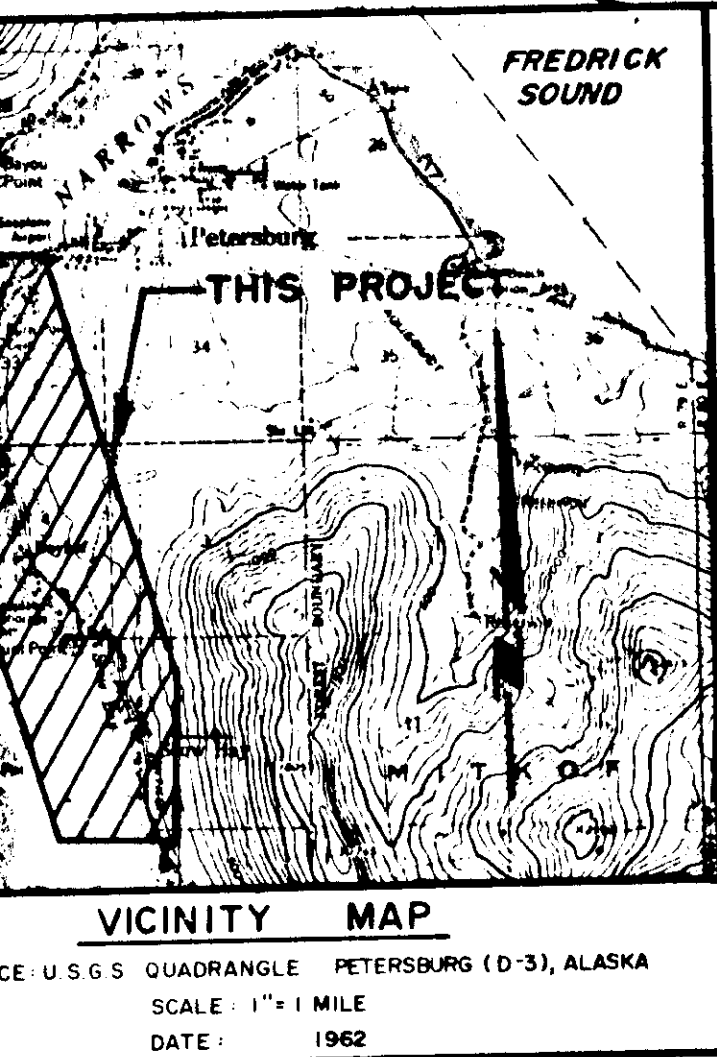


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	MITKOF HIGHWAY SEWER EXTENSION - PHASE I	1984	1	10

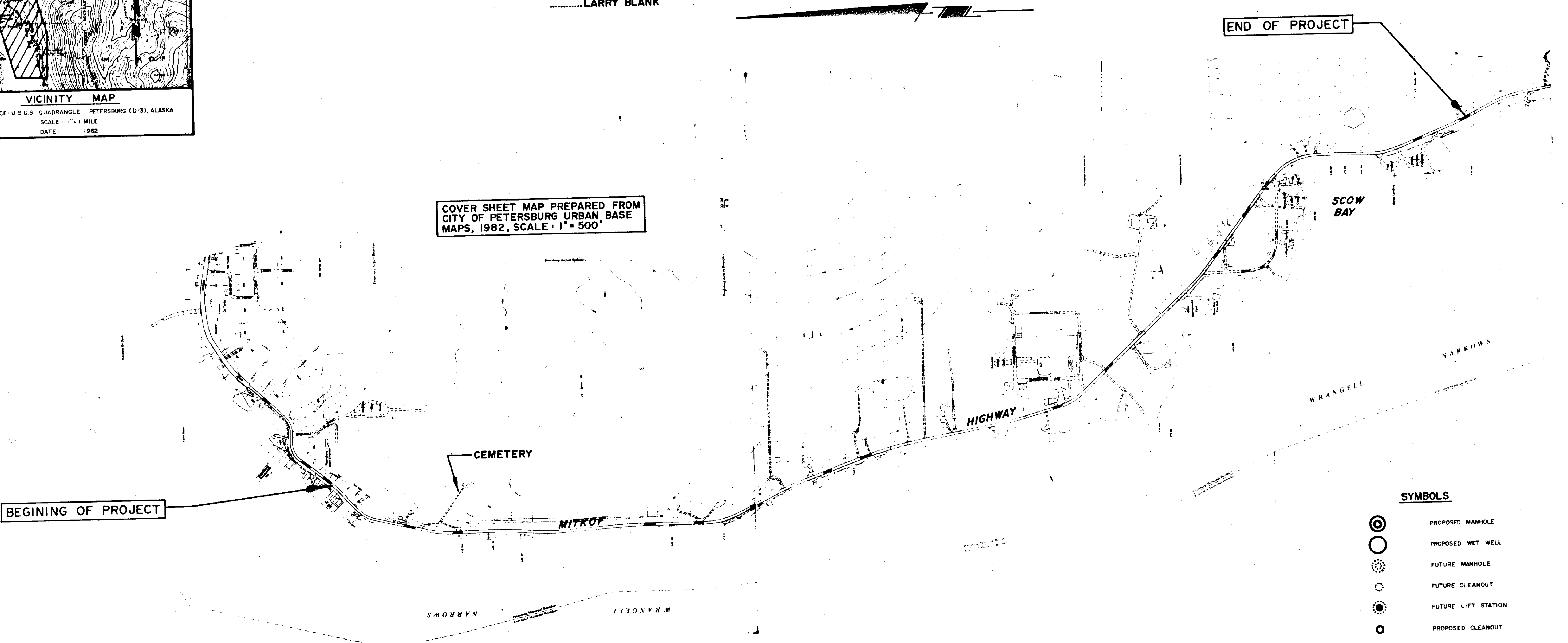


**PETERSBURG CITY COUNCIL**  
 MAYOR.....DON KOENIGS

CITY COUNCIL MEMBERS.....RALPH BUZARD  
 ENID MAGILL  
 FRED TRIEM  
 BETTY PHILBIN  
 DAVE CARLSON  
 LARRY BLANK

**PETERSBURG ADMINISTRATION**  
 CITY MANAGER.....RICHARD UNDERKOFER  
 CITY ENGINEER.....JOHN DANIELSEN  
 CITY CLERK.....PATTY CURTISS

PLANS PREPARED BY ;  
**R & M CONSULTANTS, INC.**  
 JUNEAU, ALASKA



COVER SHEET MAP PREPARED FROM  
 CITY OF PETERSBURG URBAN BASE  
 MAPS, 1982, SCALE 1" = 500'

BEGINING OF PROJECT

END OF PROJECT

**SYMBOLS**

- ⊙ PROPOSED MANHOLE
- PROPOSED WET WELL
- ⊙ FUTURE MANHOLE
- FUTURE CLEANOUT
- ⊙ FUTURE LIFT STATION
- PROPOSED CLEANOUT
- ⊗ EXISTING VALVE
- W— EXISTING WATER
- S— EXISTING SEWER
- PROPOSED SEWER
- ..... FUTURE SEWER
- — — EXISTING CULVERT
- — — EXISTING GUARDRAIL
- — — EXISTING CENTERLINE
- FUTURE TREATMENT FACILITY
- — — EXISTING ROADWAY R.O.W.
- — — EXISTING DRIVEWAY

SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET W/ VICINITY MAP, SYMBOLS, SHEET INDEX
2	TYPICAL DETAILS, CONSTRUCTION NOTES, GENERAL NOTES
3	LIFT STATION DETAILS, MISCELLANEOUS DETAILS
4	SUMMARY TABLES, QUANTITIES, MISCELLANEOUS DETAILS
5-7	PLAN & PROFILE SHEETS
8-10	PLAN SHEETS

CITY OF PETERSBURG  
**MITKOF HIGHWAY SEWER EXTENSION**  
**PHASE II**  
 FERRY TERMINAL TO SCOW BAY  
 SEWER MAIN EXTENSION, LATERALS & LIFT STATION INSTALLATION  
 PETERSBURG ALASKA

PROJECT No. ST - 83 - 138

AS-BUILT  
 E.M. DE  
 R&M, INC.

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.
ALASKA	MITKOF HIGHWAY SEWER EXTENSION - PHASE I	1984	2

**GENERAL NOTES:  
Sewer Crossings**

6" LATERAL

1. INSTALL WITH 4.0 FEET MINIMUM COVER UNDER THE PROPOSED PAVEMENT SURFACE AND 3.5 FEET MINIMUM COVER OUTSIDE THE PAVEMENT LIMITS.
2. MINIMUM SLOPE AT 1/4" IN 1' (2' PER 100').
3. THE 4 INCH LATERALS SHALL EXTEND TO THE R/W LINE AS SHOWN ON THE PLANS.
4. THE 4 INCH LATERALS SHALL BE CONNECTED TO THE 16 INCH SEWER MAIN OR SHALL EXTEND, AT A MINIMUM, TO WITHIN 2 FEET OF THE FUTURE SEWER MAIN.

6" FORCE MAIN

1. INSTALL WITH 4 FEET MINIMUM COVER.
2. INSTALL THRUST BLOCKS AS REQUIRED PER DETAILS ON SHEET 7 OF 10.
3. TESTING SHALL BE ACCOMPLISHED AS DESCRIBED IN SECTION 628-3.06, TESTING WATER SYSTEMS, OF THE STANDARD SPECIFICATIONS.

8" LATERAL

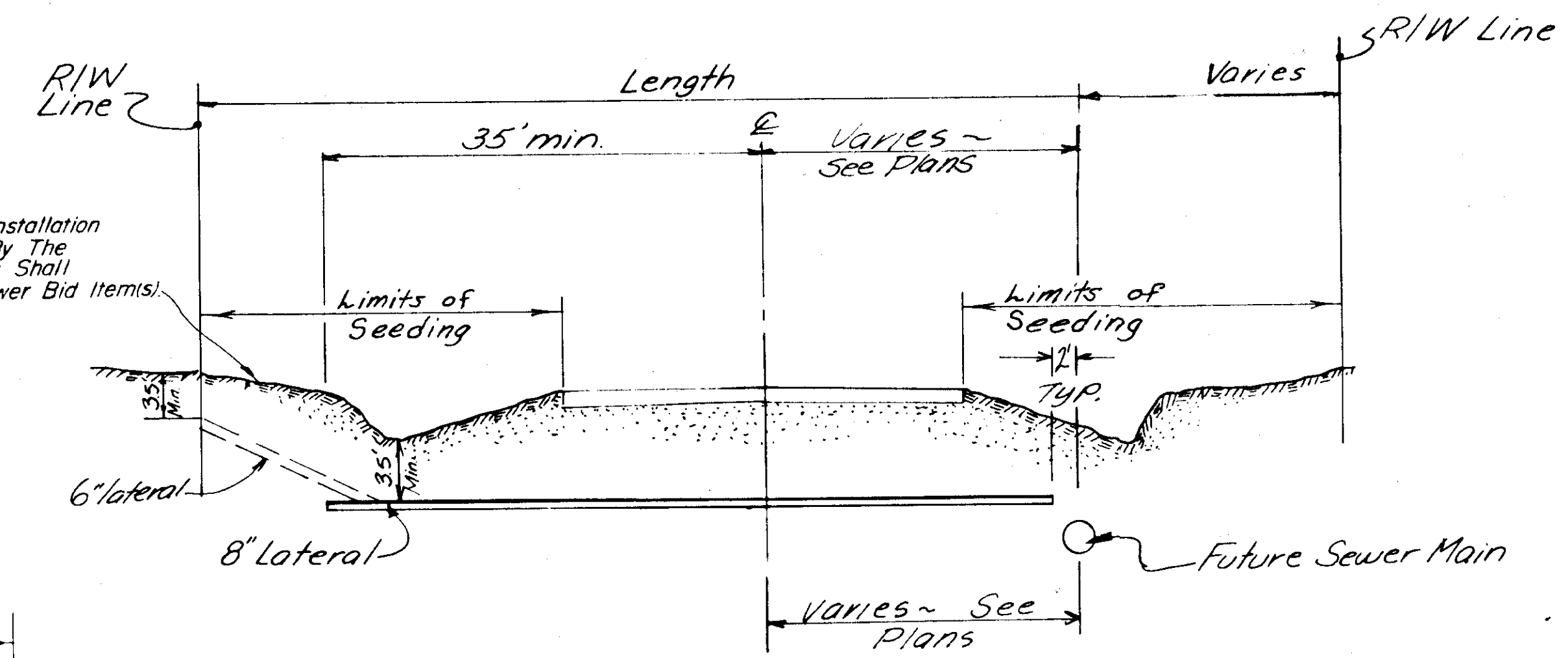
1. INSTALL WITH 4.0 FEET MINIMUM COVER UNDER THE PAVED SURFACE AND 3.5 FEET MINIMUM COVER OUTSIDE OF THE PAVEMENT LIMITS.
2. MINIMUM SLOPE SHALL BE 0.004' PER 100'. INVERT ELEVATIONS ARE SHOWN ON THE PLANS.
3. LEFT OF CENTERLINE, THE 8 INCH LATERALS SHALL EXTEND A MINIMUM OF 35 FEET. THE ACTUAL TERMINAL OF THE 8 INCH LATERAL SHALL BE DETERMINED IN THE FIELD.
4. RIGHT OF CENTERLINE, THE 8 INCH LATERAL SHALL EXTEND, AT A MINIMUM, TO WITHIN 2 FEET OF THE FUTURE SEWER MAIN.

