

The Government of the Province of British Columbia  
Department of Lands, Forests and Water Resources  
Water Resources Service

**Canada - British Columbia**  
**Fraser River Flood Control 1968 Agreement**  
**Project No. 3 The Township of Richmond**

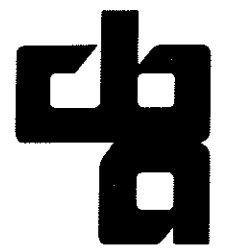
**Contract No. 6**

**Supply and Supervision of Installation  
of Pumping Equipment**

**DRAWING LIST**

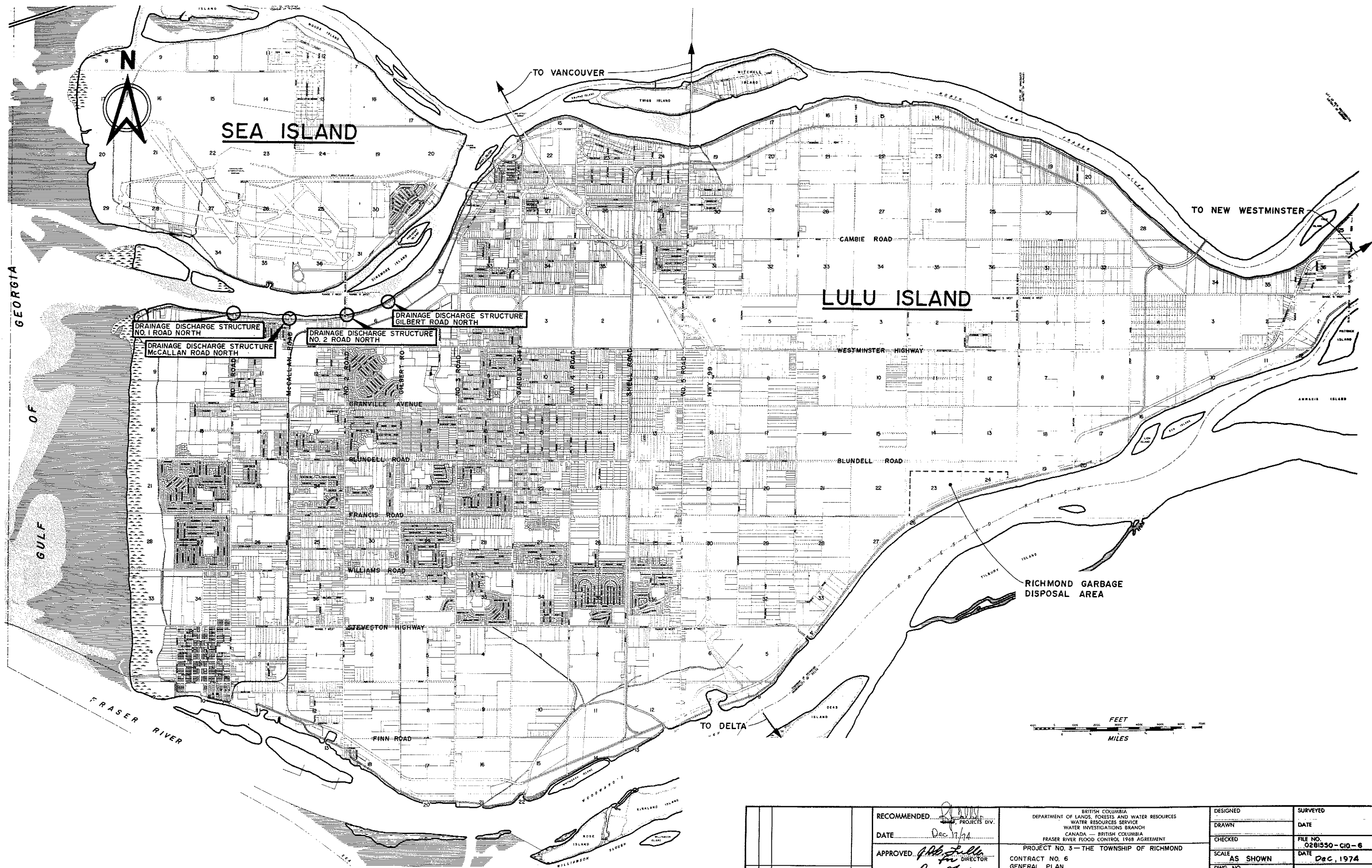
REFERENCE DRAWINGS

4795-6-1	GENERAL PLAN
4795-6-2	NO. 1 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE LAYOUT & POWER SUPPLY
4795-6-3	McCALLAN ROAD NORTH DRAINAGE DISCHARGE STRUCTURE LAYOUT & POWER SUPPLY
4795-6-4	NO. 2 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE LAYOUT & POWER SUPPLY
4795-6-5	GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE LAYOUT & POWER SUPPLY
4795-6-6	NO. 1 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE ARRANGEMENT OF MECHANICAL AND ELECTRICAL EQUIPMENT
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4795-6-9	GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE ARRANGEMENT OF MECHANICAL AND ELECTRICAL EQUIPMENT
4795-6-10	NO. 1 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE PUMP SUPPORT & FLOOR PLATING
4795-6-11	McCALLAN ROAD NORTH DRAINAGE DISCHARGE STRUCTURE PUMP SUPPORT & FLOOR PLATING
4795-6-12	NO. 2 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE PUMP SUPPORT & FLOOR PLATING
4795-6-13	GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE PUMP SUPPORT & FLOOR PLATING
4795-6-14	NO. 1 ROAD NORTH, NO. 2 ROAD NORTH, McCALLAN ROAD NORTH DRAINAGE DISCHARGE STRUCTURES - DISCHARGE PIPING DETAILS
4795-6-15	GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE DISCHARGE PIPING DETAILS SHEET 1 OF 2
4795-6-16	GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE DISCHARGE PIPING DETAILS SHEET 2 OF 2
4795-6-17	DRAINAGE DISCHARGE STRUCTURES MISCELLANEOUS DETAILS
4795-6-18	DRAINAGE DISCHARGE STRUCTURES MECHANICAL DETAILS



CBA ENGINEERING LTD

Consulting Engineers  
Vancouver, Canada



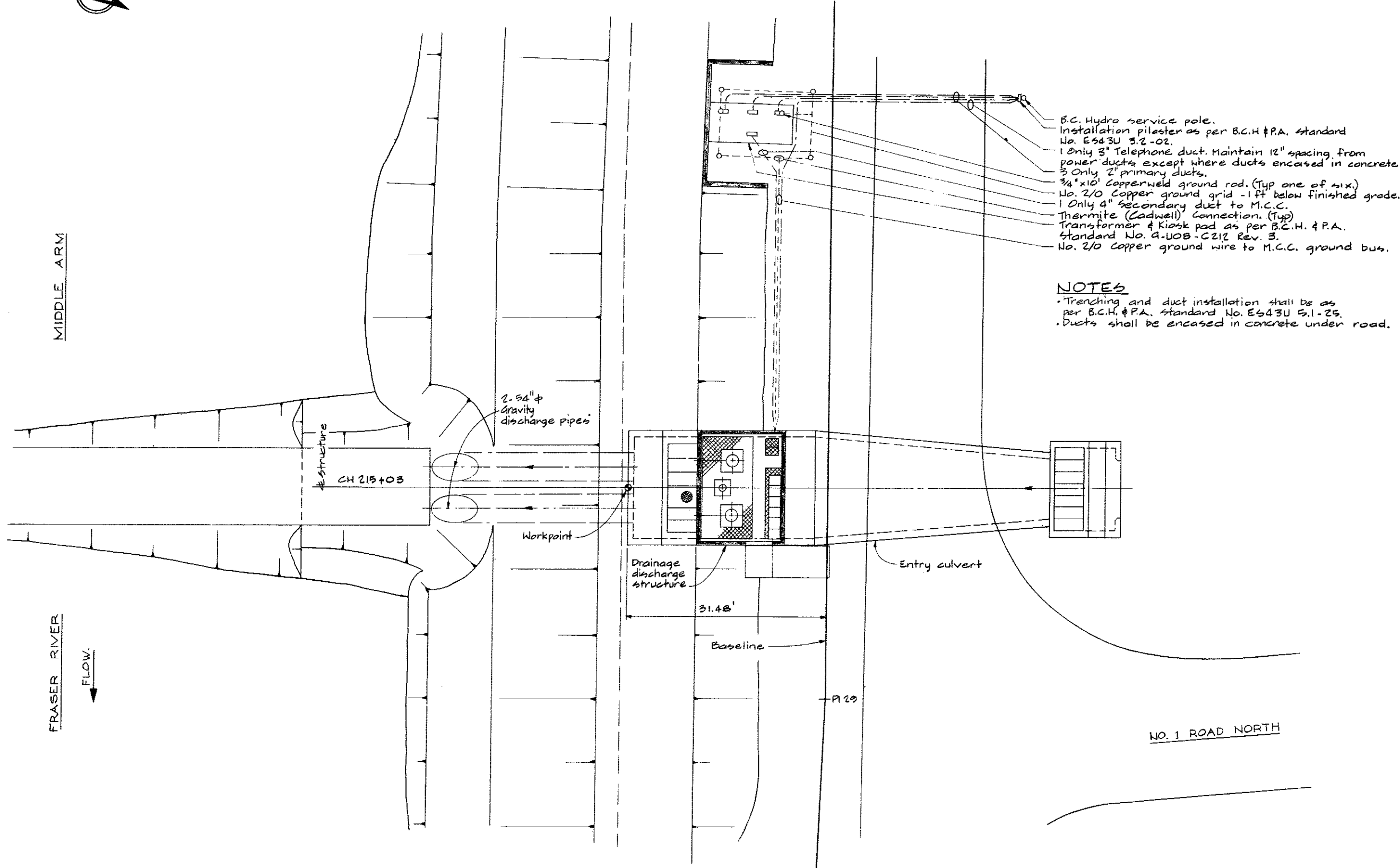
NO. BY	REVISIONS	DATE	RECOMMENDED <i>[Signature]</i> CHIEF, PROJECTS DIV.	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO. 6 GENERAL PLAN	DESIGNED	SURVEYED
			DATE <i>Dec 17/74</i>		DRAWN	DATE
			APPROVED <i>[Signature]</i> DIRECTOR		CHECKED	FILE NO. 0281530-C10-6
			DATE <i>Dec 18/74</i>		SCALE AS SHOWN	DATE Dec, 1974
				DWG. NO. 4795-6-1	SHEET . . . OF . . . SHEETS	



MIDDLE ARM

FRASER RIVER

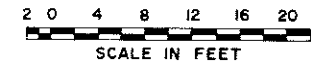
FLOW ↓




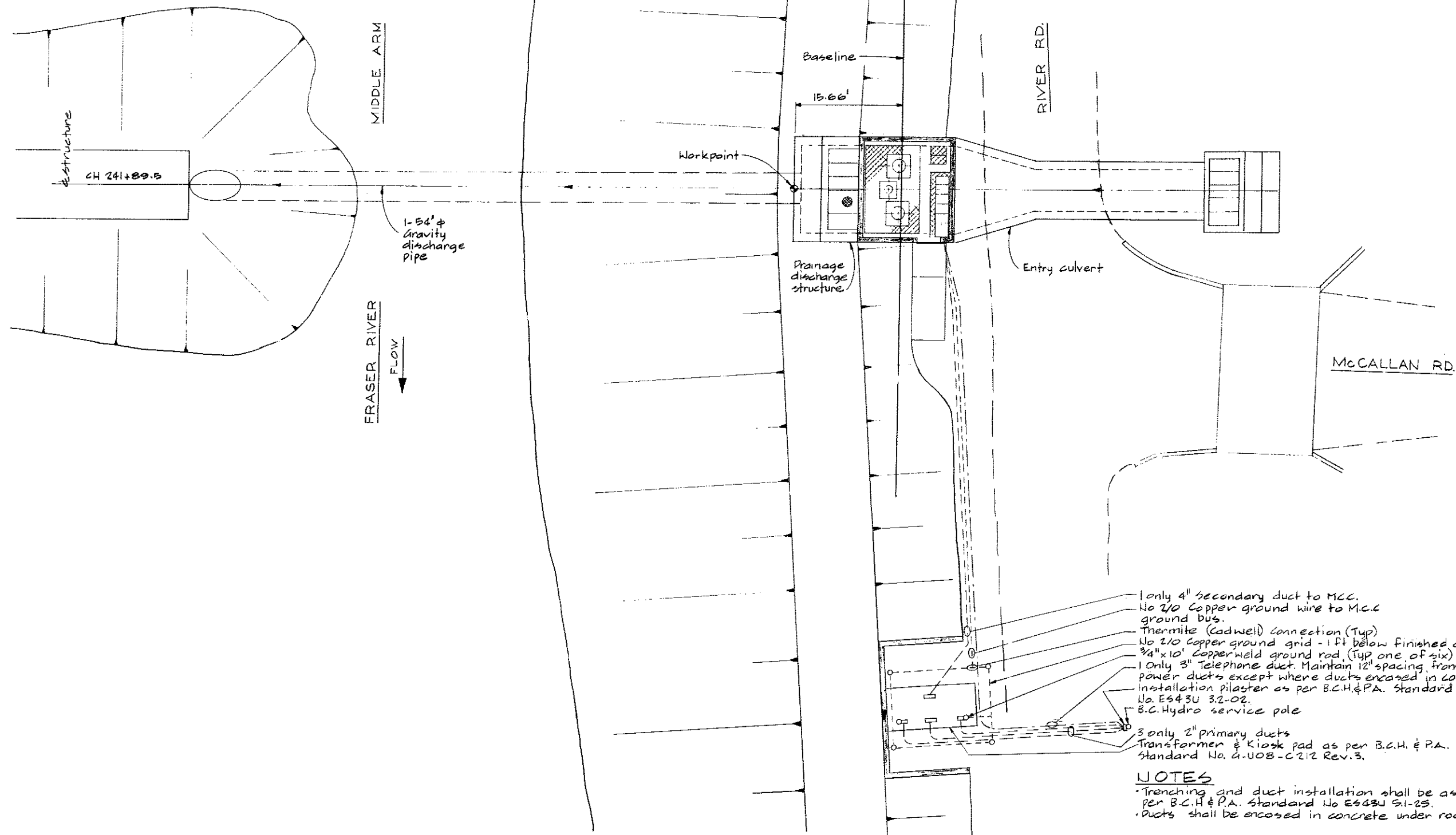
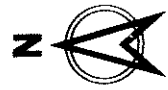
- B.C. Hydro service pole.
- Installation pilaster as per B.C.H. & P.A. Standard No. E643U 3.2-02.
- 1 Only 3" Telephone duct. Maintain 12" spacing from power ducts except where ducts encased in concrete.
- 3 Only 2" primary ducts.
- 3/4" x 10' Copperweld ground rod. (Typ one of six.)
- No. 2/0 Copper ground grid - 1 ft below finished grade.
- 1 Only 4" secondary duct to M.C.C.
- Thermite (Cadwell) Connection. (Typ)
- Transformer & Kiosk pad as per B.C.H. & P.A. Standard No. G-U08-C212 Rev. 3.
- No. 2/0 copper ground wire to M.C.C. ground bus.

**NOTES**

- Trenching and duct installation shall be as per B.C.H. & P.A. Standard No. E643U 5.1-25.
- Ducts shall be encased in concrete under road.



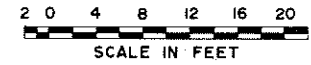
 <b>CBA ENGINEERING LTD.</b> CONSULTING ENGINEERS - VANCOUVER - CANADA	NO.	BY	REVISIONS	DATE	RECOMMENDED DATE: Dec 17/74	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO. 6 NUMBER 1 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE LAYOUT AND POWER SUPPLY	DESIGNED	SURVEYED
					APPROVED: <i>[Signature]</i> DATE: Dec 18/74		DRAWN: A.R. CHECKED: H.S. SCALE: AS SHOWN DWG. NO.: 4795-6-2	DATE FILE NO.: 0281550-C10-6 DATE: Dec. 1974 SHEET OF SHEETS




- 1 only 4" secondary duct to MCC.
- No 2/0 Copper ground wire to M.C.C. ground bus.
- Thermite (Cadmite) connection (Typ)
- No 2/0 Copper ground grid - 1 ft below finished grade
- 3/4" x 10' Copperweld ground rod, (Typ one of six)
- 1 only 3" Telephone duct. Maintain 12" spacing from power ducts except where ducts encased in concrete.
- Installation pilaster as per B.C.H. & P.A. Standard No. ES43U 3.2-02.
- B.C. Hydro service pole
- 3 only 2" primary ducts
- Transformer & Kiosk pad as per B.C.H. & P.A. Standard No. G-U08-C212 Rev. 3.

