

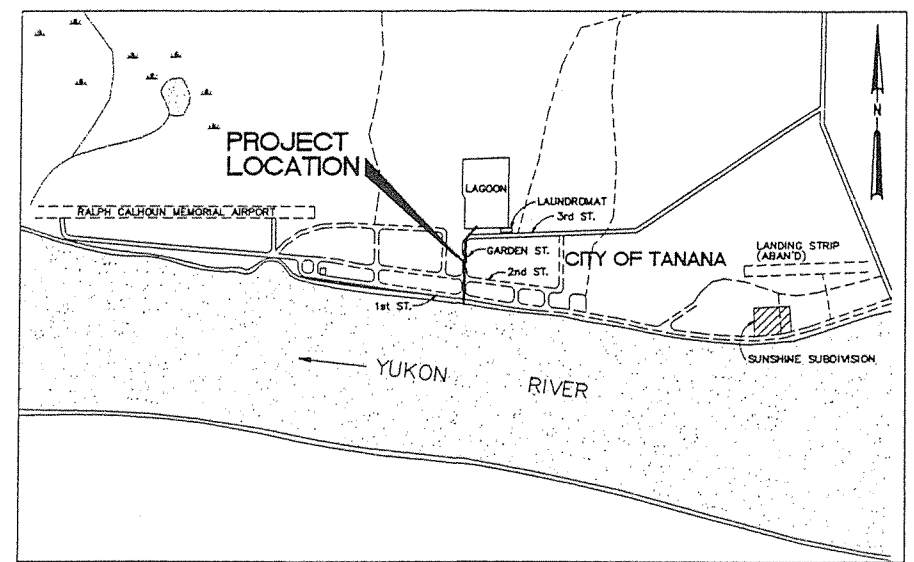
1996

Too'gha, Inc. Tanana, Alaska

TANANA LAGOON EFFLUENT DESIGN December 1996

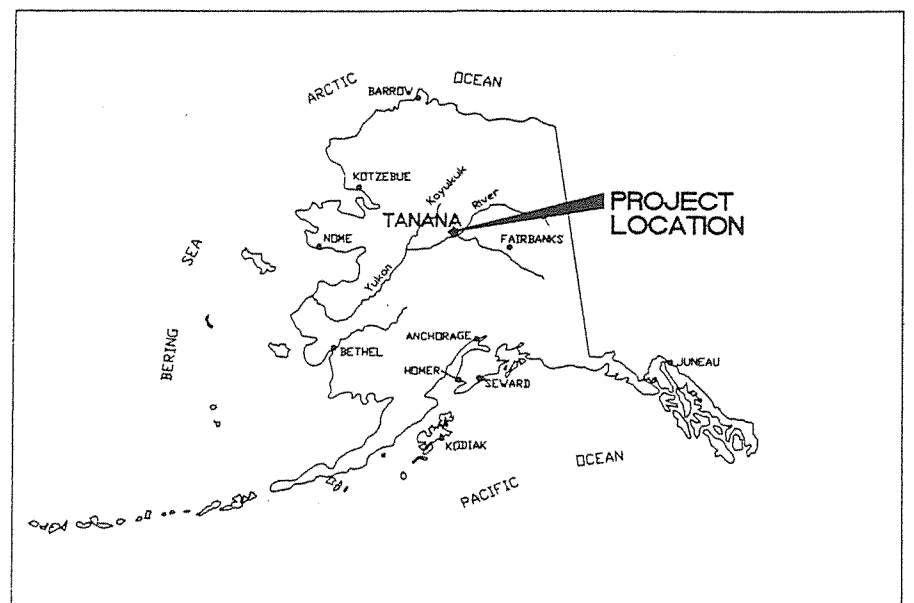
SHEET INDEX

| No. | Title |
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| 2 | SITE PLAN AND BASIS OF SURVEY |
| 3 | EFFLUENT LINE PLAN AND PROFILE |
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Area Map

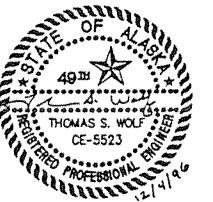
In Cooperation with the State of Alaska
Department of Environmental Conservation
Village Safe Water Program



Location Map




301 W. Northern Lights Blvd.
Suite 601
Anchorage, Alaska 99503
PH (907)278-2551
FAX (907)277-9736



Consultant

RECORD DRAWING CERTIFICATE



THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.

NAME _____ DATE _____

Project Number (Consultant) 136091 (VSW) _____

VSW Project Engineer LYNN MARINO, P.E.

