

CHAPTER 9

TESTING & CERTIFICATION DATA

I N D E X

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CHAPTER 9TESTING & CERTIFICATION

Pressure Test by: John Griffiths and Forrest Krause
October 28, 1980

Procedure:

Gate Valve 1 and Gate Valve 2 closed.
Start pump, pressure built up to 600
KPa (87 PSI). Several leaks at the
Victaulic couplings.

Leaks to be repaired and retested
included on the deficiency list.

No leaks at 345 KPa 50 PSI and operating
pressure is 6.9 KPa (1 PSI) to 20.7 KPa
(3 PSI).

9-2
IGLOOLIK WATER SUPPLY SYSTEM

PROJECT 78-118

CONTRACT CT 79-30-316

DEFICIENCIES SEPTEMBER 4, 1980

OLIVER MANGIONE McCAI
& ASSOCIATES LIMITED

DEC 10 1980

RECEIVED

1. South Lake Pumphouse
 - .1 No gravel pad
 - .2 Pipe bedding incomplete
 - .3 Site cleanup
 - .4 Piping connection at the pump discharge is unacceptable
2. Truck Fill Station
 - .1 Remote start/stop station
 - .01 Arrangement to be revised to include one key only.
 - .02 Remote counter incorrectly wired. Requires a 120 V circuit, approved wire and fittings. (See also 4.1)
 - .03 Enclosure is not weatherproof (CEMA 4)
 - .2 Pump Control cabinet
 - .01 Labelling required
 - .02 Should contain a duplicate set of controls, one set wired for use, the second set maintained as a spare.
 - .03 Schematic on door to be revised.
3. Intake Piping
 - .01 Sleeving detail at the wall not per specification.
 - .02 Colour code for pump cables change at splice.
 - .03 Heat trace sensor wiring requires mechanical protection.
 - .04 One sensor lead not approved wiring. (Possible splice in wet area) Sensor must be ordered with correct lead lengths and positioned below low water level.

- 2 -

- .05 Require quick disconnects on sensor leads.
- .06 Victaulic elbow welded to flange fitting not acceptable.
- .07 If Victaulic connections are used in lieu of welded and flanged, additional supports and thrust bracing will be required.
- .08 Backwash fittings and hose required.
- .09 Replace flange bolts with bolts of correct length (nuts are used as spacers).

4. Chlorinator

- .1 Require receptacle for both mixer and chlorinator. (chlorinator receptacle only to be switched from pump control cabinet). Split duplex acceptable.
- .2 Label receptacles.
- .3 Hose and wall hanger.
- .4 Single control circuit for feed pump and water meter.

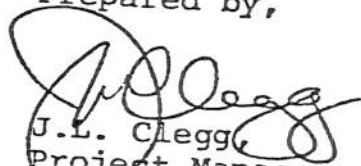
5. Other

- .01 Truck turnaround area incomplete.
 - .02 Electric heater not installed.
 - .03 Space heater and chimney not installed.
 - .04 Combustion air intake not installed.
 - .05 Fire extinguisher not to specification.
 - .06 Flexible hose required on overhead truck fill arm.
 - .07 Wiring for floor drain heat trace not to code. (Splice inside drain in steel floor is hazardous).
- NOTE: Acceptance by Safety Division required.

- 3 -

- .08 Oil storage tank mounted on steel and plywood. (Concrete specified).
- .09 All pipes through wall to be sleeved as per typical detail specified.

Prepared by,


J.L. Clegg,
Project Manager,
Project Management,
Engineering Division,
Department of Public Works.

c.c. O.M.M.
Ottawa & Igloolik

Back Bay Welding,
Yellowknife, N.W.T.

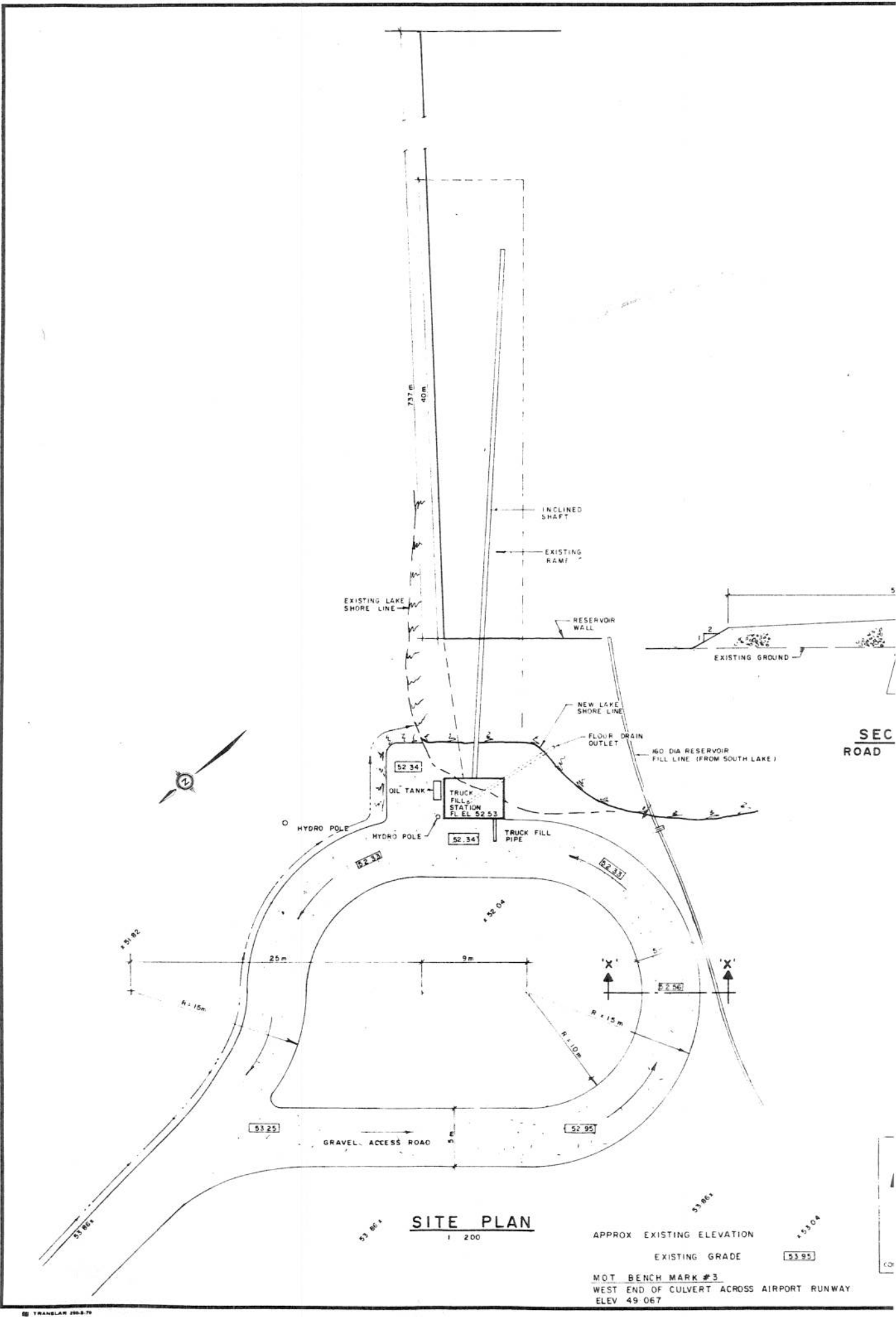
Hamlet of Igloolik,
Regional Engineer.

Local Government,
Yellowknife, N.W.T.

