

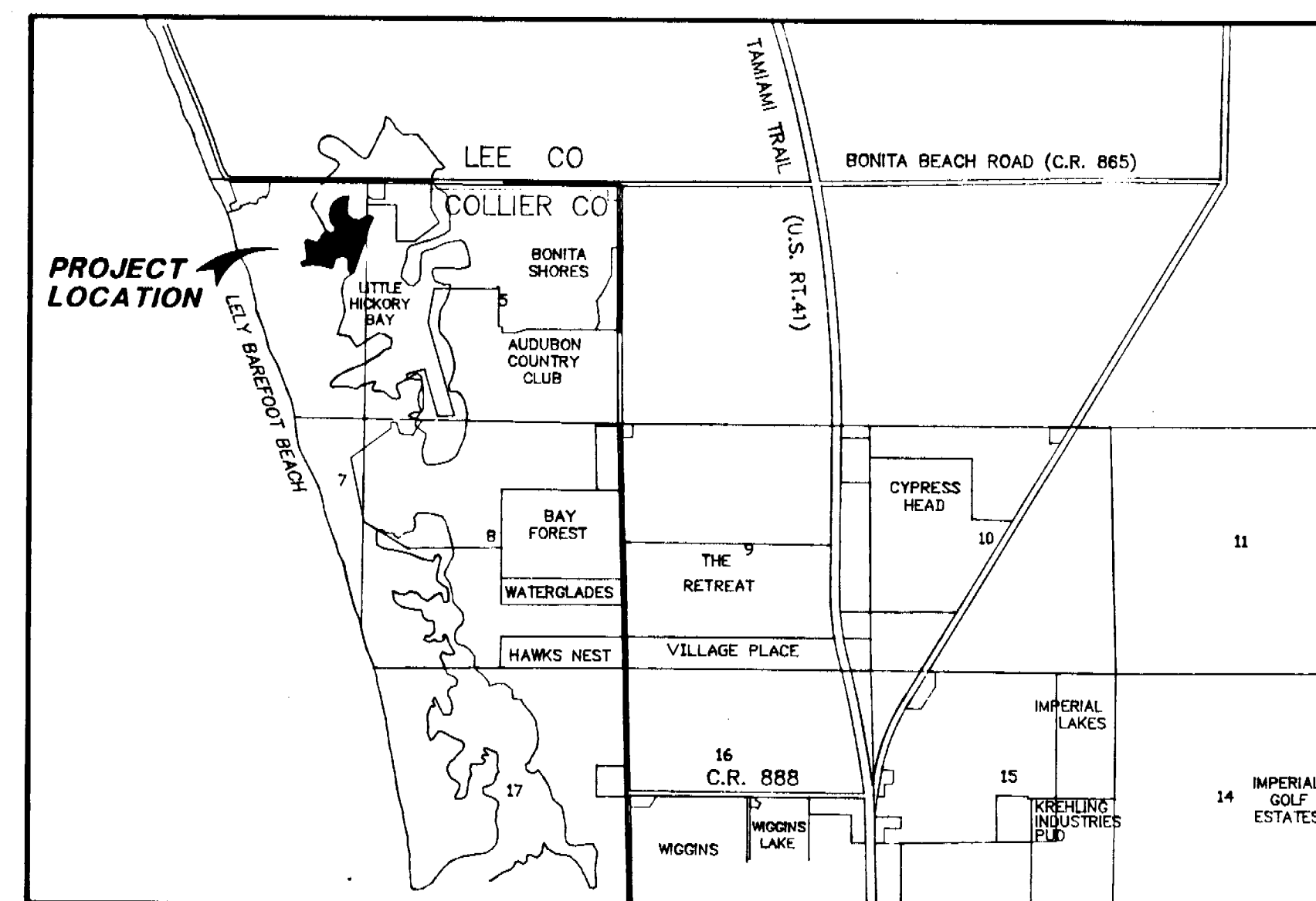
SOUTHPORT ON THE BAY

PREPARED FOR
SOUTHPORT VENTURE ASSOCIATES

Unit I

LEGEND

GV	GATE VALVE
PVC	POLYVINYL CHLORIDE PIPE
HW	HEADWALL
MH	MANHOLE
CB	CATCH BASIN
REDUCER	REDUCER
LS	LIFT STATION
FH	FIRE HYDRANT ASSEMBLY
RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE
INV.	INVERT
A.R.V.	AIR RELEASE VALVE
C.O.	CLEAN OUT
BACTERIAL SAMPLE STATION	BACTERIAL SAMPLE STATION