10" FORCE MAIN SEWER LATERAL

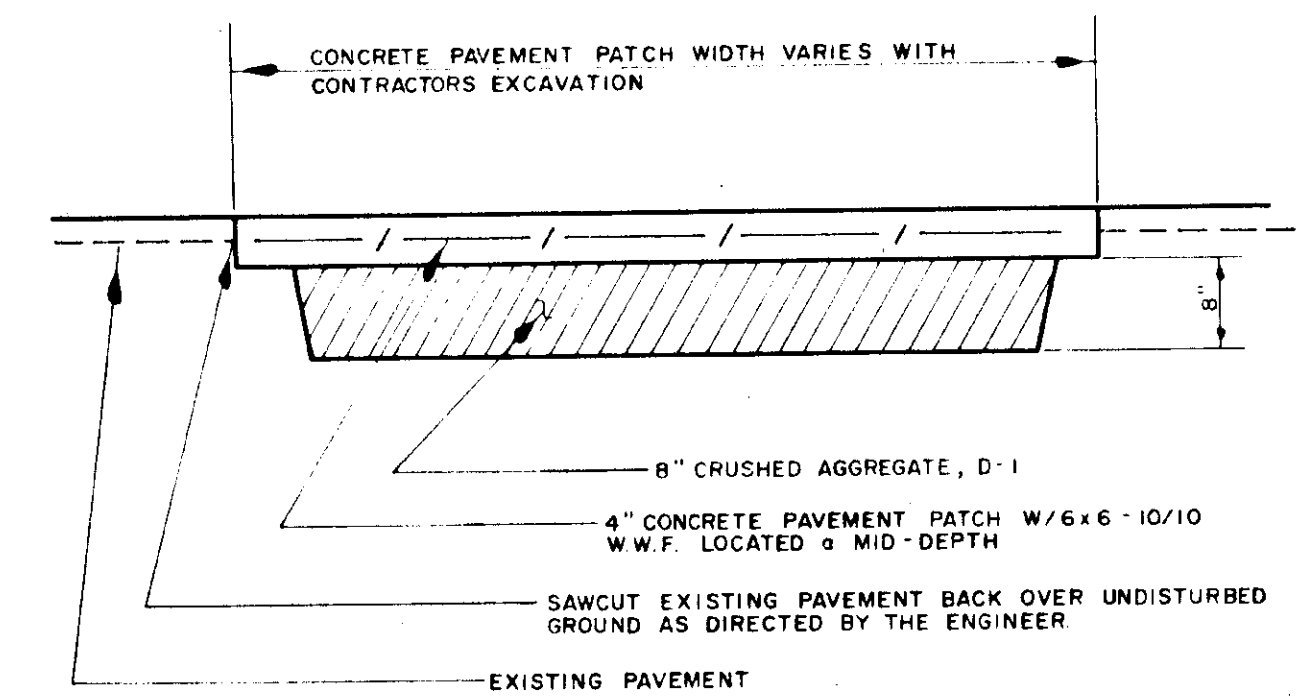
1. INSTALL WITH 4 FEET MINIMUM COVER.
2. INSTALL THRUST BLOCKS AS REQUIRED PER DETAILS ON SHEET 7 OF 10.
3. TESTING SHALL BE ACCOMPLISHED AS DESCRIBED IN SECTION 628-3.06, TESTING WATER SYSTEMS, OF THE STANDARD SPECIFICATIONS.

16" SEWER MAIN

1. INSTALL WITH 4 FEET MINIMUM COVER UNDER THE PROPOSED PAVEMENT SURFACE AND 3.5 FEET MINIMUM COVER OUTSIDE THE PAVEMENT LIMITS.
2. MINIMUM SLOPE SHALL BE 0.004' PER 100'.
3. THE 16 INCH SEWER MAIN SHALL BE INSTALLED TO THE LINES AND GRADES SHOWN ON THE PLANS.



*Slopes Disturbed By Sewer Installation Shall Be Seeded As Directed By The Engineer. Payment For Seeding Shall Be Included In The Sanitary Sewer Bid Items.*



**TYPICAL SECTION FOR SEWER LATERALS**

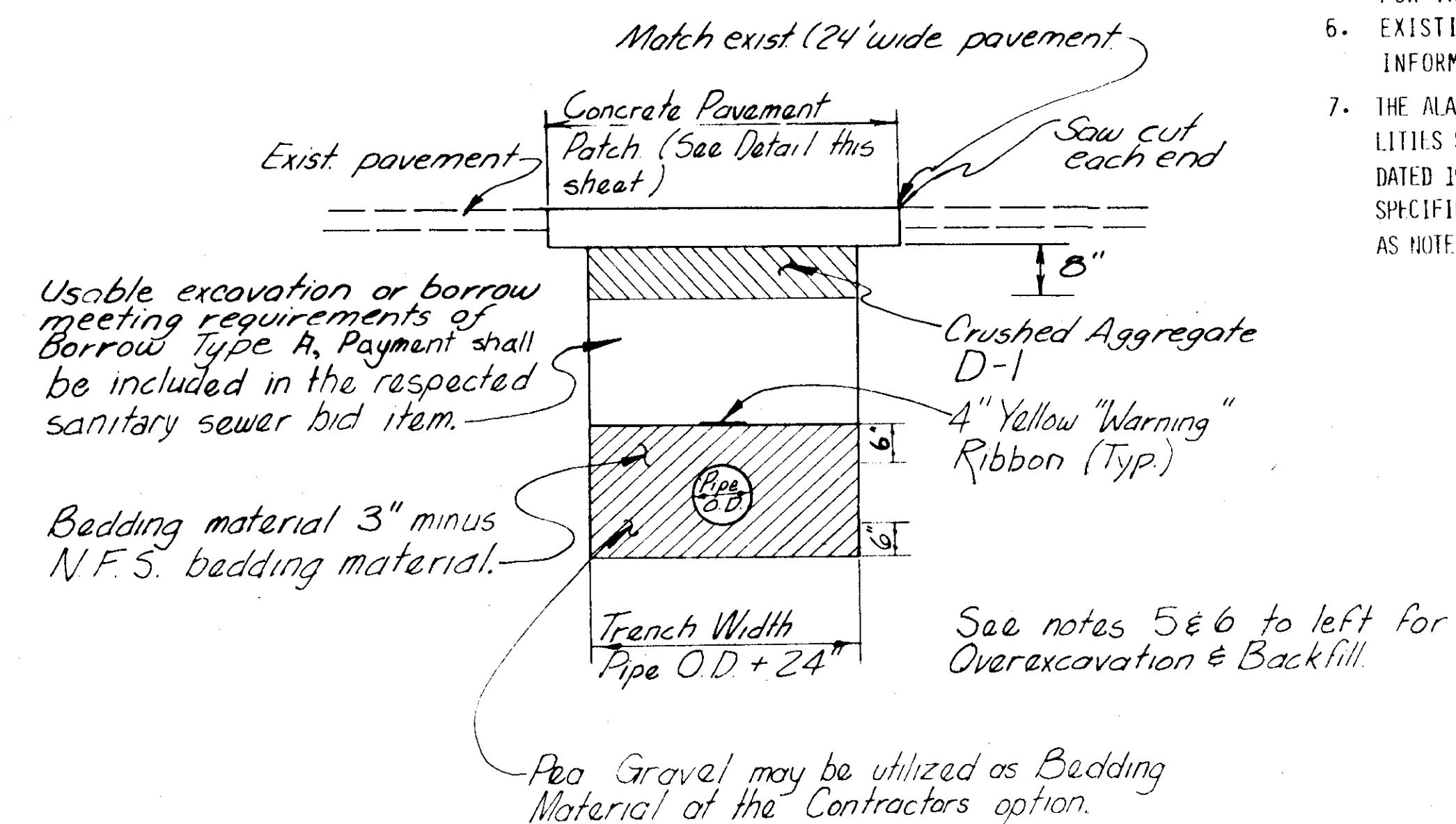
**PROJECT GENERAL NOTES:**

1. THE CONTRACTOR SHALL SUPPLY THE CITY OF PETERSBURG WITH REPRODUCIBLE "AS-BUILT" PLANS SHOWING THE STATIONING, CENTERLINE OFFSETS, SWING TIES, AND INVERT ELEVATIONS OF ALL LATERAL AND SEWER MAIN CONSTRUCTION. ALL SURVEYING REQUIRED TO FURNISH THE ABOVE AS-BUILTS" WILL BE PROVIDED BY THE CONTRACTOR AS DESCRIBED IN SECTION 114-2.01 OF THE STANDARD MODIFICATIONS.
2. ALL SEWER CONDUIT SHALL BE DUCTILE IRON, CLASS 50.
3. ALL SEWER LATERALS SHALL BE CAPPED AND MARKED WITH 2"x4" EXTENDING FROM THE CAPPED END TO ONE FOOT ABOVE THE GROUND LEVEL. A 2"x4" PIECE OF METAL SHALL BE TACKED TO THE 2"x4" JUST BELOW GROUND LEVEL.
4. PRELIMINARY STATIONING AS SHOWN ON THE PLANS; FINAL STATIONING SHALL BE FIELD DETERMINED.
5. SLOPES DISTURBED BY SEWER INSTALLATION SHALL BE SEEDED. PAYMENT FOR SEEDING SHALL BE INCLUDED IN THE AMOUNT BID FOR THE RESPECTIVE SANITARY SEWER BID ITEM.
6. EXISTING UTILITIES ARE PROVIDED FROM THE BEST AVAILABLE INFORMATION AND MAY VARY IN THE FIELD.
7. THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, DATED 1981, ARE HEREBY MADE A PART OF THE PLANS AND SPECIFICATIONS WITH MODIFICATIONS AND SPECIAL PROVISIONS AS NOTED IN THE CONTRACT DOCUMENTS.