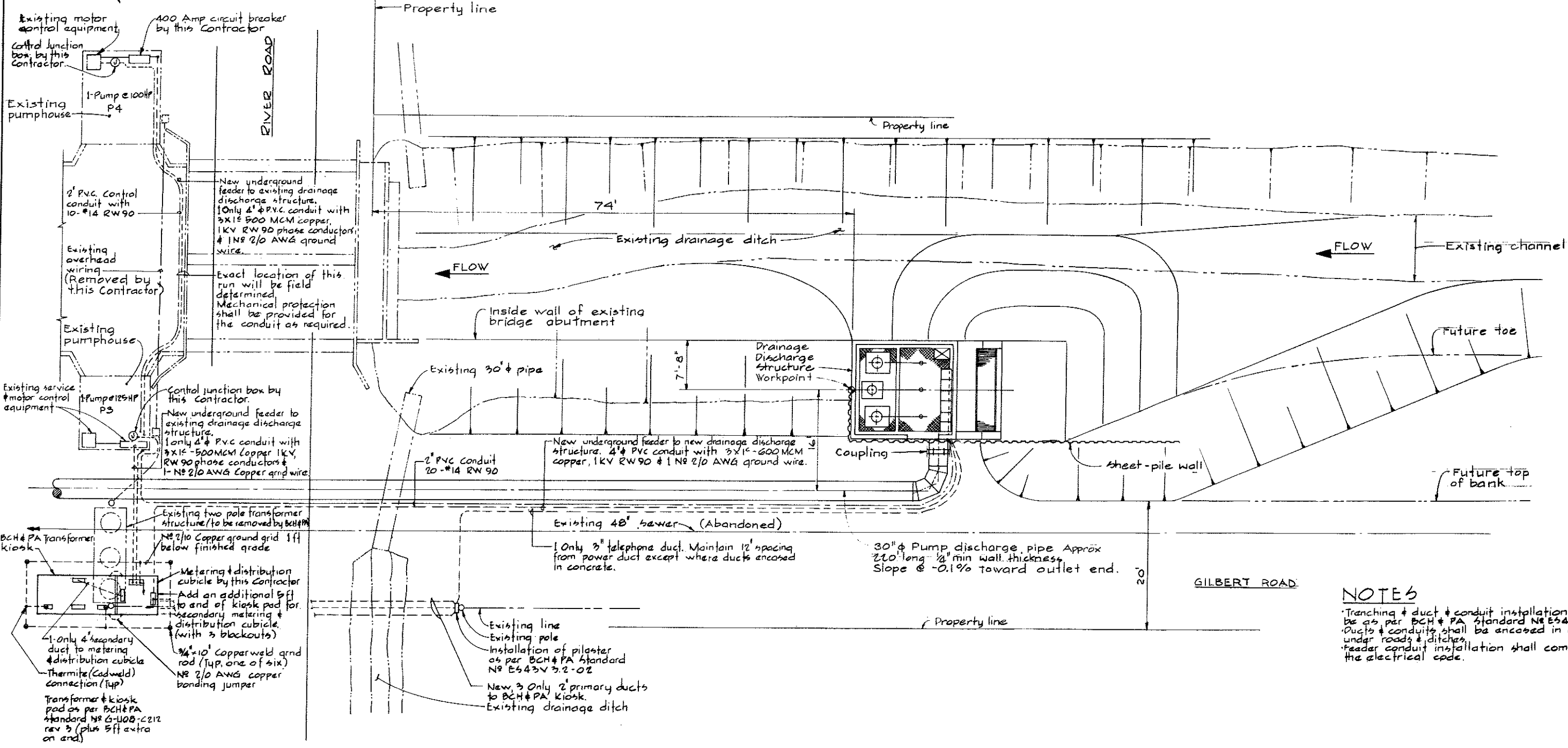
**NOTES**

- Trenching and duct installation shall be as per B.C.H. & P.A. Standard No. ES43U S.1-25.
- Ducts shall be encased in concrete under road.



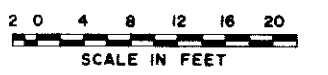
 <b>CBA ENGINEERING LTD.</b> CONSULTING ENGINEERS - VANCOUVER - CANADA	NO.	BY	REVISIONS	DATE	RECOMMENDED: <i>[Signature]</i> DATE: <i>Dec 17/74</i>	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO. 6 MCCALLAN ROAD NORTH DRAINAGE DISCHARGE STRUCTURE LAYOUT AND POWER SUPPLY	DESIGNED	SURVEYED
					APPROVED: <i>[Signature]</i> DATE: <i>Dec 19/74</i>		DRAWN: A.R. CHECKED: H.S. SCALE: As shown DWG. NO.: 4795-6-3	FILE NO.: 0281550-C10-6 DATE: Dec. 1974 SHEET OF SHEETS




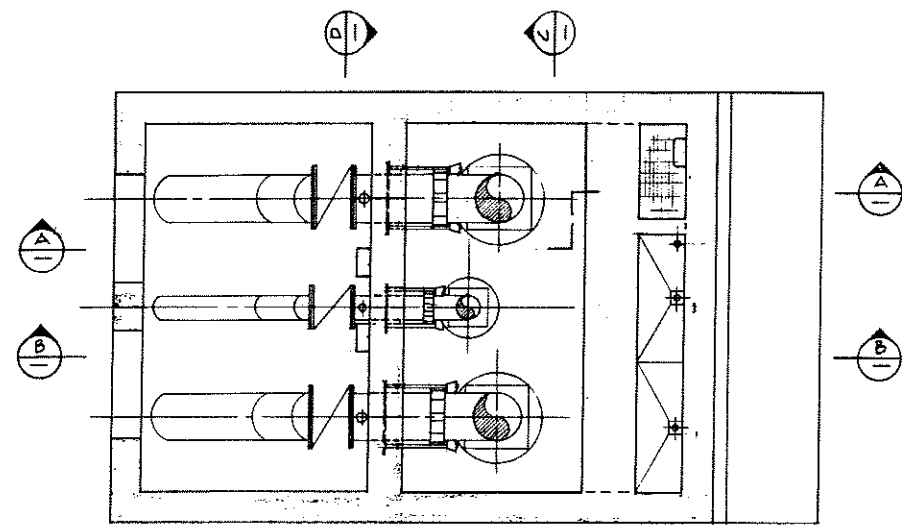


**NOTES**

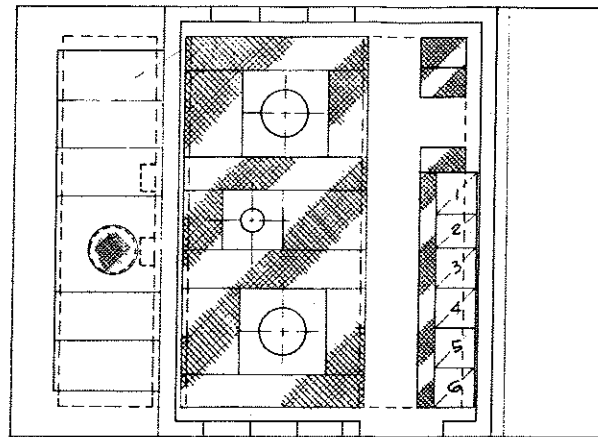
Trenching & duct & conduit installation shall be as per BCH & PA Standard No E543V 5.1-2B. Ducts & conduits shall be encased in concrete under roads & ditches. Feeder conduit installation shall comply with the electrical code.



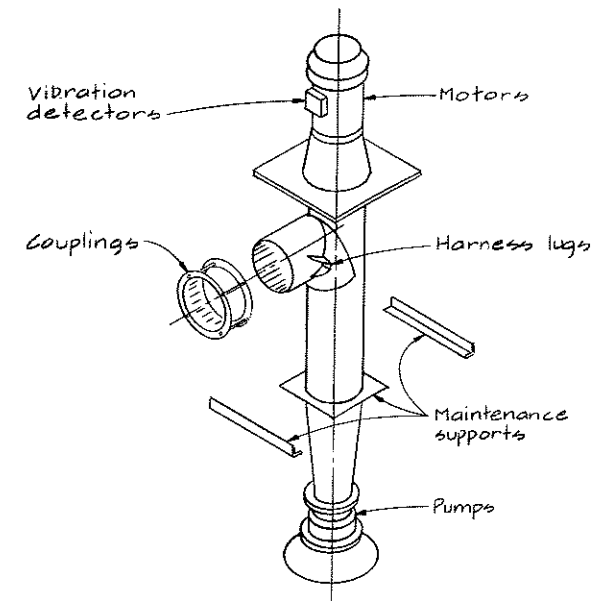
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					APPROVED <i>W. J. Miller</i> DIRECTOR DATE: <i>Dec 18/74</i>		DRAWN	DATE	
							CHECKED <i>H. S.</i> SCALE <i>As shown</i>	FILE NO.	DATE
							DWG. NO. <b>4795-6-5</b>	0281550-C10-6... DATE <i>Dec. 1974</i>	SHEET... OF... SHEETS



PLAN AT EL 7.0



PLAN AT EL 18.0



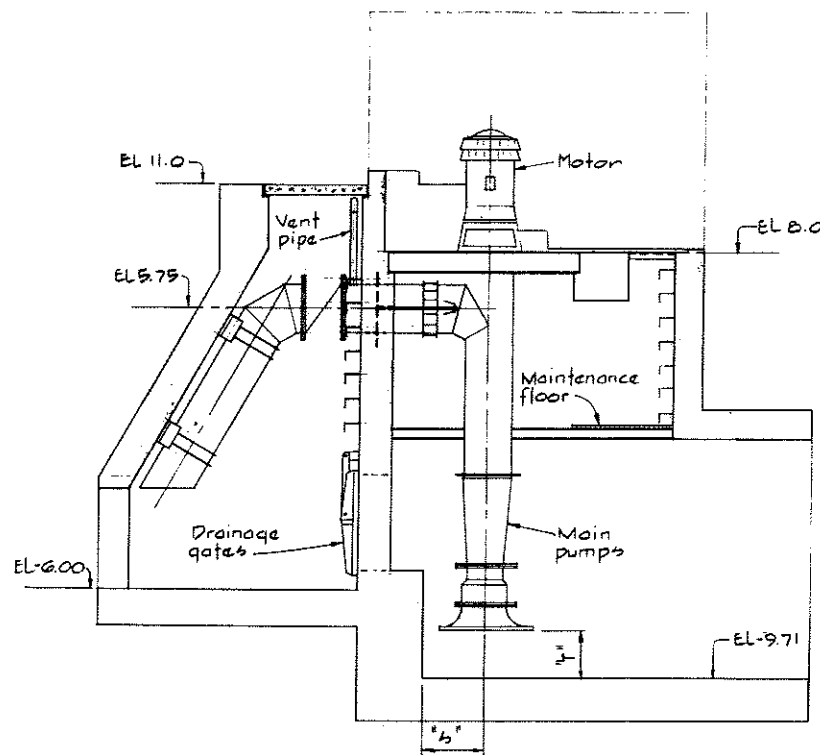
ITEMS INCLUDED IN CONTRACT NO. 6  
NT6

GENERAL NOTES-MECHANICAL

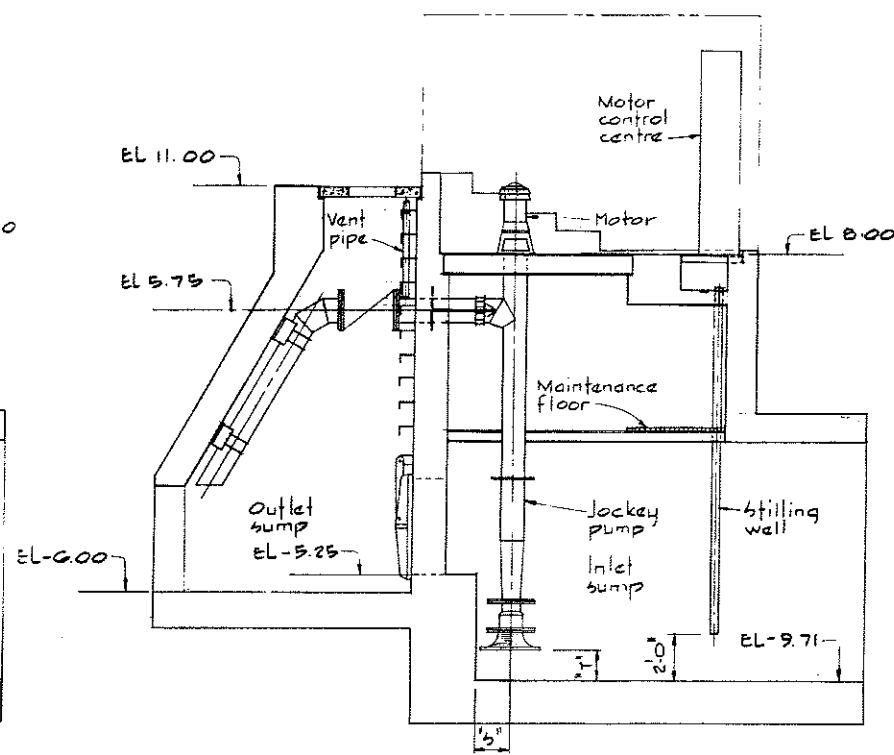
- For building superstructure final design see Contract 5 drawings.
- Roof hatches are designed to allow withdrawal of pump columns and elbows with approx. 1' minimum clearance all around.
- Dimensions 'S' & 'T' should be supplied by the Contractor for each particular pump. 'S' will determine location of each pump center line, 'T' will determine required pump column length.
- All clearances will be verified on receipt of drainage pump external dimensions.

NOTES

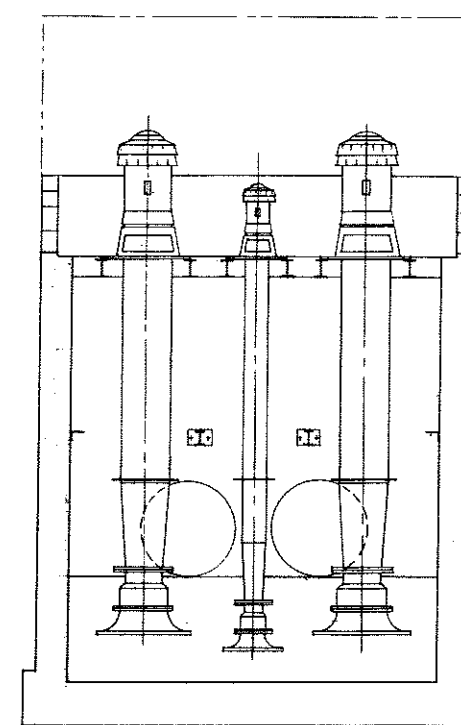
- For main pump discharge piping details see 4795-6-14
- For jockey pump discharge piping details see 4795-6-14
- For stilling well details see 4795-6-16
- For vent pipe details see 4795-6-14



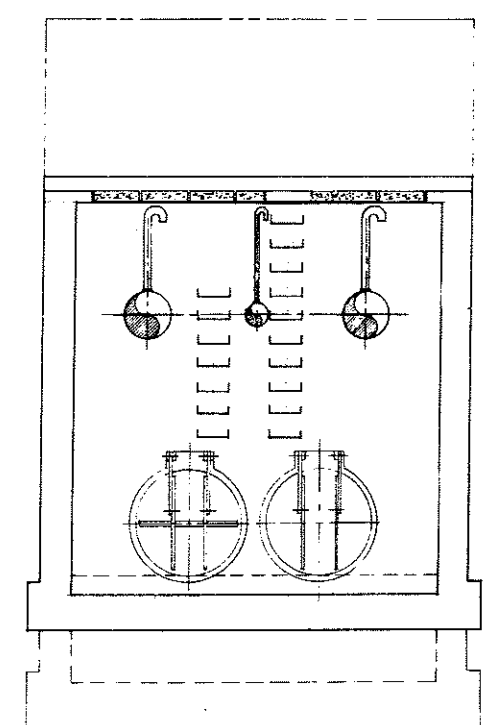
SECTION A



SECTION B



SECTION C



SECTION D



**CBA ENGINEERING LTD.**  
CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED  
DATE Dec 17/74  
APPROVED  
DATE Dec 18/74

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND  
CONTRACT NO. 6  
NUMBER 1 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE  
ARRANGEMENT OF MECHANICAL AND ELECTRICAL EQUIPMENT

DESIGNED	SURVEYED
DRAWN H.W.	DATE
CHECKED H.S.	FILE NO. 0281550-C10-6
SCALE As shown	DATE Dec, 1974
DWG. NO. 4795-6-6'	SHEET OF SHEETS

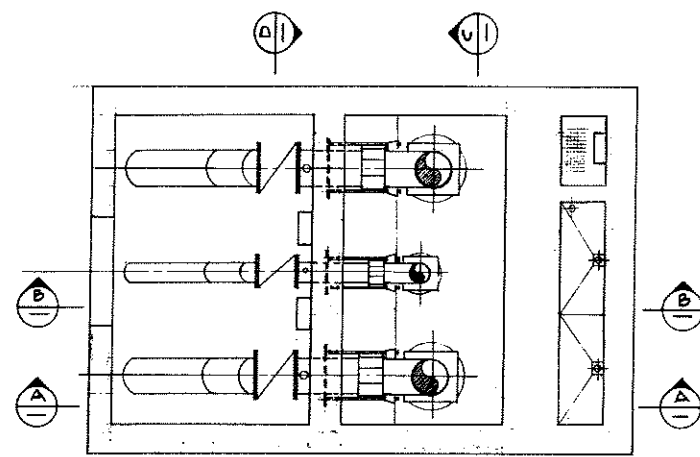
NO. BY REVISIONS DATE

**GENERAL NOTES - MECHANICAL**

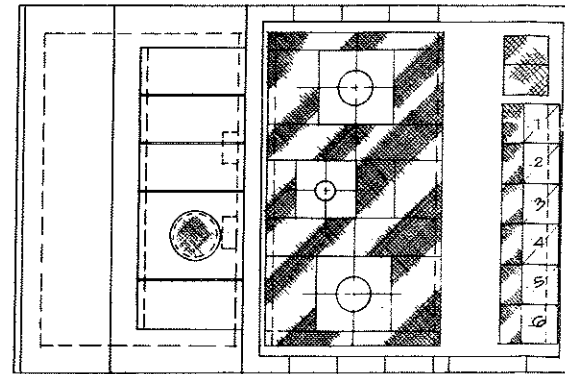
- For building superstructure final design see Contract 5 drawings.
- Roof hatches are designed to allow withdrawal of pump columns and elbows with approx 1' minimum clearance all around.
- Dimensions "S" & "T" should be supplied by the contractor for each particular pump. "S" will determine location of each pump center line. "T" will determine required pump column length.
- All clearances will be verified on receipt of drainage pump external dimensions.

**NOTES**

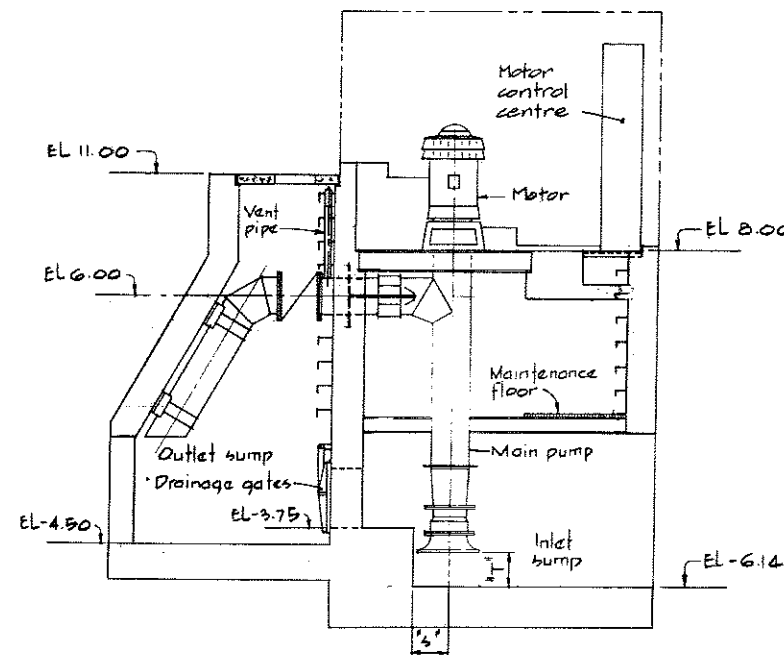
- For main pump discharge piping details see 4795-6-14.
- For jockey pump discharge piping details see 4795-6-14.
- For stilling well details see 4795-6-16.
- For vent pipe details see 4795-6-14.



