1248.40	1648.35	2896.75
Cement	2977.50	1240.17	305.20	121.11	.60	4644.58		4644.58
Rods	663.22	272.48	935.56	57.68		1928.94		1928.94
Wire	20.90	6.02	3.19	.61		30.72		30.72
Mesh	1607.11	671.85				2278.96		2278.96
Labor	3134.50	1205.04	563.51	181.81		5084.86		5084.86
Royalty on RCP Plant Operation	276.00	65.60		ALC:		341.60		341.60
(General Expens		518.06	179.03	57.35	.32	2007.69	2397.38	4405.07
Repairs	426.42	176.31	60.93	19.52	.11	683.29	815.91	1499.20
Malthine for Slabs				3.50		3.50		3.50
Forms for Water Barrels					99.72			
Mesh for Water	BDIS.		STALL WILL BE WATER		39.46)	248.25		248.25
Labor making 17 cages and 2 bble	3.		CINKORS		109.07	VALD		
Manufacturer's	11100 10	4405 30	0155 50		010 10	10500 80		
Cost Depreciation	11126.10	4485.16	2155.59	484.46	249.48	18500.79	4861.64	23362.43
less Pit Chgs.	1493.97	641.71	1162.49	95.36		3393.53		
Gravel Pit Chgs	79.47	34.13	11.20	4.64	in the the	129.44		
Total	12699.54	5161.00	3329.28	584.46	249.48	22023.76		

#### COST OF MANUFACTURING PER LINEAL FOOT

	24" RC	9	36" RC	P	30 R.C.Piles	
	Rate	Cost	Rate	Cost	Rate	Cost
Sand and Gravel	.9658	.107315	.9658	.160952	.9658	.057233
Cement - Per Bbl.	3.42221	.416317	2.42221	.605552	2.42221	.161481
Rods	2.987074	.092732	2.991	.133047	3.24689	.495005
Wire	0.04363#	.002922	0.04363	.002939	0.04363	.001688
Mesh - Per 100 sq.ft.	2.93771	.224708	2.93771	.328051		
Labor		.438269		.588398		.298153
*Royalty on R.C.P.		.038591		.032031		
Plant Operation						
(General Expense)		.175186		.252959		.094725
Repairs		.059622	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.086089		.032238
		1.555662		2.190018		1.140523
Depreciation less pit cha	rges	.208888		.313335		.615075
Gravel Pit Charges		.011112		.016665		.005925
Total Exclusive of Transp	ortation	1.775662		2.520018		1.761523
Lineal feet manufactured		7152		2048		1890
Depreciation charged - to	tal 15'	73 .44	6	375.84		1173.69
" - pe	r ft.	.22		.33		0.62

<sup>\*</sup> Note: Royalty at rate of 0.05 per lin ft paid on R.C.P.Manufactured prior to July 5, 1921, Expiration of Patent

Royalty paid on 5520 lin.ft. of 24" R.C.P. .05 276.00 65.60

Total Royalty Paid in 1921 341.60

# Statement of Addition to Capital Investment charged to Investment Account for 1921

#### Steel Shed: AFE 1200-14 ED 146-20

Payroll	January, 1921 March May	20.88 6.81 21.41	49.10	
Materia 20,400#		45	325,55	374.65
	Supplies charged to Investment	Acct.		
2671	8" White Wash Brushes	6.41 9.45		
	9"x18"-24' Stringers 5' Cross Cut Saw Stencilling Plate	51.84 2.00 3.32		
April,	Store Expense	4.38	77.40	
3	8" White Wash Brushes Smoke Stack 12'long, 21" diam. Store Expense	9.45 42.71 3.13	55,29	
Sept., 1	921 J.913 Sets Moulds		3,83	136.52

Total Charged to Investment Acct for 1921 511.17

ANNUAL REPORT

AUBURN CONCRETE PLANT

1921

Office of Asst. Chief Engr. & Engr. Mtce. of Way, Seattle, Washington, February 10th, 1923.

# SUMMARY

## Columns

2 1 3 4 5 6	Total Investment 12/31/1920 Additions to Capital Investment Total Investment 12/31/1921 Interest on Depreciated Investm Gravel Pit Charges Repairs charged to Investment Total Columns 3-4-5		17045.71 511.17 17556.88 507.78 129.44
Ť	Siking Fund 1921 Depreciation 1921 Less Column 6	3522.97 637.22	2885.75
8	Sinking Fund Total 12/31/1921 Sinking Fund 12/31/1920 Plus 1921 Sinking Fund	8582.75 2885.75	11468.50
9	Depreciated Investment 12/31/19 Column 1, Capital Investment Less Column 8 (Sinking Fund)	27 17556.88 11468.50	6088.38
10 11 12	Manufacturer's Cost for 1921 Depreciation percent Column 10 Depreciation amount		18500.79 .1904 3522.97

## SUMMARY OF COST OF OPERATION FOR 1921

Inventory of 1/1/1921 Raw Mtl.& Supplies	Total 12572.40	Operation Account 12572.40	Investment Account
Labor and Material charges for 1921	18630.04	18118.87	511.17
Deduct Inventory 12/31/1921 See Sheet 6 Raw Material 11825.67 Supplies 364.81	12190.48	12190.48	
Manufacturers Cost for 1921	19011.96	18500.79	511.17
Manufactured Product on Hand 1/1/1921	10124.50		
Manufactured Product shipped out 1921 See Sheet 3	19681.40	17095.90	2585,50
Manufactured Product on hand 12/31/1921	18708.90		
Interest on Depreciated Investment for year 1921 6% on 8462.96	507.78	4.	

# Manufactured product shipped away during 1921, and billed out on books

Pipe	No.Pcs.	Lin. Ft.	Price Per Lin.Ft.	Credited to Operation Account	Credited to Investment Account	Total Credit
24" 24" 24" Total 24"	6 5 564 575	48 40 4512 4600	2.75 + 2.00 + 2.35 %	119.26 72.28 9610.56 9802.10	12.74 7.72 992.64 1013.10	132.00 80.00 10603.20 10815.20
36" 36" Total 36"	27 152 179	216 1216 1432	3.00 ± 3.45 %	565.27 3793.92	82.73 401.28	648.00 4195.20
Piles 30' 25'	41 8	1230 200	1.90 1.90	1573.17 255.80	763.83 124.20	2337.00 380.00
Slabs Single Double	4 4 Spe	cial	135.00 191.50	439.64 666.00	100.36 100.00	540.00 766.00
	Total			17095,90	2585.50	19681.40

<sup>+ 1919</sup> Product

<sup># 1921</sup> Product

# Manufactured product on hand, December 31st, 1921

Pipe	No. Pcs.	Lin. Ft.	Price per ft.	Amount	
24" 36"	330 104	2640 832	2.35 3.45	6204.00 2870.40	9074.40
Piles					
30 t 25 t 20 t 15 t 10 t	36 2 58 33 42	1080 50 1160 495 420	1.90 1.90 1.90 1.90	2052.00 95.00 2204.00 940.50 798.00	6089.50
Slabs	No. Pcs.				
Single Double	17 10		135.00 ea. 125.00 "	2295.00	3545.00
					\$18708.90