Construction Foreman _____

Final Design (Date) DECEMBER 1996

ADEC Approval (Date) _____

















Construction Period (From) _____ (To) _____

As-Builts (Date) _____

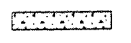
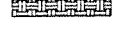
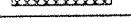
ABBREVIATIONS

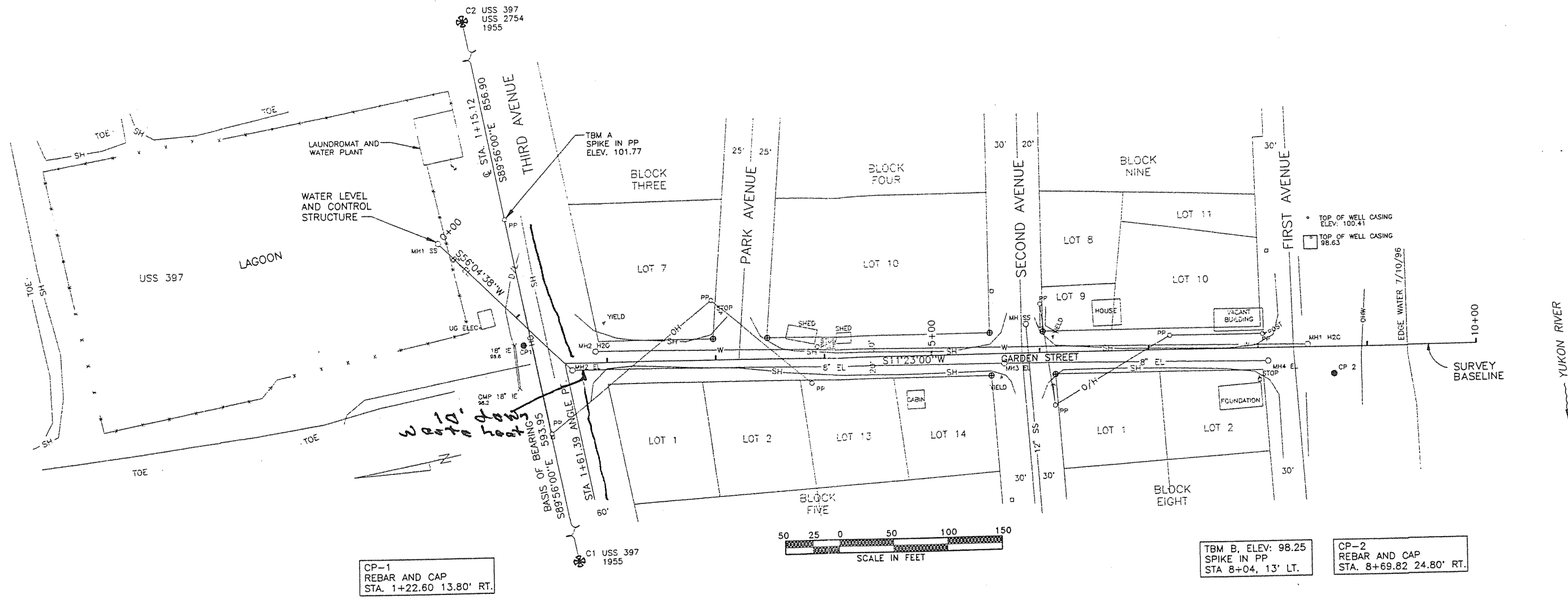
| | | | |
|------|-----------------------|--------|-----------------------|
| BLDG | BUILDING | NFS | NON FROST SUSCEPTABLE |
| BOT | BOTTOM | NTS | NOT TO SCALE |
| CL | CENTER LINE | O.D. | OUTSIDE DIAMETER |
| CMP | CORRUGATED METAL PIPE | OHW | ORDINARY HIGH WATER |
| CSP | CORRUGATED STEEL PIPE | PJB | POWER JUNCTION BOX |
| C.O. | CLEAN OUT | RD | ROAD |
| CONC | CONCRETE | REQ'D | REQUIRED |
| CULV | CULVERT | R.O.W. | RIGHT OF WAY |
| DIA | DIAMETER | R.P. | REFERENCE POINT |
| E | EAST | SS | SANITARY SEWER |
| EL | EFFLUENT LINE | SCHED | SCHEDULE |
| ELEV | ELEVATION | SHT | SHEET |
| ELEC | ELECTRICAL | SPEC'S | SPECIFICATIONS |
| EXST | EXISTING | STA | STATION |
| FM | FORCE MAIN | TBM | TEMPORARY BENCHMARK |
| GS | GRAVITY SEWER | TJB | TERMINAL JUNCTION BOX |
| H | HORIZONTAL | TYP | TYPICAL |
| IE | INVERT ELEVATION | VERT | VERTICAL |
| INV | INVERT | W | WATER |
| MAX | MAXIMUM | W | WEST |
| MIN | MINIMUM | W.S. | WATER SURFACE |
| N | NORTH | | |