Frank Kelly,

NOTE:

1. Pump to be pulled on next inspection
2. Power to site by September 30.



SEC
ROAD

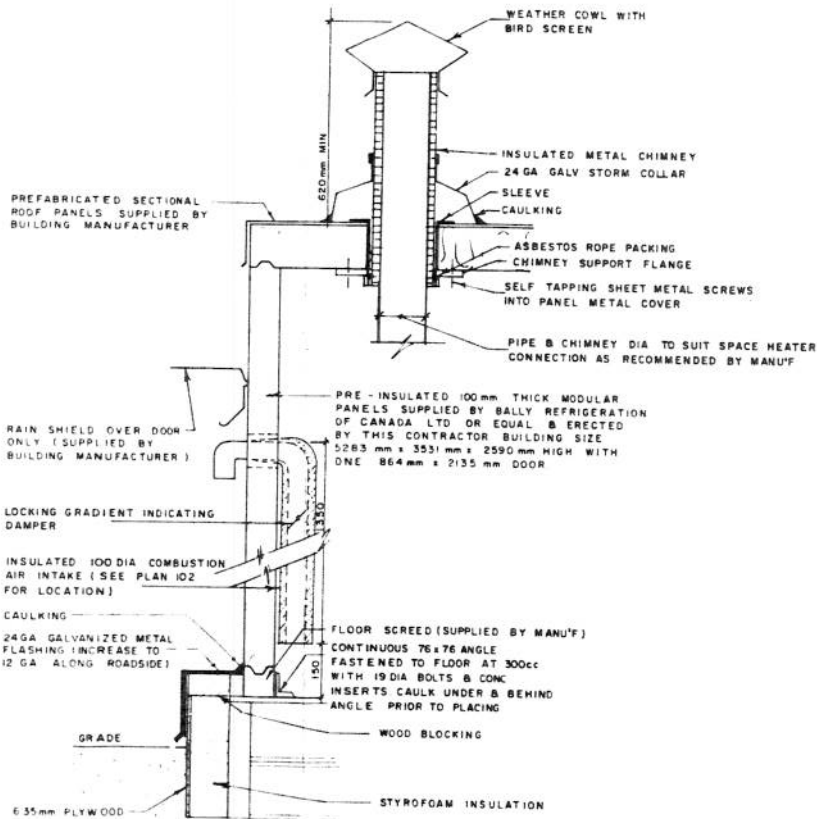
SITE PLAN

1 200

APPROX EXISTING ELEVATION

EXISTING GRADE

MOT BENCH MARK #3
WEST END OF CULVERT ACROSS AIRPORT RUNWAY
ELEV 49.067



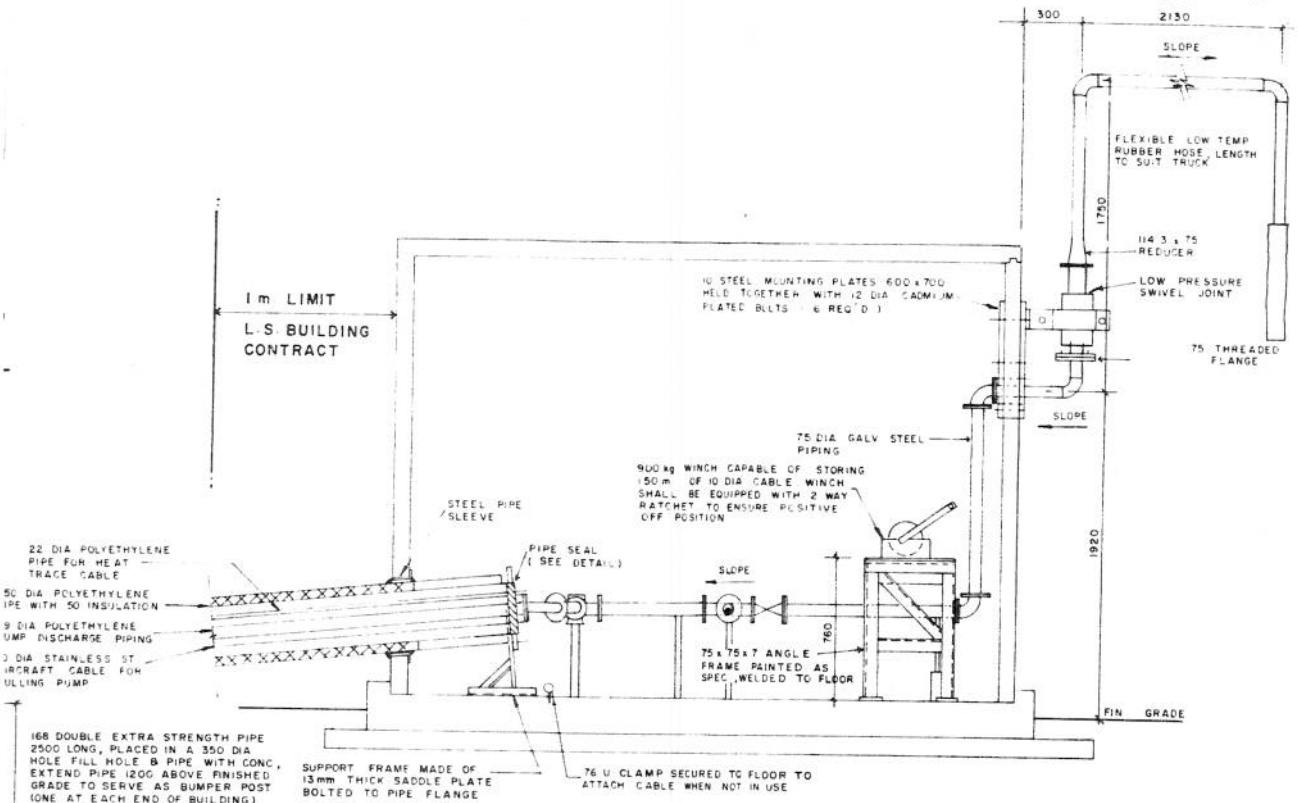
WALL FASTENING & ROOF DETAIL

NTS

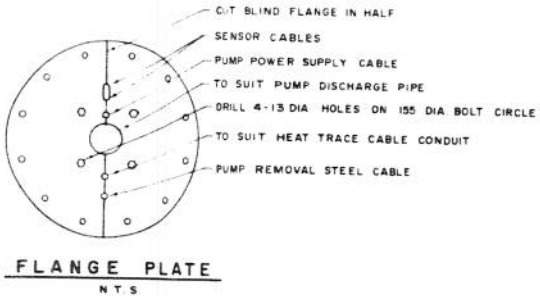
REVISIONS			
No	DATE	BY	APPROVED
2	10/1/79	W.H.K.	
1	14/7/80	SAD	

DESIGN W.H.K.
DRAWN W.D.C.
CHECKED J.B.M.

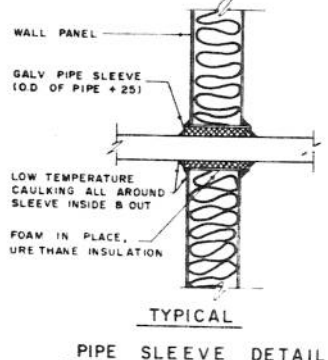
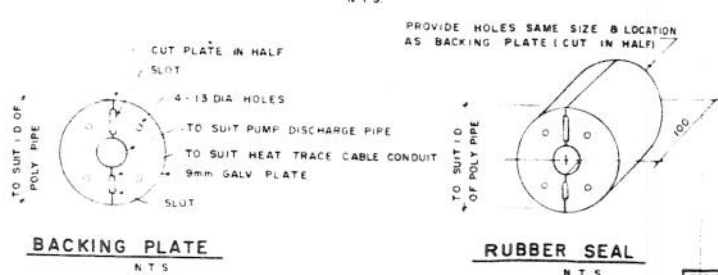
approved	chief	directo
CLIENT DEPARTMENT OF PUBLIC WORKS GOVERNMENT OF THE NORTHWEST TERRITORIES		
PROJECT WATER SUPPLY HAMLET OF IGLOOLIK		
TITLE TRUCK FILL STATION FLOOR SLAB, BUILDING DETAILS & SITE PLAN		
OLIVER MANGIONE McCALLA & ASSOCIATES LIMITED Consulting Engineers Ottawa, Ontario		
DATE MAY, 1979	SCALE AS SHOWN	DRAWING NO 78-1879 -101



SECTION 'B-B'