#### STATEMENT OF OUTPUT FOR 1921

		Direc			70.2					7 - 7			, ,
	9411	Pipe	301	_	Pi.		136	1 70	HARLING BANKLOND	lab		. V	ater
0 11 - 1 7 /7 /7 007	. 24	. 30	20				,15			e. T	oubl	e,I	Bls.
On Hand 1/1/1921		. 27						.42	21		10		
Total 1921 Product.	.894	.256	63		0	. 0	. 0	. 0	0		4		2
Total Shipped Away		.179	41		8	. 0	. 0	. 0	4		4		
	.330	.104	36		2	.58	.33	.42	17		10		2
12/31/1921													

# INVENTORY JANUARY 1 9 2 1

Reinforcing Rods	Weight	Price	Amount	
1-1/8" Rd.  1" Sq.  1" Rd.  3/4" Sq.  3/4" Rd.  5/8" Sq.  5/8" Rd  1/2" Sq.  1/2" Rd.  1/2" Rd.  1/2" Rd.  1/2" Rd.  1/4" Rd.  1/4" Sq.	145479# 1350# 117# 81705# 1479# 1979# 1449# 3918# 15221# 14373# 7415# 503#	3.12 2.09 2.09 2.84 2.84 2.14 2.14 2.68 3.85065	28.22 2.45 2320.42 42.00 42.35 31.00 105.00	
Plain Round Rods				
1-1/4" Rd. 1/4" Rd	24048# 6012#	2.94	707.01 165.93	
Plates for Piles				
9557 pes.	11948#	5.13	612.83	
Total Rods			10183,79	
Rods held for AFE 905-20 but not	charged or	ut	895.69 11079.48	11079.48
Mesh 45033 sq. ft. Wire 1010 # 4-1/2 rolls		0.32		1441.06 45.56 6.30
Total Raw Material	on Hand Ja	anuary 1-	1921	12572.40
				The state of the s

## INVENTORY DECEMBER 31st, 1 9 2 1

Corrugated Reinforcing Rods	Weight	Price	Amount
Ric 1-1/8" Rd.  Pile 1-1/8"  State 1-1/4" Rd  1" Square  1" Rd  1-1/4" Square  Slate 3/4"  5/8"  5/8"  Rd.  3/4"  3/4"  Rd.  3/4"  Rd.  3/4"  Rd.  5/8b1/2"  Rd.  1/2"  Sq.  Pipe 3/8"  Rd.  Square	78182# 1965# 1776# 7284# 23877# 1104# 1784# 15221# 29053# 1116# 9158#	2.09 5.4314 2.84 2.14 2.14 3.8478 3.9721 3.81 2.84 3.85065 2.68 2.68	948,43 × 42.06 × 50.67 × 586.10
Plain Rods  Slab 1-14" Rd. Hooks for Slabs?  PHP 1/4" Rd.  Plates for Piles	24048# 2852# 9900#	2.94 2.76 5.13	707.01 - ? 78.72 507.87
Total Reinforcing Rod	•		10947.45 10947.45
Wire Mesh 29257 sq.ft. Malthine Paper 2 rolls Annealed Wire 350#	0.293771 1.40 4.55 Cwt.		859.49 2.80 15.93
Total Raw Material			11825.67
Miscellaneous Supplies			364,81 12190,48

169983

## 1921 ACCOUNT

Inventory	1/1/1921

Reinforcing Rods	327411# 30610#	10183.79 895.69	11079.48	
Mesh 45033 sq.ft. Wire 1010 #			1441.06 45.56 6.30	12572.40
Mathine Paper 4-1/2	FOILS 1.40		0.00	TOURS, MA
Charges and Credits	for Operat	ion Acct. 1921	22980.51	*
Deduct Supplies on Charged to Operation			364.81	22615.70
				35188.10
Deduct Inventory Ma	terial on H	and 12/31/1921		
Reinforcing Rods Wesh		10947.45 859.49		
wire Malthine Paper		15.93 2.80		11825.67 23364.43
Deduct Expense incu a/c AFE 905-20 whic to Operation Accoun	h was credi			
Sand and Grave	97.38	1648.35		
	15.91	3213.29		4861.64
Net Ope	ration Cost	for 1921		\$18500.79

			SUMMAR	RY OF OPERATION	W FOR 1931		Expended in 1921 for 905-	
	24" RCP 894 Pcs. 7152 Ft.	36" RCP 256 Pcs 2048 Ft.	30 Piles 63 Pos. 1890 Lin.Ft.	Slabs 4 pcs. Slabs for Clarks Creek	Barrels 2 pcs.	Total Operation Acct.	20, Credited to Operation Acct. in 1922 Account	Total Including charges account AFE 905-20
Sand and Gravel Cement Rods Wire Mesh Labor Royalty on RCP	767.53 2977.50 663.22 20.90 1607.11 3134.50 276.00	329.63 1240.17 272.48 6.02 671.85 1205.04 65.60	108.17 305.20 935.56 3.19 563.51	42.88 121.11 57.68 .61 181.81	.80	1248.40 4644.58 1928.94 30.72 2278.96 5084.86 341.60	1648.35	2896.75 4644.58 1928.94 30.72 2278.96 5084.86 341.60
Plant Operation (General Expense Repairs Malthine for Slabs Forms for Water		518.06 176.31	179.03 60.93	57.35 19.53 3.50	.32 .11	3007.69 683.29 3.50	2397.38 815.91	4405.07 1499.20 3.50
Barrels Mesh for Water B Labor making 17 cages and 2 bbls				4	39.46	248.25		248.25
Manufacturer's Cost Depreciation	11128.10	4485.16	2155.59	484.46	249.48	18500.79	4861.64	23362.43
less Pit Chgs. Gravel Pit Chgs	1493.97	641.71 34.13	1162.49	95.36 4.64		3393.53 129.44		
Total	12699.54	5161.00	3329.28	584.46	249.48	22023.76		

#### COST OF MANUFACTURING PER LINEAL FOOT

	34" RCF		36" R	JP 90	30' R.	J.Piles
	Rate	Cost	Rate	Cost	Rate	Cost
Sand and Gravel	.9698	.107315	.9658	.160952	.9658	.057233
Cement - Per Bbl.	3.42221	.416317	2.42221	.605553	3.42221	.161481
Rods	2.987074	.082732	2.991	.133047	3.24689	.495005
Wire	0.04363#	.002922	0.04363	.002939	0.04363	.001688
Mesh - Per 100 sq.ft.	2.93771	.234708	2.93771	.328051		
Labor		.438269		.588398		. 298153
*Royalty on R.C.P.		.038591		.032031		
Plant Operation						
(General Expense)		.175188		.252959		.094725
Repairs		.059622		.086089		.032238
		1.555662		2.190018		1.140523
Depreciation less pit cha	rges	.208888		.313335		.615075
Gravel Pit Charges		.011113		.016665		.005925
Total Exclusive of Transp	ortation	1.775662		2.520018		1.761523
Lineal feet manufactured		7152		2048		1890
Depreciation charged - to	tal 157	3 .44		375.84		1173.69
" - pe	r ft.	.22		.33		0.621