**CONCRETE PAVEMENT PATCH DETAIL**

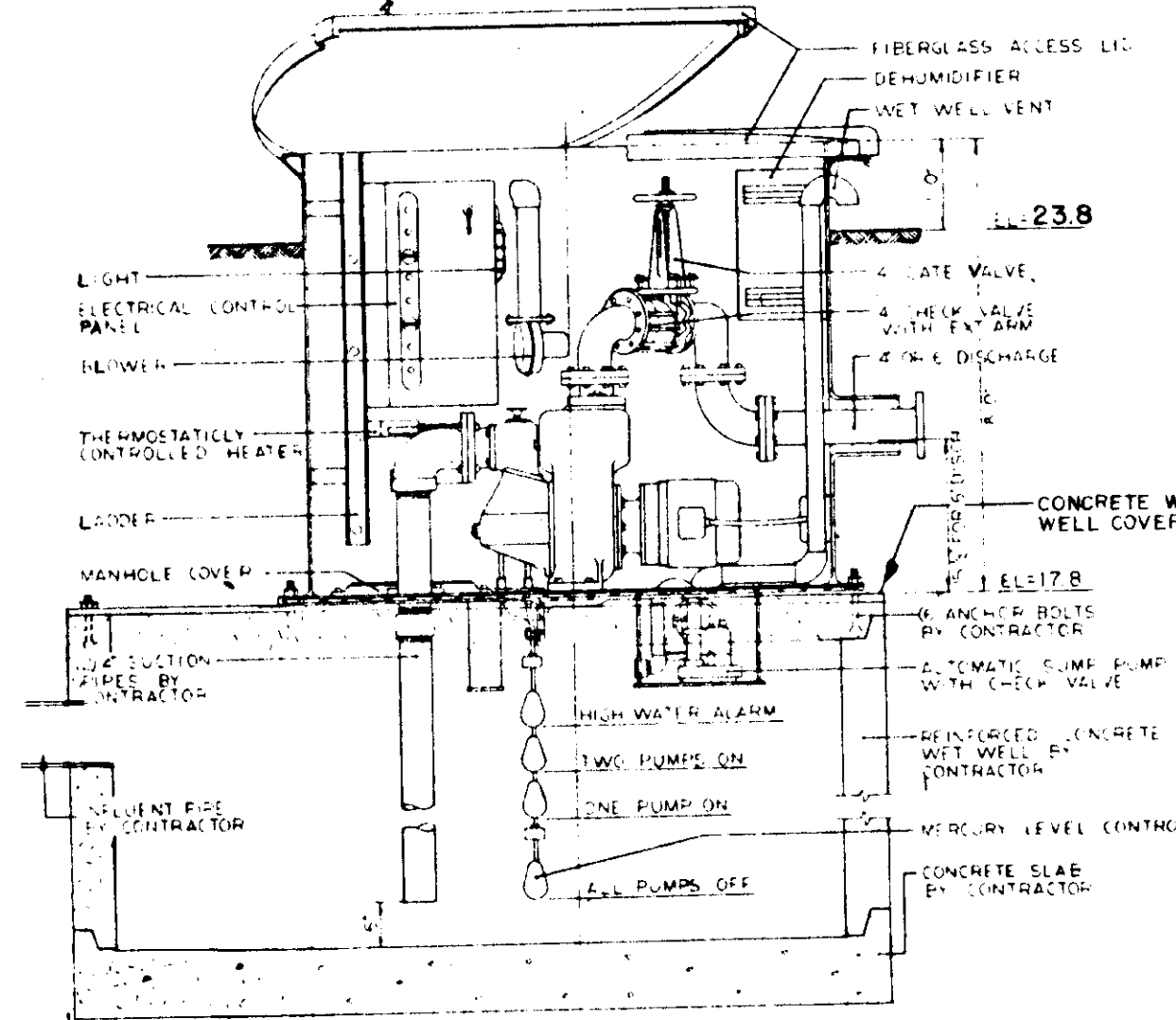
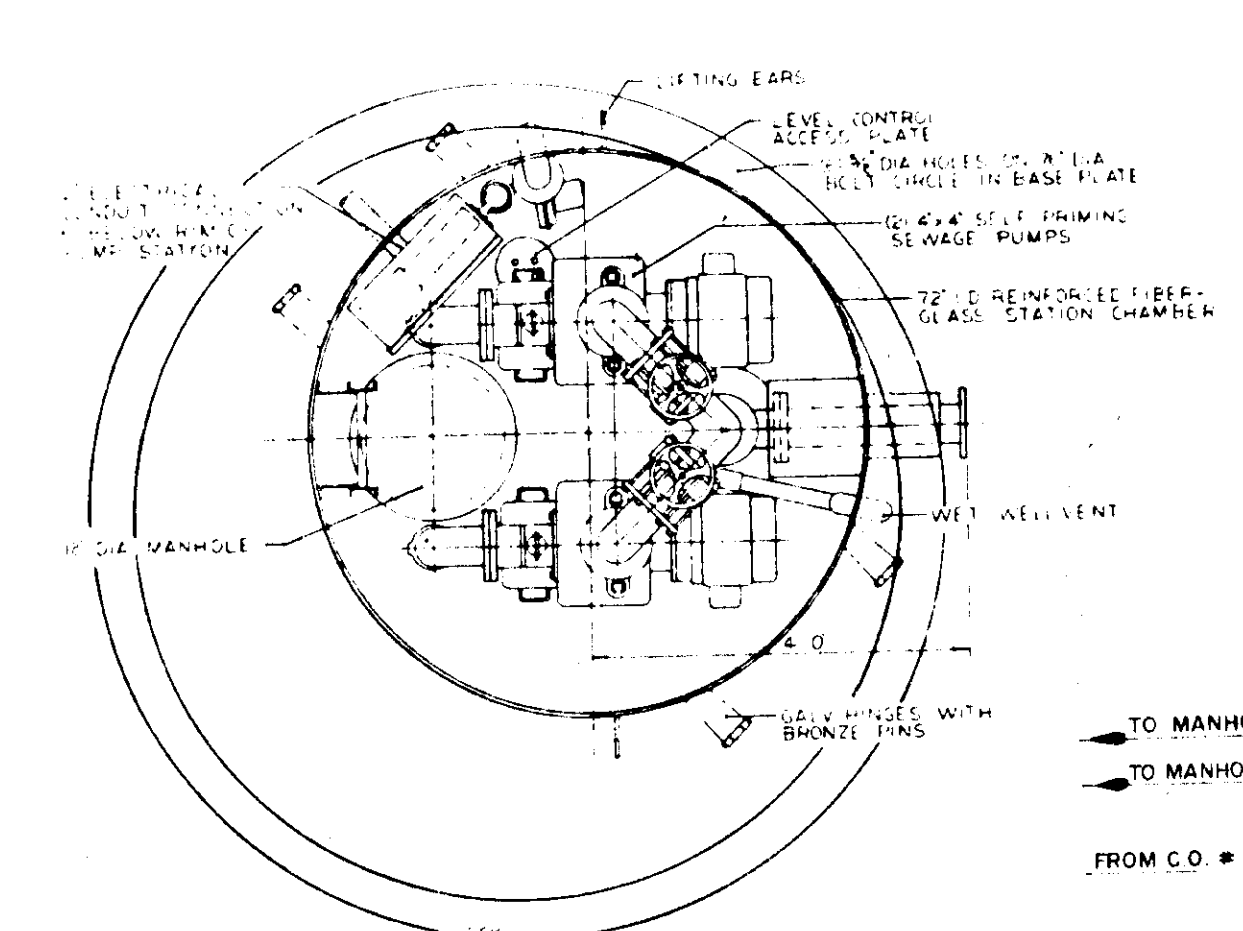
**TYPICAL TRENCH DETAIL NOTES:**

1. PRIOR TO PAVING THE SEWER LATERAL, THE EXISTING PAVEMENT SHALL BE SAW CUT BACK OVER UNDISTURBED GROUND AS DIRECTED BY THE ENGINEER.
2. OUTSIDE OF THE ROADWAY PRISM BACKFILL FROM 0.5' ABOVE THE PIPE TO THE EXISTING GROUND LINE CAN BE FROM EXCAVATION.
3. 95% COMPACTION IN ROADWAY PRISM, 90% ELSEWHERE OR AS DIRECTED BY THE ENGINEER.
4. WHERE DUAL FORCE MAINS ARE TO BE INSTALLED, THEY SHALL BE INSTALLED IN THE SAME TRENCH PER THE TYPICAL TRENCH DETAIL BY MAINTAINING 8" SEPARATION OF THE PIPES.
5. UNUSABLE EXCAVATION SHALL BE DISPOSED OF BY THE CONTRACTOR TO A CONTRACTOR PROVIDED SOURCE. PAYMENT SHALL BE INCLUDED IN THE AMOUNT BID FOR THE RESPECTIVE SANITARY SEWER BID ITEM.
6. UNUSABLE EXCAVATION AND BACKFILL WITHIN 24" OF THE BOTTOM OF PIPE AND PAYMENT SHALL BE INCLUDED IN THE AMOUNT BID FOR THE RESPECTIVE SANITARY SEWER BID ITEM. UNUSABLE EXCAVATION AND BACKFILL BEYOND 14" OF THE BOTTOM OF PIPE SHALL BE ONLY WHEN DIRECTED BY THE ENGINEER, AND PAYMENT SHALL BE PER THE CONTINGENT UNIT PRICES BID BY THE CONTRACTOR FOR "UNUSABLE EXCAVATION" AND "BORROW, TYPE A".

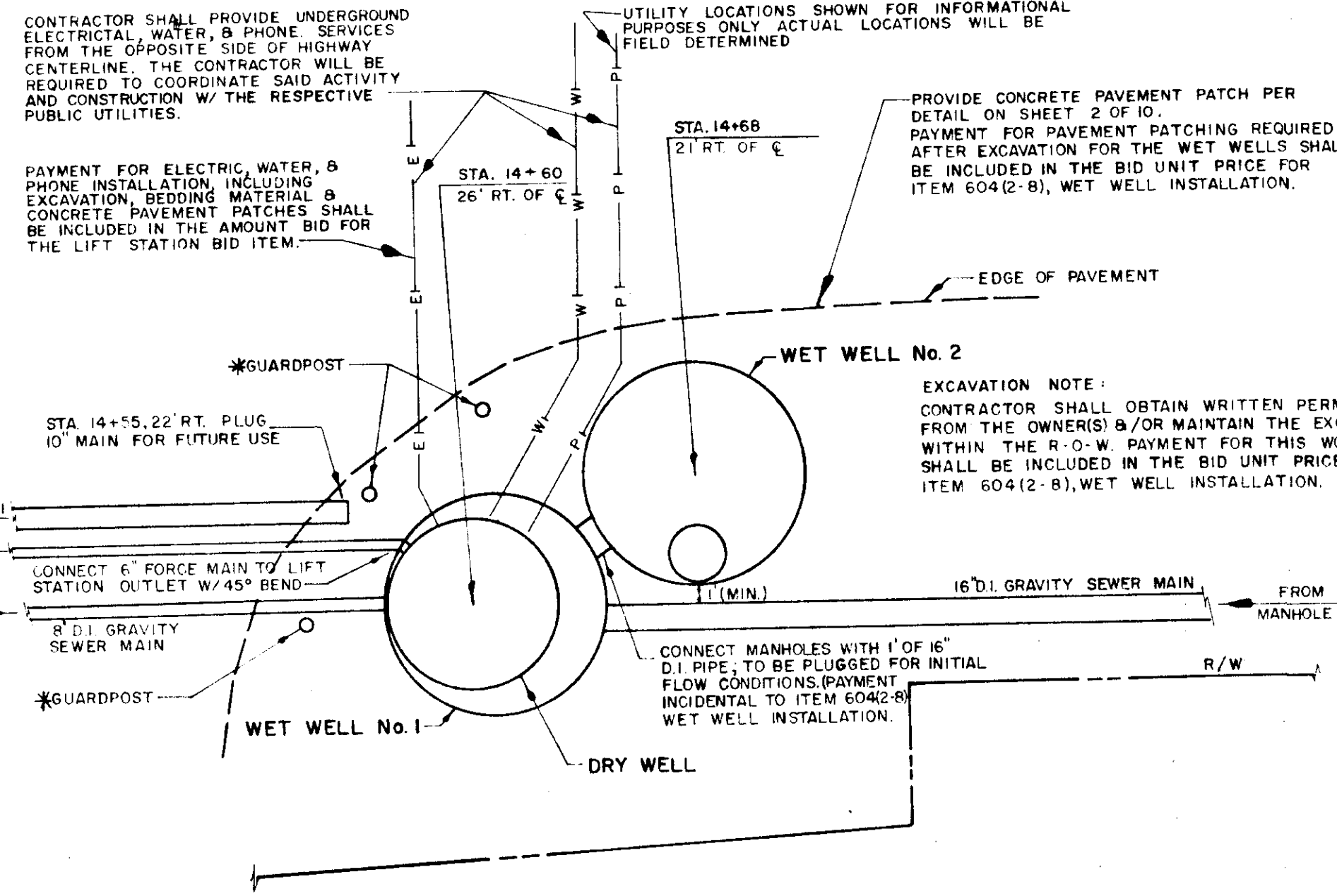


**TYPICAL DUCTILE IRON SEWER TRENCH DETAIL**

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	MITKOF HIGHWAY SEWER EXTENSION - PHASE I	1984	3	10