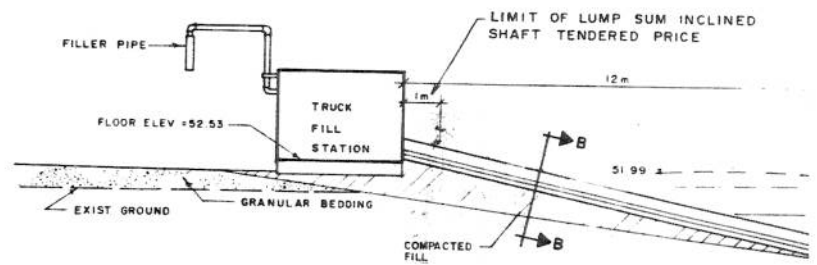
PIPE SEAL DETAIL



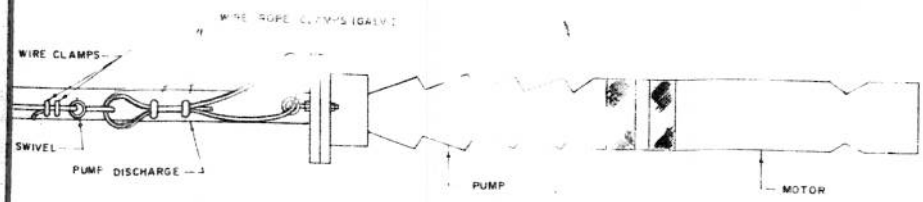
REVISIONS			
No	DESCRIPTION	DATE	BY
2	'AS BUILT'	22/10/80 SWK	
1	REDRAWN	14/7/80 SWK	
No		DATE	BY



approved	chief	director
CLIENT: DEPARTMENT OF PUBLIC WORKS GOVERNMENT OF THE NORTHWEST TERRITORIES		
PROJECT: WATER SUPPLY HAMLET OF IGLOOLIK		
TITLE: TRUCK FILL STATION PIPING DETAILS		
OLIVER MANGIONE McALLA & ASSOCIATES LIMITED Consulting Engineers Ottawa, Ontario		
DATE: MAY, 1979	SCALE: 1:20	DRAWING NO: 78-1879-102
CHECKED: W. J. KERR	DESIGN: W. J. KERR	REV: 2

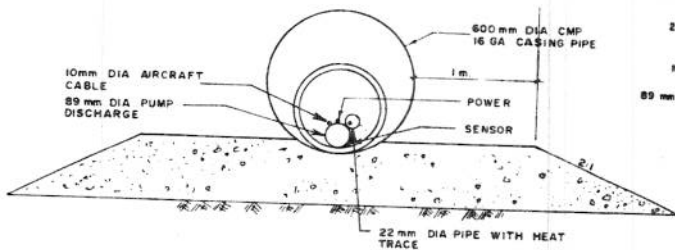


MOT BENCH MARK #3
WEST
ELEV 40.00



DETAIL OF PULLING CABLE ATTACHMENT TO PUMP
NTS

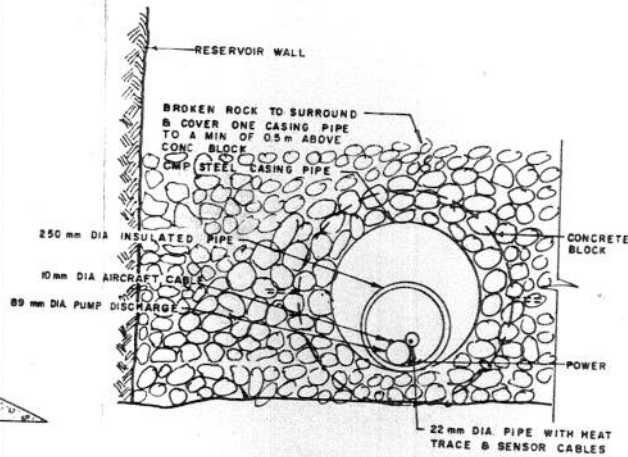
A
OLEY
CONSULTING



SECTION 'B'-B'

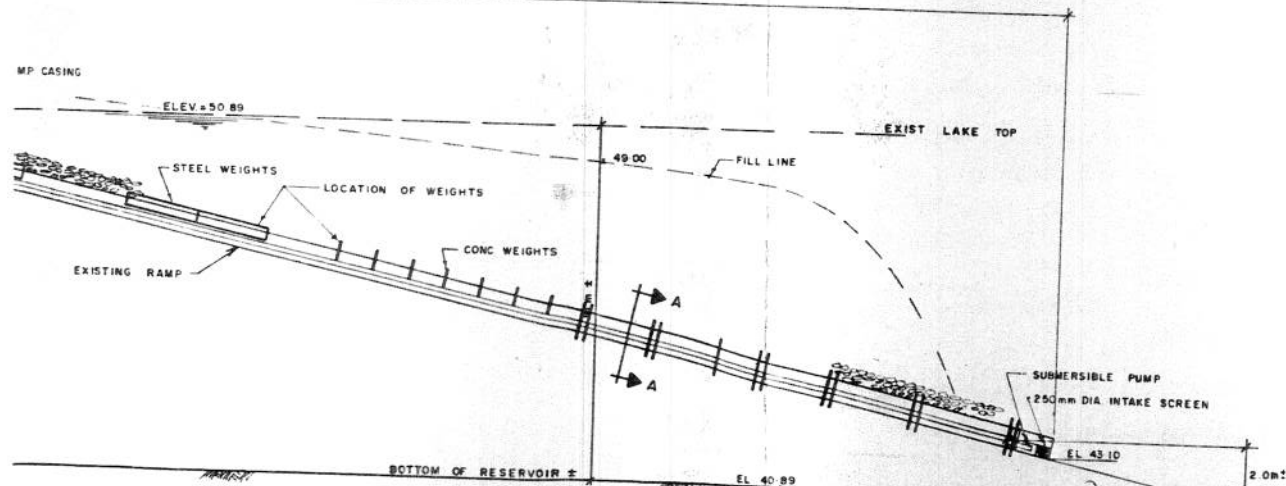
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34m



SECTION 'A'-A'

N.T.S.