\* Note: Royalty at rate of 0.05 per lin ft paid on R.C.P.Manufactured prior to July 5, 1921, Expiration of Patent

Royalty paid on 5520 lin.ft. of 24" R.C.P. .05

Royalty paid on 5520 lin.ft. of 24" R.C.P. .05 276.00 65.60

Total Royalty Paid in 1921

341.60

# Statement of Addition to Capital Investment charged to Investment Account for 1921

#### Steel Shed: AFE 1200-14 ED 146-20

Labor Payroll	January, 1921 March "	20.88 6.81 21.41	49.10	
Materia 20,400#	SH 56# rail J.607 So. Tacoma #134	5 .	325,55	374.65
Tools &	Supplies charged to Investment A	cct.		
267	1921 J-317 2"x4"-16' Rgh.Lbr. 8" White Wash Brushes 9"x18"-24' Stringers 5' Cross Cut Saw Stencilling Plate	6.41 9.45 51.84 2.00 3.32	77.40	
April, 3	Store Expense  1921 8" White Wash Brushes Smoke Stack 12'long, 21"diam. Store Expense	9.45 42.71 3.13	55.29	
Sept.,1	921 J.913 Sets Moulds		3,83	136.52

Total Charged to Investment Acct for 1921 511.17

# faventory of Equipment buildings and platforms-12-31-1919

Page cost recor		Value new	% of orig	Present value
11	1 Comcrete mixer Smith 3/4 yard batch mixer mounted on platform with upright engine. Complete and in good running order Labor and Material Freight	957.09 80.65 1037.74	50	518.87
11	1 Worthington Duplex Steam pump-size 6"x4"x6" Treight	60.00 3.00 63.00	30	18.90
12	1 Donkey Engine Wn 4428 (Boiler out of service cable drums used for hoist) Freight	970.00 25.05 995.05	- 10	99.50
11	l Derrick 5 ton capacity complete with guy lines hoisting lines and blocks Freight	877.22 50.72 927.94	40	371.18
94	1 Stationary boiler from Eng. 728 (1018-18)	1332.62	50	666.31
	4 - 36" pipe forms-complete 6 - 24" " " Outside only	4292.43		
	Freight	80.65		
		4373.08	70	3061.16

## Inventory of Equipment, buildings and platforms 12-31-1919

	Value new	% of orig	Present value
	Forward		4735.92
Sand and Gravel Bins Labor and Material Freight	689.29 154.66 843.95	50	421.97
Cement house 14'x30' Frame construction not sealed inside-shingle roof-concrete and old stringer foundation Labor and Material Freight	233.89 18.97 252.86	<b></b> 50	126.43
Boiler House Shed 1018-18 Labor and Material	92.13	30	27.68
Slab platform 1018-18 Concrete-value 100% of new	581.83	100	581.83
Slab forms 1018-18	271.46	50	135.73
Slab runway1018-18	39.91	50	19.95
Template for bend, slab reinforcing rollo18-18	12.40	50	6.20
Cement house floor-1018-18	87.60	50	33.80
Bulkhead 1018-18	13.10	50	6.55
Office and tool house size 12'x36' Shingle roof frame Freight	169.69 15.50 185.19	50	92.60
Steel shed 16'x30' frame shingle roof Freight ==	182.87 20.35 203.22	50	101.61
Steel racks-4'x30' frame shingle roof Freight	51.22 6.20 57.42	approx.	40%+ 23.12
	For	ward	6313.39

#### AUBURN CONCRETE PLANT Inventory December 31st, 1919.

Equipment, Buildings and Platform.

		Value new	% of orig	Present Value
Forward				6313.39
Water supply				
1/2 interest in 4" wire bound wood pipe line 1800-ft long connecting with Company main of 10" wood pipe along main line R/w one half cost  Freight		260.11 6.25 266.36	.30	79.91
9 pile forms Preight	•	457.57 27.80 485.37	.30	145,61
Pipe mandrelb 24" and 36" Freight	-	267.89 35.00 302.89	.30	90.87
Loading track L&M Freight	•	456.79 100.92 557.71	.30	177.31
Pile storage ground built-1919		60.42		60.42
Pipe storage ground-built-1919		493,44		493.44
				\$ 7360.95

AUBURN CONCRETE PLANT Invenstory December 31st, 1919.

#### SUMMARY

Material on hand sheets #1-6 incl.	12217.46	12217.46
Manufactured product on hand sheet #7	24961.50	24961.50
Investment a/c Tools on hand sheets 8-9-10-11	279.09	
SH pipe and fittings salvaged from plant- sheets 12-13-14	36.58	
Equipment and buildings sheets 15-16-17	7360.95	
Value of Depreciated Investment	7676.62	7676,62
To	tal	\$44855.58

Total -- -- \$44855.58

Saint Paul, March 36th, 1930.

1919

Mr. A. R. Cook,

Principal Assistant Engineer, Tacoma, Bashington.

Dour Bir:-

Your letter of the 5th with copy of annual report for Auburn concrete plant.

at so much higher rate the balance of the products manufactured in 1919, I see no way out of the difficulty, and approve the prices you recommend.

Yours truly,

Chiof Engineer.

Mr. H.A. Cribbs.

ANNUAL REPORT

AUBURN CONCRETE PLANT

1919

Office of Principal Assistant Engineer, Tacoma, Washington, March 2nd, 1920.

#### SUMMARY

COLUMN		Water Street
	Total Investments 12/31/1918	16132.72
2	Additions to Capital Investment during 1919	720.79
1	Total Investment-12/31/1919	16853, 51
3	Interest on depreciated investment 6%	530,27
4	Gravel Pit Charges	106.59
5	Repairs	211.64
6	Sum of Columns 3 - 4 and 5	848.50
7	Sinking Fund 1919 Column 12 minus 6	2296,10
8	Sinking Fund Total 12/31/1919	9591.00
9	Depreciated Investment Column 1 minus 8	7262.51
10	Manufacturers cost for 1919 including roy-	18070.62
11	Depreciation % column 10	.17402
12	Depreciation amount	3144.60

#### STATEMENT OF COST OFOPERATION AUBURN CONCRETE PLANT SEASON OF 1919

#### --00000--

Summary	Total	Operation	Sinking Fund	Capital Account
Inventory 1-1-1919.Material	8742.98	8742.98		
Labor and Material chgs 1919	.22107.13	21174.70	211,64	720.79
Royalty(voucher to be made inst.Paul Office)	370.40	370.40		2
Less inventory 12-31-1919 Material	12217.46	12217,46		
Total Mfgrs. Cost-1919	19003.05	18070.62	211.64	720.79
Mfgd.product on hand 1-1-'19 as per inventory -	14937.26?	14937.26		
Manufactured product recd 1919 Gravel Pit charges	530.25 106.59	530,25	106.59	
Interest on depreciated inv.	530.27		530.27	
Manufactured product shipped away during 1919	) 12284,86 )			
Manufactured product on hand 12-31-1919 as per inventory (at prices recommended for 1920 shipments)	24961.50	34101.76		
Depreciation on 1919 operation	on		3144,60	40
	\$2138.94	\$563.63	\$2296.10	\$720,79

#### CREDITS TO AUBURN CONCRETE PLANT-

Manufactured Product shipped away during 1919 and billed out on books. This includes 12 pcs 24" pipe shipped 1-7-1920 on 1919 order and included in 1919 account.