LEGEND

| | | |
|---------------------------------------------------------------------------------------|----------|------------------------------------------------|
|  | EXISTING | ALUM. PRIMARY MONUMENT STAMPED 2238S RECOVERED |
|  | | BLM BRASS CAP MONUMENT RECOVERED |
|  | | BRAKER BOX |
|  | | BUILDING |
|  | | CULVERT |
|  | D/L | DITCH LINE |
|  | | FENCE |
|  | | GUY AND ANCHOR |
|  | OHW | ORDINARY HIGH WATER LINE |
|  | O/H | OVERHEAD LINES |
|  | | PHONE PEDESTAL |
|  | PP | POWER POLE |
|  | | SET REBAR AND CAP STAMPED 6094-S |
|  | SS | SANITARY SEWER |
|  | MH SS | SEWER MANHOLE |
|  | SH | SHOULDER |
| | STOP | SIGN |
| | | SPOT ELEVATION (TYP.) |
| | TOE | TOE OF SLOPE |
| | W | WATER |
| | MH H2O | WATER MANHOLE |

MATERIALS SYMBOLS

| | |
|---------------------------------------------------------------------------------------|---------------------|
|  | CONCRETE |
|  | EMBANKMENT MATERIAL |
|  | RIGID INSULATION |



CP-1
REBAR AND CAP
STA. 1+22.60 13.80' RT.

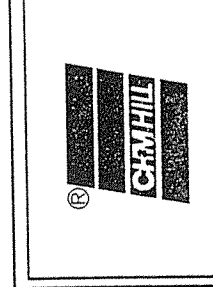
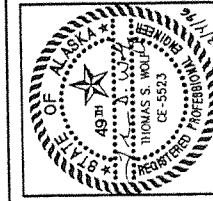
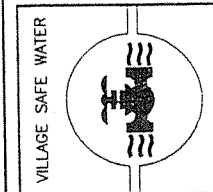
TBM B, ELEV: 98.25
SPIKE IN PP
STA 8+04, 13' LT.

CP-2
REBAR AND CAP
STA. 8+69.82 24.80' RT.

NOTES

- THIS TOPOGRAPHIC SURVEY OF THE EXISTING SEWER OUTFALL LINE WAS PERFORMED FOR CH2M HILL, AND IS FOR THEIR USE IN PREPARATION OF PLANS FOR REPLACEMENT OF THE SEWER OUTFALL LINE. FIELD SURVEYS WERE PERFORMED ON JULY 9-10, 1996.
- BASIS OF BEARING IS THE NORTHERLY BOUNDARY OF USS 2754A, BASED ON RECOVERED MONUMENTS AS SHOWN. ALL PARCELS AND RIGHT OF WAY LINES ARE DEPICTED AS SHOWN ON SAID PLAT OF SURVEY.
- NO TITLE SEARCH WAS PERFORMED IN CONNECTION WITH THIS SURVEY, NOR HAS ANY DETERMINATION BEEN MADE OF OWNERSHIP OF LOTS AND ENCROACHMENTS.
- THE BASIS OF ELEVATION IS 99.8, THE NORTH RIM OF WATER MANHOLE # 2, PER THE VSW PLANS IN THE CITY OF TANANA OFFICE.
- ASBUILTS IN THE CITY OF TANANA OFFICE INDICATE THAT A BURIED FORCE MAIN SEWER WAS INSTALLED ABOVE THE EFFLUENT LINE BETWEEN MH1 AND MH3.
- LOCATION OF UNDERGROUND UTILITIES IS BASED UPON RECORD DRAWINGS AND THE EVIDENCE OF ABOVE GROUND IMPROVEMENTS. UTILITY OPERATORS SHOULD BE CONTACTED BEFORE ANY EXCAVATION.