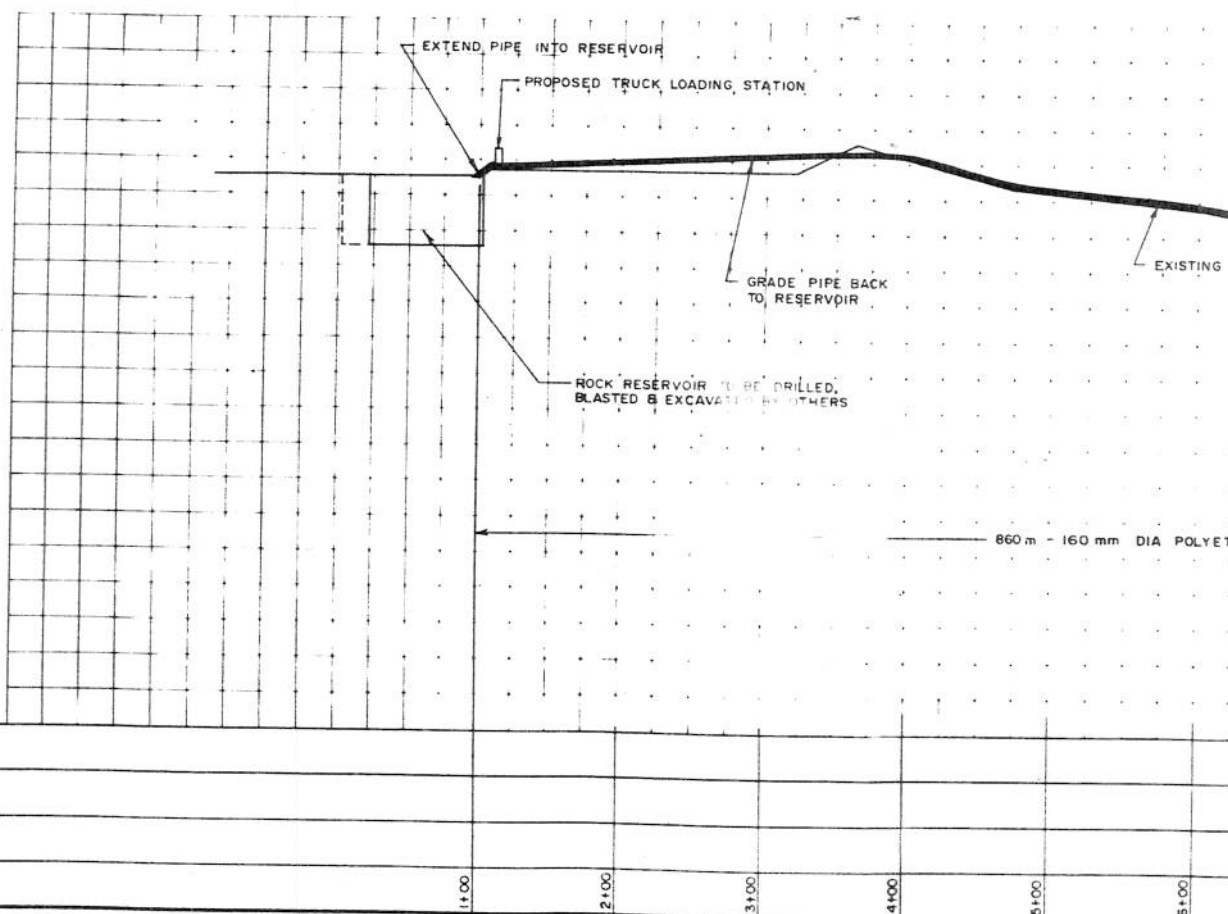
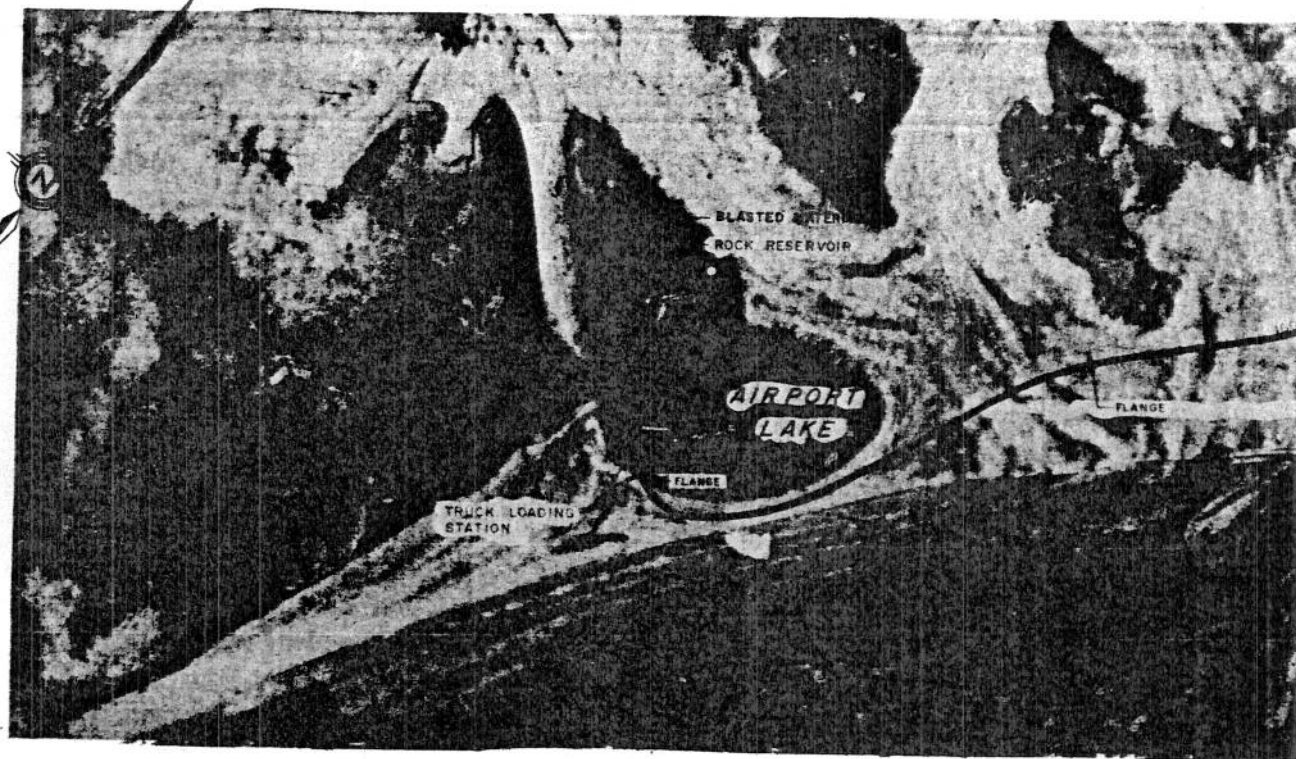


ELEVATION

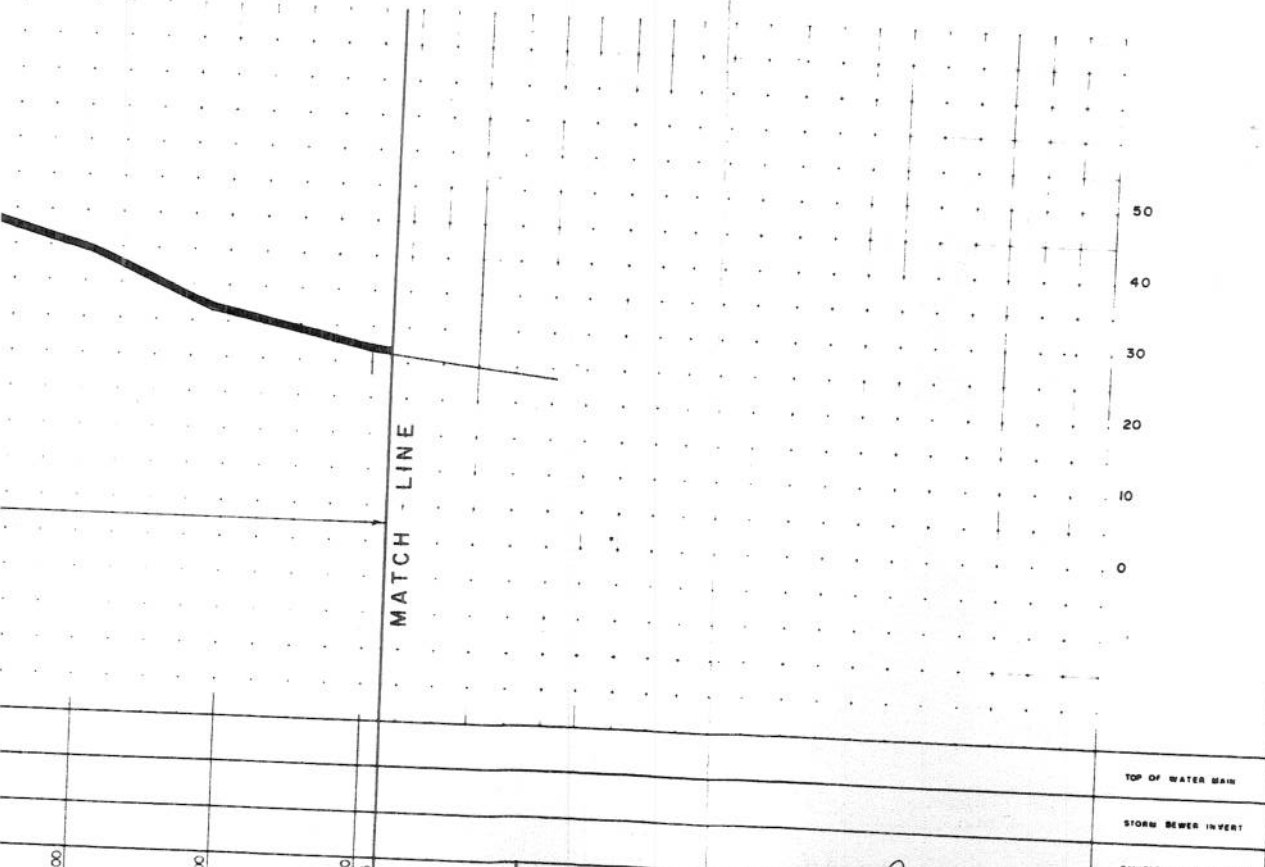
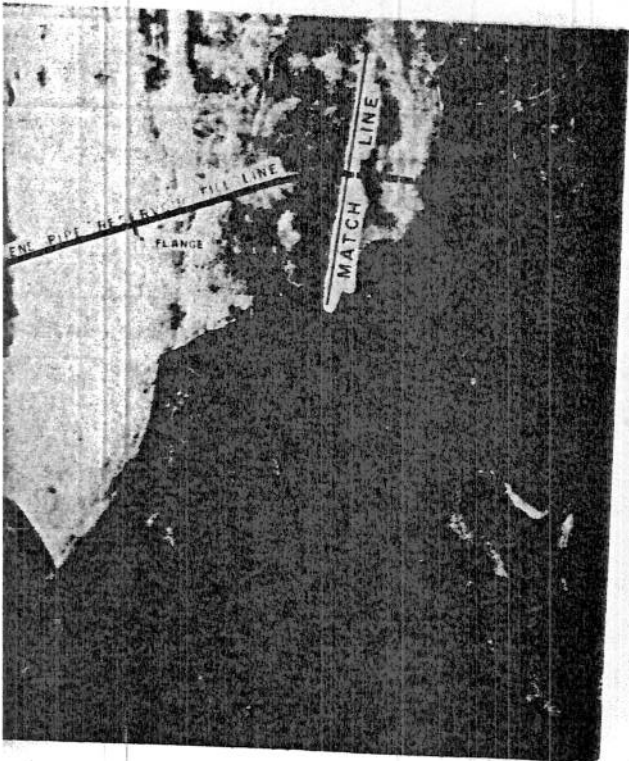
REVISIONS			
No	DATE	BY	APP'D
2	AS BUILT	22/10/85 WK	
1	GENERAL REVISIONS	14/7/80 SAD	