			Total Credits
Pipe	pcs	Lin Ft.	
24"	471	37 68	6126.80
36"	161	1288	2884.80
48"	8	64	245.76
Piles			
30 ft	51	1530	2371.50
20 ft	10	200	320.00
15 ft	14	210	336.00
		TOTAL	- 12284.86

#### Charges to Auburn Concrete Plant

Manufactured Product received during year.

13-30 piles returned from Olequa

\$427.34

160

8 pcs 24" RCP received from So Tacoma.

102.91

\$530.25

#### MANUFACTURED PRODUCT ON HAND December 31st-1919

Pipe	Pcs	Lin Ft	Price per	
24"	509 -1-	4072	2.00	8144.00
36"	193	1544	3.00	4632,00
Piles				
30	33	990		
25	14	350		
20	72	14 40		
15	33	495		
10	42	420		
		3695	1.90	7020.50
Slabs				
Single	29		135.00	3915.00
Double	10		125.00	1250.00
	14.4			24961,50

#### Note-

These prices are exclusive of cost of loading product for shipment from plant.

<sup>+-</sup>This inventory is based on prices recommended for product now on hand as shown on sheet #11.

Inventory of Material on hand 12/31/1919

	Lenghh	Unit Wt	Weight	Price per cwt	Amt	
3/4" sq.	44083	1.913	84331	S. L. M. C. T.	2395.00	
3/4" rd.	1343719"	1,502	20184	2.84	573.22	×
1/2" #4.	4549'1"	0.85	3867	2.68	103.63	×
451/2" rd.	4837816"	0.67	32413	2.68	868,67	
1-1/8" rd.	4084814"	3.38	138067	3.12	4307.69	
I" sq.	408'10"	3.4	1390	2.09	29.05	×
1" rd.	316"	2,67	9	2.09	.19	×
1-1/4" sq.	3319#	5.31	179	2.94	5,26	X
5/8" sq.	1513	1.33	2012	2.14	43.06	×
5/8" rd.	1655'6"	1.043	1726	2.14	36,94	
3/8" sq.	8516"	0.48	41	3,14	1,29	× 191.
~3/8" rd.	67378'8"	0.375	25267	3.14	793,38	
₹1/4" sq.	14038	0.167	2344	2.76	64.69	
6?1-1/4" rd. Hun	5756	4. 173	24019	2, 94	706.16	?
%1/4" rd.	36000	,167	6012	2.76	165.93	
Plates	9557 pcs	1.25 ea.	11946	5,13	612.83	
			353807	10	706.99	10706.99
Wire Meshreinfo	reing for p	ipes Style	≥ #153			
48" 7500 1		000 sq.ft.				
44" 4100	" " <u>15</u>	033 " "				
	45	033 " "	@ .032			1441.06
Annealed wire						
#16 335#	4.:	27	14.30			
#12 400#	3.	98	15.92			
#11 75#	4.	58	3.44			33.66
Malthine Paper						
4-1/2 rolls	1.4	10				6.30
Lumber for slab						
4"x4" 20'aver:	and langth 1	210 74 0	t 1653 FBM	IAA OF O		A STATE OF THE PARTY OF THE PAR

## Summary operation for 1919

	760 px	We pert	ulno'	
	24 " Pipe	36" Pipe	Piles	Total
Cement	2230.04	708.42	402.37	3340.83
Mesh	1652.89	484,90		2137.79
Rods	776.22	247.27	1442.73	2466,22
Wire	19.96	4.78	7,82	32.56
Royalty	304.00	66,40		370.40
Labor	2686,58	909.69	933,56	4529.83
Sand and Gravel	635,63	208,25	159.12	1003.00
General	2682.29	845,96	661.74	4189.99
Total Mfg. Cost.	10987.61	3475.67	3607.34	18070.62
pepreciation less Pit chgs.	1142.37	244.80	1650.84	3038.01
Gravel Pit charge	67.55	22, 13	16.91	106.59
	12197.53	3742,60	5275,09	21215,22
Unit cost per ft.	\$2.00618	\$2.81822	\$1.87061	

cost of Manufacturing per lineal foot

	RC Rate	PILES	24" RC Rate	PIPE	36" Rate	RC Pipe Cost
Sand and gravel	0.94	·Q005643	0.94	0.10455	0.94	0.15681
Cement	2.12	0,14270	2, 12	0.36678	2.12	0.53345
Rods	0,031	0.51161	0,0311	0.12767	.0311	0.18620
Wire	0,04343	0.00277	0,04343	0.00328	.04343	0.00360
Mesh			3,19708	0,27186	3.1.9708	0,36514
Labor		0,33105		0.44187		0.68501
Royalty				0,05000		0.05000
Plant operation(G	eneral)	0.23466		0.44117		0,63702
Depreciation less	pit chg	.0.58540		0,18789		0.18433
Gravel Pit charge		0.00599		0.01111		0.01666
Total exclusive of	f trsp.	1.87061		2.00618		2,81822
Lineal feet manuf	actured	2820		6080		1328
Depreciation char	ge-total	1667.7	5	1209.92		266.93
Depreciation per	lin. ft.	0.59	914	0.19	9	0.201

Statement of Additions to Capital Investment during year charged to Investment Account for 1919-

# Labor charges - from payroll

1919						
May	Buildi	ng road	to pl	ant		86.93
June	Pipe s	torage	gro und	s-labor		444.84
July	•	•		•	48.60	9345
	Pile	•	_ #	•	55.90	104,50
August				•		4.52
	Total	labor c	harges	from pag	yroll	640.79
May	Buildi	ng road	to pl	ant Team	hire	20.00
June		•		" "		60.00
						720,79

Statement of charges for repairs and renewals charged to investment account during-1919.

#### LABOR

## Labor charges from Payroll-

1918 Septem	ber Back pay Supt.		2.71	
1919 March	Unload 4"x4"	28,16		
	Repair bunkers	2.26		
	" screens	53.01		
	" derrick	12,96		
	" 24" pipe forms	26.74	123.13	
April	" bunkers	9.70		
	" engine	1,98		
	" pump	1,32		
	2 office	2,63	15.63	
	Total labor charges ffom	payroll	141.47	
May 8	Labor load, ties for concr platform Repairs on boiler	ete plant	14.88 3.42	159.77
MATERIA	T			
	4 kegs 60d nails	13.48		
	1 keg 6d nails	3.57		
	1 keg 8d nails	3,46		
	Store expense	2.05	22,56	
	Drayage		3,50	
	1 - 1-1/2" union	.24		
Share Y	2 - 7/8" water guage coil	15.40		
	1 - 7/8" guage cock	7.82		
	Store expense	2.35	25.81	51.87
	Total charges for repairs	and renewals		211.64

#### Products Manufactured and on Hand

	<u>;</u>	Pir	e :		F	iles			: 31	abs
On hand 1/1/1919 from	24"	36"	48"	30	:25	20	:15	:10	: :Single	Double
last season	212	188	8	35	2	10	47	:42	29	10
Total 1919 product	760	166	28	36	12	:72	: 0	: 0	. 0	. 0
•Total shipped away 19	471	161	8	51		10	:14	: 0	: 0	: 0
Rec'd. during 1919	8		-1_	13		:			1 24 40	
Surplus on hand	509	193	0	33	14	72	33	42	29	10

o Includes 12 pcs 24" pipe shipped 1-7-1920 on 1919 order and included in 1919 accounts.