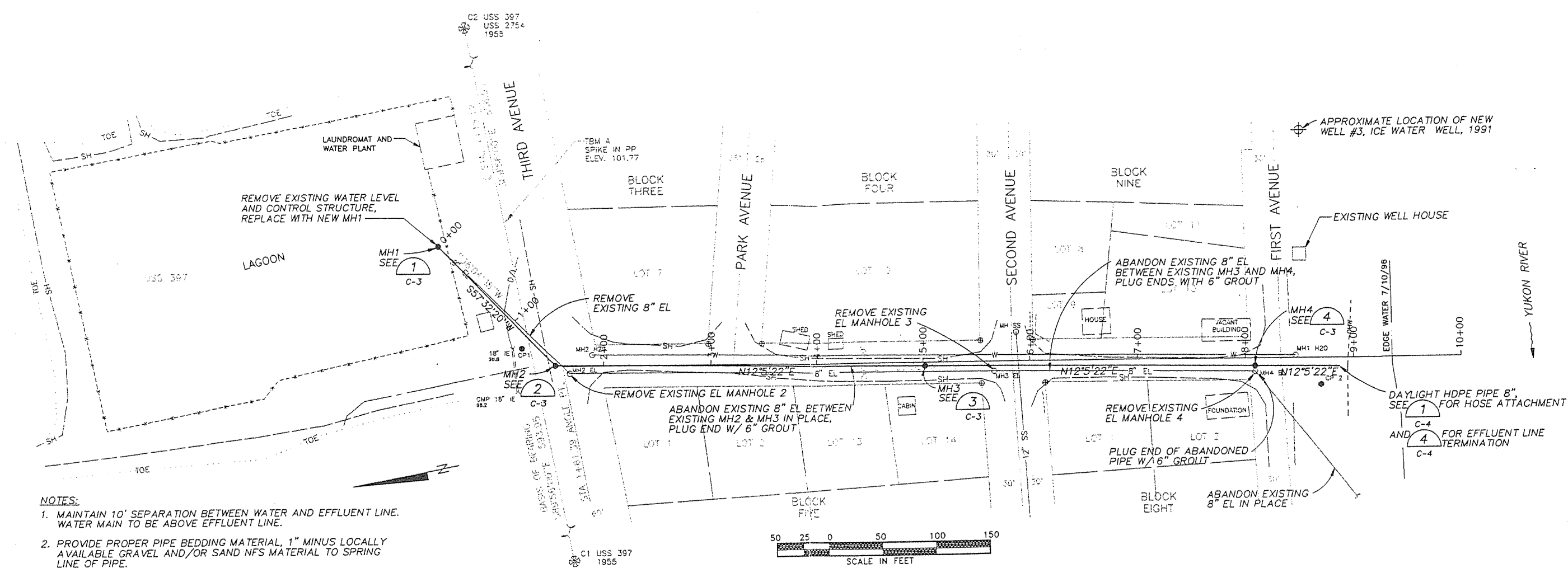
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NAME _____ DATE _____



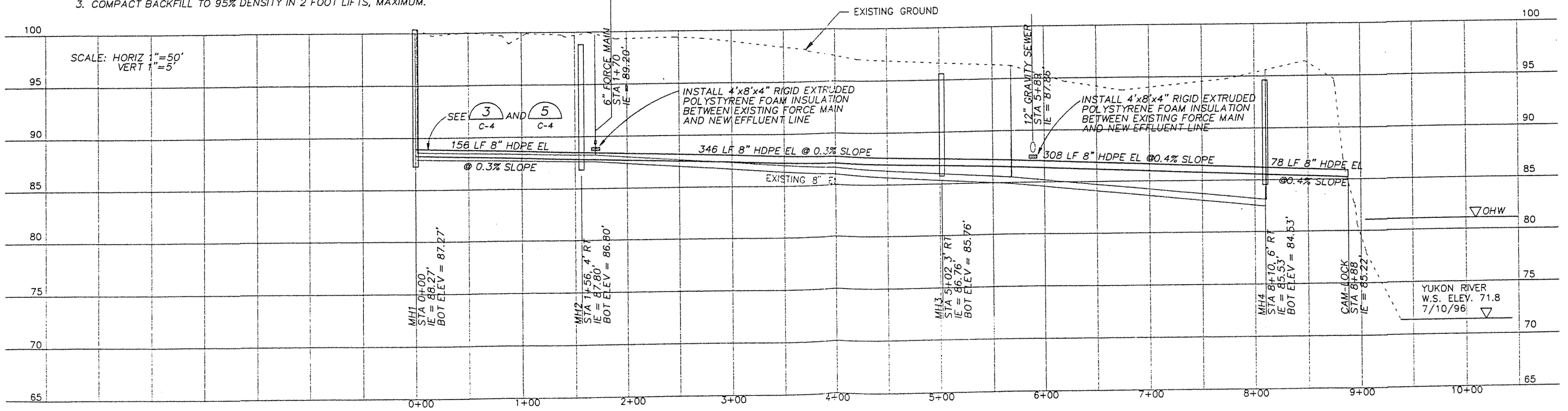
Too gha, Inc.
Tanana, Alaska
TANANA LAGOON EFFLUENT DESIGN
SITE PLAN AND BASIS OF SURVEY

| REVISION | BY | DATE |
|----------|----|------|
| | | |
| | | |

Project No. 136091
Date 12-04-96
Designed K. Flowers
Drawn R. Bentfield
Approved T. Wolf

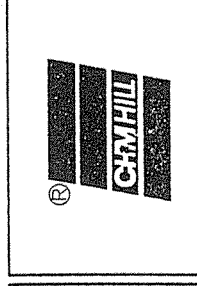
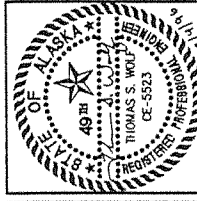
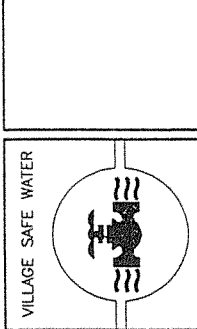


- NOTES:**
1. MAINTAIN 10' SEPARATION BETWEEN WATER AND EFFLUENT LINE. WATER MAIN TO BE ABOVE EFFLUENT LINE.
 2. PROVIDE PROPER PIPE BEDDING MATERIAL, 1" MINUS LOCALLY AVAILABLE GRAVEL AND/OR SAND NFS MATERIAL TO SPRING LINE OF PIPE.
 3. COMPACT BACKFILL TO 95% DENSITY IN 2 FOOT LIFTS, MAXIMUM.