approved	<i>[Signature]</i>	Chief	<i>[Signature]</i>	Director
CLIENT	DEPARTMENT OF PUBLIC WORKS			
PROJECT	GOVERNMENT OF THE NORTHWEST TERRITORIES			
TITLE	WATER SUPPLY HAMLET OF IGLOOLIK			
INCLINED SHAFT PROFILE & DETAIL				
OLIVER MANGIONE McCALLA & ASSOCIATES LIMITED Consulting Engineers				
Ottawa, Ontario				
DATE	MAY, 1979	SCALE	AS SHOWN	DRAWING NO. 78-1879-103
DESIGN DRAWN CHECKED	W. H. R. G. J. R. V. B. M.	DATE	MAY, 1979	REV 2

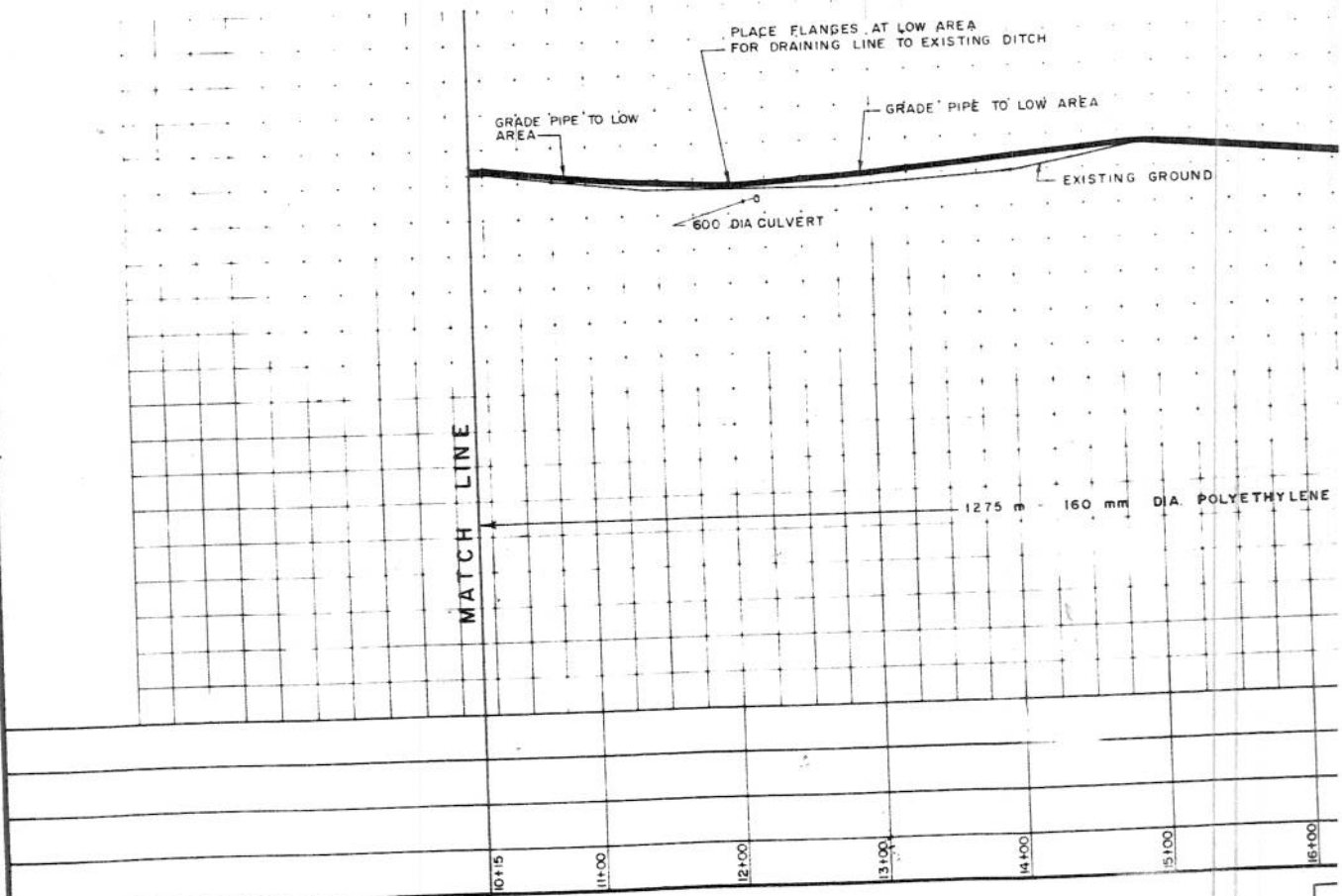
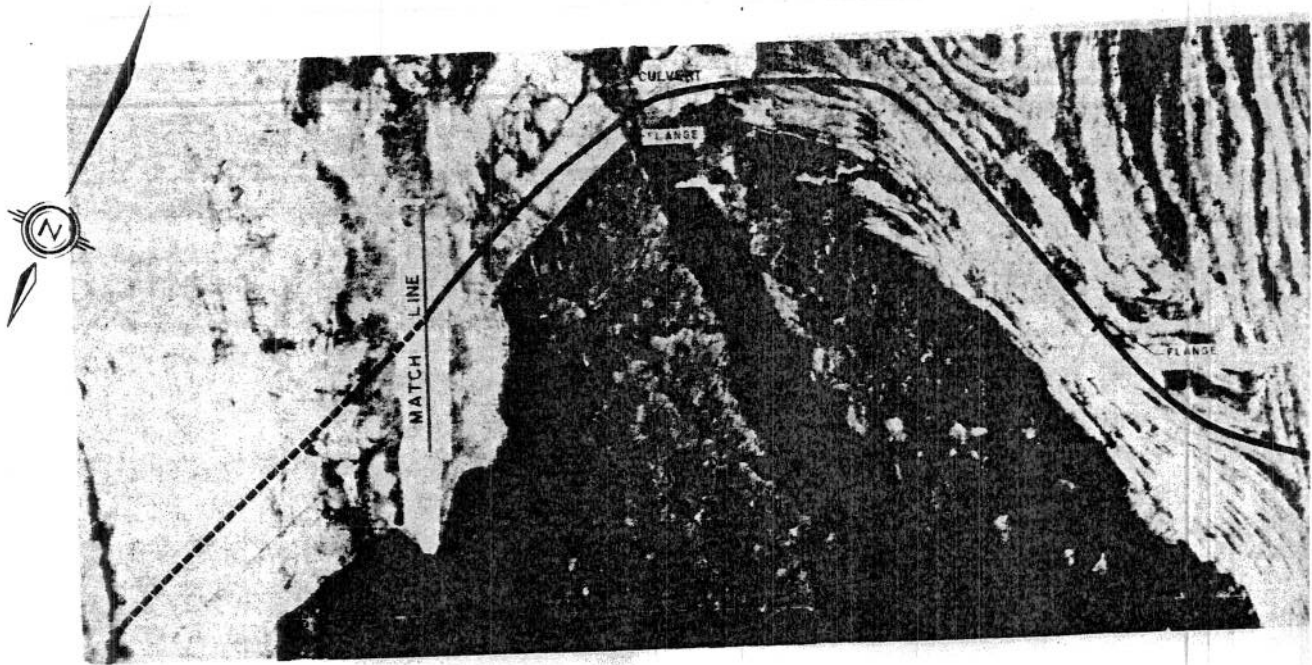