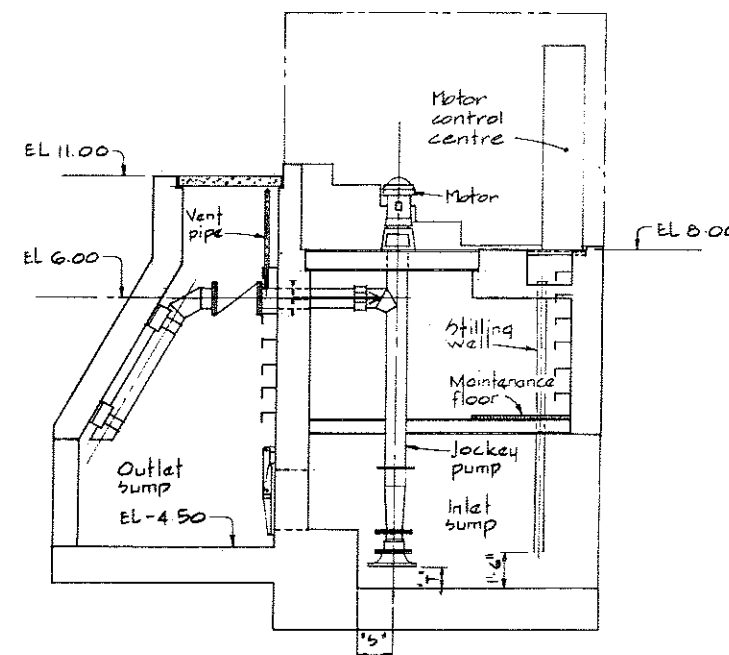
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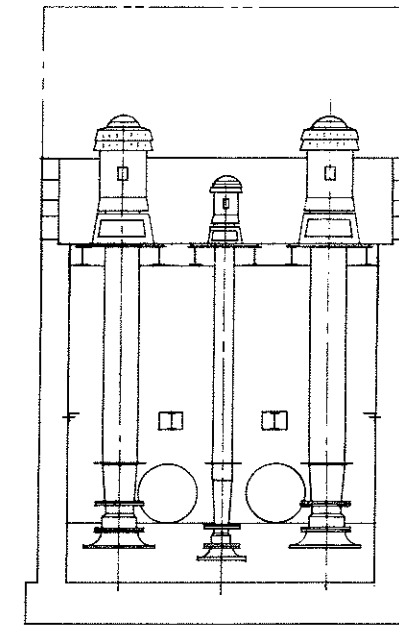
PLAN AT EL 18.0



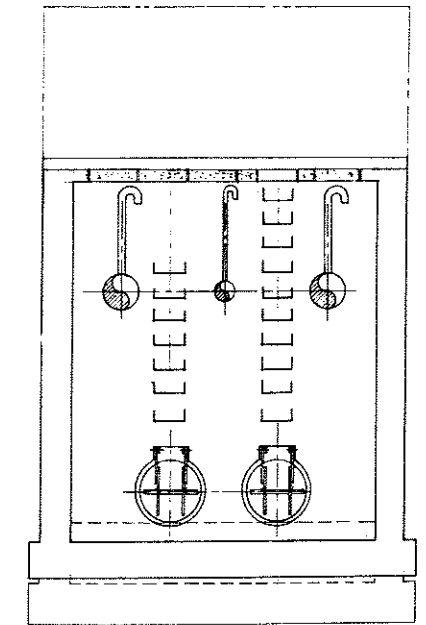
SECTION A-A



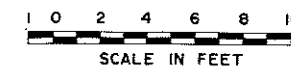
SECTION B-B



SECTION C-C



SECTION D-D



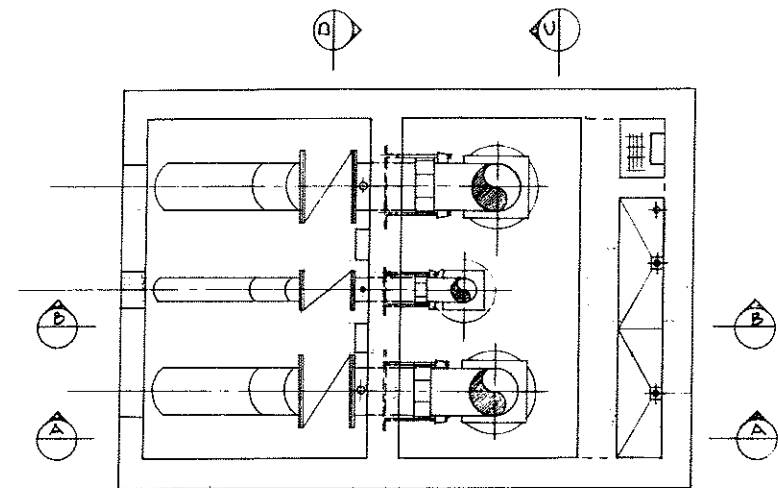
**CBA ENGINEERING LTD.**  
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE	RECOMMENDED <i>[Signature]</i>	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO. 6 MCCALLAN ROAD NORTH DRAINAGE DISCHARGE STRUCTURE ARRANGEMENT OF MECHANICAL AND ELECTRICAL EQUIPMENT	DESIGNED	SURVEYED
	DATE <i>Dec 17/74</i>		DRAWN H.W.	DATE
	APPROVED <i>[Signature]</i>		CHECKED H.S.	FILE NO. 0281550-C10-6
	DATE <i>Dec 18/74</i>		SCALE As shown	DATE Dec, 1974
			DWG. NO. 4795-6-7	SHEET OF SHEETS

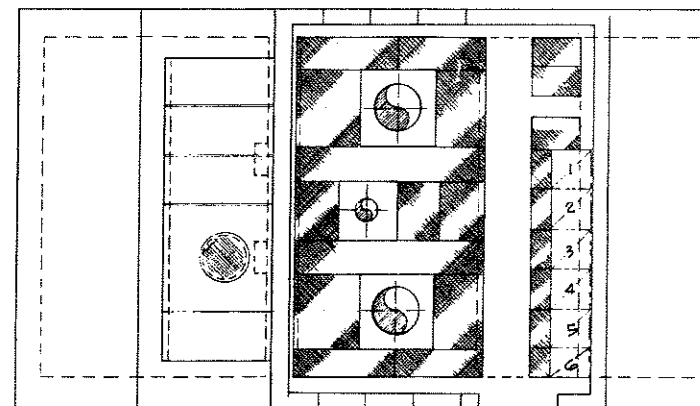


**GENERAL NOTES - MECHANICAL**

- For building superstructure final design see Contract 5 drawings.
- Roof hatches are designed to allow withdrawal of pump columns and elbows with approx. 1' minimum clearance all around.
- Dimensions 'S' & 'T' should be supplied by the Contractor for each particular pump.
- 'S' will determine location of each pump center line, 'T' will determine required pump column length.
- All clearances will be verified on receipt of drainage pump external dimensions.



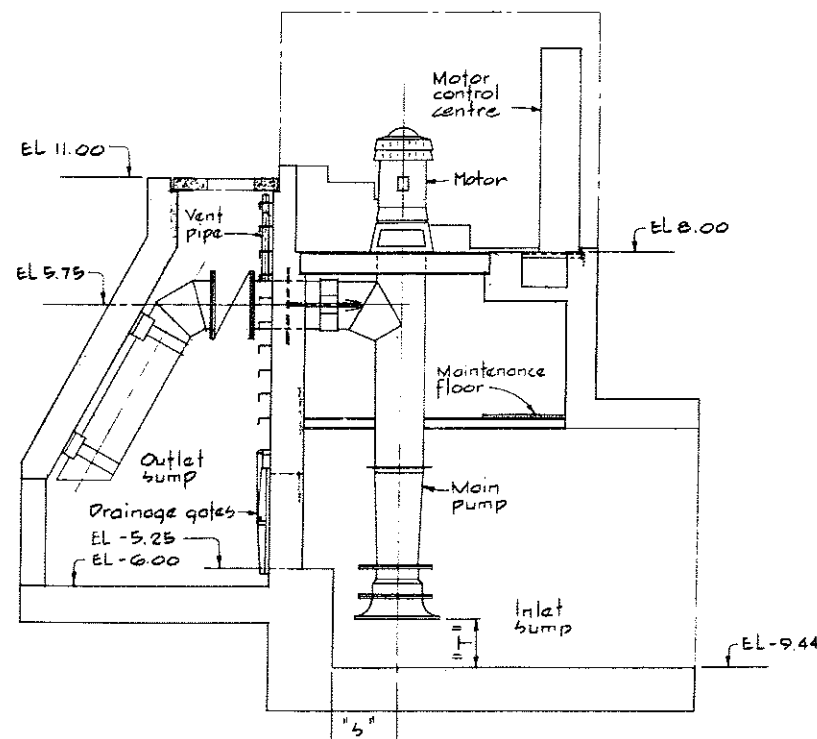
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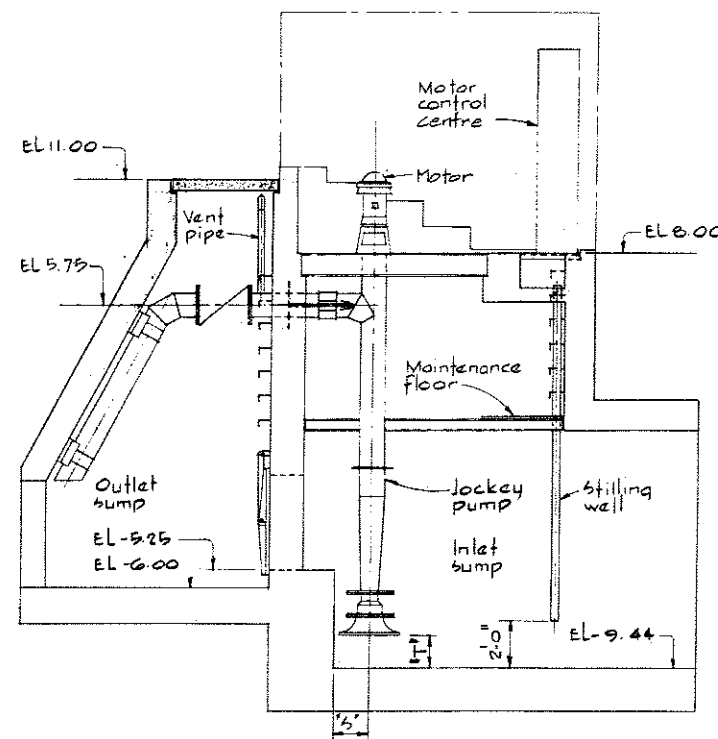
PLAN AT EL 18.0

**NOTES**

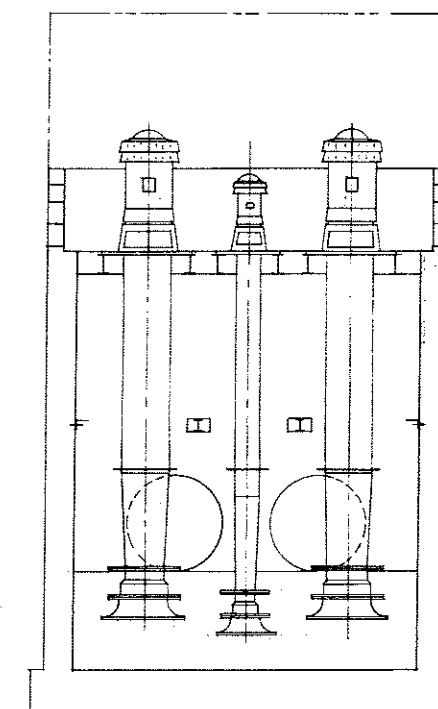
- for main pump discharge piping details see 4795-6-14
- for jockey pump discharge piping details see 4795-6-14
- for stilling well details see 4795-6-16
- for vent pipe details see 4795-6-14



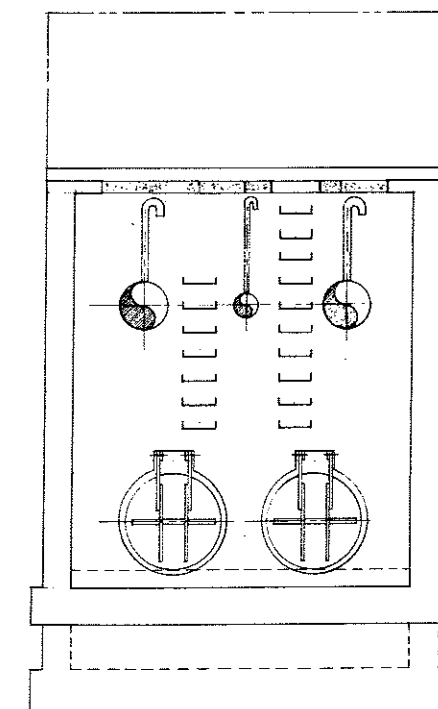
SECTION A-A



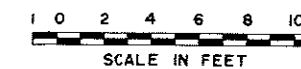
SECTION B-B



SECTION C-C



SECTION D-D



**CBA ENGINEERING LTD.**  
CONSULTING ENGINEERS - VANCOUVER - CANADA

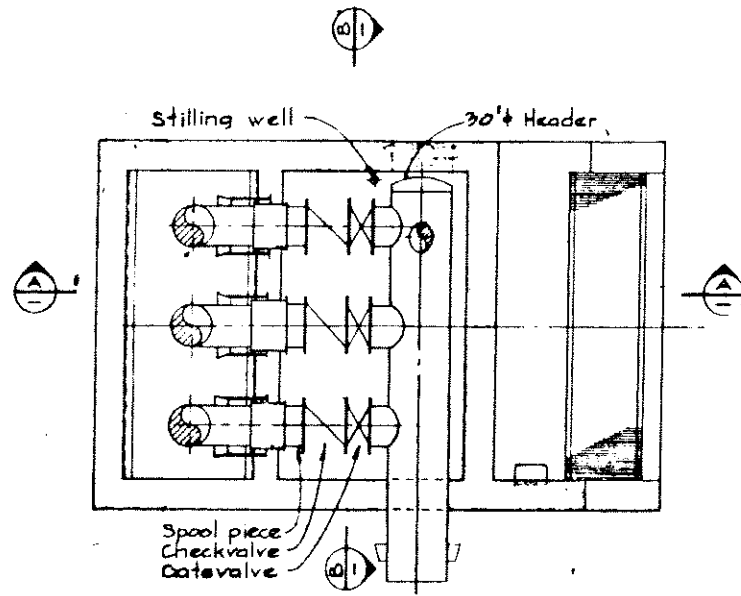
RECOMMENDED <i>[Signature]</i> DATE <i>Dec 17/74</i>	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL, 1968 AGREEMENT	DESIGNED	SURVEYED
APPROVED <i>[Signature]</i> DATE <i>Dec 18/74</i>	PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO. 6 NUMBER 2 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE ARRANGEMENT OF MECHANICAL AND ELECTRICAL EQUIPMENT	DRAWN H.W.	DATE
		CHECKED H.S.	FILE NO. 0281550-C10-6
		SCALE As shown	DATE Dec. 1974
		DWG. NO. 4795-6-8	SHEET OF SHEETS

**GENERAL NOTES - MECHANICAL**

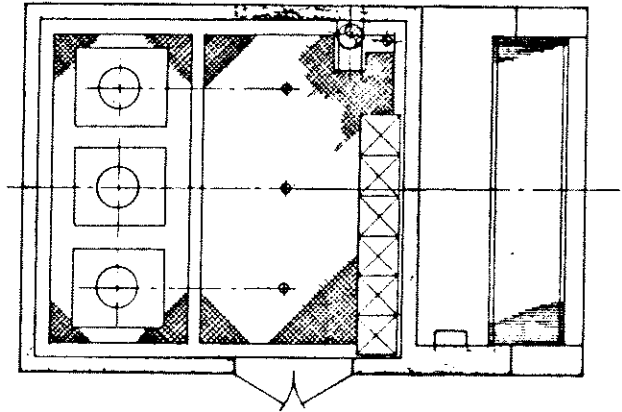
- For piping infrastructure final design see Contract 5 drawings.
- Roof hatches are designed to allow withdrawal of pump columns and elbows with approx 1' min clearance all around.
- Dimensions "S" & "T" should be supplied by the contractor for each particular pump. "S" will determine location of each pump center line & "T" will determine required pump column length.
- All clearances will be verified on receipt of drainage pump external dimensions.