# ( AUBURN CONCRETE PLANT - 1919 OPERATION Statement showing actual cost and recommended price

		Prices authorized for 1919 shipments		Recommended price for 1920	
	1918 Product	1919 Product	1919 Product	shipments	
Pipe					
24"	1.60	1.65	2,00	2,00	
36"	2,10	2.20	2,818	3,00	
48"	3, 84	3.84	None made		
Piles			No.		
301	1.55	1.55	1.87		
251	1,50	1,55	1.87		
201	1.60	1,55	1,87	1.90	
151	1,60	1.55	None mde		
101	1,20	1,55	" }		
Slabs					
6-1/2x16 Double	125.00	125,00	None mde)	125.00	
7 x 16 Single	135,00	135,00	11 11 }	135.00	

NOTE-Recommended price is exclusive of cost of loading product for shipment from plant.

Office of Principal Assistant Engineer, Tacoma, Washington, 3/2/1920

11.4

ANNUAL REPORT

AUBURN CONCRETE PLANT

1920

Office of Asst. Chief Engr. & Engr. Mtce. of Way, Seattle, Washington, February 10th, 1923.

# SUMMARY

001	Total Investment 12/31/1919.	16853.51
2	Additions to Capital Investment during 1920	192.20
ī	Total Investment 12/31/1920	17045.71
3	Interest on depreciated investment 6% on 7676.62	460.60
4	Gravel pit charges	.00
5	Repairs and Renewals (material only)	133.54
6	Sum of Columns 3-4-5.	594.14
7	Sinking Fund, 1921	594.14
8	Sinking Fund Total 12/31/1921	8582.75
9	Depreciated Investment 12/31/1921	8462.96
10	Manufacturer's Cost (Operation Expense of Plant	
	November and December, 1920)	1716.44

# STATEMENT OF COST OF OPERATION SEASON OF 1 9 2 C

	Total	Operation	Sinking Fund	Capital Account
Inventory 12/31/1919 Material	12217.46	12217.46		
Material and Supplies recd 1920	1770.61	1536.12	133,54	100.95
Labor on Steel Shed Capital a/c	91.25	V		91.25
Labor Repairs and Renewals charg	1124.89	1124.89		
Labor Operation (exclusive of repairs and renewals)	591.55	591.55	į.	
Less Inventory 1/1/21 Material	12572.40	12572.40		
Credit Reinforcing Rods Shipped	629,31	629,31		
Out	2594.05	2268.31	133.54	192,20
Manufactured product on hand 12/31/19	24961.50			
Manufactured product shipped away 1920	14837.00			
Manufactured product on hand 1/1/21	10124.50			
Interest on depreciated invest- ment 6% on \$7676.62	460.60	0040 21	460.60 594.14	AN ACIDA MINISTRAMA CONTRACTOR
	3054.65	2268.31	394.14	190,00

## CREDITS TO AUBURN CONCRETE PLANT

# MANUFACTURED PRODUCT SHIPPED AWAY DURING 1920 and BILLED OUT ON BOOKS

Pipe	Pcs.	Lin. Ft.	Price	Operation	Investment	Total
24"	498	3984	\$2.00			7968.00
36"	166	1328	3,00			3984.00
Piles						
30 ft.	19	570				
25 ft.	4	100				
20 ft. Total	14 Piles	280 950	1.90			1805.00
Slabs :	Single					
8			135.00			1080.00
						14837.00
Reinfo	reing r		pped out norete Plant, Op	eration Accoun	t, Material r	629.31
200 # 1 Lumber Coal 50 Drayago Lumber	for sa tons	ddles and mis rs)	eived c.supplies	893.70 14.71 253.18 325.64 3.00 26.64 19.25		
		Tot	al Material	1536.12	1536.12	1536.12
Pay Ro	11 1920					
Nov. Pa	y Roll y Roll	(Repair (Repair	s & Renewals) s & Renewals)	830.27 294.62	1124.89	
Dec Pa	v Roll	Conerat	ion exclusive	591.55	591.55	

0-4-

#### AUBURN CONCRETE PLANT

No. Pcs. Lin.Ft. Price Per Foot Amount

Pipe

## MANUFACTURED PRODUCT ON HAND DECEMBER 31st, 1920

24"	11	88		2.00	)		176.	00	
36"	27	216		3.00	)		648.	00 82	4.00
Piles									
301	14	420		1.90	)		798.	00	
251	10	250		1.90	0		475.	00	
201	58	1160		1.90	0		2204.	00	
15*	33	495		1.9	0		940.	50	
10'	42	420		1.90	0		798.	00 521	5.50
Slabs									
Single Tra	ck 21		13	35.00	0		2835.	00	
Double Tra	ck 10		1:	25.00	0		1250.	00 408	5.00
								\$1012	4.50
R	inforce Pipe	d Concrete			Pil	l a a		Sla	bs
	24"	36"	30	251	20		101	Single	Double
On Hand 1/1/1920	509	193	33	14	72	33	42	29	10
Made 1922	0	0	0	0	0	0	0	0	0
Shipped 1920	498	166	19	4	14	0	0	8	0
On Hand 12/31/20	11	27	14	10	58	33	42	21	10

#### INVENTORY OF MATERIAL ON HAND JANUARY 1, 1921

Mark Mark Mark Mark Mark Mark Mark Mark				Price	
Size	Length	Unit Wt.	Weight	Per Cwt.	Amount
Pii-1-1/8" Rd.	2433'-4"	3.38#	8200	3.85065	307.59
Pite 1-1/8" Rd.	43041'-1"	3.38#	145479	3,12	4538.94
1" Sq.	396'-11"	3.4#	1350	2.09	28.22 ×
1" Rd.	32	3.67#	117	2.09	2.45
Slab 3/4" Sq.	42710'-8"	1.913	81705	2.84	2320.42
3/4" Rd.	2782'-6"	1.502	1479	2.84	42.00
5/8" Sq.	14871-8"	1.33	1979	2.14	42.35 ×
5/8" Rd.	1389'-6"	1.043	1449	2.14	31.00
1/2" Sq.	4608'-8"	0.85	3918	2.68	105.00 ×
Slab 1/2" Rd.	22095	0.688+	15221	3.75065	586.10
Slab 1/2" Rd.	21452'-3"	0.67	14373	2.68	385.20
Pipe 3/8" Rd.	19774'	0.375	7415	3.14	232,83
slab1-1/4" Rd.	941-9"	5.31	503	2.94	14.79
1-1/4" Sq.	13261'-11"	0.167	2215	2.76	61.13 ×
Plain reinf	orcing rods				
Slab 1-1/4" Rd.	5762'-11"	4.173	24048	2.94	707.01
1/4" Rd.	360001	0.167	6012	2.76	165.93

Plain reinforcing plates for concrete piling 2-1/8"x1-1/8"x1'-3-3/4" 2 hole 9557 pcs. 1.25 ea.