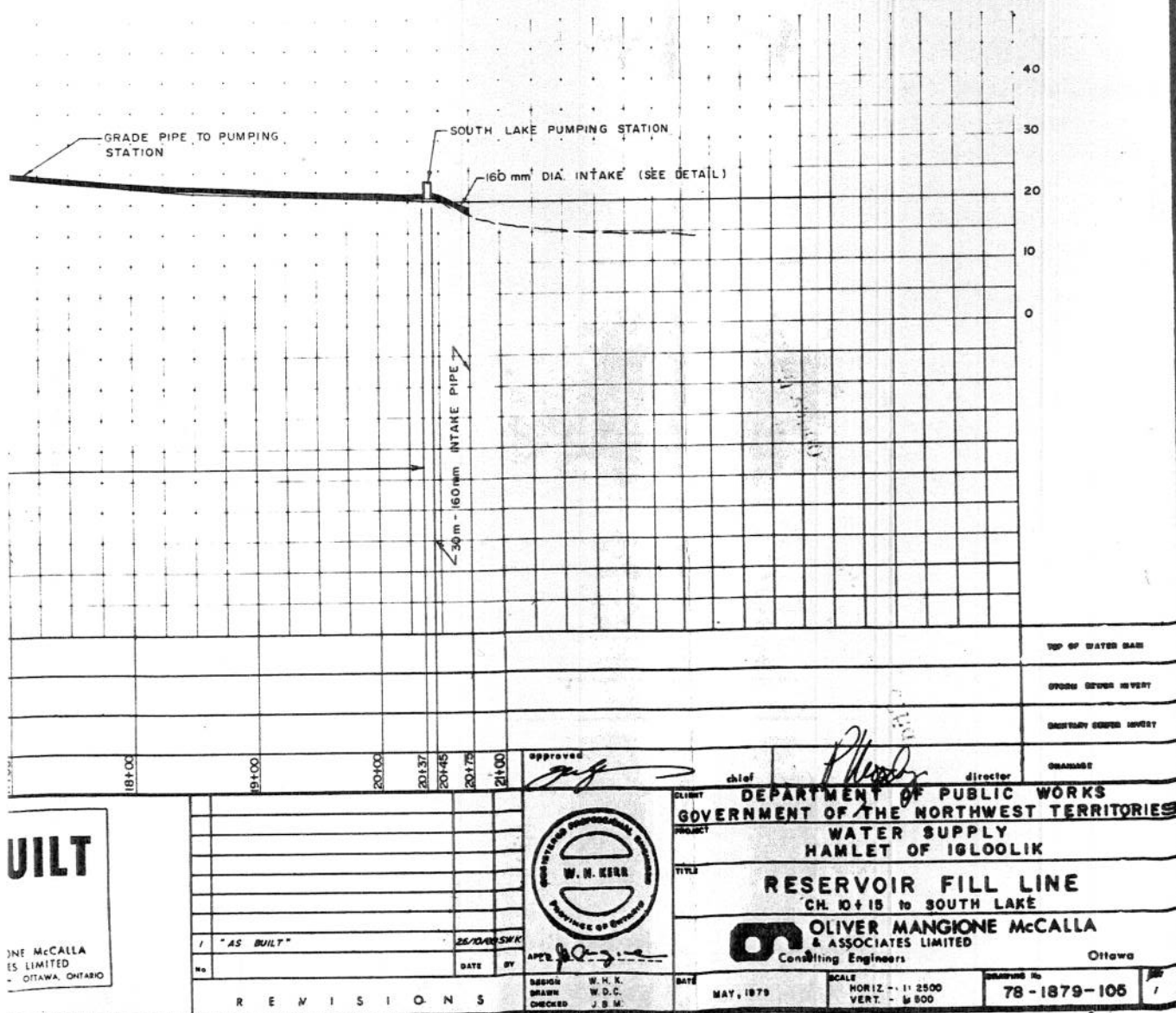
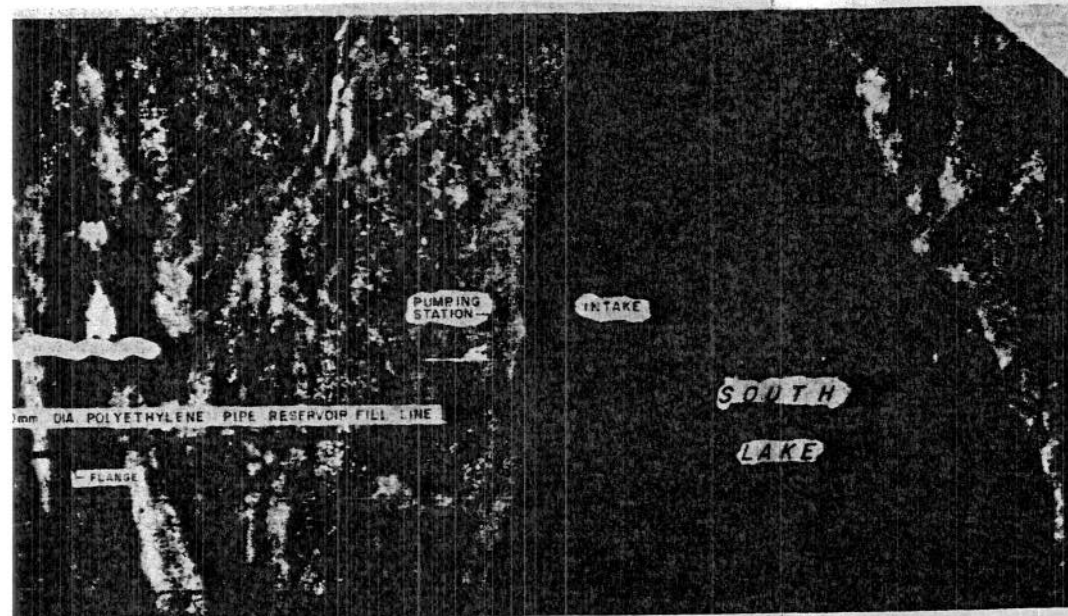
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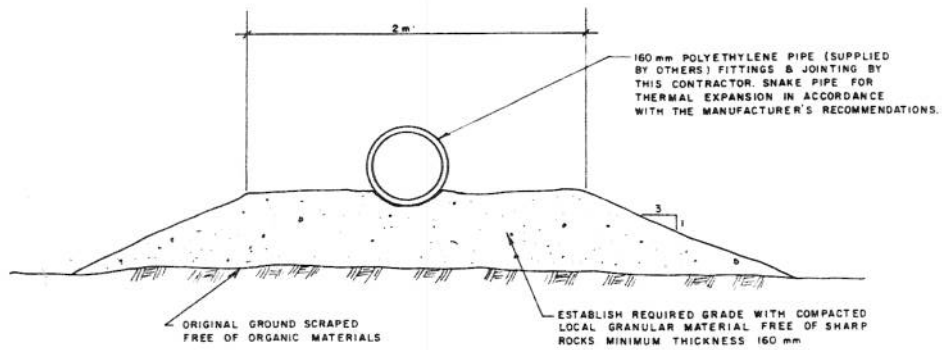


approved <i>[Signature]</i> chief		director <i>[Signature]</i>	
CLIENT: DEPARTMENT OF PUBLIC WORKS GOVERNMENT OF THE NORTHWEST TERRITORIES			
PROJECT: WATER SUPPLY HAMLET OF IGLOOLIK			
TITLE: RESERVOIR FILL LINE AIRPORT LAKE to CH. 10+15			
ENGINEER: OLIVER MANGIONE McCALLA & ASSOCIATES LIMITED Consulting Engineers Ottawa			
DESIGN: W.H.K. DRAWN: W.D.C. CHECKED: J.B.M.		DATE: MAY, 1979	SCALE: HORIZ. - 1" = 2500'
DRAWING No. 700-1000		REV. 1	

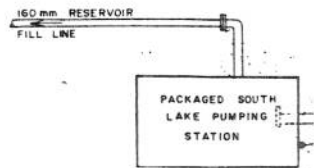
REVISIONS		
No.	DATE	BY
1		"AS BUILT"



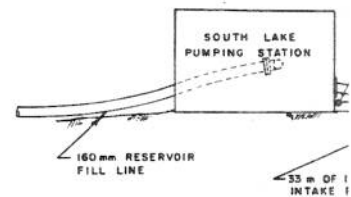


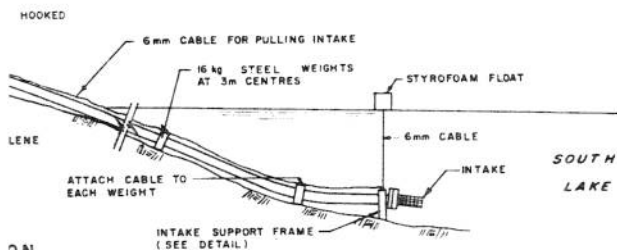
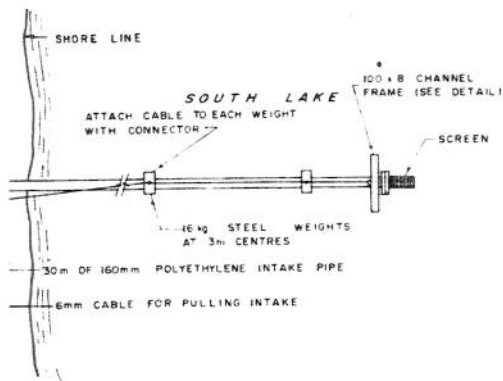