**NOTES**

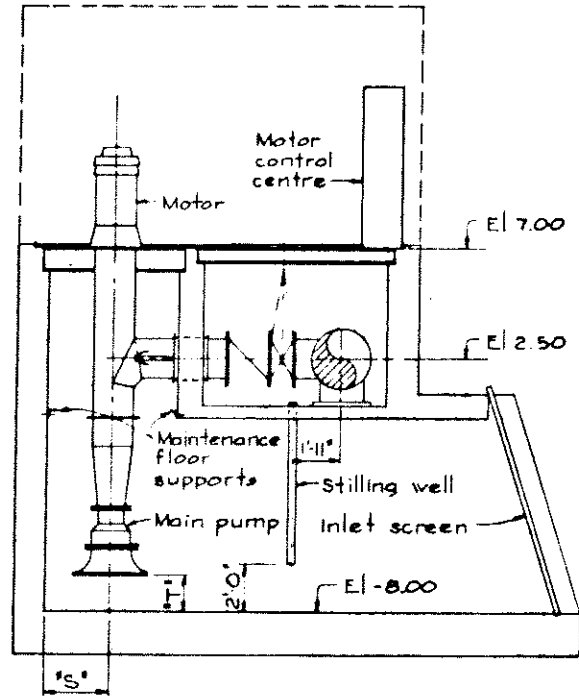
- for main pump discharge piping details see 4795-G-14
- for jockey pump discharge piping see 4795-G-4
- for stilling well details see 4795-G-16
- for vent pipe details see 4795-G-14



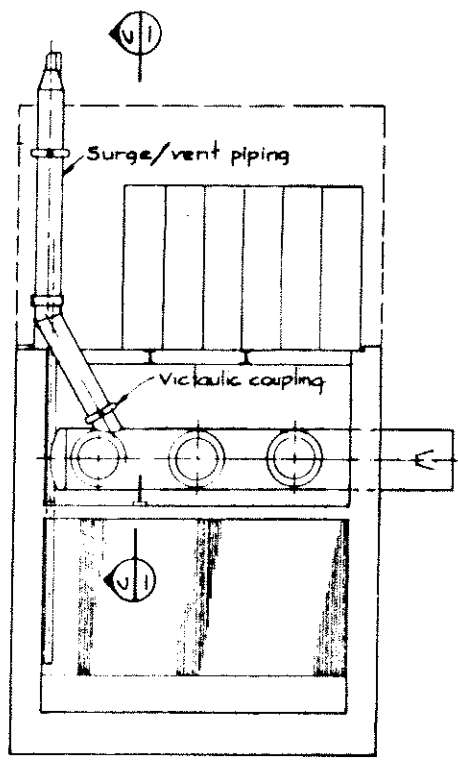
PLAN @ EL 2.5



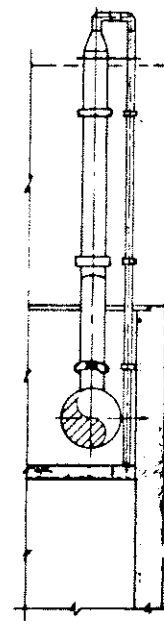
PLAN @ EL 170



SECTION A



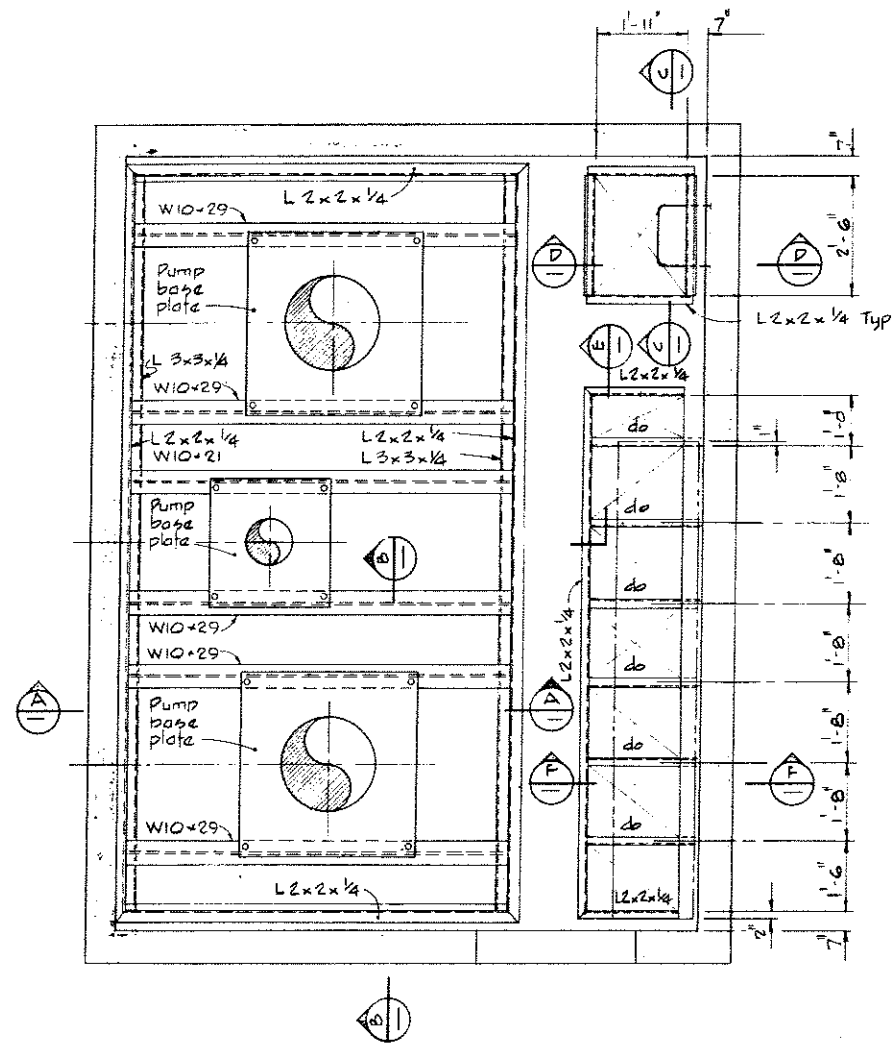
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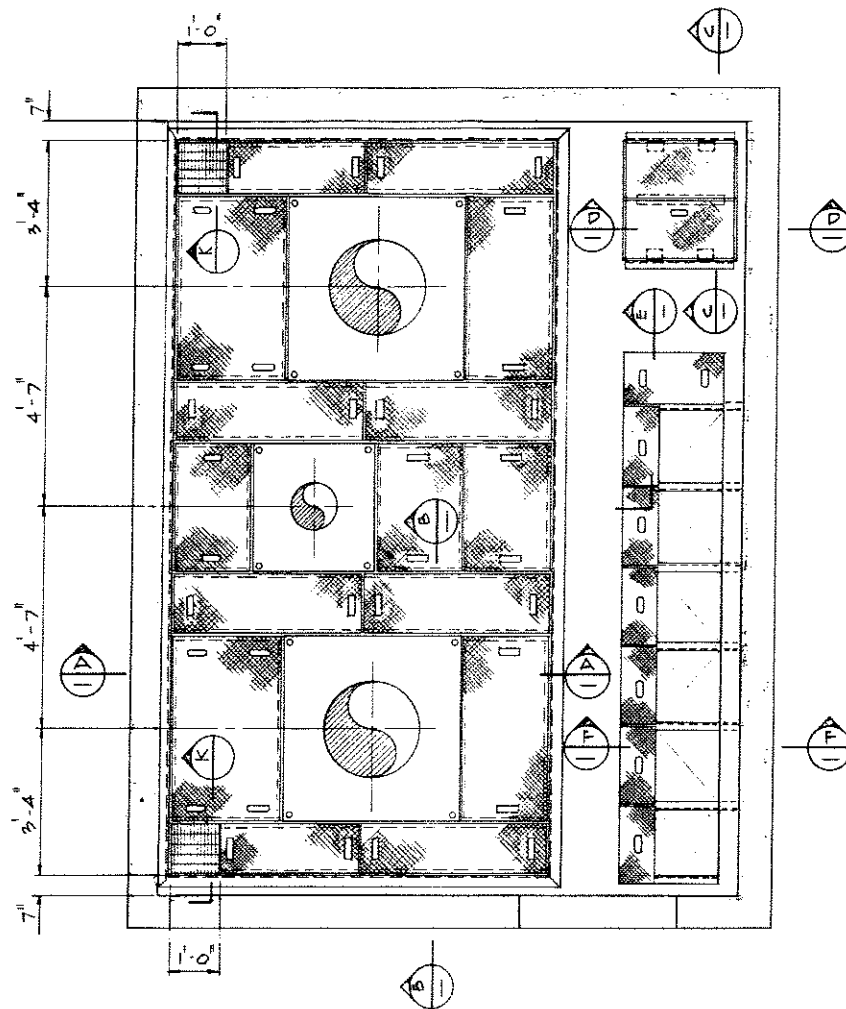
SECTION C



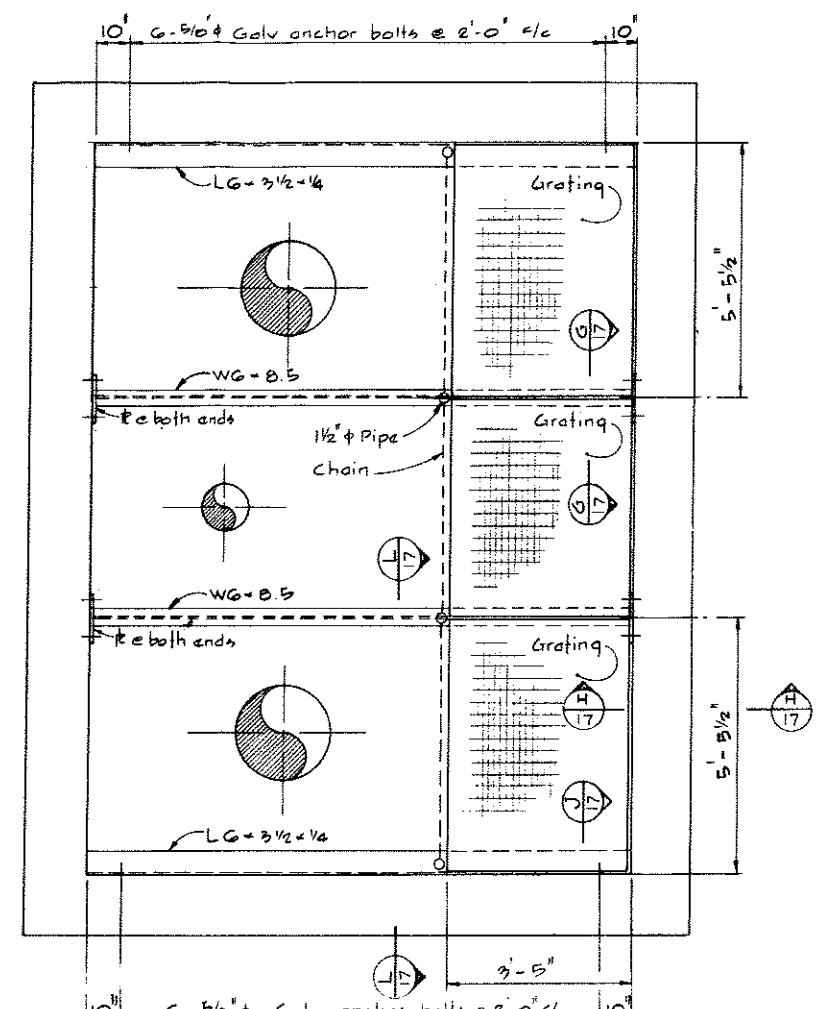
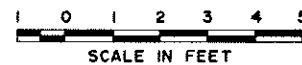
<p><b>CBA ENGINEERING LTD.</b> CONSULTING ENGINEERS - VANCOUVER - CANADA</p>	<table border="1"> <tr> <th>NO</th> <th>BY</th> <th>REVISIONS</th> <th>DATE</th> </tr> <tr> <td>A</td> <td>HW</td> <td>Header updated, 16" pipe changed to 20"</td> <td>May 24/1975</td> </tr> </table>	NO	BY	REVISIONS	DATE	A	HW	Header updated, 16" pipe changed to 20"	May 24/1975	<p>RECOMMENDED: [Signature]</p> <p>DATE: Dec 17/74</p>	<p>BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE, WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT</p>	<p>DESIGNED: [Signature]</p> <p>DRAWN: H.S.</p> <p>CHECKED: H.S.</p> <p>SCALE: As shown</p> <p>DWG NO: 4795-8-9</p>	<p>SURVEYED: [Signature]</p> <p>DATE: [Signature]</p> <p>FILE NO: 0281530-C10-6</p> <p>DATE: Dec. 1974</p> <p>SHEET OF SHEETS</p>
		NO	BY	REVISIONS	DATE								
A	HW	Header updated, 16" pipe changed to 20"	May 24/1975										
<p>PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND</p> <p>CONTRACT NO. 8 GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE ARRANGEMENT OF MECHANICAL AND ELECTRICAL EQUIPMENT</p>	<p>APPROVED: [Signature]</p> <p>DATE: Dec 18/74</p>	<p>PROJECTS DIV.</p> <p>DIRECTOR</p>	<p>PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND</p> <p>CONTRACT NO. 8 GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE ARRANGEMENT OF MECHANICAL AND ELECTRICAL EQUIPMENT</p>	<p>DATE: Dec. 1974</p>									



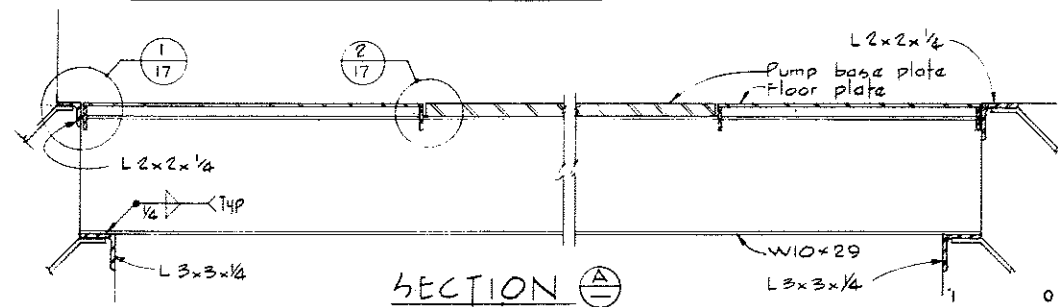
PLAN  
MAIN SUPPORT FRAME



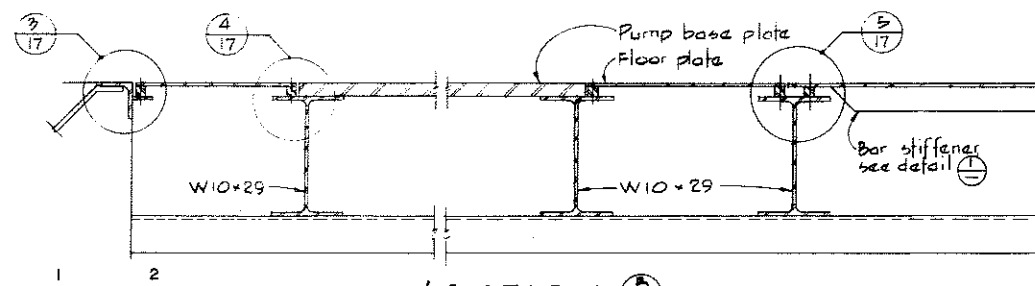
PLAN  
FLOOR PLATES



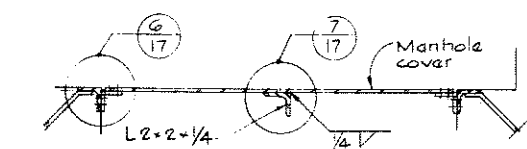
PLAN  
MAINTENANCE FLOOR



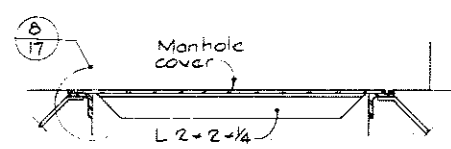
SECTION A-A



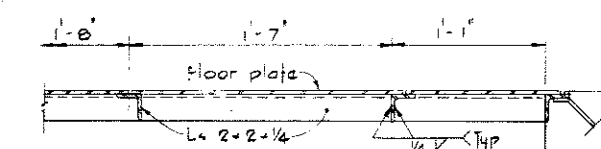
SECTION B-B



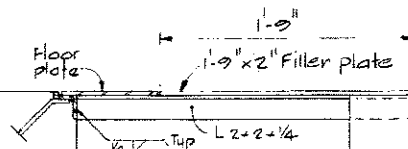
SECTION C-C



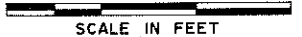
SECTION D-D



SECTION E-E



SECTION F-F



NOTES

- Pump base plates and cross support beams will be located and sized to suit the type and model of pump being supplied.
- Minimum dimensions pertain as shown, elsewhere all dimensions must be checked for clearances and clearly noted on shop drawings.
- Checker plate sections showing 1, 2 or 4 hand holds - thus to be removable they are to be provided with holding screws as shown on detail (17).

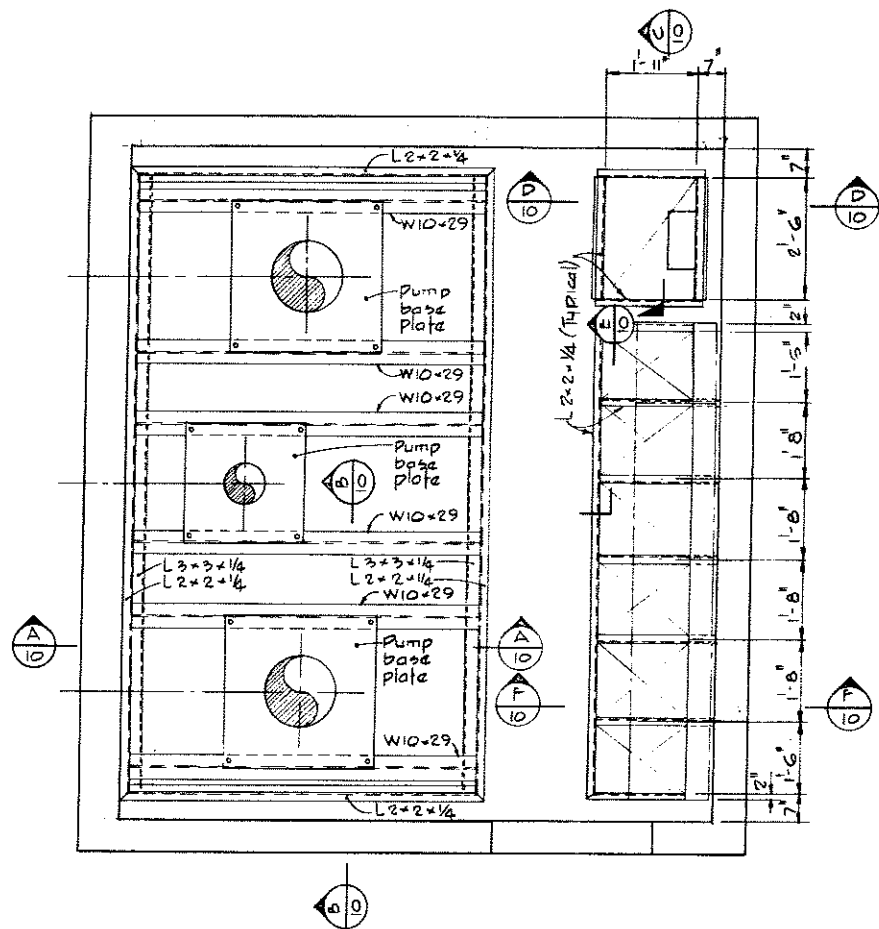


CBA ENGINEERING LTD.  
CONSULTING ENGINEERS - VANCOUVER - CANADA

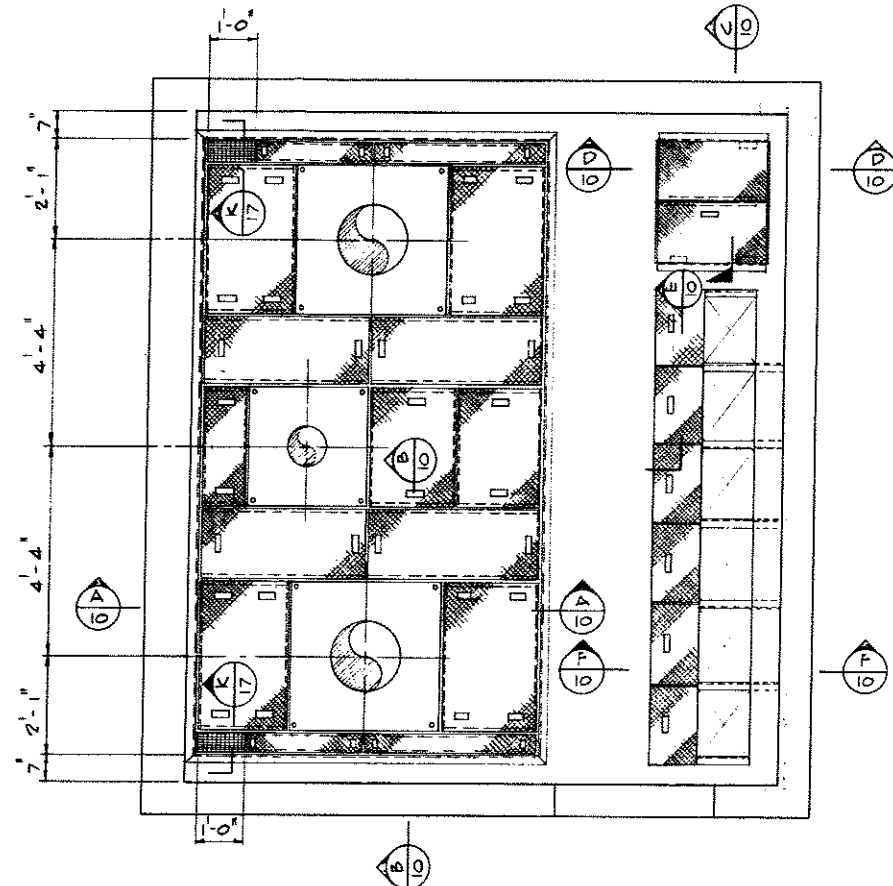
NO.	BY	REVISIONS	DATE

RECOMMENDED	<i>[Signature]</i>
DATE	Dec. 17/74
APPROVED	<i>[Signature]</i>
DATE	Dec. 17/74