Corrugated Reinforcing Rods

612.83 10183.79 11948 5,13 327411

Reinforcing rods to be taken from Auburn Concrete Plant stock for use in Stampede Tunnel flume.

#### AFE 905-20 Transfer not yet made on book account

1/2" Rd. 17'-6" 134 pcs. 2345' 35' 532 " 18620' 27'-6" 10 " 275'	0.67 0.67 0.67	1571# 12475# 184#	2.68 2.68 2.68	42.10 334.33 4.93
3/8" Rd. 56'-0" 780 pcs. 43680'	0.375	16380# 30610#	3.14	514.33 895.69

Wire Mesh Reinforcing for Pipes Style #153
48" 7500 lin.ft.30000 sq.ft.
44" 4100 " " 15033 " " " " 0032 45033

1441.06

Anne	aled Wire		
GEORGIA PRINCIPINA PRINCIPA	335#	4.27 cwt.	14.30
#16	200#	5.95 Cwt.	11.90
#12	400#	3.98 cwt.	15.92
#11	75#	4.58 cwt.	3.44

45.56

Malthine Paper 4-1/2 rolls 1.40

6.30

12572.40

total material on hand 1/1/1921

28.22 9235 105002 27015 -31215

312.18 1207.84

Statement of additions to Capital Investment charged to Investment account for 1920.

#### Steel Shed AFE 1200-14 ED 146-20

#### Labor Charges from Pay Roll 1920

November	Draftsman making sketch	4.75	
	Labor building steel shed	70.57	
December	Labor building steel shed	15.93	91.25
No. of the last of			

#### Material charges for 1920

December		es roofing	37.29	
	Drayage Lumber fo	or steel shed	4.00 59.66	100.95
		Total Addition to Capital	1 Account	192.20

# AUBURN CONCRETE PLANT

Statement of charges for Repairs and Renewals charged to Investment Account during 1920.

## Material

Feb. Dec.	l broze plate for boiler l set knives for bolt cutter 1/4" Wood block 50 ft. Wire l doz. Crosby clamps (1100# nails (22 sheets galv.iron (Pipe fittings (0il can (18# 1/2" nats (175# nails (2-10 ct.Galv.water pails (1-1/2" Globe valve	41.60 32.71 7.70 2.04 1.41 6.43 1.11 .74	.47 2.35 1.07 13.55 4.29
	(2 Gal.Boiler Paint (1 Repaired can (125# 1/2" x 10" Bolts (18# 5/8" Washers (6 Padlocks Store Expense	.94 .95 5.25 1.71 2.89 105.48 6.33	111.81
	Total		133.54\$133.54

auturn Concrete Plant - 1917 Invest quest account about 4 mm 1372776 Alab Holforn, Alob Jorno, Cinplate for bending dat reinforcing 240496 new boils -1917 -To teel aires treamy - 1414-1917-1613272 Creditto depreceation alles 1/4/6 332861 Defraciation 1917-22% of 2322101/Cost 510862 operation) tabro and historial for repairs 79464 and reviewed 1917 not Credit to depreciation at end 1917 7642 53 Balance in investment consunt 849013 Tocoma Jan 23, 1918.

Br. A. M. Burt,

Chief anger of Maintenance of Way. Caint Paul, Minnesota.

Bear Mr:-

Mercalta report covering operation of Amburn Concrete Finit for season 1917:

#### STREAMY ISVESTIGAT ACCOUNT 1917

121	vestment	account at	end of s	eason 191	6		3,727.7
Bl	ab platf	orm, slab f	orms, tem	plate for	bending		2.404.9
				nt invest	men t	<b>#1</b>	6,132,5

# SUMMANY DEPRECIATION, REPAIRS AND MENTIONS 1917

Gredit to depreciation at end of season 1916	5 5
Depreciation 1917 - 22% of 423,221.01 (cost of	
Operation)	5,106.62 8,437.23
Labor and material for repairs and renegals	794.64
Credit to depreciation at end of season 1917.	9 7,642.59
Balance in investment Account	8 6,490.13

#### SUMMARY OF MATION ACCOUNT 1917

	24"	36"	48"	<u>Blabs</u>	Piles	
Cement	1927.67	1011.71	170.28	1994.32	393.56	5497.74
Mesh	1436.40	694.02				2130.42
bare	739.74	374.76	317.69	4177.64	1077.13	6686.96
Wire	27.63	11.03	9.45	24.71	14.05	86.87
Royalty	321.60	116.00	15.60			453.20
Labor	2178.37	533.52	287.99	1291.22	832.58	4223.68
Sand and Gravel	411.81	228.81	34.96	585.70	115.89	1371.17
Ralthine Paper				51.98		51.98
	5143.42	2963.85	835.97	8125.57	2433.21	20502.02
General	614.74	393.07	110.67	1077.62	328.69	2718.99
	6958.16	3356.92	946.84	9203,19	2755.90	23221.01
Deprecia-	1630.79	738.52	208,30	2024.70	606.31	5108.69
	88488.95	84095-44	81185,14	\$11227.89	83362.21	\$28329.63

Comerci expenses include cost of coal, oil, time of Flant Caperintendent doing clerical work, pumping water, handling cinders, and other general Items that cannot be omarged directly to each product. This amounts to \$2718.99, and is proportioned against each product on the following basis, for 24" pape = \$\frac{6143.42}{20502.02} of \$2718.99 = \frac{9958.16}{2021.01} of \$5108.62, and for balance of products likewise.

of the cost for 1916 - product 804 pcs. = 6432 lin. ft.:

	1917	* 1916
Cement	.29978103	.28042481
Band and Gravel	.06402518	
Resh	122332089	.21945652
bere	.11500932	.09739432
ylé Wire	.00429570	.00384208
Labor	,19878155	.19228411
Royalty	.05000000	.04987922
General	.12666977	.84155048
	91.0818034	81.08483088
Depreciation	.2379960	.17998037
	8113197994	\$1.26481125

Operation cost per lineal foot 36-inch pipe compared with cost for 1916. Product 200 pcs. = 2320 lin. ft.:

	1917	1916
Cement	.43608189	.40886567
Sand and Gravel -	.09603879	
Reen	- 29914655	.29467910
Barg S	.16153448	.14023880
#16 Wire	.00475431	.00422761
Labor	.22996551	.22706343
Hoyelty	.05000000	.05000000
6 eneral	.16942672	.32227611
and the second	\$1.44694825	<b>#1.44735072</b>
Depreciation -	.3183876	.24013059
	<b>\$1.76827585</b>	\$1.68748131

operation cost per lineal foot 46-inch pipe compared with cost for 1916. Freduct 39 pes. = 312 lin. ft.;