**- LIFT STATION DETAIL -**  
HYDRONIX MODEL III



**- PLAN VIEW -**  
**LIFT STATION WITH WET WELLS**  
N.T.S.

- \* GUARDPOST NOTES :**
- THREE 6"x6" WOOD GUARD POSTS SHALL BE PLACED 3' FROM THE EDGE OF THE LIFT STATION. THEY SHALL EXTEND ABOVE GROUND 3'-6" AND BELOW GROUND 3'-0". THE ABOVE GROUND PORTION OF THE POSTS SHALL BE CENTER-DRILLED WITH A 4" DIAMETER HOLE.
  - 3" DIAMETER REFLECTORS SHALL BE INSTALLED AT THE TOP OF ALL GUARD POSTS, ON BOTH SIDES FACING TRAFFIC.
  - GUARD POSTS SHALL BE CCA PRESSURE TREATED WITH 0.40 PCF RETENTION AFTER CENTER DRILLING. PAYMENT FOR GUARD POST MATERIALS AND INSTALLATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 630(1), LIFT STATION.

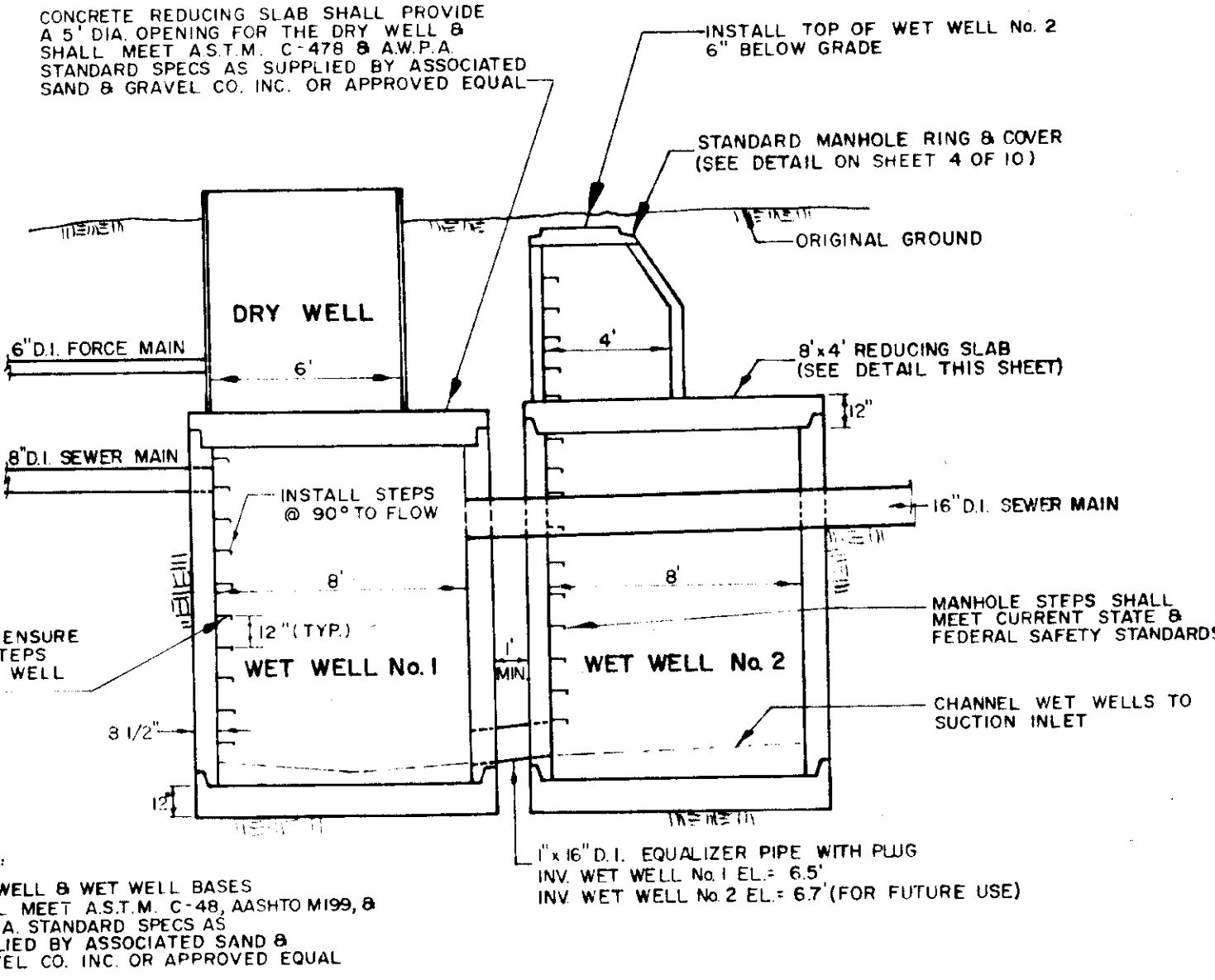
- LIFT STATION NOTES :**
- LIFT STATION SHALL BE A PARTIALLY BURIED HYDRONIX SUC-A-PRIME MODEL 111 OR EQUAL APPROVED BY THE ENGINEER.
  - PUMPS SHALL BE SIZED FOR 200 GALLONS/MINUTE AT 21' HEAD. PUMPS SHALL BE HYDRO-MATIC MODEL 40 MPC 3HP WITH 8" IMPELLER OR EQUAL APPROVED BY THE ENGINEER.
  - THE FOLLOWING EXTRA EQUIPMENT, OR APPROVED EQUALS, SHALL BE SUPPLIED WITH THE LIFT STATION, WITH NO SEPARATE PAYMENT FOR THESE ITEMS:
    - ADAS II ALARM SYSTEM AS MANUFACTURED BY THE BUTLER NATIONAL CORPORATION OR EQUAL APPROVED BY THE ENGINEER. CONTRACTOR SHALL PROVIDE UNDERGROUND PHONE SERVICE TO THE WET WELL AS REQUIRED FOR THE ALARM SYSTEM. THE CONTRACTOR SHALL COORDINATE SAID WORK WITH THE PHONE UTILITY COMPANY.
    - THREE PHASE POWER MONITOR. THE CONTRACTOR SHALL PROVIDE UNDERGROUND ELECTRICAL HOOK-UP TO THE LIFT STATION FROM THE NEAREST EXISTING ELECTRICAL POLE, WHICH IS ON THE OPPOSITE SIDE OF THE STREET. THE CONTRACTOR SHALL COORDINATE SAID WORK WITH THE POWER UTILITY.
    - TIME DELAY RELAY TO DELAY PUMP START-UP AFTER POWER OUTAGES.
    - A 3/4" WATER SPICKET SHALL BE INSTALLED TO THE INSIDE OF THE LIFT STATION.
    - MERCURY LEVEL SENSORS AS DESCRIBED IN THE SPECIFICATIONS.
  - TRENCH EXCAVATION FOR UTILITIES SHALL CONFORM TO THE DETAILS ON SHEET 2 OF 2.
  - BELOW ARE THE PUMP STATION INVERT DATA AND FLOAT SWITCH LEVEL SETTINGS (INITIAL SETTINGS).

**WET WELL NO. 1**

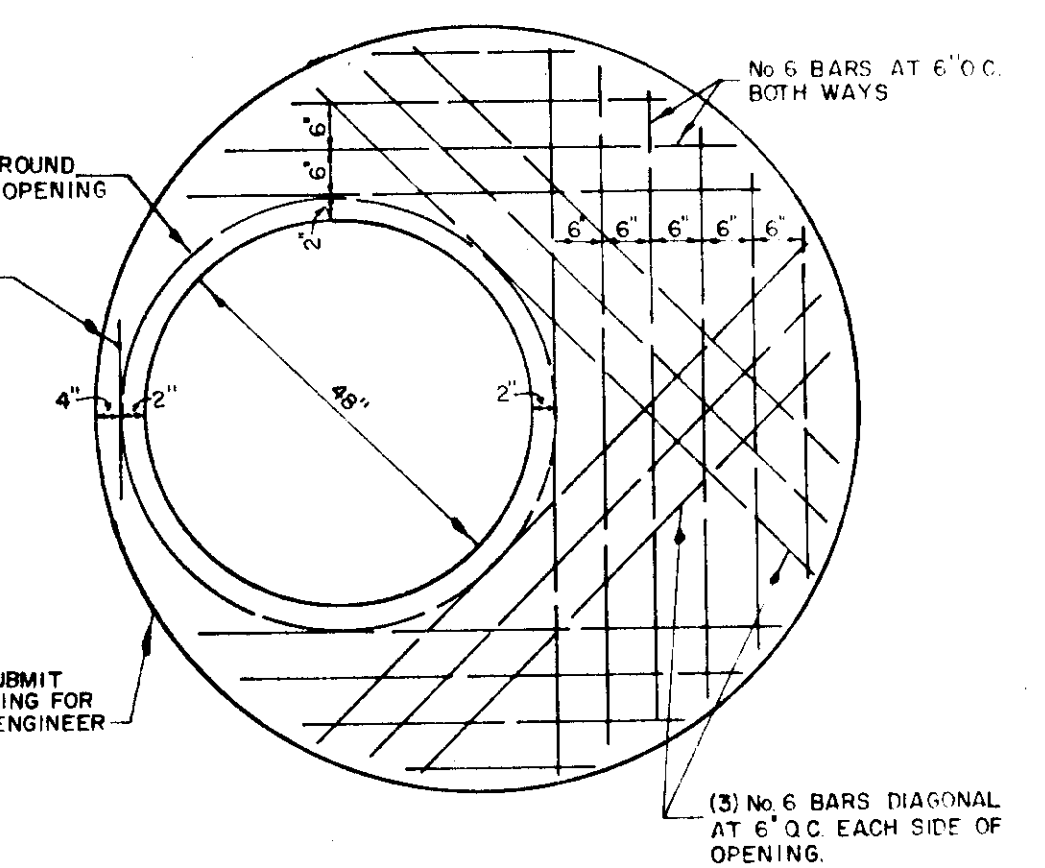
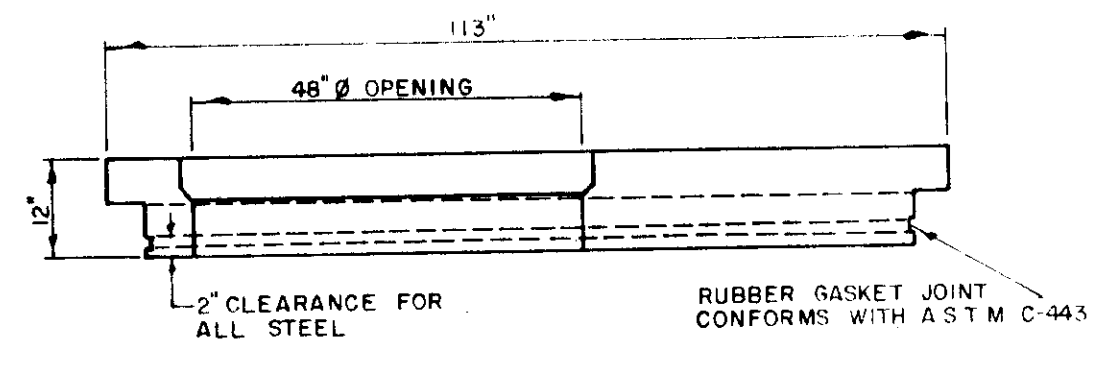
TOP LIFT STATION ELEVATION:	24.8'
ORIGINAL GROUND ELEVATION:	23.8'
BOTTOM DRY WELL ELEVATION:	17.8'
EAST INLET ELEVATION:	15.8'
SOUTH INLET ELEVATION:	13.72'
NORTH INLET ELEVATION:	15.8'
FORCE MAIN OUTLET ELEVATION:	19.1'
HIGH WATER ALARM ELEVATION:	9.6'
TWO PUMPS ON ELEVATION:	9.1'
ONE PUMP ON ELEVATION:	8.1'
ALL PUMPS OFF ELEVATION:	7.0'
BOTTOM WET WELL ELEVATION:	6.0'