LOCATION MAP

INDEX

- 1 COVER SHEET
- 2 MASTER SITE PLAN
- PHASE I**
 - 3 WATER AND SEWER PLAN
 - 4 PAVING, GRADING AND DRAINAGE PLAN
 - 5 PLAN AND PROFILE STA. 0+00 TO STA. 11+42
 - 6 PLAN AND PROFILE STA. 0+00 TO STA. 11+00
 - 7 PLAN AND PROFILE STA. 11+00 TO STA. 21+50
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 - 9 PAVING, GRADING AND DRAINAGE PLAN
 - 10 PLAN AND PROFILE STA. 11+42 TO STA. 25+92
 - 11 PLAN AND PROFILE STA. 0+00 TO STA. 7+86 AND STA. 0+00/STA. 3+25
 - 12 STANDARD WATER DETAILS
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 - 16 UNIT ONE PLAT
 - 17 CURVE DATA

REVISIONS

NO.	DATE	DESCRIPTION	APPR.
1	10-27-88	REVISED DWGS. PER C.C. ENG. & UTIL. DEPT.	JMc
2	11-10-88	REVISED DWGS. PER C.C. UTIL. DEPT.	JMc
3	12-15-88	REVISED TOP OF LAKE BANK #3	JMc
4	1-9-89	REVISIONS AS NOTED	JMc
5	1-19-89	CORRECT INVERTS JB. #2, HDWL. 7 & 15	JMc
6	7-21-89	AS BUILT SEWERS	JAD
7	10-17-89	AS BUILT ROAD ELEVATIONS, REF. E201	JAD
8	11-10-89	REVISE PUMPS/AS-BUILT PUMP RATE	JAD

RECORD DRAWINGS
FOR WATER TRANSMISSION/
DISTRIBUTION FACILITIES,
SANITARY SEWER AND
DRAINAGE FACILITIES

PROJECT No. 87.194
FILE No. 87.194
SHEET 1 OF 17

COASTAL ENGINEERING
CONSULTANTS, INC.
DEC 15 1989

NOTE:
1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC.,
GENERAL CONTRACTOR APAC INC.
2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.

COASTAL ENGINEERING CONSULTANTS, INC.