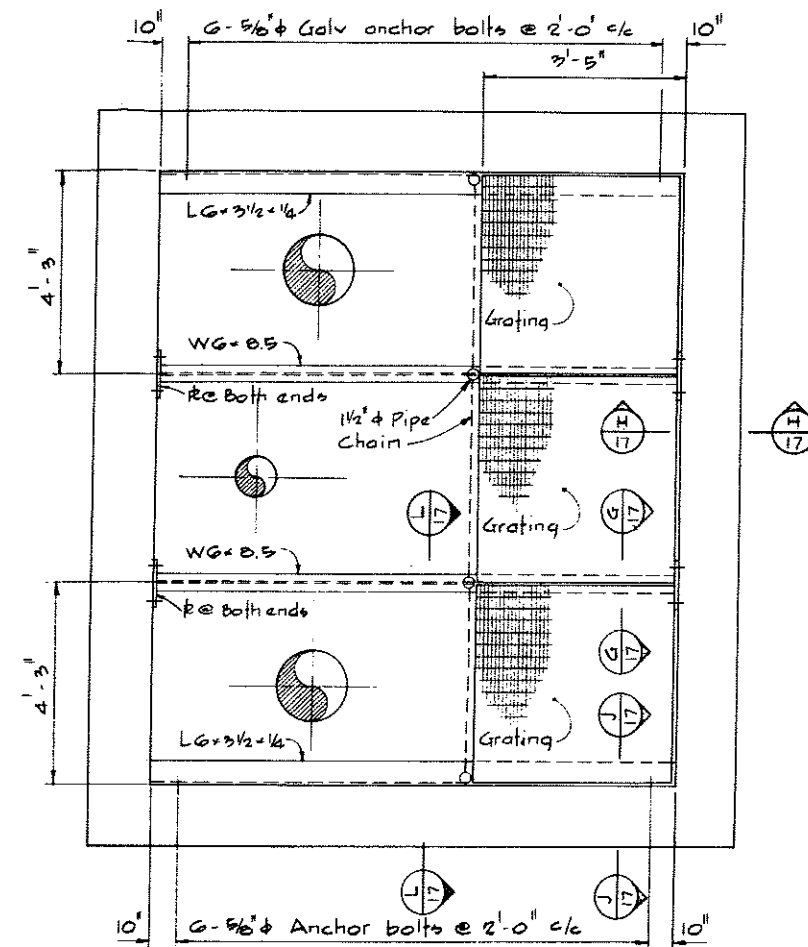
BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED	SURVEYED
PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND	DRAWN H.W.	DATE
CONTRACT NO. 6	CHECKED H.S.	FILE NO. 0281550-C10-6
NUMBER 1 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE PUMP SUPPORT AND FLOOR PLATING	SCALE As shown	DATE Dec. 1974
	DWG. NO. 4795-6-10	SHEET OF SHEETS



• PLAN  
• MAIN SUPPORT FRAME

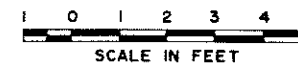


• PLAN  
• FLOOR PLATES



• PLAN  
• MAINTENANCE FLOOR

NOTES  
For General Notes see 4795-6-7

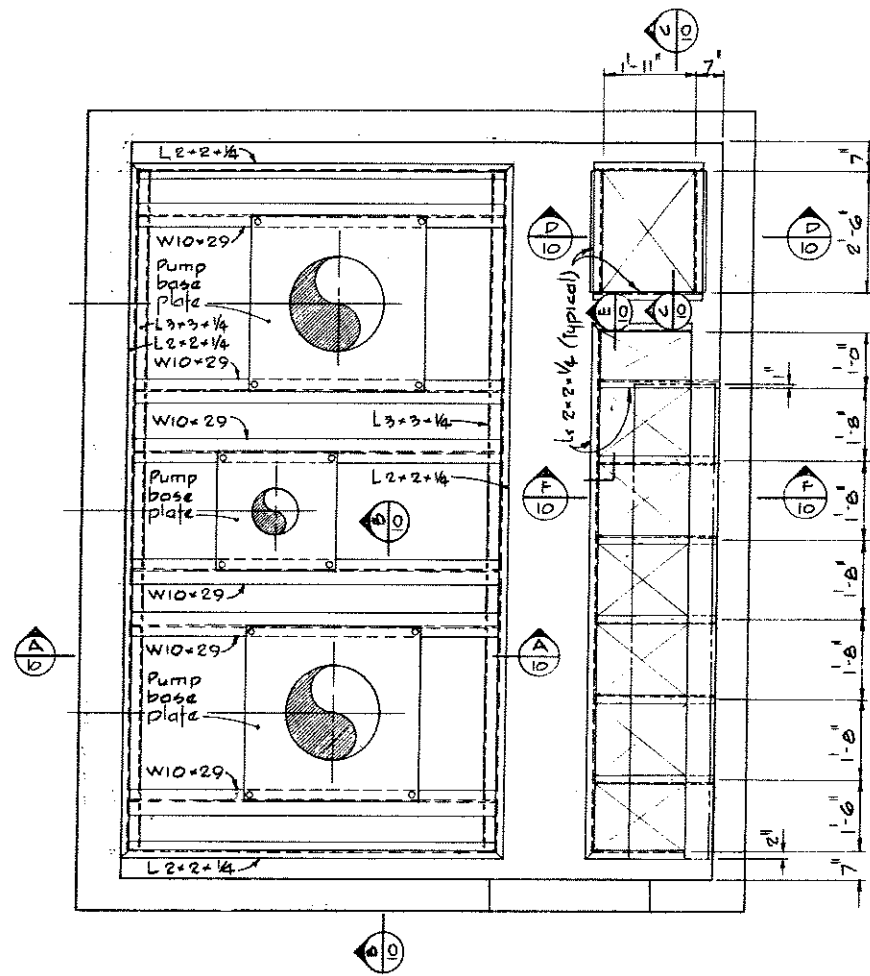


**CBA ENGINEERING LTD.**  
CONSULTING ENGINEERS - VANCOUVER - CANADA

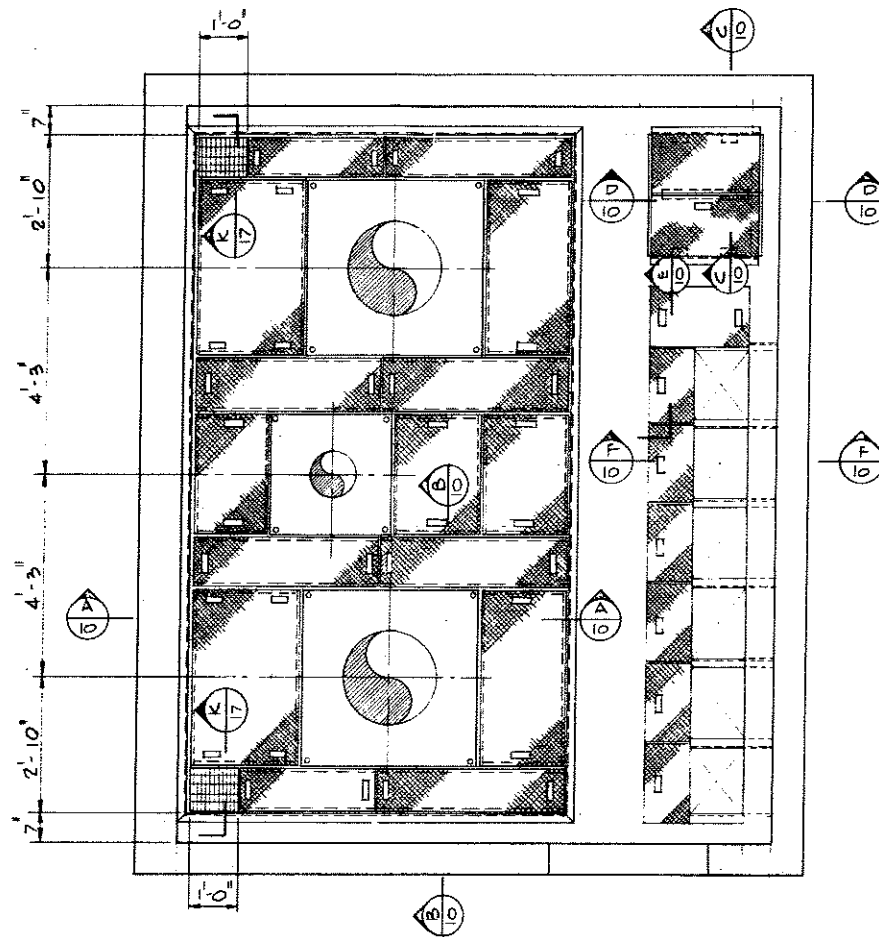
RECOMMENDED: [Signature]  
DATE: Dec 17/74  
APPROVED: [Signature]  
DATE: Dec 18/74

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA — BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT NO. 3 — THE TOWNSHIP OF RICHMOND  
CONTRACT NO. 6  
MCGALLAN ROAD NORTH DRAINAGE DISCHARGE STRUCTURE  
PUMP SUPPORT AND FLOOR PLATING

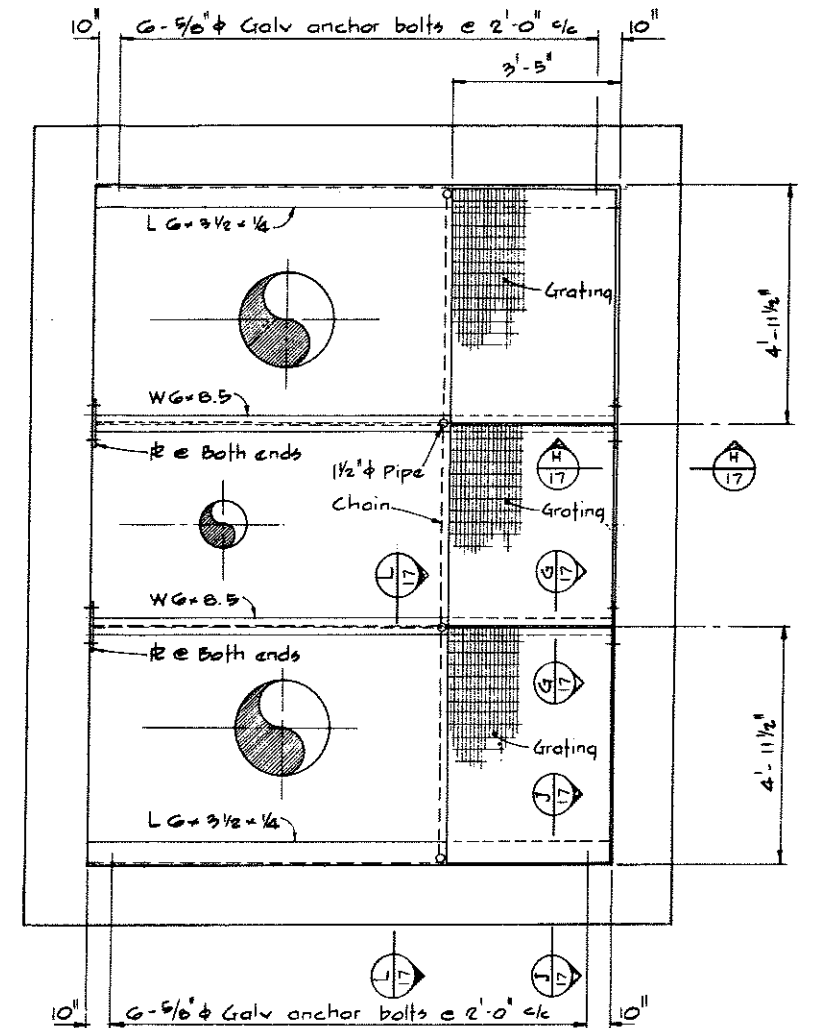
DESIGNED	SURVEYED
DRAWN H.W.	DATE
CHECKED H.S.	FILE NO. 0281550-C10-6
SCALE As shown	DATE Dec. 1974
DWG. NO. 4795-6-11	SHEET OF SHEETS



PLAN  
MAIN SUPPORT FRAME



PLAN  
FLOOR PLATES



PLAN  
MAINTENANCE FLOOR

NOTES

for General Notes see 4795-6-B  
for Notes see 4795-6-B



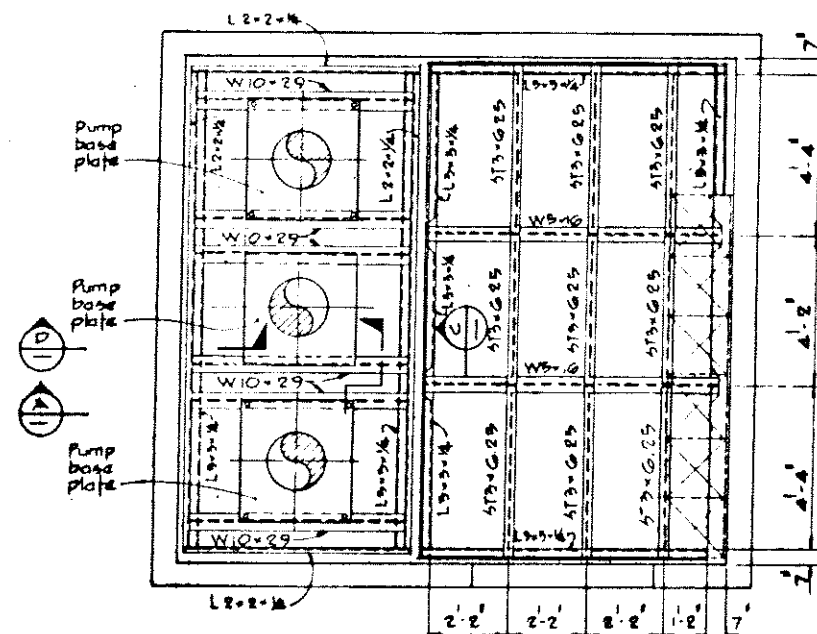
CBA ENGINEERING LTD.  
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

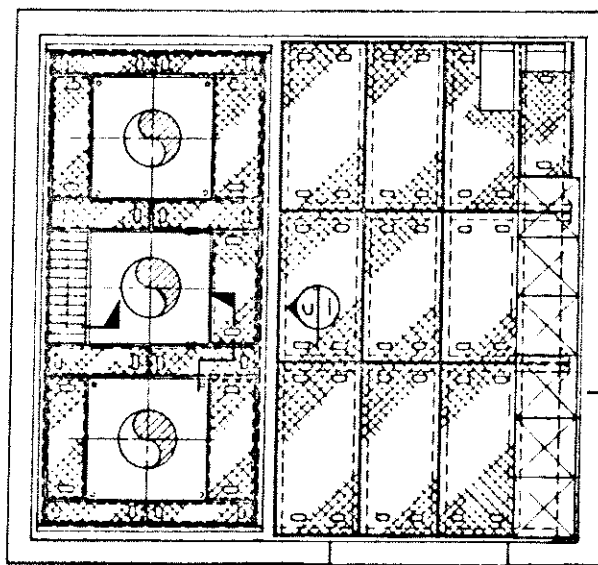
RECOMMENDED *[Signature]*  
DATE *Dec. 17/74*  
APPROVED *[Signature]*  
DATE *Dec. 18/74*

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND  
CONTRACT NO. 6  
NUMBER 2 ROAD NORTH DRAINAGE DISCHARGE STRUCTURE  
PUMP SUPPORT AND FLOOR PLATING