RECORD DRAWING CERTIFICATE

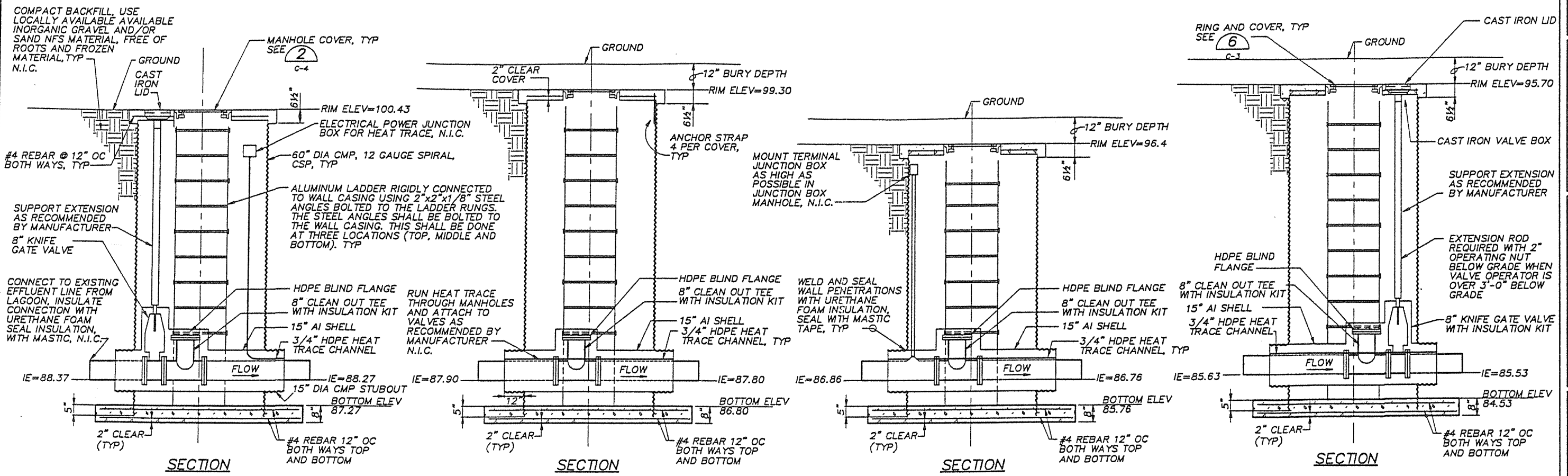
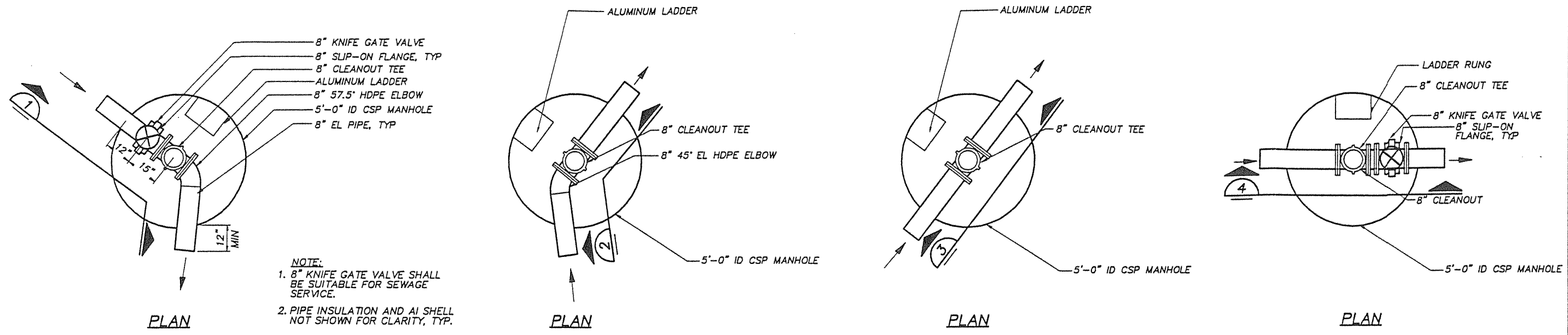
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Tanana, Alaska
TANANA LAGOON EFFLUENT LINE DESIGN
EFFLUENT LINE
PLAN AND PROFILE

| REVISION | BY | DATE |
|----------|----|------|
| | | |
| | | |
| | | |

Project No. 136091
 Date 12-04-96
 Designed K. Elvander
 Drawn R. Branfield
 Approved T. Haff