COASTAL & CIVIL ENGINEERS * PLANNERS * SURVEYORS * GEOLOGISTS

3106 S. HORSESHOE DRIVE
NAPLES, FLORIDA 33942
JUNE 1988

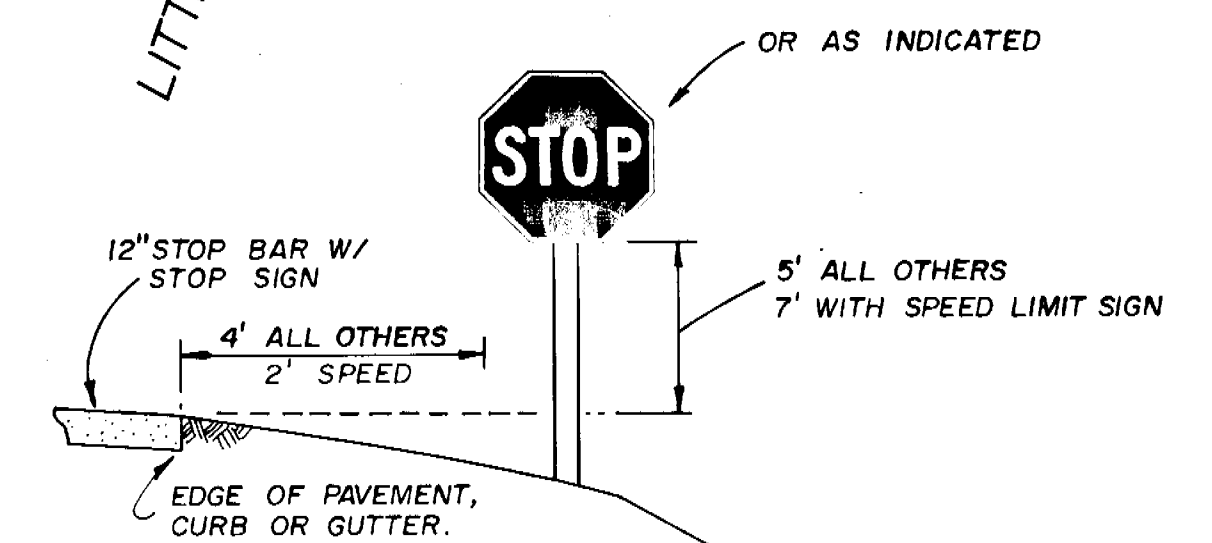
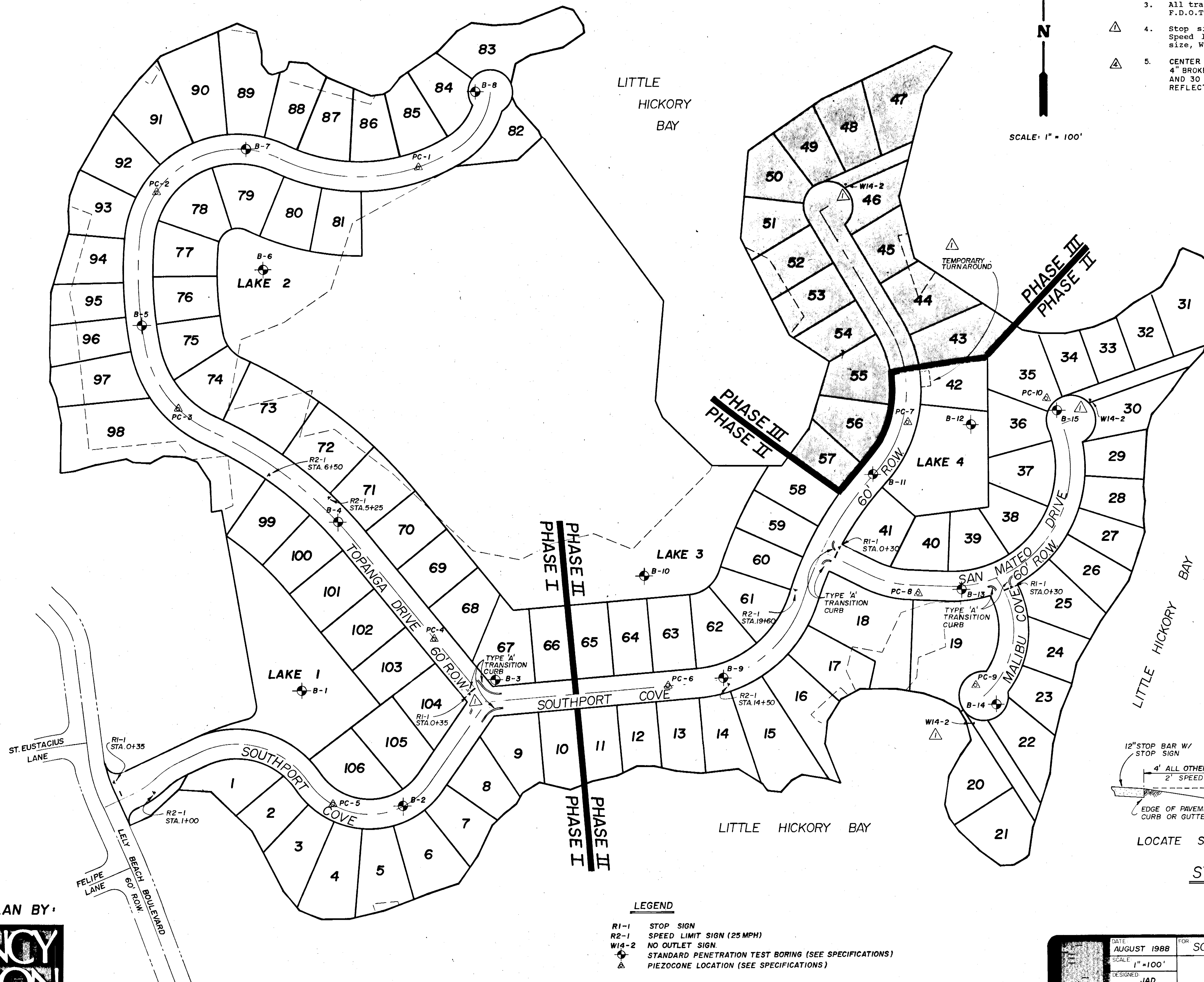
Record Print