**WET WELL NO. 2**

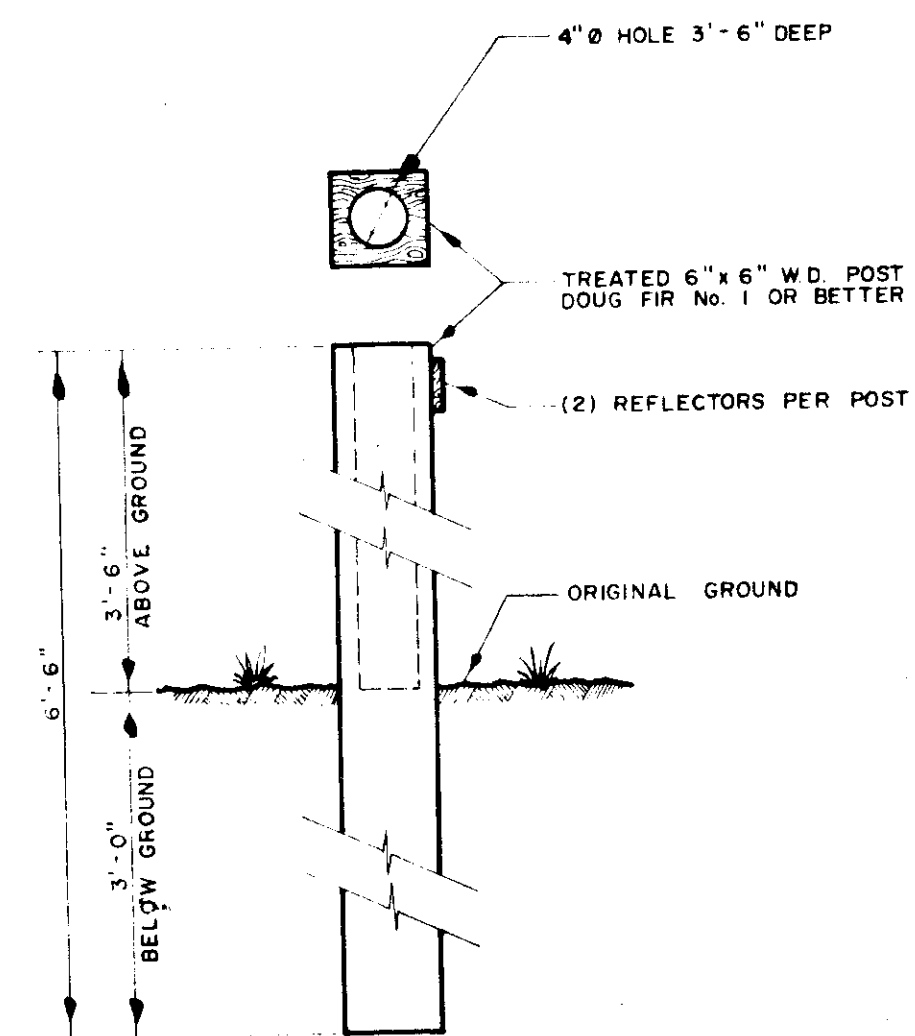
TOP ELEVATION:	24.3'(±)
TOP REDUCING SLAB ELEVATION:	16.3'
BOTTOM WET WELL ELEVATION:	6.0'



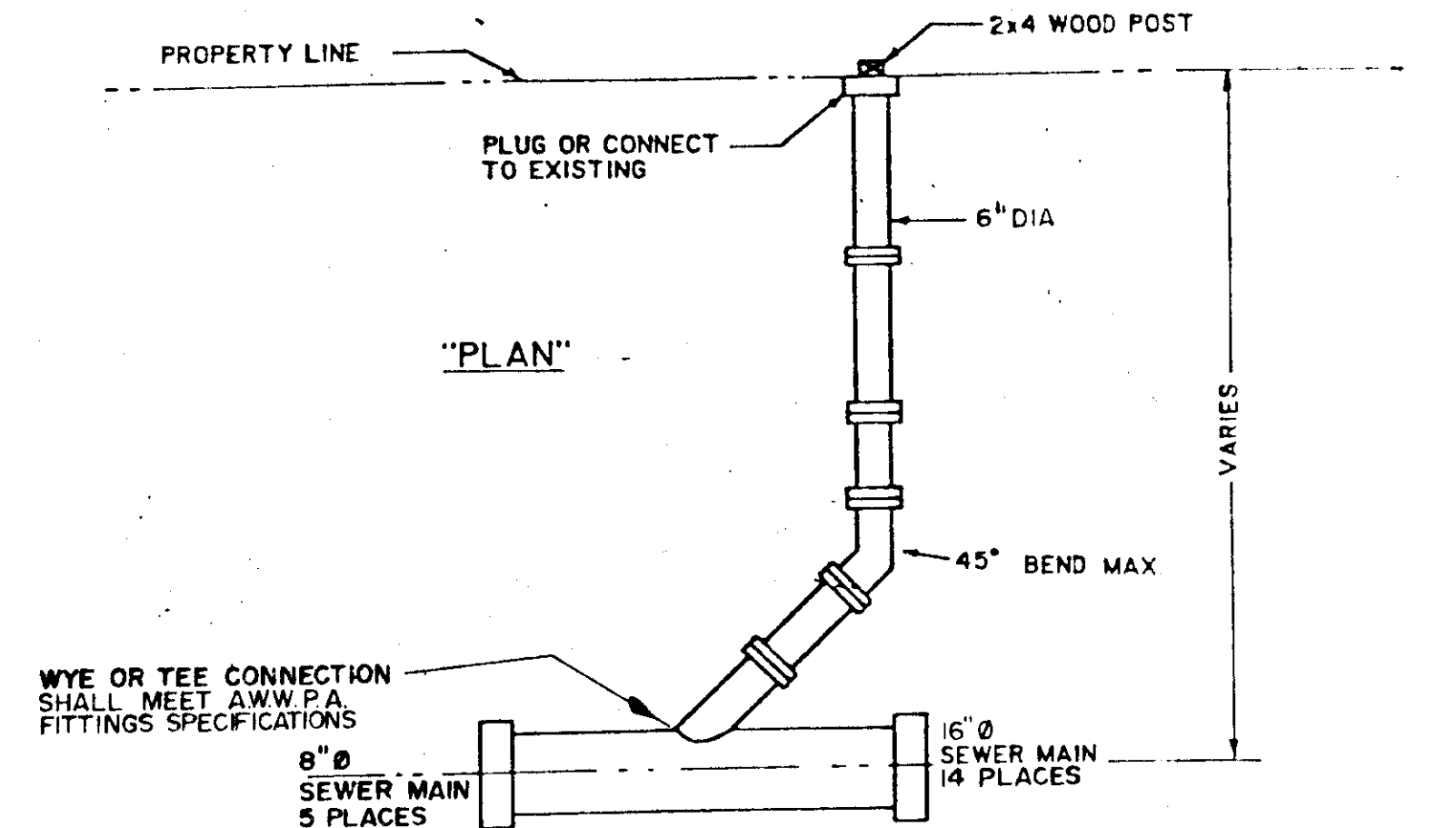
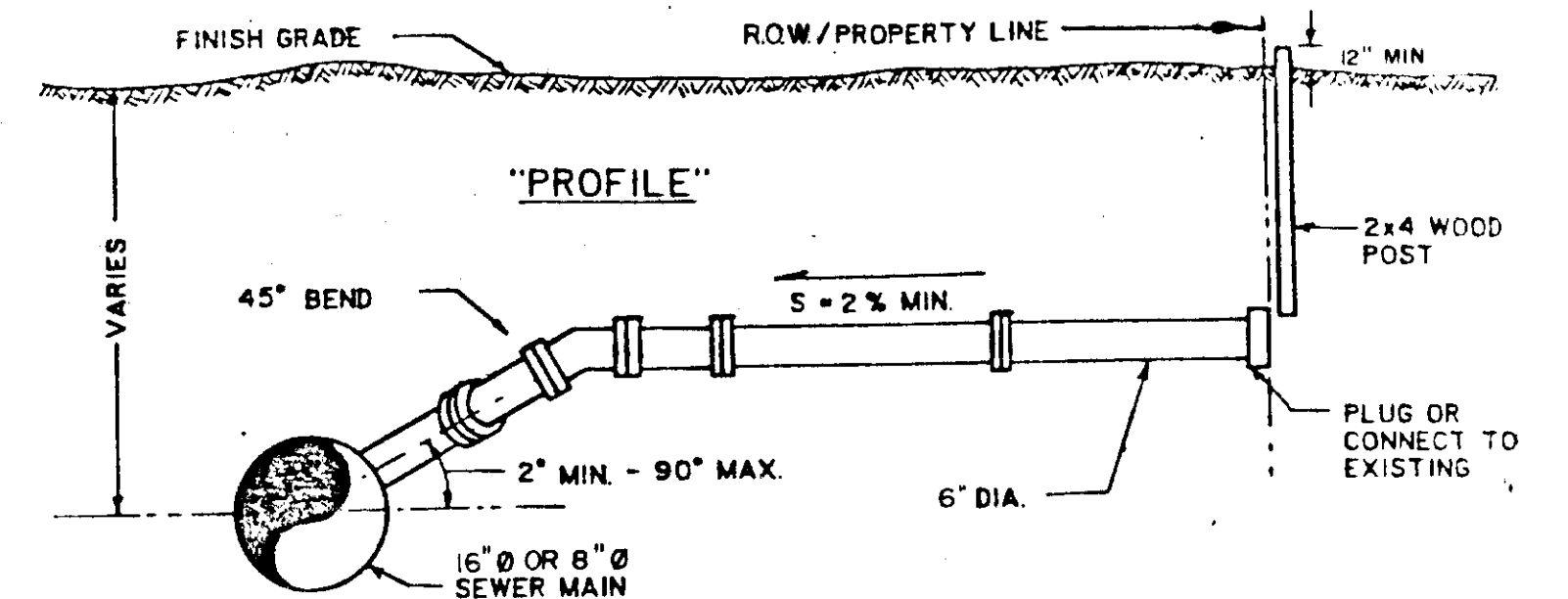
**- ELEVATION -**  
**LIFT STATION WITH WET WELLS**  
N.T.S.