**TYPICAL PIPE BEDDING DETAIL
FOR RESERVOIR FILL LINE**
N.T.S.

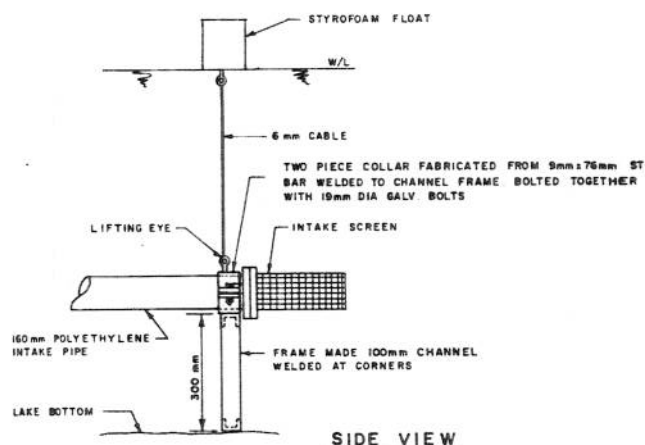


NOTE
1 LOCATION OF RESERVOIR FILL LINE DISCHARGE LINE PIPES TO SUIT PUMPING STATION

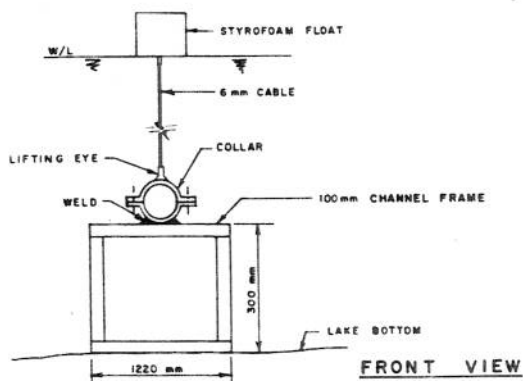




DETAIL



SIDE VIEW



INTAKE SUPPORT FRAME DETAIL

N.T.S.

approved <i>[Signature]</i>		chief <i>[Signature]</i>	director <i>[Signature]</i>
1	"AS BUILT"	DESIGNED BY <i>[Signature]</i>	
DATE	BY	APPROVED <i>[Signature]</i>	
R E V I S I O N S			
DESIGN	W. M. K.		
DRAWN	W. D. C.		
CHECKED	J. B. M.		

CLIENT	DEPARTMENT OF PUBLIC WORKS		
GOVERNMENT OF THE NORTHWEST TERRITORIES			
PROJECT	WATER SUPPLY HAMLET OF IGLOOLIK		
TITLE	RESERVOIR FILL LINE & SOUTH LAKE INTAKE DETAIL		
 OLIVER MANGIONE McCALLA & ASSOCIATES LIMITED Consulting Engineers			
		Ottawa, Ontario	
DATE	SCALE	DRAWING NO.	REV
MAY 1, 1979	AS SHOWN	78-1879-106	1

POWER AND SENSOR WIRING FOR PIPE TRACING CABLE TO
CABLE CONTROL PANEL PROVIDE 'TWIST-LOCK' PLUG &
RECEPTACLE AT PIPE ENTRANCE.

WATER PUMP CONTROL/STARTER
BY ELECTRICAL PROVIDE
SPACE FOR START CAPACITOR.

FLEXIBLE POWER WIRING TO SUBMERSIBLE PUMPS
BY PUMP MANUFACTURER

INDICATES DUPLEX RECEPTACLE MOUNTED
150 A.F.F. 6" WEATHERPROOF SPRING
LOADED COVERPLATE

ELECTRIC UNIT HEATER
CEILING MOUNTED.
BRW. 240V 10. CCT. A1/S.

ELECTRICAL SERVICE MAST WITH
WEATHERHEAD 4500 ABOVE GROUND
THROUGH 4" DR. HOLE IN WALL
WITH 1" CONNECTION THROUGH
WALL TO MAIN DISCONNECT
PROVIDE SUITABLE WEATHERHEAD
AND STRAIN RELIEF TERMINATIONS
FOR ENTRANCE CABLES OVERHEAD
100A SERVICE BY OTHERS

PANEL 'A' SEE DETAIL BELOW
& SPECIFICATIONS

PIPE TRACING CABLE FOR DRAIN LINE
COMPLETE WITH ON/OFF SWITCH CCT A16
INSTALL INSIDE DRAIN WITH WATERTIGHT
FITTING

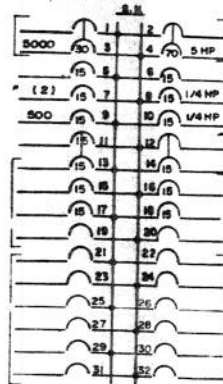
CAPACITOR

RELAY & THERMOSTAT

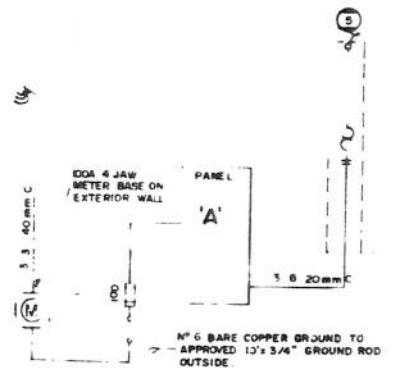
PLAN
SCALE 1:20 METRIC

PANEL 'A'
120/240 VOLT 1 PH 3W
100 AMP MAINS
SURFACE MOUNTED

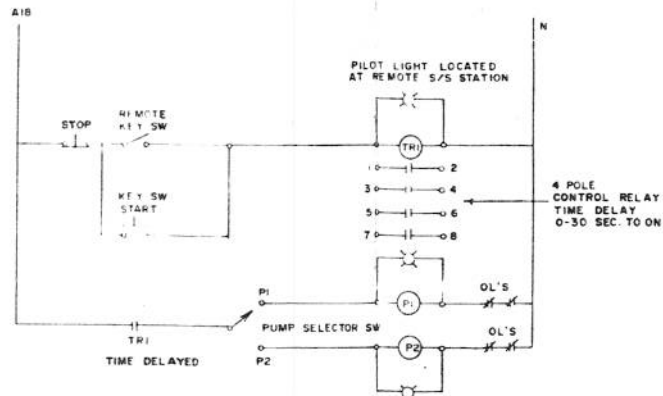
UNIT HEATER
SPARE
RECEPTACLES
LIGHTING
GROUND FAULT BREAKER
SPARES
SPACES



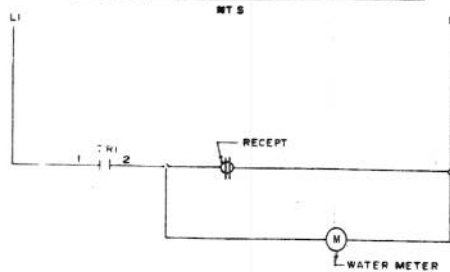
WATER PUMP
POWER SUPPLY
FROST ALARM
CHEMICAL FEED PUMP & WATER METER
CHEMICAL MIXER
TRACING CABLE FOR
PUMP LINE
FLOOR DRAIN TRACING CABLE
PUMP CONTROL PANNEL
SPARE
SPACES



120/240V. 1 Ø. 3W. RISER DI
NTS

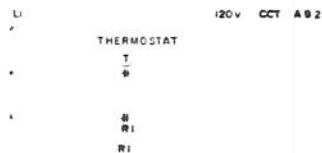


WATER PUMP CONTROL PANEL



CHEMICAL FEED PUMP CONTROLS

N.T.S.



TYPE "2" FIXTURE CONTROLS

N.T.S.