Date

- NOTES:
1. All stop bars shall be 24" wide and extend from the center line of the road to the edge of pavement.
 2. All traffic paint will conform to F.D.O.T. Spec. 971-12. All striping shall be thermoplastic.
 3. All traffic signs shall be installed according to the latest F.D.O.T. Manual on Uniform Traffic Control Devices.
 4. Stop signs shall be F.D.O.T. #R1-1, 24" x 24" in size. Speed limit signs shall be F.D.O.T. #R2-1, 24" x 30" in size, W14-2, 24" x 24".
 5. CENTER LINE STRIPING ALL PAVEMENT WITHIN THE 60' R/W AS FOLLOWS:
4" BROKEN YELLOW LINE, CENTER LINE OF ROADWAY, 10 FOOT SEGMENTS AND 30 FOOT GAPS WITH BI-DIRECTIONAL RAISED PAVEMENT MARKERS, REFLECTORIZED ON 40 FOOT CENTERS.

N

SCALE: 1" = 100'



LOCATE STOP SIGN ADJACENT TO THE STOP BAR

STOP SIGN DETAIL

N.T.S. Record Print DEC 15 1988

LEGEND

- R1-1 STOP SIGN
- R2-1 SPEED LIMIT SIGN (25 MPH)
- W14-2 NO OUTLET SIGN
- STANDARD PENETRATION TEST BORING (SEE SPECIFICATIONS)
- PIEZOCONE LOCATION (SEE SPECIFICATIONS)

RECORD DRAWINGS FOR WATER TRANSMISSION/DISTRIBUTION FACILITIES, SANITARY SEWER AND DRAINAGE FACILITIES

- NOTE:
1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC., GENERAL CONTRACTOR APAC INC.
 2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.