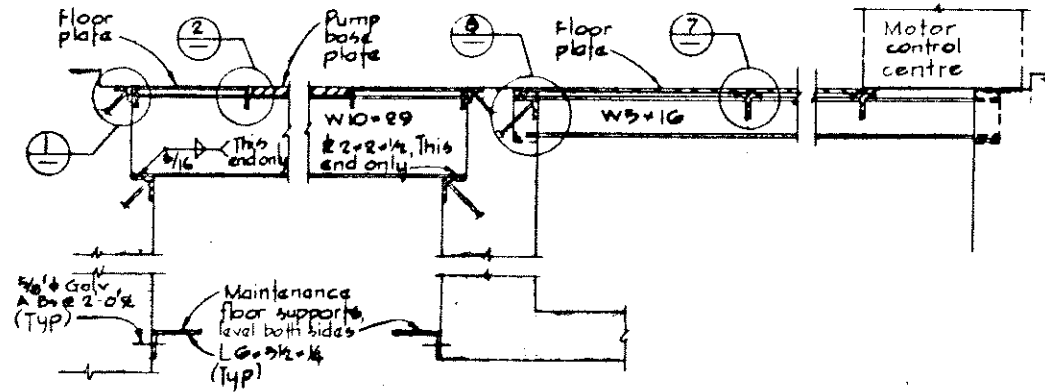
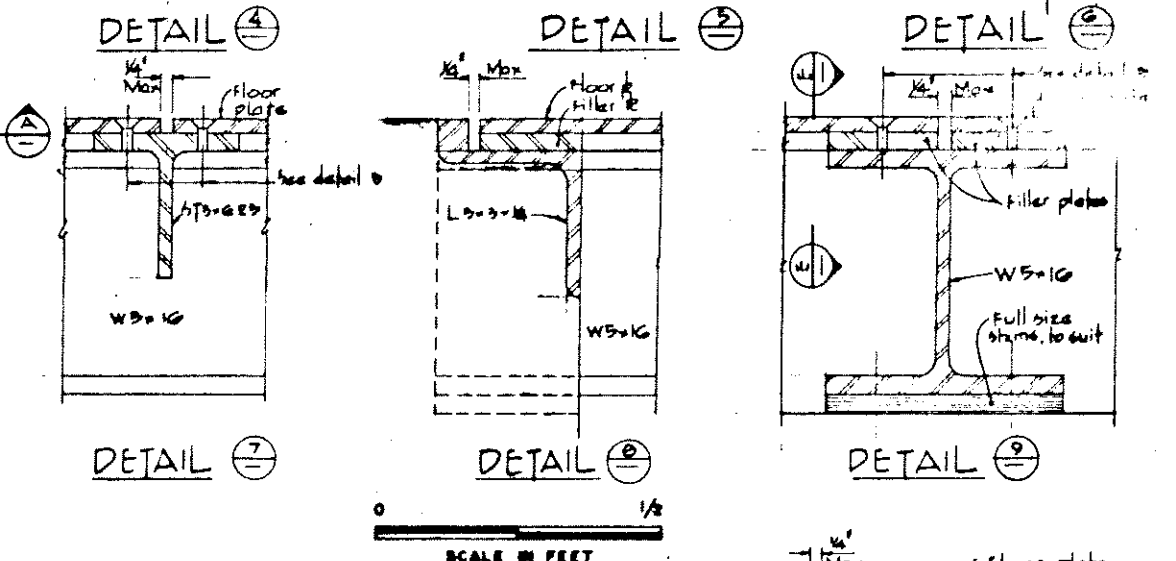
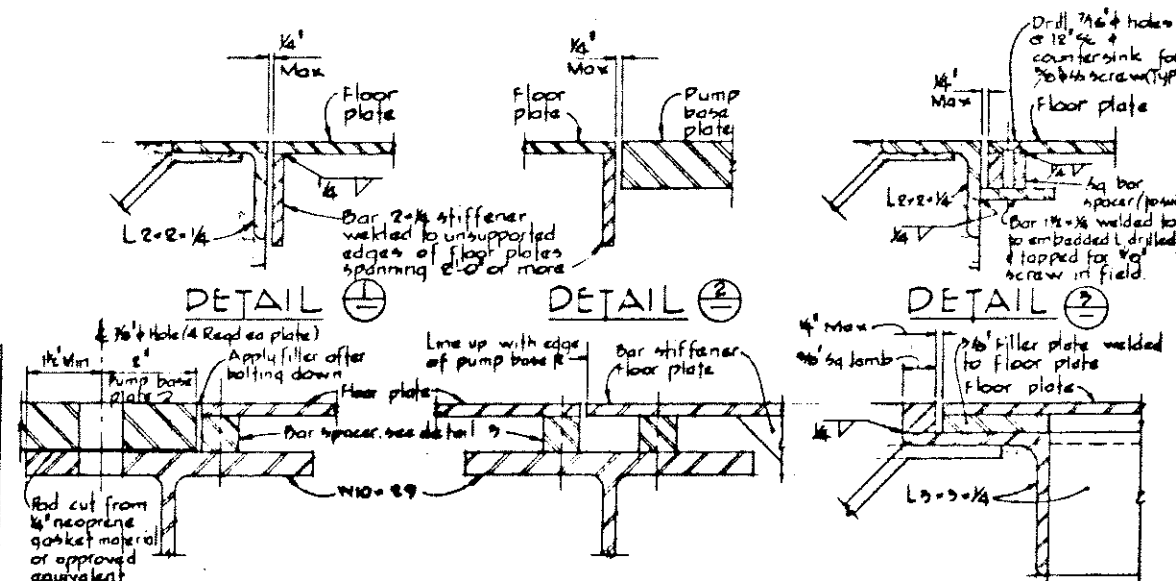
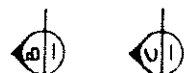
DESIGNED	SURVEYED
DRAWN H.W.	DATE
CHECKED H.S.	FILE NO. 0281550-C10-6
SCALE As shown	DATE Dec. 1974
DWG. NO. 4795-6-12	SHEET OF SHEETS



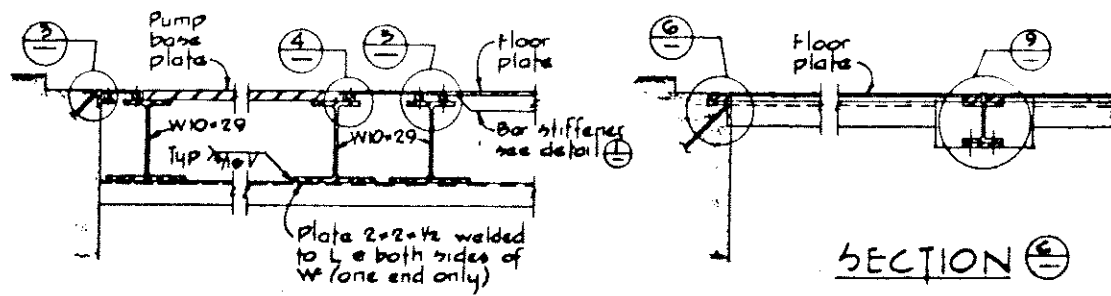
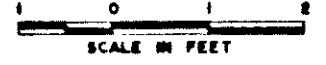
PLAN  
MAIN SUPPORT FRAME



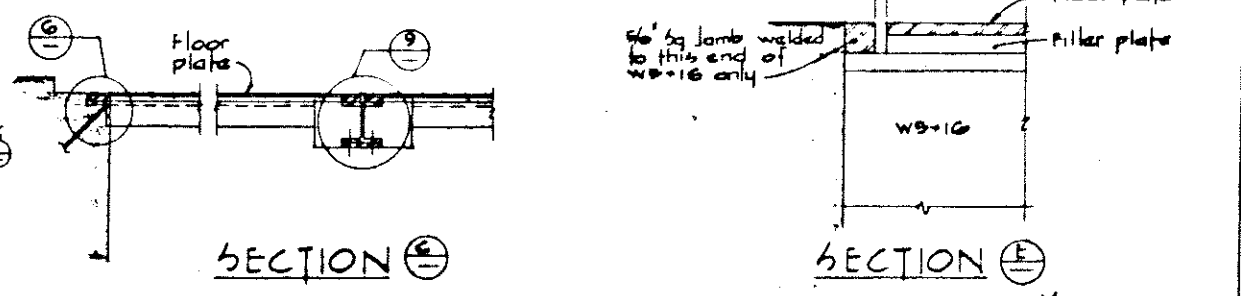
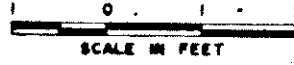
PLAN  
FLOOR PLATES



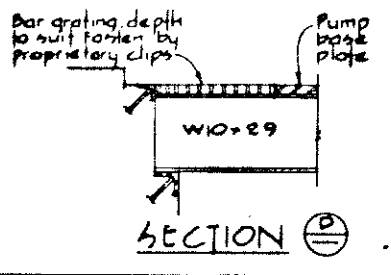
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

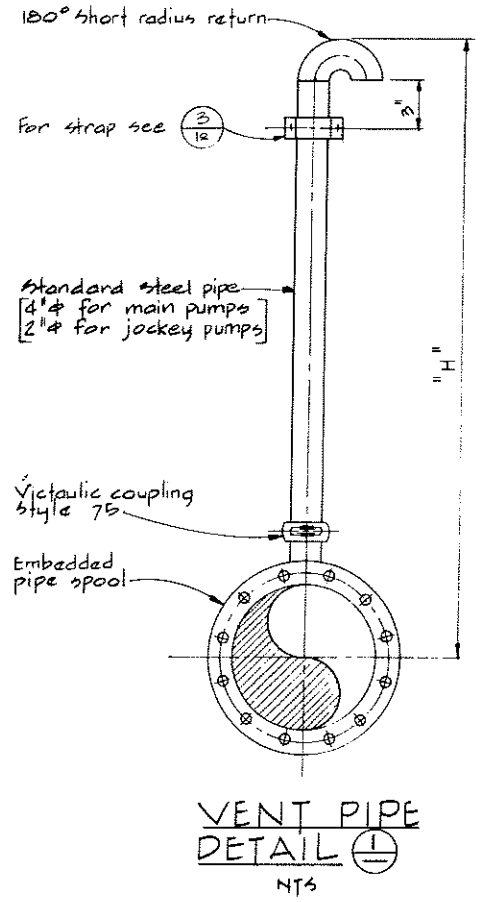
NOTES  
for General Notes see 4795-G-9

<p><b>CBA ENGINEERING LTD.</b> CONSULTING ENGINEERS - VANCOUVER - CANADA</p>	RECOMMENDED DATE <i>Dec 17/74</i>	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO. 8 GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE PUMP SUPPORT AND FLOOR PLATING	DESIGNED H.W.	SURVEYED DATE
	APPROVED <i>[Signature]</i> DATE <i>Dec 17/74</i>		CHECKED <i>H.S.</i> SCALE <i>As shown</i> DWG NO. <i>4795-6-13</i>	FILE NO. <i>0281550-C10-6</i>
NO. BY REVISIONS DATE	MAY 30th 1975	SHEET OF SHEETS	SHEET OF SHEETS	SHEET OF SHEETS

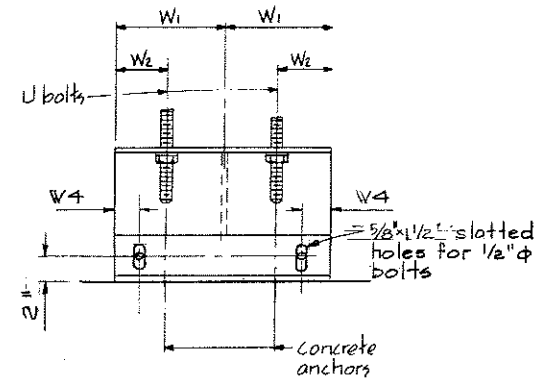
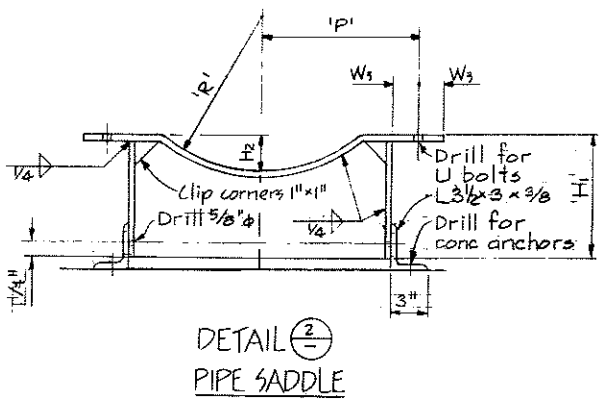
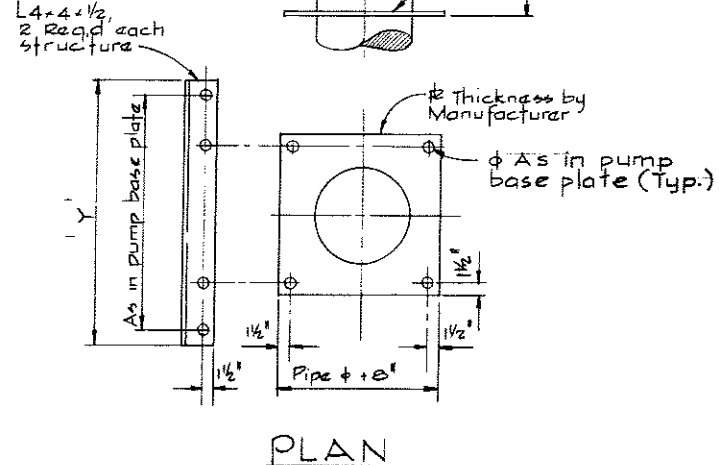
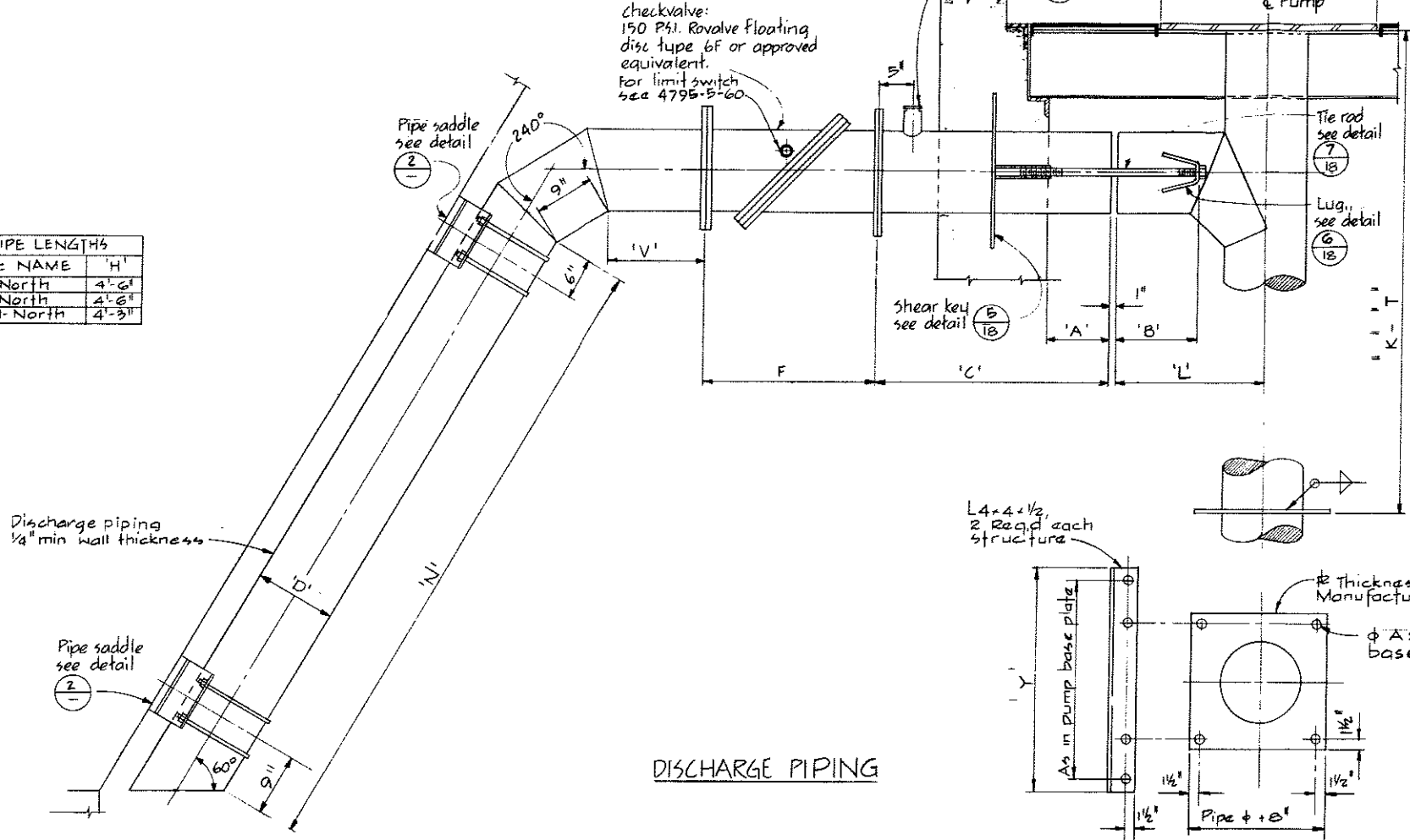
structure names	Main discharge pump							
	D	L	N	V	C	B	A	F
No. 1 Road-North	24"	5'-2"	6'-9 3/8"	3"	3'-3"	1'-2"	1'-2"	2'-0"
No. 2 Road-North	24"	5'-2"	6'-9 3/8"	3"	3'-3"	1'-2"	1'-2"	2'-0"
McCallan Rd-North	18"	5'-11"	5'-7 1/2"	3"	3'-3"	1'-0"	1'-2"	1'-9"

structure names	Jockey discharge pump							
	D	L	N	V	C	B	A	F
No. 1 Road-North	12"	5'-2"	7'-3 7/8"	1 1/4"	3'-3"	1'-0"	1'-2"	2'-1 1/2"
No. 2 Road-North	12"	5'-2"	7'-3 7/8"	1 1/4"	3'-3"	1'-0"	1'-2"	2'-1 1/2"
McCallan Rd-North	10"	5'-11"	5'-4 3/8"	8 1/2"	3'-3"	0'-11"	1'-2"	1'-9 3/4"

Dimension	No. 1 Rd North	No. 2 Rd North	McCallan Rd-North
"K"	11'-6"	11'-6"	7'-0"



VENT PIPE LENGTHS	
STRUCTURE NAME	"H"
No. 1 Road-North	4'-6"
No. 2 Road-North	4'-6"
McCallan Rd-North	4'-3"