**- PRECAST CONCRETE -**  
**REDUCING SLAB**  
**8' I.D. TO 4' I.D.**  
N.T.S.



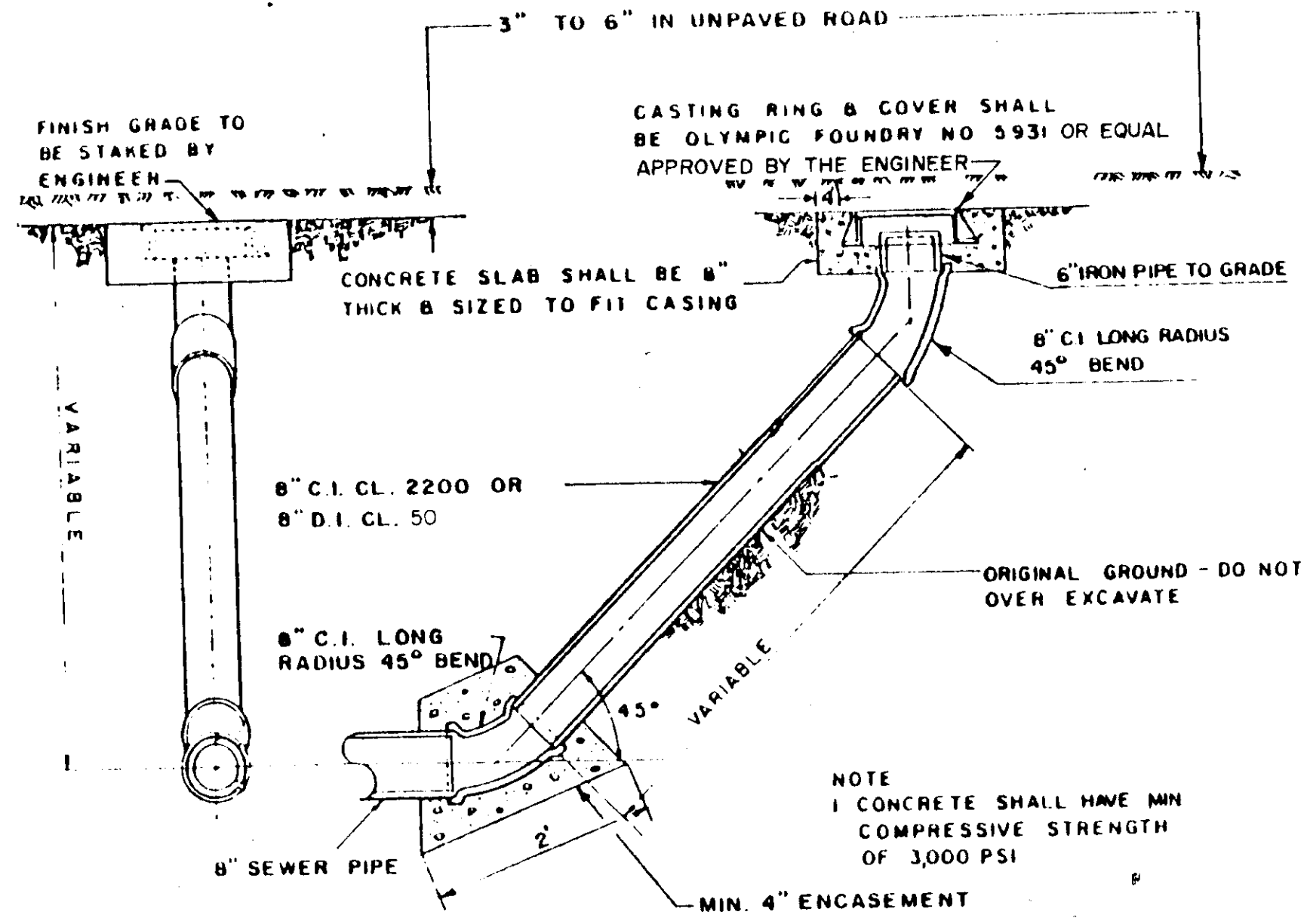
**- BREAKAWAY GUARDPOST DETAIL -**  
N.T.S.



- NOTES:**
- ALL SEWER LATERALS SHALL BE CAPPED AND MARKED WITH 2x4 WOOD POST EXTENDING FROM THE CAPPED END TO 1' ABOVE THE GROUND LEVEL. A 2x4 PIECE OF METAL SHALL BE TACKED TO THE 2x4 JUST BELOW GROUND LEVEL.
  - DISTANCE FROM WYE TO M.H. SHALL BE NOTED ON AS-BUILT PLANS WITH OTHER REQD INFORMATION.

**- SEWER SERVICE LATERAL CONNECTION -**

**NOT AS BUILT**



**- SANITARY SEWER CLEANOUT -**

STATION	6"	8"	10"	16"	STATION	6"	8"	10"	16"
12+30	15'				84+10	75'			
12+65	19'				84+65	76'			
13+40	10'				85+50	79'			
13+43	63'				86+10	79'			
14+30	10'				87+00	78'			
14+60	85'				88+00	78'			
14+90	5'				89+15	74'			
15+05	64'				90+25	75'			
15+40	67'				91+75	56'			
15+80	73'				93+00	72'			
16+50	24'				99+85	57'			
16+90	85'				101+60	55'			
17+45	82'				102+65	57'			
18+00	16'				103+10	70'			
18+50	12'				105+00	67'			
18+70	52'				107+25	64'			
19+70	46'				110+50	77'			
20+40	55'				111+65	62'			
21+70	79'				112+55	57'			
23+22	91'				113+05	62'			
24+50				50'	113+80	62'			
54+65		59'			116+05	62'			
54+68			60' FM		118+10	57'			
57+00		84'			120+10	57'			
58+60		73'			123+00	57'			
60+00			68'		124+15	78'			
63+30			59'		125+90	68'			
64+50			69'		127+50	62'			
66+90			51'		128+60	62'			
69+00			57'		132+65	62'			
72+40			53'		113+50	53'			
73+50			77'		116+35	63'			
75+30			57'		117+00	73'			
78+35			57'						
80+00			76'						
81+65			67'						

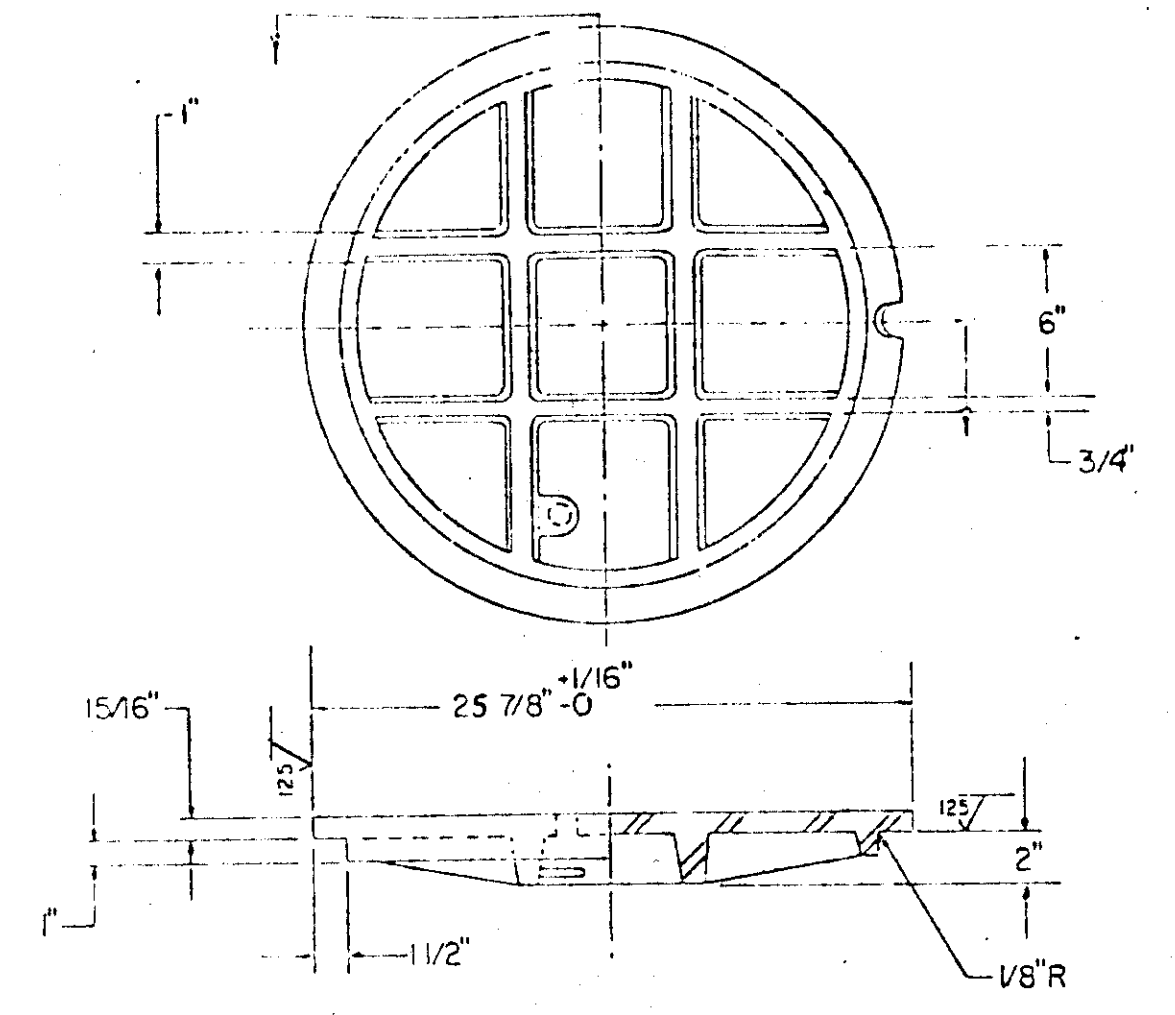
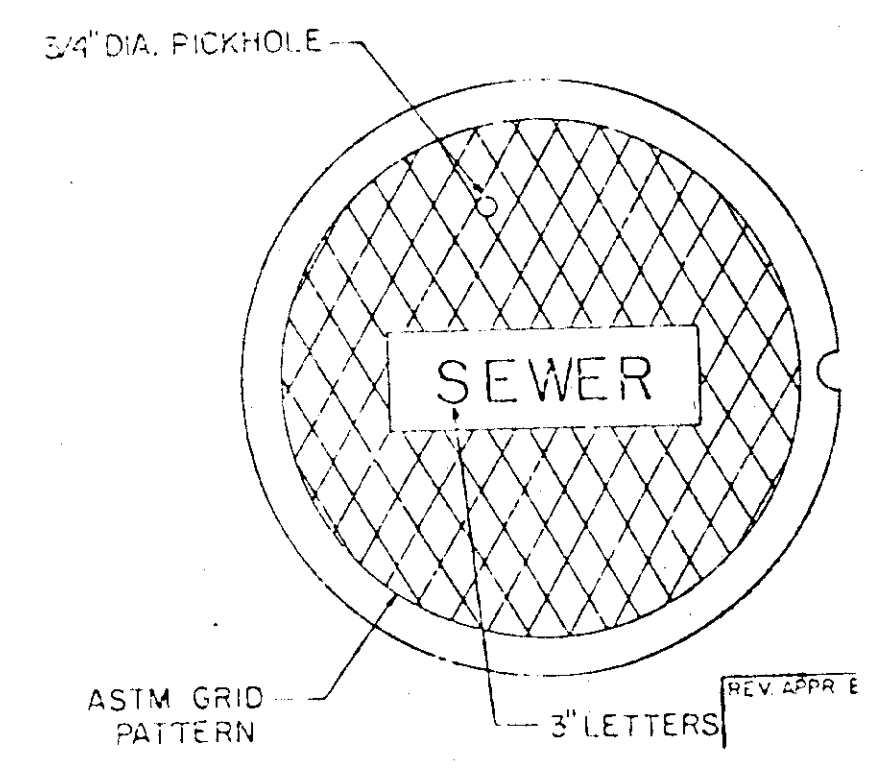
ITEM NO.	ITEM	UNIT	QUANTITY
110(1)	MOBILIZATION	L.S.	ALL REQUIRED
111(1)	TEMPORARY EROSION AND POLLUTION CONTROL	C.S.	ALL REQUIRED
114(1)	CONSTRUCTION SURVEYING BY THE CONTRACTOR	L.S.	ALL REQUIRED
115(1)	TRAFFIC MAINTENANCE	L.S.	ALL REQUIRED
501(7)	CLASS W CONCRETE PAVEMENT PATCH	L.F.	1,760
604(2-4)	4-FOOT SANITARY SEWER MANHOLE	EACH	4
604(2-8)	8-FOOT SANITARY SEWER WET WELL	EACH	2
604(8)	CLEANOUT	EACH	1
626(1-6)	4-INCH DUCTILE IRON SEWER CONDUIT	L.F.	2,905
626(1-6F)	6-INCH DUCTILE IRON SEWER CONDUIT (FORCE MAIN)	L.F.	268
626(1-8)	8-INCH DUCTILE IRON SEWER CONDUIT	L.F.	1,359
626(1-10F)	10-INCH DUCTILE IRON SEWER CONDUIT (FORCE MAIN)	L.F.	324
626(1-16)	16-INCH DUCTILE IRON SEWER CONDUIT	L.F.	1,051
630(1)	LIFT STATION	EACH	1