- * CONTROL RELAY
- * TYPE "2" FIXTURE (RED SIDE)
- * TYPE "2" FIXTURE (GREEN SIDE)

WATER METER INTERLOCK WITH PUMP
CCT A16

CHEMICAL MIXER
HP 120V 1/8 CCT A10

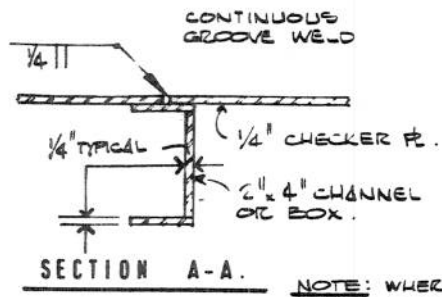
CHEMICAL FEED PUMP
HP 120V 1/8 CCT A8

KEY OPERATED
REMOTE STOP/START STATION FOR
WATER PUMP. WALL MOUNTED IN
CEMA 4 ENCLOSURE

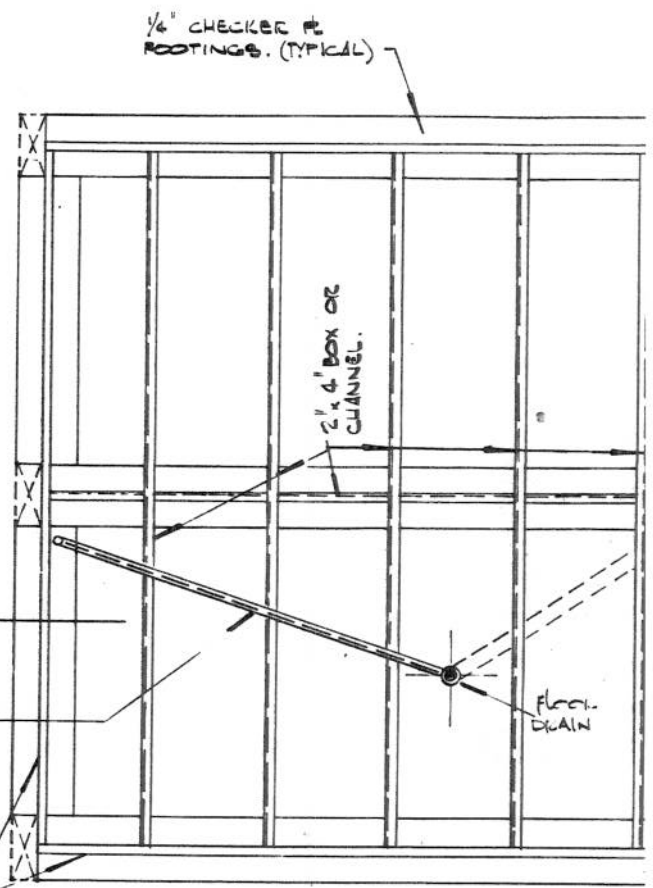
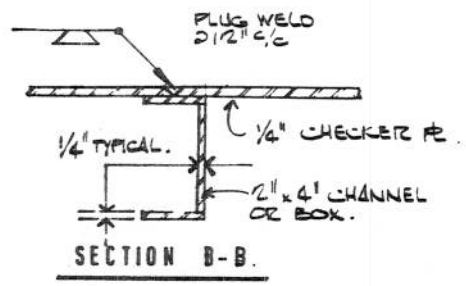
TYPE "2" FIXTURE MOUNTED 2300A F.F.
WIRE THROUGH THERMOSTAT B
CONTROL RELAY MOUNTED ON 40mm RIGID
CONDUIT 4500mm ABOVE GRADE



6 "AS BUILT"		23/08/80 SWK		CLIENT	DEPARTMENT OF PUBLIC WORKS
5 WATER METER, CONTROLS		14/8/80 DH.		GOVERNMENT OF THE NORTHWEST TERRITORIES	
4 GENERAL REVISIONS		15/7/80 CAS		PROJECT	WATER SUPPLY
3 ADDED NOTE RE: RAIN-TIGHTNESS		10/3/80 SJR			HAMLET OF IGLOOLIK
2 CONTROL DIA'S. REV'D.		8/26/80 C.M.		FILE	TRUCK FILL STATION
1 GENERAL REVISION		12/7/79 C.M.			ELECTRICAL DETAILS
No.	1	DATE	BY	OLIVER MANGIONE McCALLA & ASSOCIATES LIMITED Consulting Engineers Ottawa Ontario	



NOTE: WHERE PLATE JOINTS OCCUR BETWEEN SUPPORTS INSTALL LIGHT ANGLE OR PLATE SECTION BACK UP TO WELDED JOINTS.



2" x 5 1/2" BOX. TYP. AT PERIMETER.

PLAN
1/2" = 1'-0"

4" BALLY BUILDING WALL.

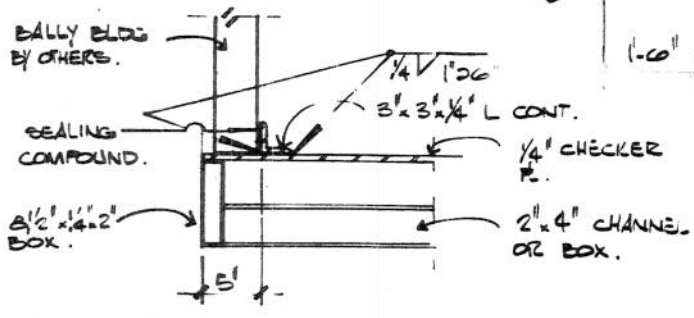
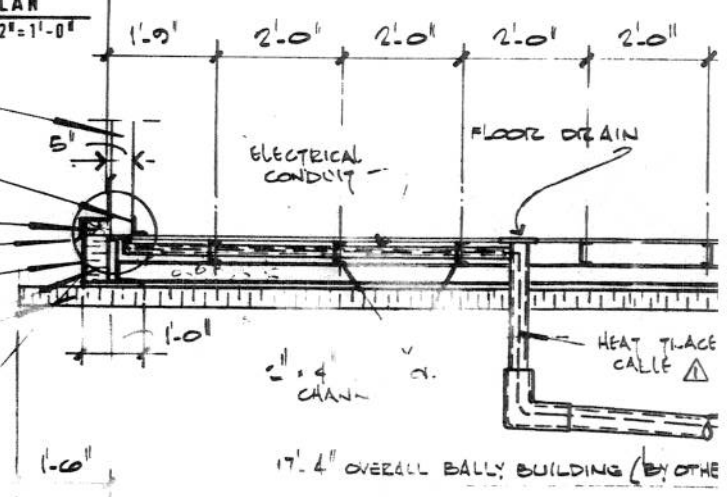
CONT. 3" x 3" x 1/4" L. WELDED TO STEEL FLOOR.

2" x 5" WOOD SPACER

METAL FLASHING WITH CAULKING.

1/4" PLYWOOD

4" HI-35 STYROFOAM.



TYPICAL DETAIL AT EXTERIOR WALLS.

S L O N
1/2" = 1'-0"

NOTES

1. MATERIALS:

ALL STEEL PLATES TO
C.S.A. G40.1 STANDARDS.

ALL WELDING TO CONFORM
TO C.S.A. W59.1.

2. FLOOR SHALL BE LEVEL
NO SLOPES TO DRAIN.

3. BALLY B.D.G. SHALL SIT ON
STEEL NOT ON WOOD BLOCKS.

4. ALL BOX AND CHANNEL
SECTIONS ARE FABRICATED
FROM 1/4" PLATE, CONTINUOUSLY
WELDED AT JOINTS.

AS BUILT

OLIVER M. MANGIONE MCCALLA
& ASSOCIATES LIMITED
CONSULTING ENGINEERS - OTTAWA, ONTARIO

REVISIONS

△ HEAT TRACE CABLE 7-10-80 CAG

△ R. E. VILT 01-2-85 CAG

Oliver
Mangione
McCalla



And
Associates Limited

CONSULTING ENGINEERS
1500-1500 DRIVE
OTTAWA, ONTARIO, K1H 8H4
CANADA
416-763-3944

CLIENT

DEPARTMENT OF PUBLIC WORKS
GOVERNMENT OF THE NORTHWEST
TERRITORIES

PROJECT

WATER SUPPLY
HAMLET OF IGLOOLIK.

DRAWING

TRUCK FILL STATION
PLATFORM DETAILS.

DESIGNED BY

K.A.

DRAWN BY

R.L.

CHECKED BY

DATE

JUNE 1980

SCALE

AS NOTED.

PROJECT NO. 78-1079

DRAWING NO.

S1.

REVISION NO.

1