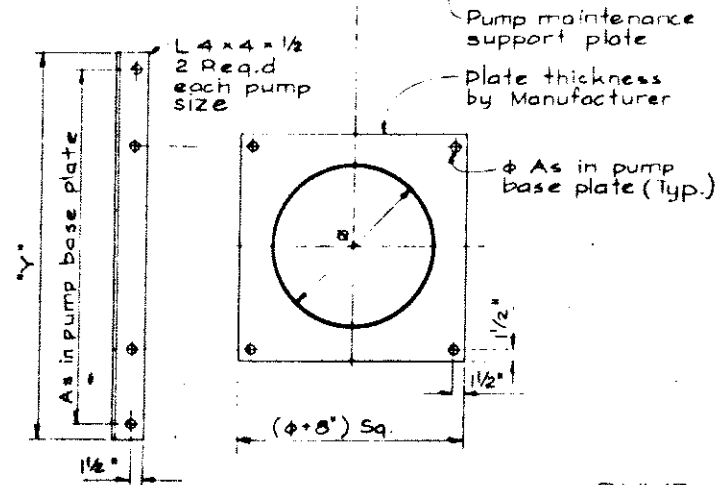
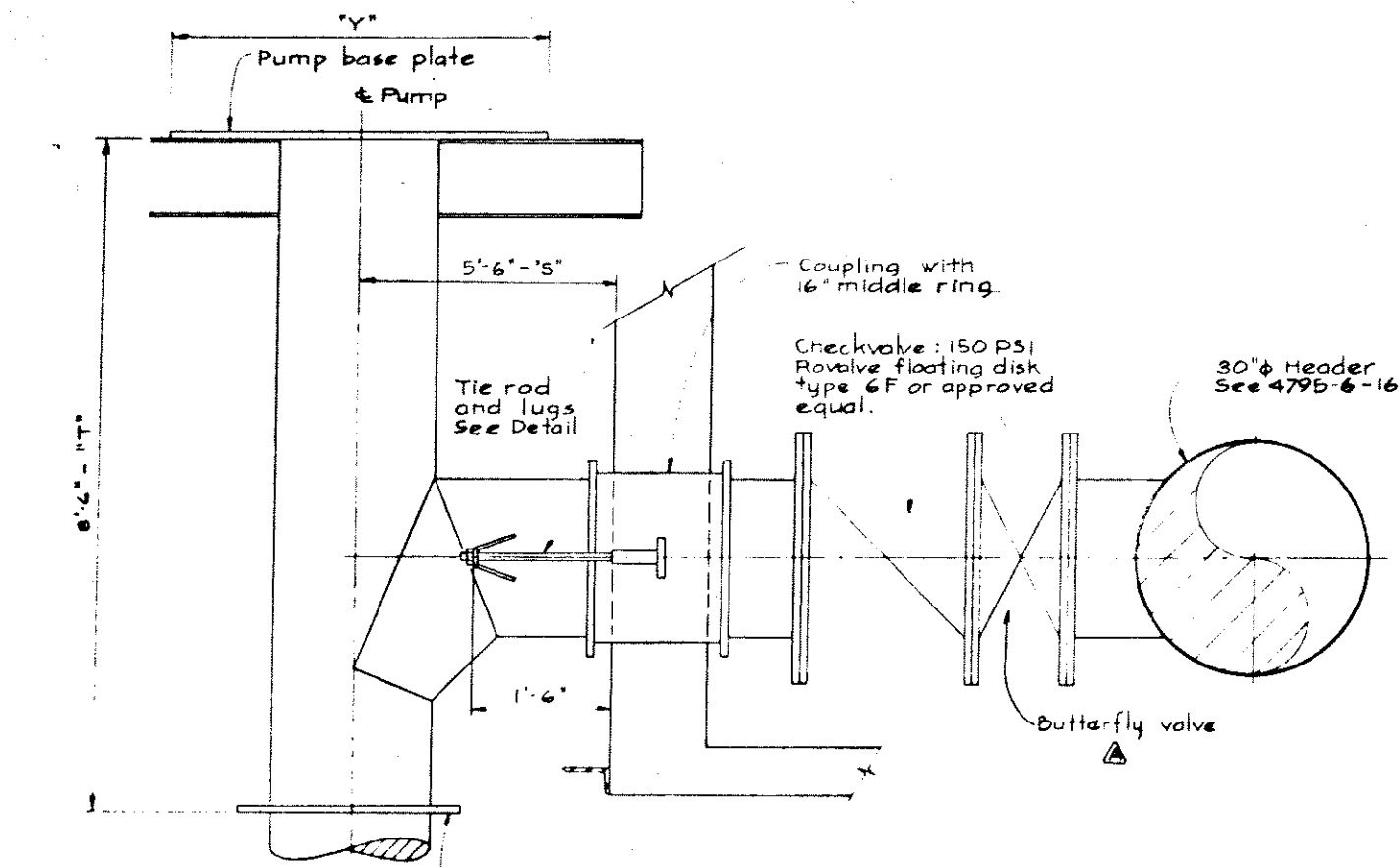


PIPE SADDLE DIMENSIONS											
Nom Size	U Bolt	Concrete Anchors	Plate thickness	R	H1	H2	W1	W2	W3	W4	P
24"	1" φ	5/8" φ	3/8"	1'-0"	6 3/4"	4"	6"	3"	1 1/2"	1 1/2"	1'-0 1/2"
18"	1" φ	5/8" φ	3/8"	9"	4 3/4"	2"	6"	3"	1 1/2"	1 1/2"	9 1/2"
12"	1/2" φ	1/2" φ	1/4"	6 3/8"	4 3/8"	1 1/8"	5"	2 1/2"	1"	1 1/4"	6 5/8"
10"	1/2" φ	1/2" φ	1/4"	5 3/8"	3 1/4"	1"	5"	2 1/2"	1"	1 1/4"	5 5/8"

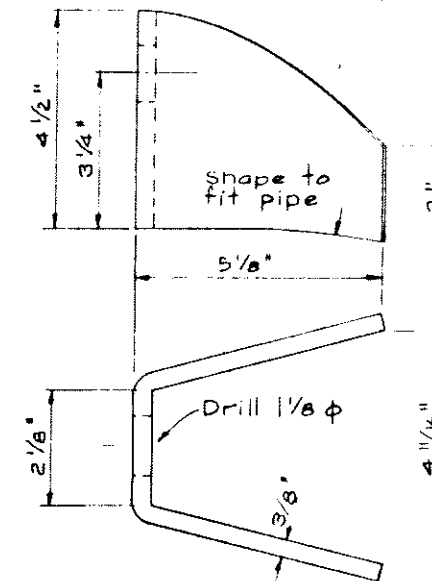
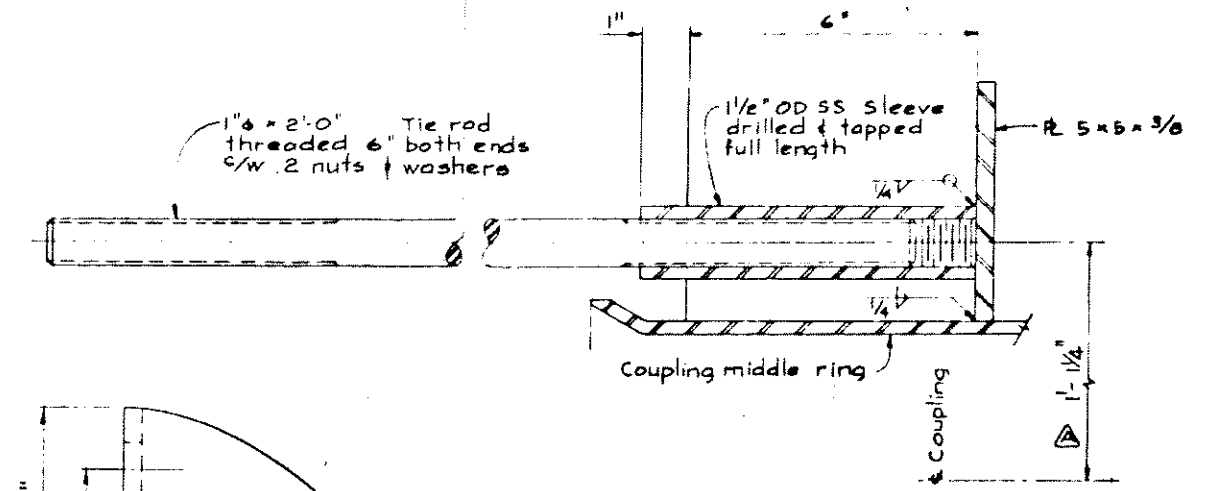
\* Concrete anchors shall be Philips "Red Head" selfdrilling anchors or approved equal, with hot dip galv. bolts.

NOTES  
For General Notes see 4795-6-6  
for Notes see 4795-6-6

<p>CBA ENGINEERING LTD. CONSULTING ENGINEERS - VANCOUVER - CANADA</p>	<p>RECOMMENDED <i>R. Hall</i> DATE <i>Dec. 17/74</i></p>	<p>BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT</p>	<p>DESIGNED _____ DRAWN <i>S</i> CHECKED <i>HS</i> SCALE <i>Not to scale</i> DWG. NO. <i>4795-6-14</i></p>
	<p>APPROVED <i>Phil Zeller</i> DATE <i>Dec. 18/74</i></p>	<p>PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO. 6 NO. 1 RD NORTH, NO. 2 RD NORTH &amp; McCALLAN RD NORTH DRAINAGE DISCHARGE STRUCTURES DISCHARGE PIPING DETAILS</p>	<p>SURVEYED _____ DATE _____ FILE NO. <i>0281550-C10-6</i> DATE <i>Dec. 1974</i> SHEET _____ OF _____ SHEETS</p>



PUMP DISCHARGE PIPING  
NTS



TIE ROD AND LUGS  
NTS

NOTES

- For General Notes see 4795-6-9
- For Notes see 4795-6-9



**CBA ENGINEERING LTD.**  
CONSULTING ENGINEERS - VANCOUVER - CANADA

A		HW	Gata valve changed to butterfly valve & Tie rod spacing standardized	May 30th 1975	RECOMMENDED	DATE	APPROVED	DATE	DESIGNED	SURVEYED
									DRAWN	DATE
									CHECKED	FILE NO
									SCALE	DATE
									DWG NO	SHEET

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND  
CONTRACT NO. 6  
GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE  
DISCHARGE PIPING DETAILS

DESIGNED

DRAWN H4

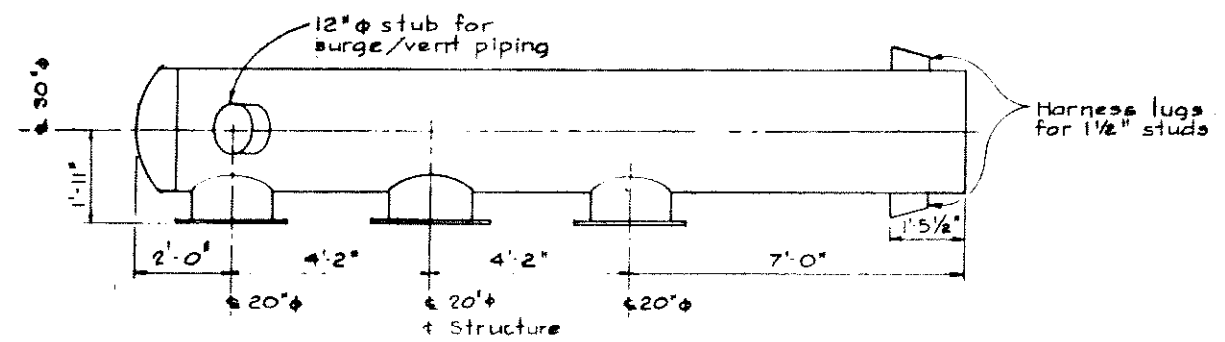
CHECKED H4

SCALE As shown

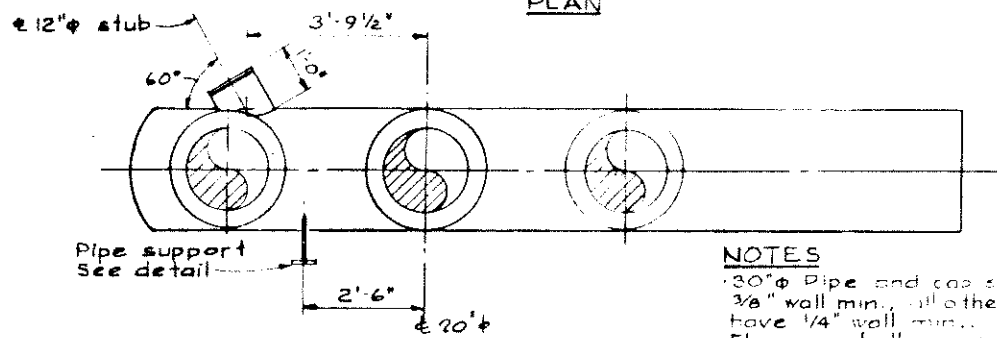
DWG NO 4795-6-15

SHEET 1 OF 2 SHEETS

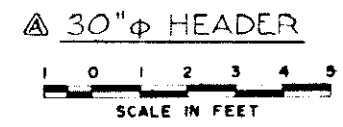




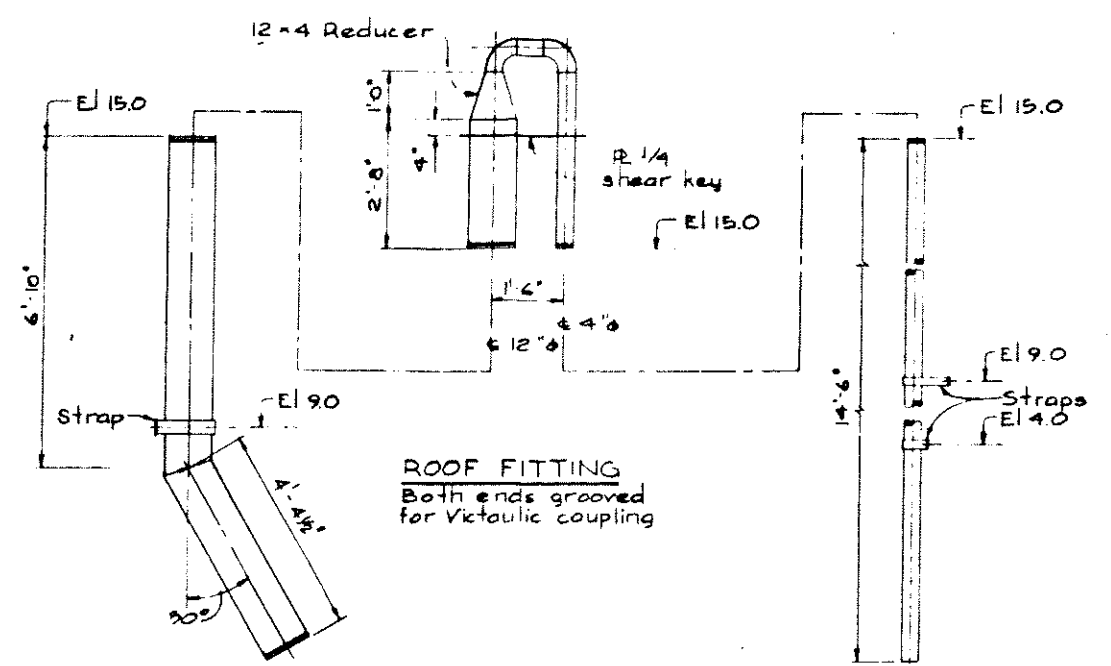
PLAN



ELEVATION



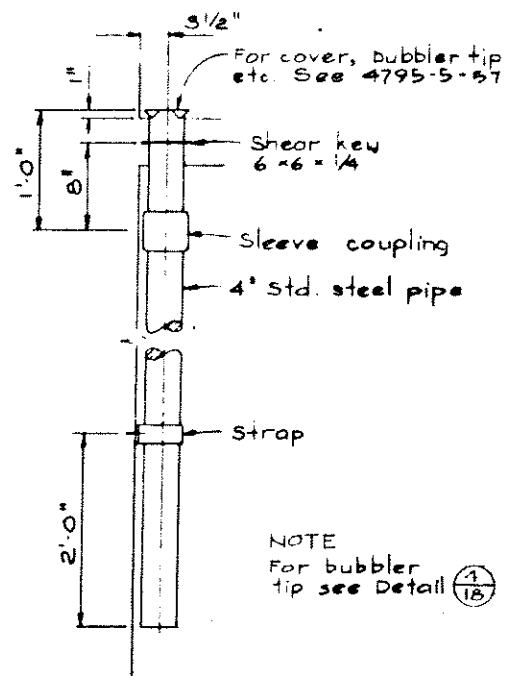
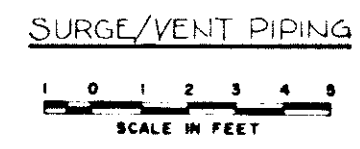
**NOTES**  
 30"  $\phi$  Pipe and cap shall have 3/8" wall min., all other pipe shall have 1/4" wall min.  
 Flanges shall be as ASA B 16.1 but 1/16" raised face and bolts to AWWA C 207 class B.  
 12"  $\phi$  stub shall be grooved for Victaulic coupling.



ROOF FITTING  
 Both ends grooved for Victaulic coupling

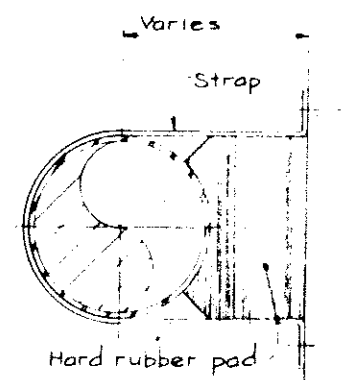
12"  $\phi$  PIPE  
 1/4" wall, both ends grooved for Victaulic coupling

4"  $\phi$  PIPE  
 Std. steel pipe; one end grooved for Victaulic coupling



STILLING WELL  
 NTS

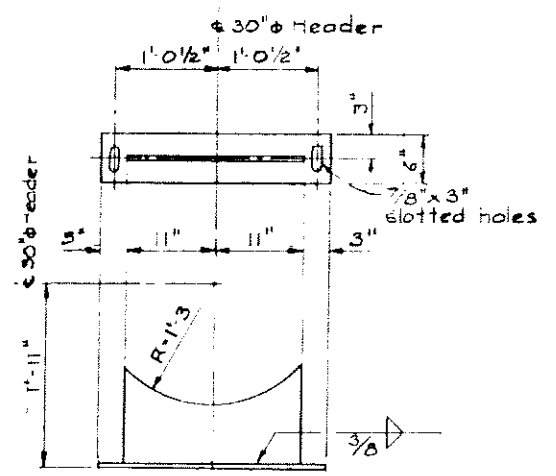
NOTE  
 For bubbler tip see Detail (1/18)



Strap shall be 1/4 Bar, 2" wide for 4" pipe, 4" wide for 12" pipe. Width of hard rubber pad same as strap.