	1917	1916
Cement	.54576923	.51023809
uend and dravel	.11205128	
Bars	1.0182371	.92482142
#16 Wire	.03028846	.00279761
Labor	.92304487	.71446428
Royalty	.05000000	.05000000
Ceneral	.35536256	.63083333
	3.0347432	2.83315473
Depreciation	.6676282	.47000000
	\$3.7023714	03.30318473

## OPERATION COPT PER LITERAL FOOT FOR PILES

Product 30' 26' 20' 18' 10	
	965 70
Viscos 26 36 10 73 4	2
Feet 750 900 200 1093 42	0

		301	2	51		201	1	91	10	
	1917	1914	1917	1914	151	1914	1517	1014	1917	1914
Gement	.11641333	.09946913	.11639282	.097848	.1173	.09618	.11623744	.10006666	.1230000	
Sand and Gravel	.03414666		.03457777		.0349		.03414611		.03321428	
fil Wire	.00056000		.00338888		10042	m) = hg	.00564383		.00848238	
labor	.23674741	.10707654	.18932222	.17067200	.23795	.17017	.23664840	.25226666	.26045238	+ +
Bare	.30414666	.26101234	.31046868	.34552000	.32000	.35769	.32813698	.31202666	.34826190	
General _	.09177833	.11358024	.08673333	.13718400 .751824	.09475	.13942	.09851141 .84132417	.14856000 .81351998	.11661904 .99599996	: :
Deprecia- tion	.1724534	.13895061	.10206667	.167840	.17800	.17057	.1850867.	,18176000	.2191190	
	.95624079	.76000887	.90369997	.919064	.98710	.93403	1.02641087	.99527998	1.21511896	

# OFERATION COST FER SEAB

	73 1917 21	
	Bingle	Double
Uement	21.803150	19.175714
Sand and Gravel	6.402465	5.634285
#16 Wire	.264794	.256190
halthine Paper	.553013	.552657
Labor	13.718904	13.797142
Bore	46.023698	38.948095
veneral	11.772191	10.392857
	\$100.538215	\$88.757140
Depreciation	22.118356	19.526666
	\$122.656571	\$108.283806

pepreciation of plant added to cost of product is arrived at as follows:

het cost of operation, exclusive of depreciation, \$23221.01 22% of operation cost, \$23221.01

For interest on investment to be charged to additions and Betterments, etc.

\$16132.72 + 6 = \$967.96; this divided by \$23221.01 gives 4.1664664% of cost of production to be added to bills where proper.

Average cost of materials for 1917 as compared with 1916 for pipe and 1914 for piting:

	1917	1916	1914
Cement, per sack	.43439791	.406284	.362946
Sand and Gravel, per cu. yd.	.00057622		
mesh, per ft.	.00107172	.00105572	+ -
Bars for pipe, per ft.	.00013013	.00011223	
Bars for slabs, per ft.	.00056669	2.4	
Bars for piling, per ft.	.00038555		.00040004
Fire for pipe and slabs, per ft.	.00007313	.00005907	
wire for piling, per ft.	.00282128		.00075876
malthine Paper, for slabs. per ft.	.01084272		

Bo comparison can be furnished for sand and gravel as for previous years no particular cost record was kept; cost was absorbed under "General". The labreage on sars is not as much as it would have seen if all bars consumed had been purchased this year. We had a domaiderable quantity on hand from 1916 due to

cancellation of a large portion of the Flathead Line order.

The increases for other items are slight and due to increased cost of material.

## BALARISS AND WAS IS FOR 1917 GOMPANIS WITH 1916

	19	17	1916
	lst Malf	2nd Half	
Foreman	\$110.00	9181.00	0100.00
Engineer	3.85	4:125	3.50
Carpenters	3.30	3.575	3.00
Pumpuan	3.025	3.30	2.75
Concrete Helpers	2.75	3.025	2.50

## MATERIAL OF HAND DECEMBER 31, 1917

1521	ft. 28 round reinfereing for piles
140	pos. 1-1/6" x 28'10" corrugated bars for piles
3	" 1-1/8" x 27! " " " "
2	" 16" x 16" pile top bands
3402	" 21" x 1-1.8" x 1' 3-3/4" flat wars for piles
8	" 3/6" x 17'3" corrugated bern for pipe
13	" 3/8" x 10'8" " " " " "
93	" 3/8" x 7'10" " " " "
32	" 3/8" x 2'0" " " " " "
1	" 3/8" x 13'4" " " " " "
10	lbs. #16 wire
50	gals, car oil
- 6	tons coal
20-	gals. engine oil
15	" lubricating oil
	kegs 40d spikes, 2000
1	gal. boiler paint
30	lbs. gear grease
2	brooms
11	pos. 5" x 7" x 6' fence posts
	pes. 1-1/8" x 24'4" corrugated bars for piles
	" 1-1/8" x 19*10" " " " "
学 化 地方 电	# 3/4" round x 35* " " " Blobs
70	" 5/8" " x 17'6" " " " "

1	336	pes.	3/4"	rd.	×	16'6"	corrugated	bars	for	slabs
	755	- •	3/4"		×	1516"				
	93	/w 1-			N	14'6"				. "
	353		*		×	1316#			-	
	962			sq.	×	616"	•			
	29		1/2"	rd.	×	3016"			•	•
	100			•	×	2716"		W		
	126	•			×	17'6"		4	n	
	665	•			x	15*6"			4	•
	94			4	Z.	14'6"				•
	852			8	2	6191				
	24				×	6*3"	•			•
- 52	378				×	4*0*		- 14	N.	•
	2/3	roll	Malt	aine	1	aper.			**	
	43	pes.	4 ×	4 ×	16	for a	addles for	pipe		
	87	eack	e oem	ent						
X	1	151	pile	- 19	14					

75 los. #11 wire for piles.

-11-

# Total material used in manufacture of 1917 products:

Sand and Gravel	2447.3	cu. yds.
Gement	12656	sacks .
Henk	19878	Seet
Ross for pipe	110051	
" " piles -	27937	
" " Slubs	73719	
Wire for pipe and blabs	99573	
" piles	5580	
Malthine Paper	4794	

# Products manufactured and on asad:

	2		<u> </u>					BLABS		
	24"	36"	48":	30*	25'	20'	15'	1011	Sin- gle	Dou- ble
On hand from last season.	130	57	10	41	10	10"	25	0	0	0
Total Fige made	804	290	39	25	36	10	73	42	73	21
Total shipped 1917	874	316	46 :	66	23	50	69	0 :	59	21
on hand	60	32	3 :	0	23	0	29	42	14	0
Orders on hand Unfilled	o	O	0	0	. 0	0	0	0	14	0
surplus on hand no disposition	60	52	3	0	23	0	29	42	0	0

You will note that the manufacturing sost of pipe seems about the same as last year, even with increased cost of labor. The increased cost of labor was offeat by sutting into use more 24 and 36-inch forms, enabling larger output with very little more labor cost than during 1916, when less forms were used. The 48-inch forms is in poor shape, requiring more care in pouring than for 24 and 36-inch, and the labor cost was also increased due to making this size pipe separately, whereas, in luid the 48-inch wise was poured along with the smaller sizes. The general expense is considerably less this year, due to this office giving the Flant Superintendent instructions to batch this item carefully and include under that head only such items as could not properly be assigned to any of the light which go to make the products.

in plant during latter part of 1916 and this year.