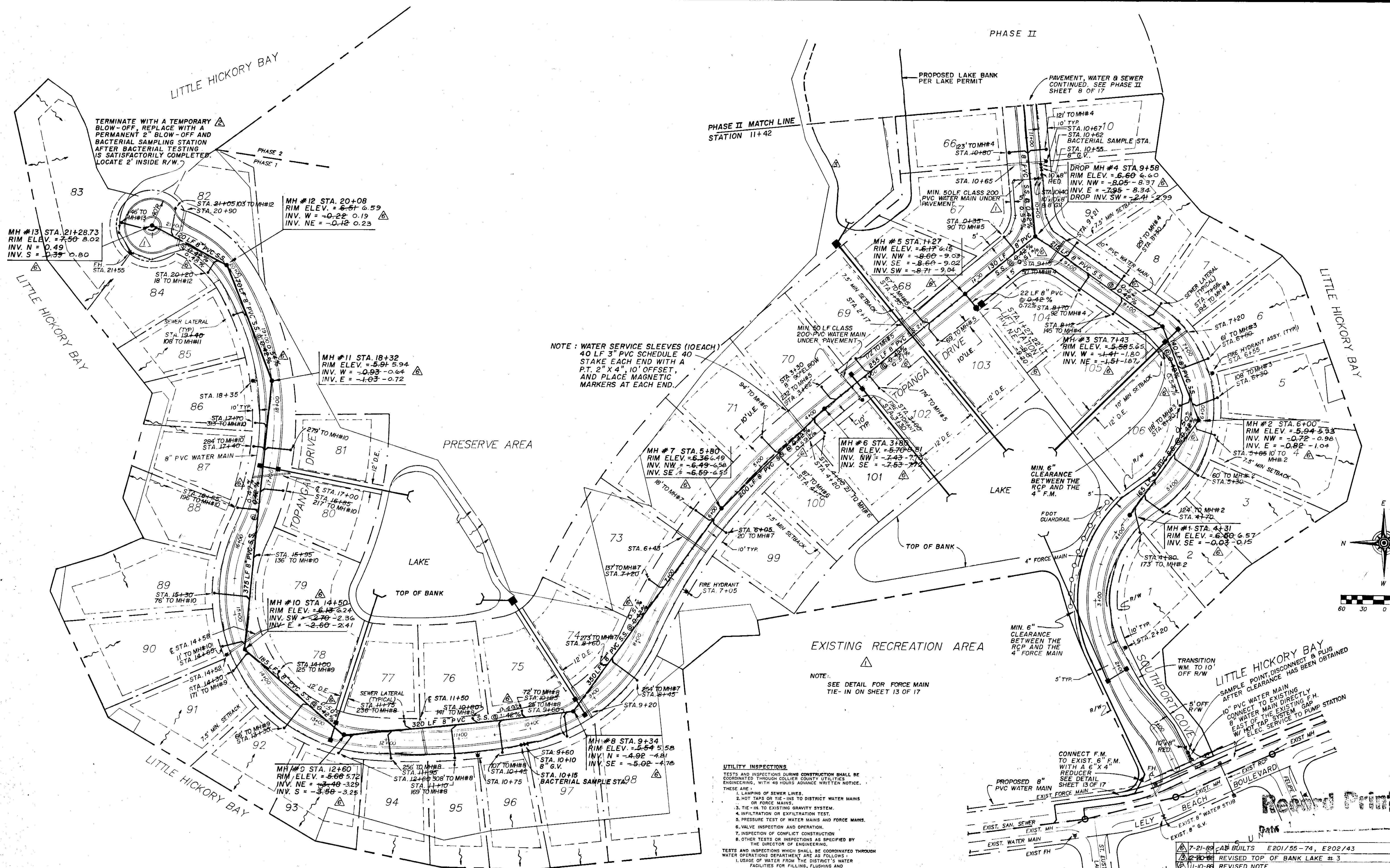
CONCEPT SITE PLAN BY:

QUINCY JOHNSON ASSOCIATES

DATE: AUGUST 1988	FOR: SOUTHPORT VENTURE ASSOCIATES
SCALE: 1" = 100'	
DESIGNED: JAD	
DRAWN: ACAD/RP	
CHECKED: JMC	
F.B. PG.	
PROJECT NO: 87.194	REFERENCE: 2 OF 17
FILE NO: 87.194	

MASTER SITE PLAN

COASTAL ENGINEERING CONSULTANTS, INC.
COASTAL & CIVIL ENGINEERS · PLANNERS · SURVEYORS · GEOLOGISTS · NAPLES, FLA.



NOTE:
1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC., GENERAL CONTRACTOR APAC INC.
2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.

NOTE: The fire protection facilities shown on these plans were designed to function in accordance with local and federal standards. However, the design engineer does not warrant that the utility supplying water can provide adequate volume and pressure to meet the applicable local and national standards.