FROM		TO		SIZE	LENGTH
STATION	OFFSET	STATION	OFFSET		
11+92	12' RIGHT	14+60	23' RIGHT	6" FM	268'
11+92	12' RIGHT	14+56	22' RIGHT	10" FM	264'
12+20	20' RIGHT	14+60	26' RIGHT	8"	237'
14+60	26' RIGHT	18+30	23' RIGHT	16"	372'
18+30	23' RIGHT	20+50	16' RIGHT	16"	229'
20+50	16' RIGHT	24+50	16' RIGHT	16"	400'

FM = FORCE MAIN

STATION	OFFSET	TYPE	SIZE
11+92	12' RIGHT	MANHOLE NO. 1	4' MANHOLE
13+35	20' RIGHT	CLEANOUT NO. 1	8" DIAMETER
14+60	26' RIGHT	WET WELL NO. 1	8' MANHOLE
14+68	21' RIGHT	WET WELL NO. 2	8' MANHOLE
18+30	23' RIGHT	MANHOLE NO. 2	4' MANHOLE
20+50	16' RIGHT	MANHOLE NO. 3	4' MANHOLE
24+50	16' RIGHT	MANHOLE NO. 4	4' MANHOLE

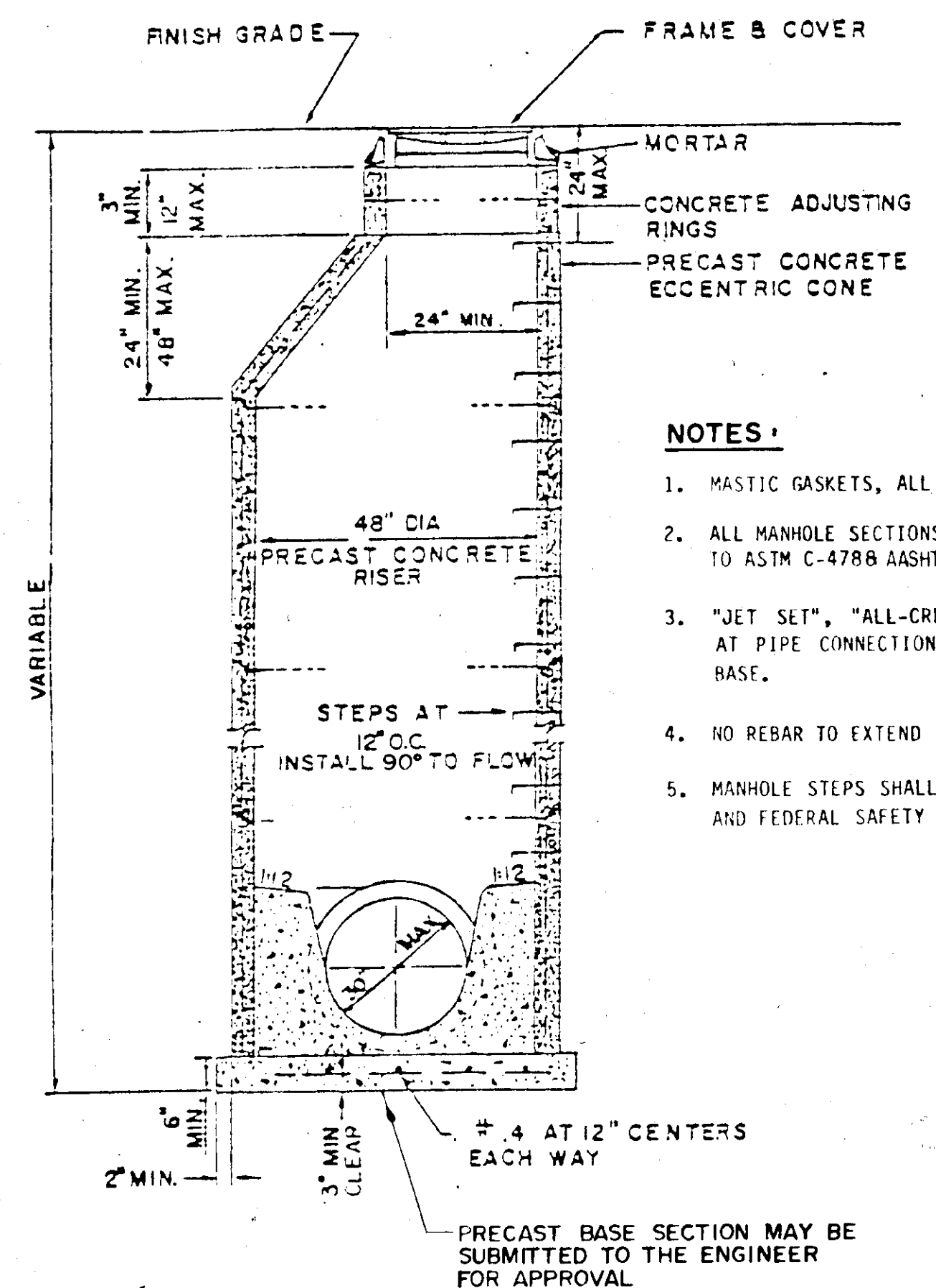
NOTE: FRAMES AND COVERS FOR MANHOLES AND SIMILAR APPURTENANCES SHALL BE OF CAST IRON AND CONFORM TO THE DIMENSIONS SHOWN ON THE DETAILED DRAWING. THE REQUIREMENT FOR TENSILE STRENGTH OF THE GRAY CAST IRON SHALL BE TWENTY-FIVE THOUSAND POUNDS PER SQUARE INCH (25,000 PSI); BREAKING LOAD SHALL BE FIVE THOUSAND POUNDS PER SQUARE INCH (5,000 PSI); CONTACT SURFACES BETWEEN FRAMES AND COVERS SHALL BE MACHINED TO PROVIDE A UNIFORM CONTACT SURFACE. NO SEPARATE PAYMENT WILL BE ALLOWED FOR FRAMES AND COVERS BUT SHALL BE INCLUDED IN THE UNIT PRICE FOR MANHOLES.



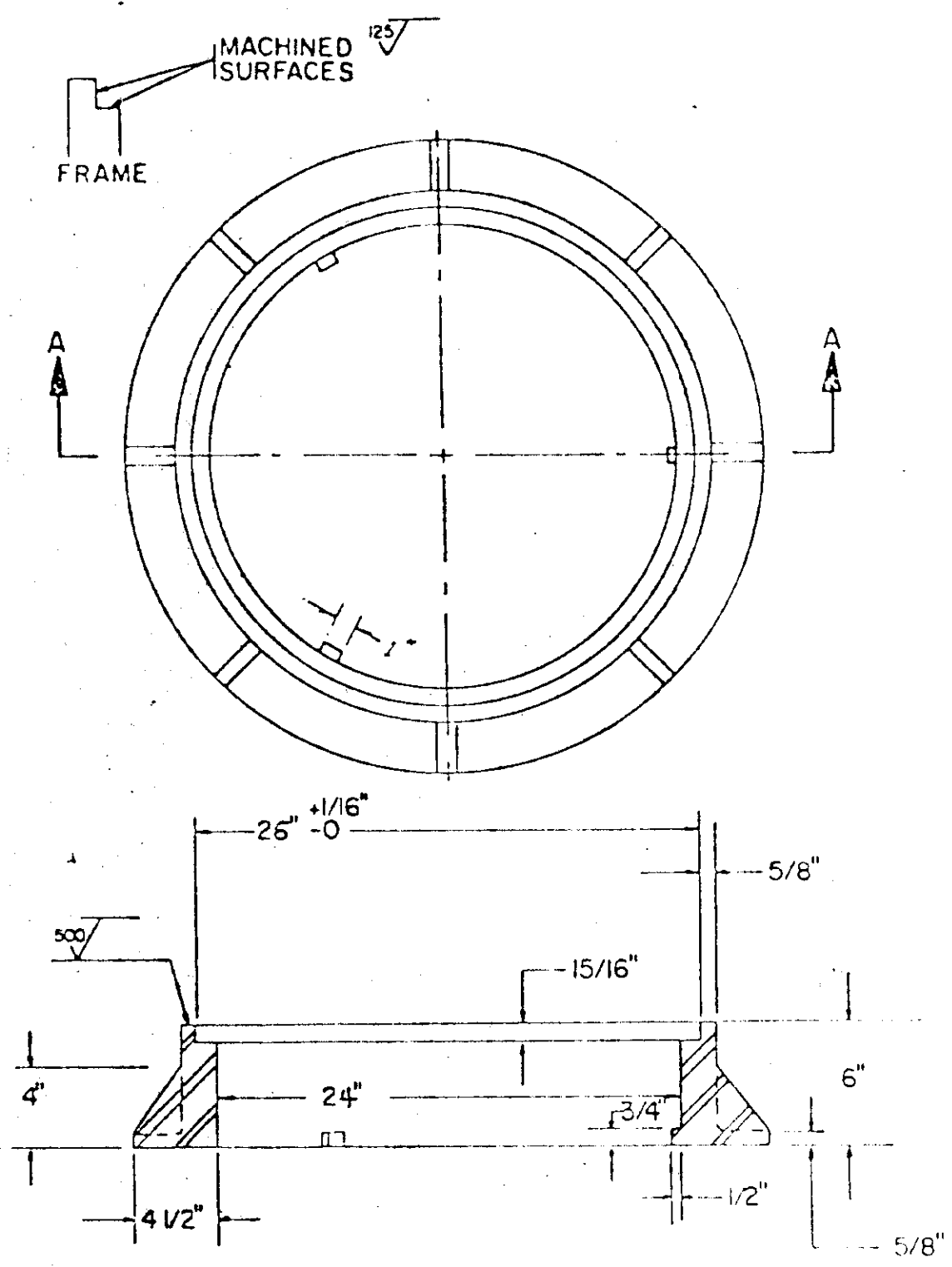
**MANHOLE COVER DETAIL**

MANHOLE FRAMES AND COVERS: FRAMES AND COVERS SHALL BE OF CAST IRON AND CONFORM TO THE DIMENSIONS SHOWN ON THE DETAILED DRAWING. THE REQUIREMENT FOR TENSILE STRENGTH OF THE GRAY CAST IRON SHALL BE TWENTY-FIVE THOUSAND POUNDS PER SQUARE INCH (25,000 PSI) MINIMUM AS PER ASTM A-48, AND THE REQUIREMENT FOR TRANSVERSE BREAKING LOAD SHALL BE 2,000 POUNDS AS PER ASTM A-438. CONTACT SURFACES BETWEEN FRAMES AND COVERS SHALL BE MACHINED TO PROVIDE A UNIFORM CONTACT SURFACE.