Respectfully submitted,

**以其第一条** 

ORTHER PACIFIC RALLWAY COMPANY

## AUBURN CORGRATE PLANT

COMPARISON OF DEPRECIATION 1914 TO 1917.

#### OPERATION

	24"	MIN	36"	FIFE	48"	FIER	0 L	A R S	. PI	E B					:			
	Sumber: of Pt.:		Number: of Vt.		uncer of Ft.		Sumber of Slabs made		isumber lef Ft.		:Deas :Depresis-	: Yotal : Yotal : Nep. : Charged ; off	Total Cost plus Depresa	:mant at	3.性的政策**必要	: dent. of :	Renovalar	and
				5 4427.29					3435	8 3072.39	16 0569.69	:0 1914.62	::10484.31	: :813676.89	: 29.34	14	8 1914.62	\$ 780.43
			1	1782.39		:81083.06					: 6212.10	: 1914.62	8126.78	: : 13070.65	30.82	14	1914.62	1050.39
				4523.51		054.94			1		: 11540.38	1914.63	: 13455.50	13073.89	: 16.58	1 14	1914.62	584.43
								111:27.89	: 3365	3362.23	23221.01	: 5108.60	28329.63	16132.72	22.00	: 32	6108.62	794.64
Total 4 Yre:	19880	y25 <b>0</b> 12.26	7004	\$14628.43	764	: :02793.14	94	911327.89	: 6800	\$ 6434.60	: :349543.74	: :\$10852.46	1960396.22	857160.38	91.74	74	\$1065?.48	\$3209.89
Average		\$ 6293.06	1916	\$ 3707.11	161	:\$ 698.26	24	: :8 2800.97	1700	\$ 1608.68	: :::12385.93	:5 2713,1	: :815099.05	:014290.10	22.93	: 18	\$2713.12	\$ 802.47

Office of Engineer of Maintenance of Way, Twoose, Washington, Jamery 23, 1918. Saint Paul, June 22, 1923.

Mr. A. R. Cook, Asst. Chief Engineer, Seattle, Washington.

Dear Sir:-

Referring to your letter of June 18th in regard to prices for products manufactured at the Auburn Concrete Plant, to be charged out in 1923.

In making up the cost prices in my letter of June 6th, I have taken into consideration the cost of products from the time the plant was first constructed to January 1, 1923 and the assignment of depreciation on plant was made on the basis of weights. This may not agree exactly with the process used in obtaining \$1.87 as the cost of piling, but it is made up so that the division of plant cost of the various products would be on a uniform basis. However, if you have charged out piling at \$1.90 and slabs at \$135.00. I would let the bill stand and use those prices for the remainder of the season. I think the final adjustment of accounts will not vary a great deal one way or the other.

by which a certain percentage of the cost of manufacture was added to the invoices of manufactured product to be applied as depreciation of the plant. This method was followed until the Federal administration made it mandatory on the company to close up the account on completed work within sixty days. Such an arrangement made it necessary to fix the price in advance. The fixing of the price eliminated a fixed percentage for depreciation, as it must vary to absorb the varying cost

Mr. Cook

of manufacture. The depreciation of plant in any year depends on the money left over at the end of the year.

I understand that you have continued to prepare invoices, using a fixed amount for depreciation. Such a method is wrong and should not be continued. I have explained the matter to Mr. Springer many times but apparently he does not understand it. In charging out manufactured products, you should use the fixed price, with no mention on the invoice of an amount for depreciation.

The second item which you claim is lacking is in regard to products entering into joint account. If you will read my letter of June sixth you will note I stated that future, and what I mean by that is the year 1924 and thereafter, or after the analysis has been made of the 1923 cost data, prices will be fixed for Northern Pacific exclusive territory and other prices, including overhaul charges, for territory joint with other companies.

For material manufactured previous to June 1, 1923, prices outlined in my letter of June sixth should be used but I would not make any change in invoices already furnished.

As soon as the plant is closed for 1923, make a report showing the cost of manufacture and the sale prices for Northern Pacific
and joint lines can be fixed.

Yours truly,

Bridge Engineer.

Re: Bill of material and prices to be charged for products from Auburn Concrete Plant.

Seattle, Washington, June 18, 1923.

Mr. M. F. Clements, Bridge Engineer, St. Paul, Minn.

Dear Sir:

Acknowledging your favor of the 6th. inst. in re prices at which products of the Auburn Concrete Plant should be charged out in 1923.

I think that your price of \$1.50 per lin. ft. is too low for the piling. Our figures show that these piles have cost \$1.87 per lin. It. and we have been billing them out at \$1.90. Bills have been rendered for all piles shipped this season, also for part of the slabs which have been billed out at the old price of \$135.00. Will make corrected bills for those already covered and use the new price for the remainder of the bills.

Your letter leaves us a little lacking on some particulars:

- Are you using the same unit price for charges to cover depreciation?
- We are holding up the billing of all products entering into joint account, for lack of information as to the prices we should use. You state in your letter that you think we should continue to add a certain amount to the cost of the pipe for the purpose of billing against joint territory but do not state how much you think that addition should be. Please advise what percentage we should add to the product going into joint territory in excess of those going into exclusive territory?

Yours truly, Book

MFC

Saint Paul, June 6, 1923.

Mr. A. R. Cook, Asst. Chief Engineer, Seattle, Washington.

Dear Sir:-

Referring to your letter of May 22nd to Mr. Stevens in regard to prices on concrete products now in stock at the Auburn concrete plant.

I have had a man working over the cost records for some little time and have arrived at prices to be applied on the stock which was on hand January 1, 1923 and in arriving at the prices which I think should be used for that stock, have taken into consideration the cost of labor and material, repairs and renewals, pit charges on sand and gravel, interest, insurance and taxes, depreciation of plant and salvage value of plant.

If we consider that all the charges from the first construction of the plant to January 1, 1923 be covered by the sales and the present salvage value of the plant, the following prices are required for the sale of material in stock:

24"	Reinforced Concrete	Pipe	\$1.90	per	lin.	21	2.86
30	Reinforced Concrete	Piles	1.50	**	11 /	"	157
	Single Track Slabs Double " "		\$165.00				171

I think you should use these prices in charging out the material to culverts in 1923.

When the concrete plant is shut down for the year 1923, we will again go over the cost data and arrive at a figure to cover

Mr. Co.

the product manufactured in 1923 and in making charges in the future, I think we should continue to add a certain amount to the labor and material costs on pipe which is shipped into joint territory and for pipe shipped in Northern Pacific territory, the prices should be sufficient to cover the cost of construction only.

Yours truly,

Bridge Engineer.



# Telegram—Be Brief

Time Filed

ва 65 м.

Saint Paul, May 12, 1923

A R Cook Seattle Wesh

Your letter to HES about Auburn Concrete Plant.

Requisitions for all bridge material will be made by Superintendent.

Koren can give you list of material required. A-8

M F CLEMENTS