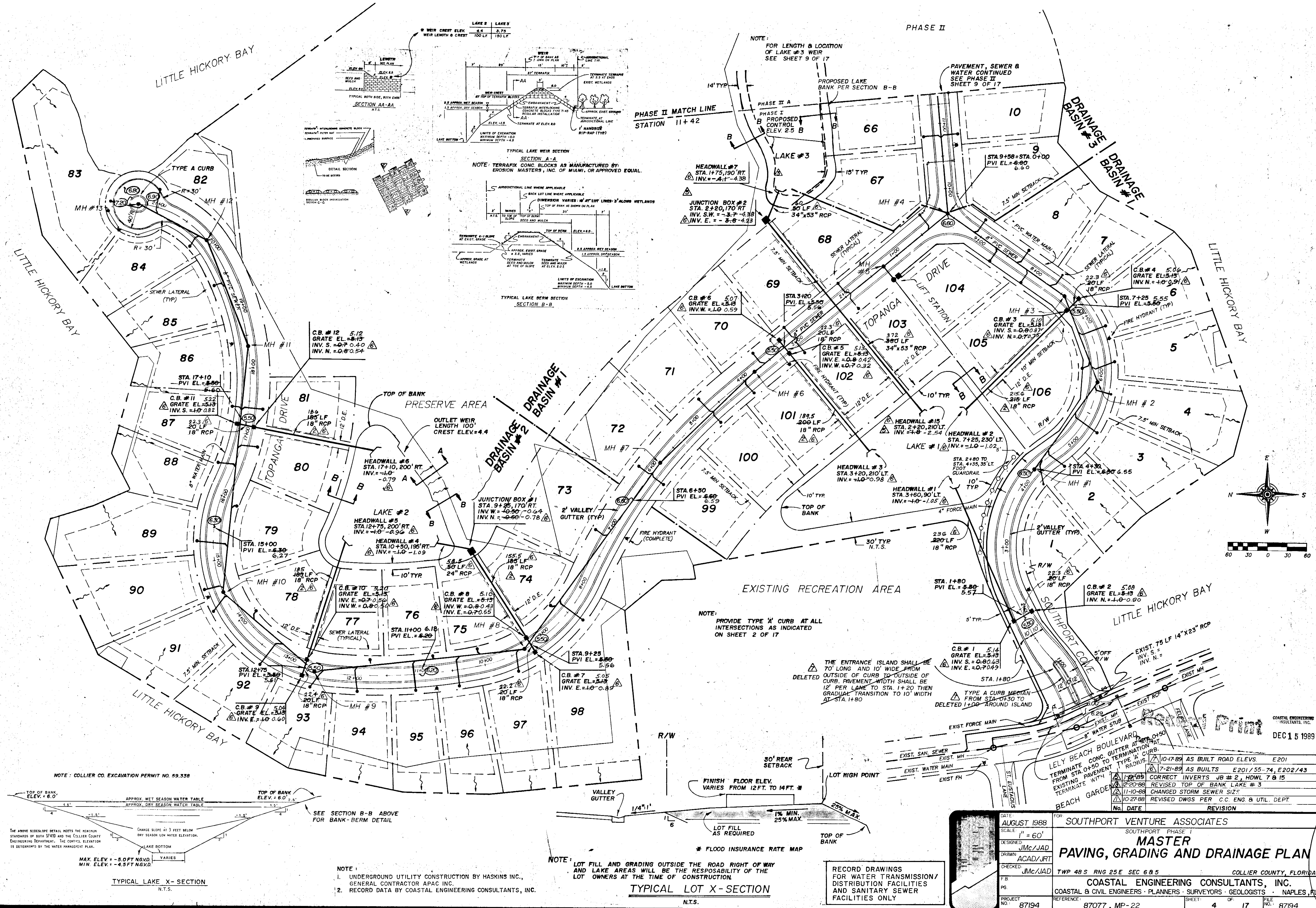
NOTE: Horizontal and vertical deflection of the water main shall not exceed the pipe manufacturer's specifications. Elbows shall be used where deflections may exceed the pipe manufacturer's specifications.

NOTE: Known existing utilities are shown in approximate locations. The contractor is responsible for coordinating the preconstruction utility locations with the respective utilities.