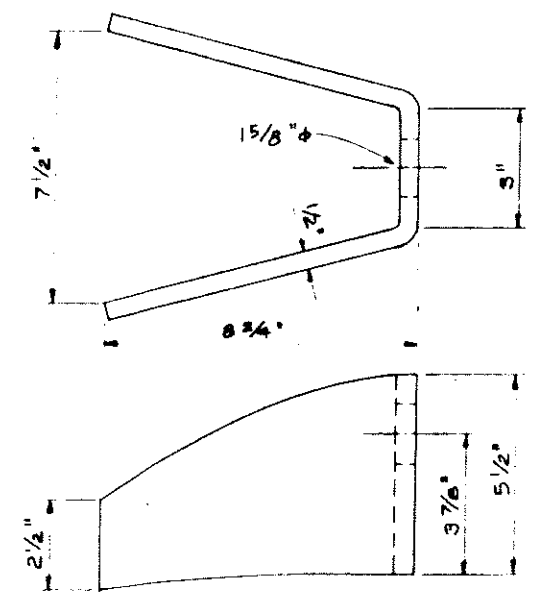
STRAP FOR 4" & 12" PIPE  
 NTS

Philips "Red Head" selfdrilling anchors or approved equal, with hot dip galv. bolts. 1/2"  $\phi$  for 4" pipe, 5/8"  $\phi$  for 12" pipe.



Material: 1/2" plate

PIPE SUPPORT FOR 30"  $\phi$  HEADER  
 NTS

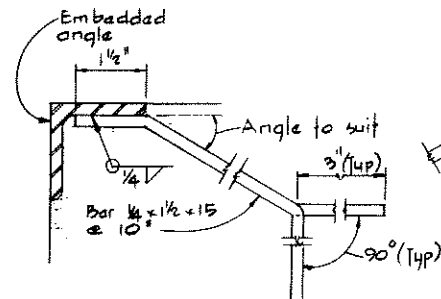


LUG FOR 1 1/2"  $\phi$  STUD  
 NTS

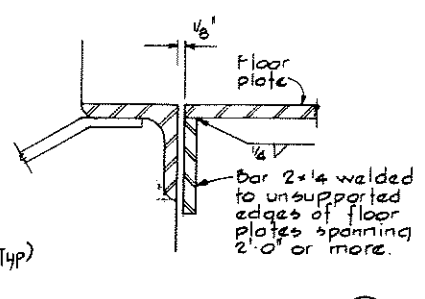


**NOTES**  
 For General Notes see 4795-6-9  
 For Notes see 4795-6-9

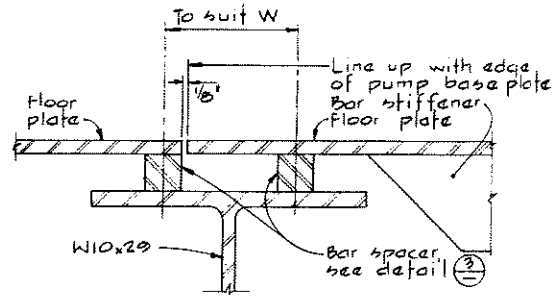
<p><b>CBA ENGINEERING LTD.</b>          CONSULTING ENGINEERS - VANCOUVER - CANADA</p>	RECOMMENDED DATE: Dec 17/74	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA PLEASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO 3 - THE TOWNSHIP OF RICHMOND CONTRACT NO 6 GILBERT ROAD NORTH DRAINAGE DISCHARGE STRUCTURE DISCHARGE PIPING DETAILS	DESIGNED DRAWN: H 4	SURVEYED DATE
	APPROVED DATE: Dec 17/74		CHECKED: H 5 SCALE: As shown DWG NO: 4795-6-16	FILE NO: 0281550-C10-6 DATE: Dec, 1974 SHEET 2 of 2 SHEETS



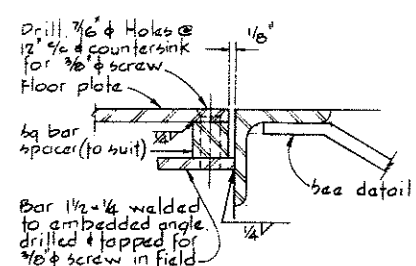
TYPICAL DETAIL  
EMBEDDED



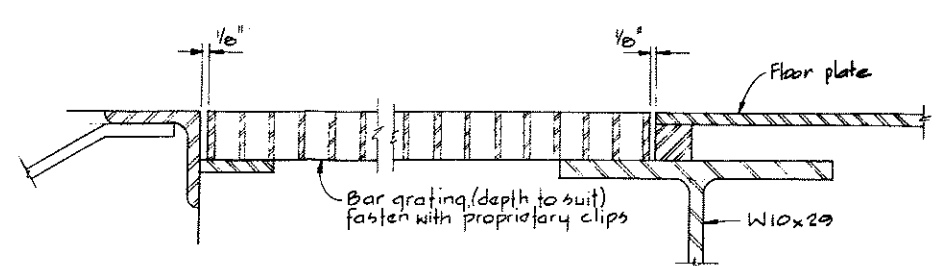
DETAIL 1



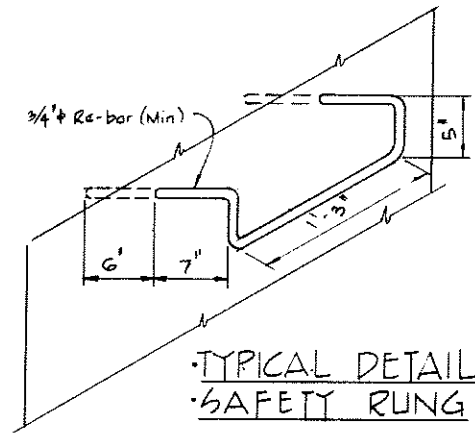
DETAIL 5  
MAIN FLOOR  
FLOOR PLATES



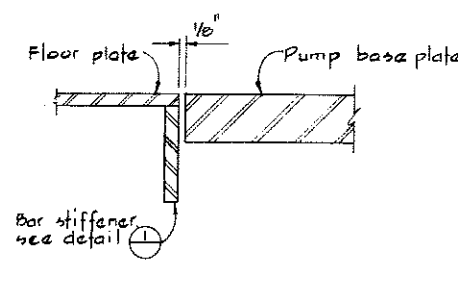
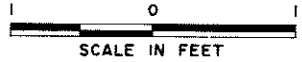
DETAIL 3  
OPPOSITE HAND



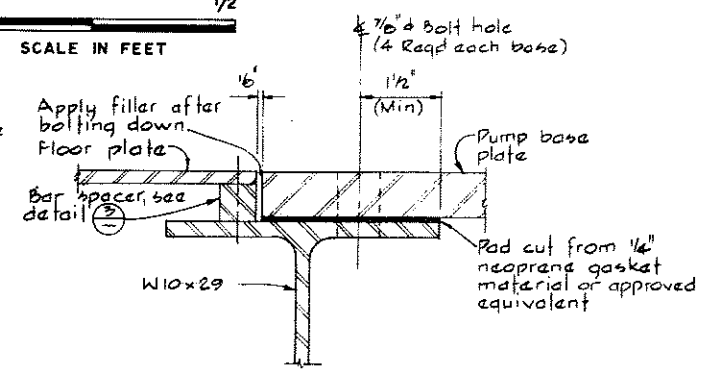
SECTION K



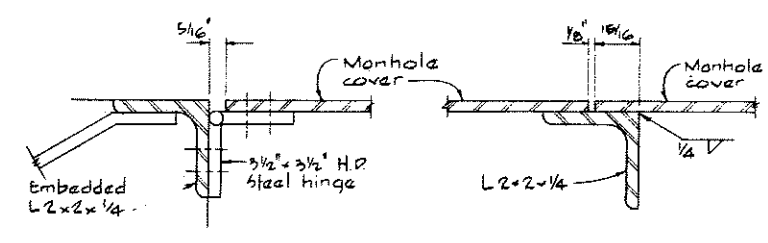
TYPICAL DETAIL  
SAFETY RUNG



DETAIL 2

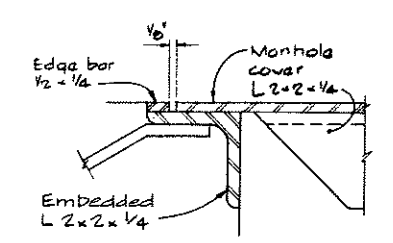


DETAIL 4  
MAIN FLOOR  
PUMP BASE

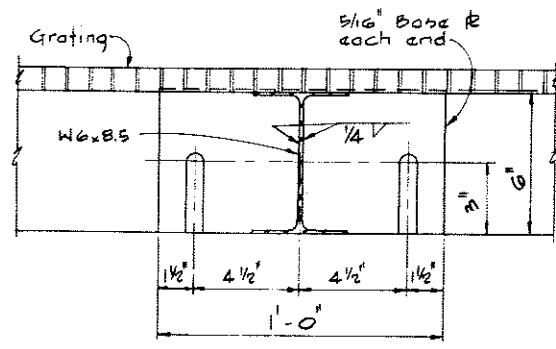


DETAIL 6

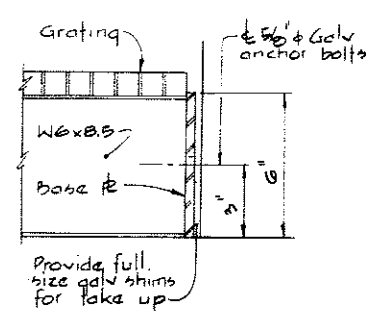
DETAIL 7  
MANHOLE DETAILS



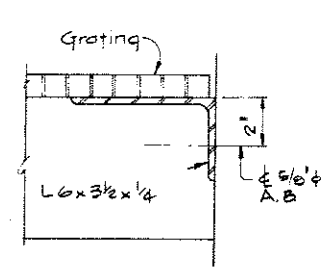
DETAIL 8



SECTION G

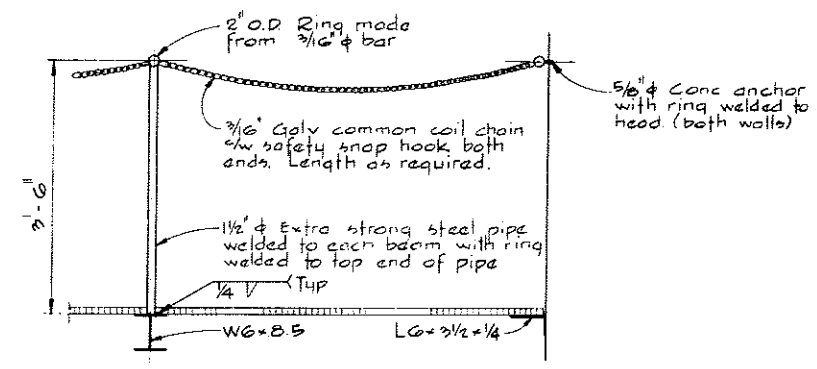


SECTION H



SECTION J

MAINTENANCE FLOOR



SECTION L



NOTES

For General Notes see 4795-6-6  
For Notes see 4795-6-6



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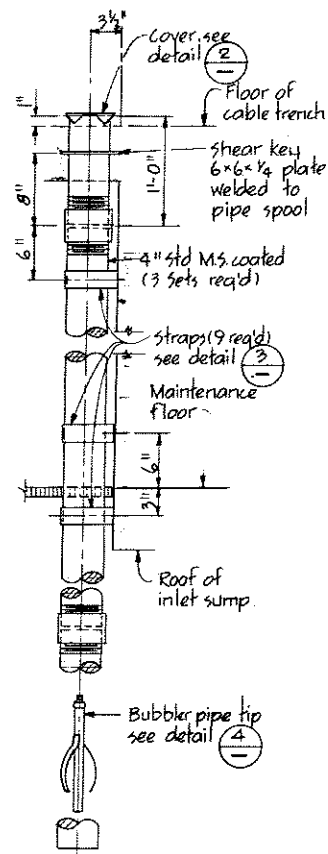
NO. BY REVISIONS DATE

RECOMMENDED  
DATE Dec 17/74  
APPROVED  
DATE Dec 18/74

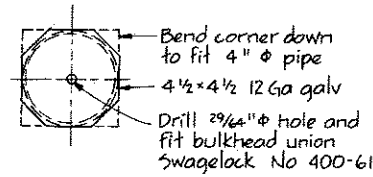
BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT NO 3 - THE TOWNSHIP OF RICHMOND  
CONTRACT NO. 6  
DRAINAGE DISCHARGE STRUCTURES  
MISCELLANEOUS DETAILS

DESIGNED  
DRAWN H.W.  
CHECKED H.S.  
SCALE As shown  
DWG. NO. 4795-6-17

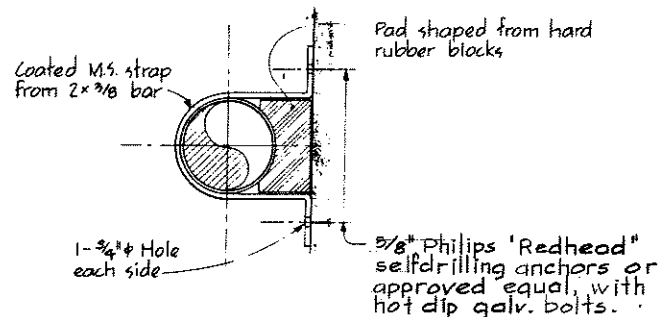
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DATE Dec. 1974  
SHEET OF SHEETS



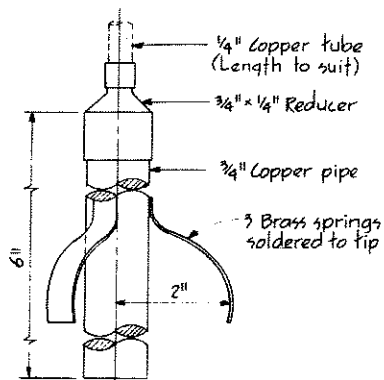
STILLING WELL  
DETAIL ①



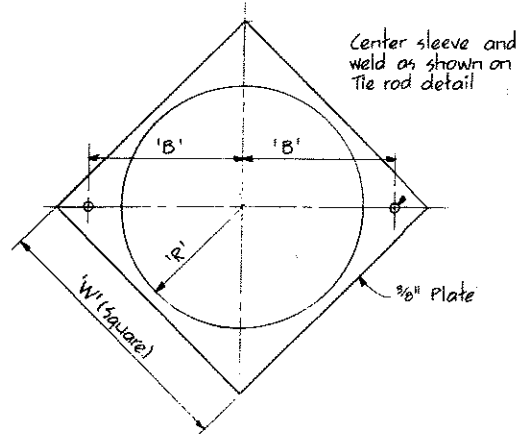
DETAIL ②



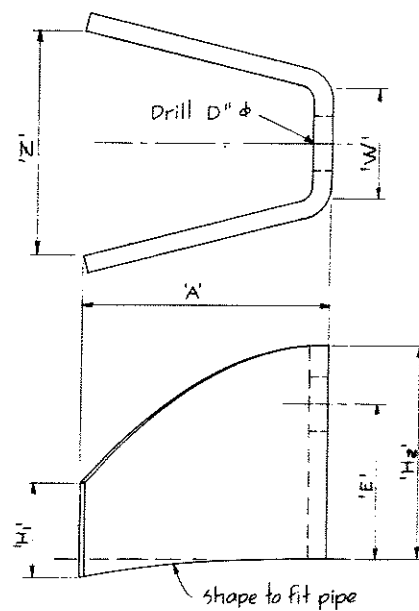
DETAIL ③



DETAIL ④



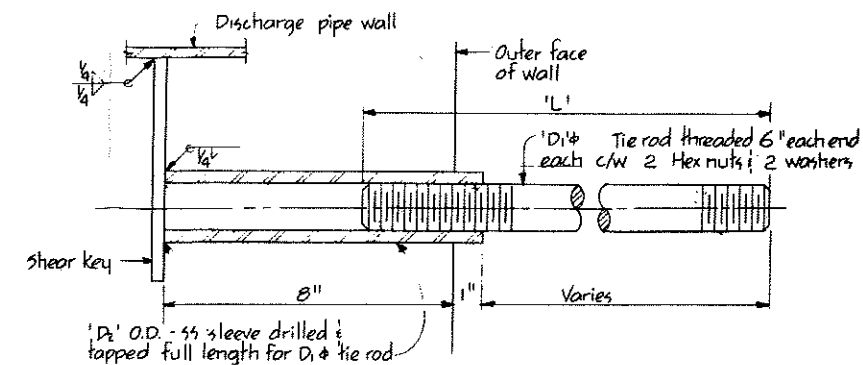
SHEAR KEY  
DETAIL ⑤



LUG  
DETAIL ⑥

SHEAR KEY & TIE ROD DIMENSIONS						
Nominal pipe $\phi$	B	R	W	L	D <sub>1</sub>	D <sub>2</sub>
24"	1-3/4"	1'-0"	2'-3"	3'-0"	1 1/4"	1 3/4"
18"	1'-0 3/4"	0'-9"	1'-10"	2'-10"	1 1/4"	1 3/4"
12"	0'-9 1/2"	6 3/8"	1'-6 1/2"	2'-10"	3/4"	1 1/4"
10"	8 1/2"	5 3/8"	1'-5"	2'-9"	3/4"	1 1/4"

LUGS								
Nominal pipe $\phi$	Flange size	A	D $\phi$	E	H <sub>2</sub>	H <sub>1</sub>	W	Z
24"	1/2"	6 3/4"	1 3/8"	3 3/8"	5"	2 1/2"	2 3/16"	6 1/16"
18"	1/2"	6 3/8"	1 3/8"	3 3/4"	5"	2 1/8"	2 9/16"	6 1/16"
12"	3/8"	3 3/8"	7/8"	3 1/8"	4 1/8"	2"	1 1/16"	3 1/2"
10"	3/8"	3 3/4"	7/8"	3 3/8"	4 1/8"	2"	1 1/16"	3 1/2"



TIE ROD  
DETAIL ⑦

NOTES  
For General Notes see 4795-6-6  
For Notes see 4795-6-6



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NO. BY REVISIONS DATE

RECOMMENDED *[Signature]*  
DATE *Dec 17/74*  
APPROVED *[Signature]*  
DATE *Dec 18/74*

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT NO. 3 - THE TOWNSHIP OF RICHMOND  
CONTRACT NO. 6  
DRAINAGE DISCHARGE STRUCTURES  
MECHANICAL DETAILS

DESIGNED	SURVEYED
DRAWN <i>[Signature]</i>	DATE
CHECKED <i>H.S.</i>	FILE NO. 02B1550-C10-6
SCALE Not to scale	DATE Dec. 1974
DWG. NO. 4795-6-18	SHEET OF SHEETS