MANHOLE 1 DETAIL 1
1/2"=1'-0" C-2

MANHOLE 2 DETAIL 2
1/2"=1'-0" C-2

MANHOLE 3 DETAIL 3
1/2"=1'-0" C-2

MANHOLE 4 DETAIL 4
1/2"=1'-0" C-2

GENERAL NOTES:
N.I.C. - NOT IN CONTRACT

RECORD DRAWING CERTIFICATE
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VILLAGE SAFE WATER

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
THOMAS S. WALF
CE-4523
REGISTERED PROFESSIONAL ENGINEER

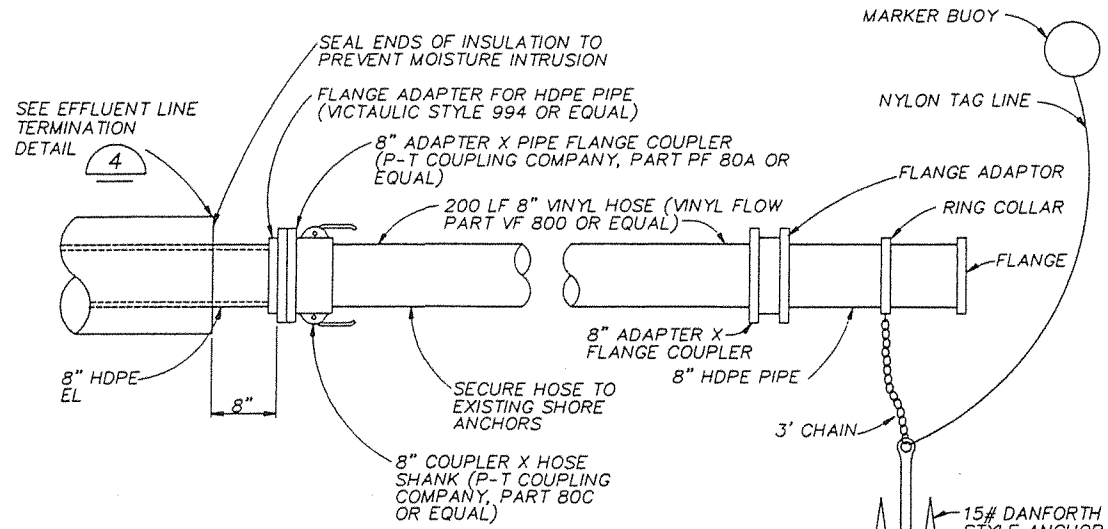
CRHILL

Tanogha, Inc.
Tanana, Alaska
TANANA LAGOON EFFLUENT DESIGN
MANHOLE DETAILS

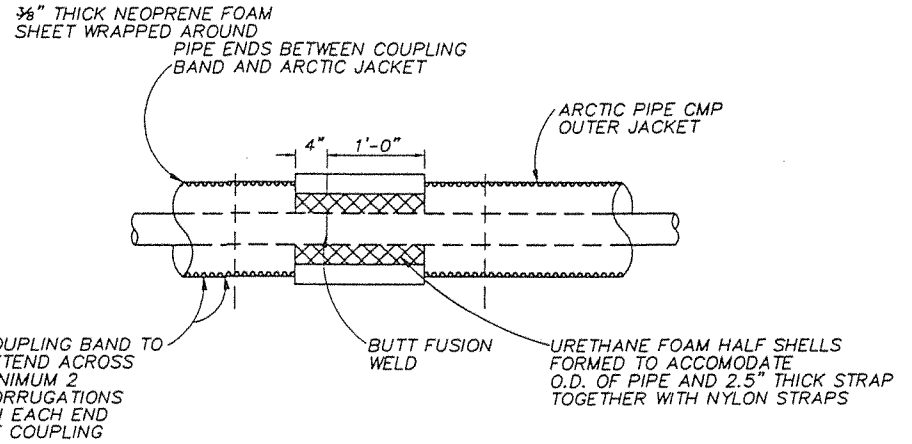
| | |
|----------|------------------|
| DATE | 2/11/97/RLM 2/97 |
| BY | |
| REVISION | Revision 1 |

Project No. 135091
Date 12-04-98
Designed K. Floeritz
Drawn R. Benfield
Approved T. Walf