NO SEPARATE PAYMENT WILL BE ALLOWED FOR FRAMES AND COVERS BUT SHALL BE INCLUDED IN THE UNIT PRICE FOR MANHOLES.



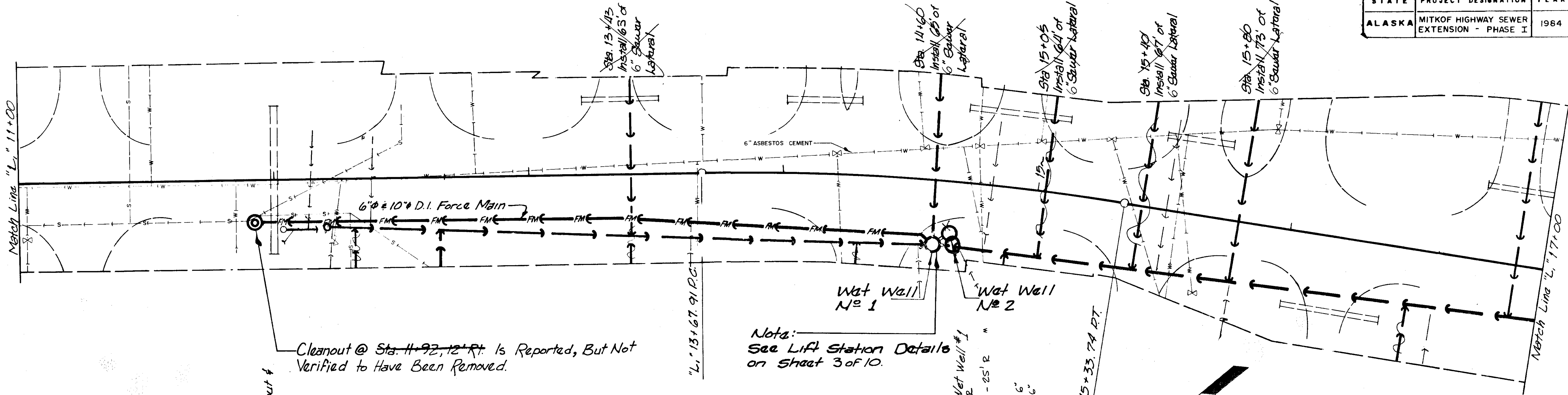
**SANITARY MANHOLE DETAIL**



**MANHOLE FRAME DETAIL**

NOT AS BUILT

STATE	PROJECT DESIGNATION	YEAR
ALASKA	MITKOF HIGHWAY SEWER EXTENSION - PHASE I	1984



PLAN  
 NOTE BOOK  
 ALIGNMENT CHECKED  
 REVISIONS  
 NO. OF WAY CHECKED  
 No.

PROFILE  
 NOTE BOOK  
 GRADES CHECKED  
 REVISIONS  
 NO. OF WAY CHECKED  
 No.

Cleanout @ Sta. 11+92, 12+12 Rt. Is Reported, But Not Verified to Have Been Removed.

Sta. 11+92, 12+12 Rt. Remove Existing Cleanout & Install M.H. #1

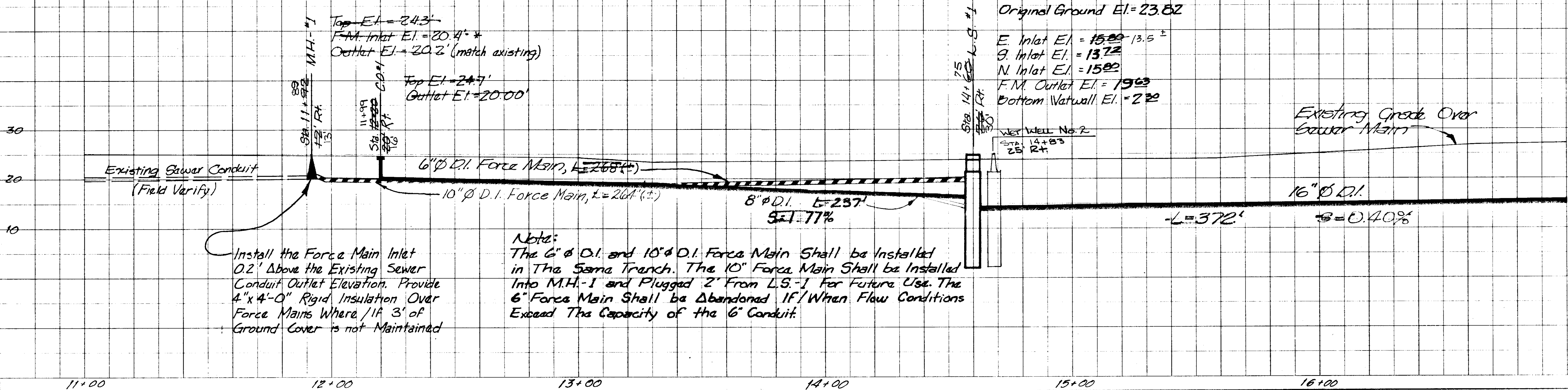
Sta. 11+99, 12+20, 20+1 Rt. Install C.O. #1

Sta. 12+30 Install 5' 15\"/>

Notes:  
 See Lift Station Details on Sheet 3 of 10.

Note:  
 4' Min of Cover Shall be Provided over the Sewer Main and Laterals Under all Paved Areas. A Min. of 3.5' of Cover Shall be Provided over the Sewer Main and Laterals in all other Areas

AS-BUILT 5-22-85  
 NOTE: ALL INVERTS ± 6\"/>



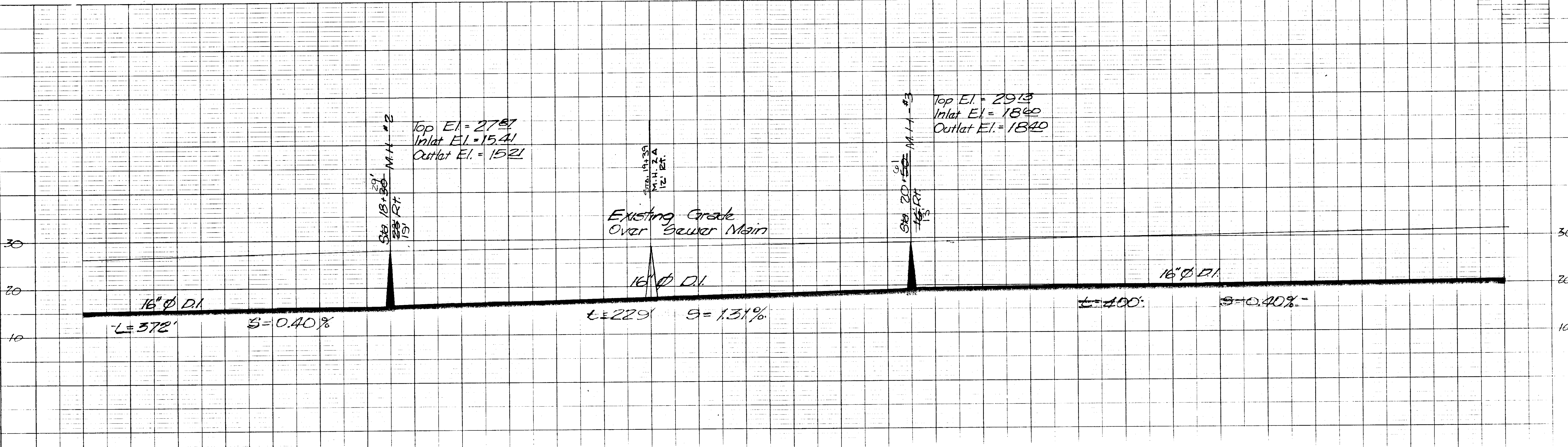
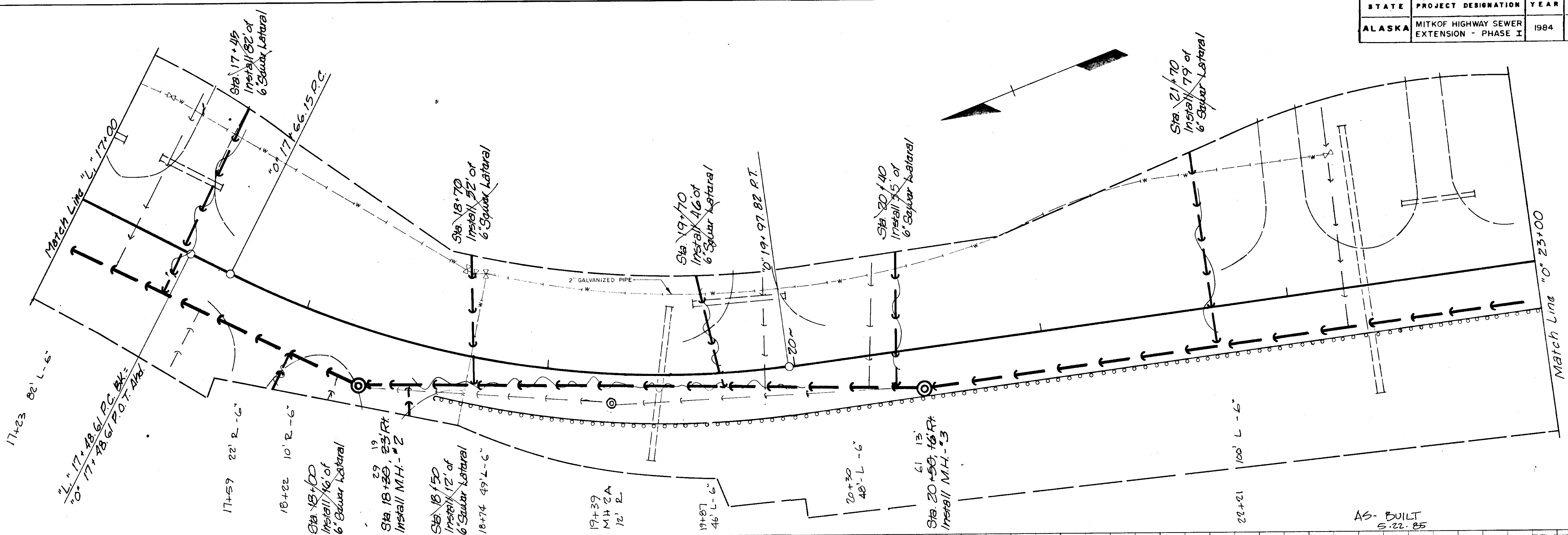
Note:  
 Install the Force Main Inlet 0.2' Above the Existing Sewer Conduit Elevation. Provide 4"x4'-0" Rigid Insulation Over Force Mains Where 1/4 3' of Ground Cover is not Maintained

Note:  
 The 6" & 10" D.I. Force Main Shall be Installed in The Same Trench. The 10" Force Main Shall be Installed into M.H. #1 and Plugged 2' From L.S. #1 for Future Use. The 6" Force Main Shall be Abandoned IF/When Flow Conditions Exceed The Capacity of the 6" Conduit.

Existing Grade Over Sewer Main

11+00 12+00 13+00 14+00 15+00 16+00

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	MITKOF HIGHWAY SEWER EXTENSION - PHASE I	1984	6	10



NOTED  
ALIGNED CHECKED  
RT. OF WAY CHECKED  
NO.

NOTED  
GRADES CHECKED  
S. M. S. NOTED  
STRUCTURE S. M. S. NOTED  
NO.