Sheet No. C-3
SHEET 4 OF 5

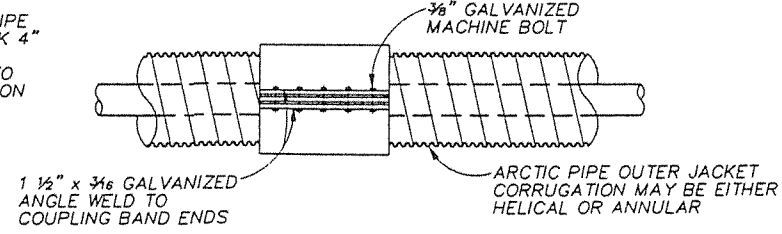


HOSE ATTACHMENT DETAIL (1)
1/2"=1'-0" C-2

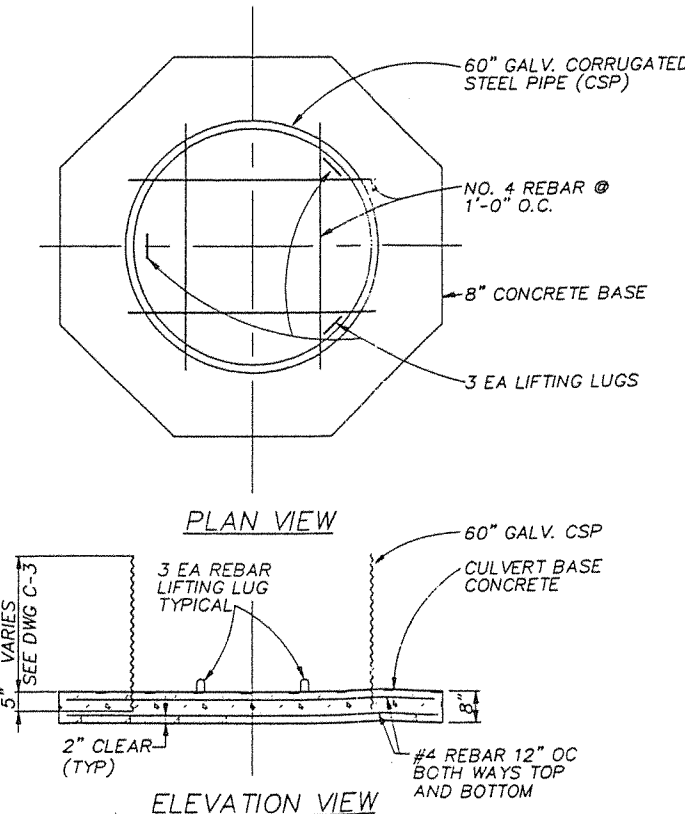
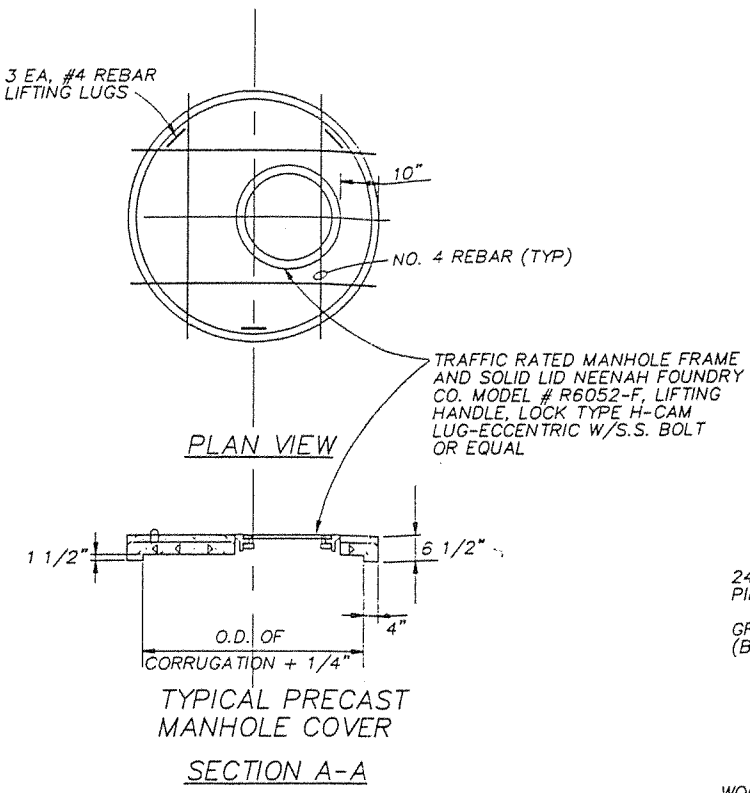


ARCTIC PIPE JACKET INNER JOINT DETAIL (2)
1/2"=1'-0"

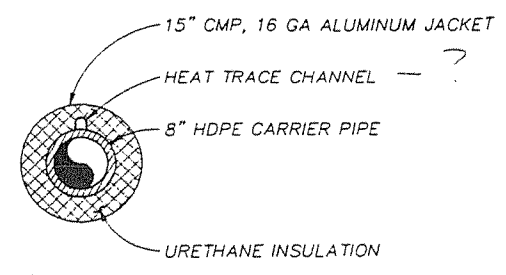
NOTE:
ENDS OF ARCTIC PIPE SHALL BE CUTBACK 4" AND 12" AT EACH JOINT AS SHOWN TO ACCOMMODATE FUSION MACHINE



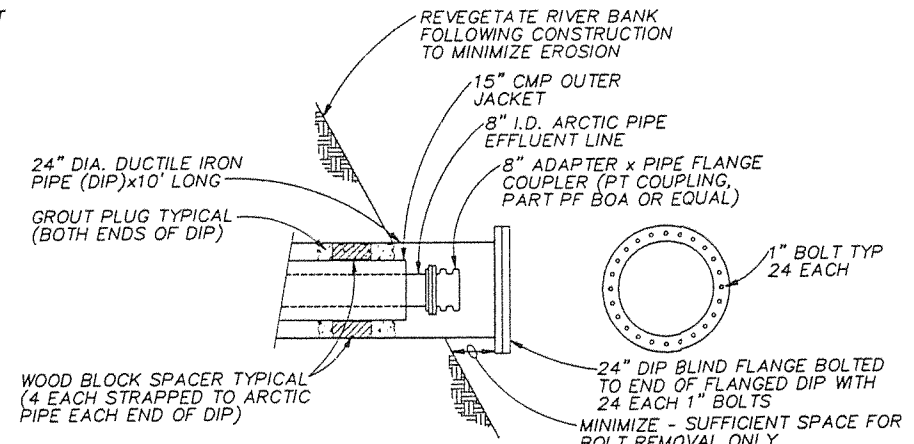
ARCTIC PIPE JACKET OUTER JOINT DETAIL (3)
NTS C-2



PRECAST MANHOLE BASE WITH CULVERT SECTION (5)
1/2"=1'-0" C-3

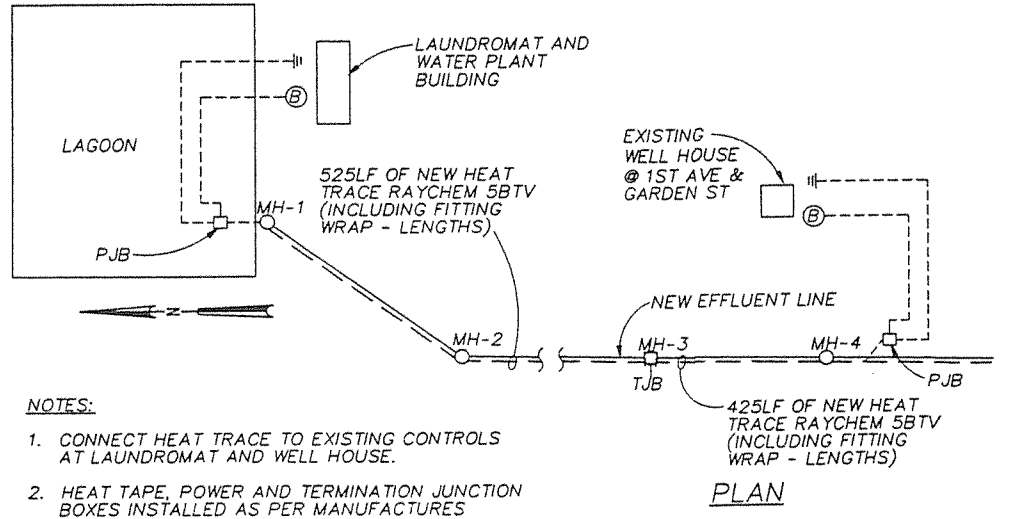


LAGOON EFFLUENT PIPE CROSS SECTION (3)
1/2"=1'-0" C-2



NOTE:
TO CONNECT HOSE TO ARCTIC PIPE EFFLUENT LINE REMOVE BLIND FLANGE AND ATTACH HOSE USING CAM-LOK STYLE COUPLING.

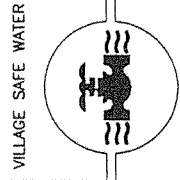
EFFLUENT LINE TERMINATION DETAIL (4)
NTS C-2



- NOTES:**
- CONNECT HEAT TRACE TO EXISTING CONTROLS AT LAUNDROMAT AND WELL HOUSE.
 - HEAT TAPE, POWER AND TERMINATION JUNCTION BOXES INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
 - CIRCUIT BREAKERS TO BE GFI.

HEAT TRACE LINE
NTS

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Tanaga, Inc.
Tanana, Alaska
TANANA LAGOON EFFLUENT DESIGN DETAILS

| BY | DATE |
|----|------|
| | |

| REVISION | DATE | BY | DESCRIPTION |
|----------|------|----|-------------|
| | | | |