RECORD DRAWINGS FOR WATER TRANSMISSION/DISTRIBUTION FACILITIES AND SANITARY SEWER FACILITIES ONLY

UTILITY INSPECTIONS
TESTS AND INSPECTIONS DURING CONSTRUCTION SHALL BE COORDINATED THROUGH COLLIER COUNTY UTILITIES ENGINEERING, WITH 48 HOURS ADVANCE WRITTEN NOTICE. THESE ARE:
1. LAMPING OF SEWER LINES
2. HOT TAPS OR TIE-INS TO DISTRICT WATER MAINS OR FORCE MAINS
3. TIE-INS TO EXISTING GRAVITY SYSTEM
4. INFILTRATION OR EXFILTRATION TEST
5. PRESSURE TEST OF WATER MAINS AND FORCE MAINS
6. VALVE INSPECTION AND OPERATION
7. INSPECTION OF CONFLICT CONSTRUCTION
8. OTHER TESTS OR INSPECTIONS AS SPECIFIED BY THE DIRECTOR OF ENGINEERING
TESTS AND INSPECTIONS WHICH SHALL BE COORDINATED THROUGH WATER OPERATIONS DEPARTMENT ARE AS FOLLOWS:
1. USAGE OF WATER FROM THE DISTRICT'S WATER FACILITIES FOR FILLING, FLUSHING AND TESTING PURPOSES. PRIOR APPROVAL OF TIME AND METHOD OF USAGE IS MANDATORY.
2. FLUSHING, USING APPROPRIATE METHODS AND MATERIALS FOR ALL WATER MAINS
3. BACTERIOLOGICAL SAMPLING OF WATER MAINS

DATE AUGUST 1988		FOR SOUTHPORT VENTURE ASSOCIATES	
SCALE 1" = 60'		SOUTHPORT PHASE I	
DESIGNED JMC/JAD		MASTER WATER AND SEWER PLAN	
DRAWN ACAD/JRT		COASTAL ENGINEERING CONSULTANTS, INC.	
CHECKED JMC/JAD		COASTAL & CIVIL ENGINEERS - PLANNERS - SURVEYORS - GEOLOGISTS - NAPLES, FLA.	
PROJECT NO. 87194		REFERENCE 87077, MP-22	
SHEET 3		OF 17	
FILE NO. 87194		DATE 8/21/88	
REVISION 1		DATE 8/21/88	
REVISION 2		DATE 9/10/88	
REVISION 3		DATE 10/27/88	
REVISION 4		DATE 11/10/88	
REVISION 5		DATE 12/15/88	



DATE	AUGUST 1988	FOR	SOUTHPORT VENTURE ASSOCIATES
SCALE	1" = 60'	DESIGNED	JMC/JAD
		DRAWN	ACAD/JRT
		CHECKED	JMC/JAD
F.B.			
P.C.			
PROJECT NO.	87194	REFERENCE	87077, MP-22
		SHEET	4
		OF	17
		FILE NO.	87194

REVISION

NO.	DATE	REVISION
1	7-21-89	AS BUILT ROAD ELEV. E201
2	7-21-89	AS BUILT E201/55-74, E202/43
3	12-20-88	CORRECT INVERTS JB #2, HDWL 7 & 15
4	11-10-88	REVISED TOP OF BANK LAKE #3
5	10-27-88	CHANGED STORM SEWER SIZE
6		REVISED DWGS PER C.C. ENG. & UTIL. DEPT.

NOTE: LOT FILL AND GRADING OUTSIDE THE ROAD RIGHT OF WAY AND LAKE AREAS WILL BE THE RESPONSIBILITY OF THE LOT OWNERS AT THE TIME OF CONSTRUCTION.

TYPICAL LOT X-SECTION

N.T.S.

NOTE: 1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC., GENERAL CONTRACTOR APAC INC.
2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.

TYPICAL LAKE X-SECTION

N.T.S.

THE ABOVE SLOPESIDE DETAIL MEETS THE MINIMUM STANDARDS OF BOTH SPMD AND THE COLLIER COUNTY ENGINEERING DEPARTMENT. THE COLLIER COUNTY IS DETERMINED BY THE WATER MANAGEMENT PLAN.

MAX. ELEV. = -5.0 FT NGVD
MIN. ELEV. = -4.5 FT NGVD

TOP OF BANK ELEV. = 6.0'
APPROX. WET SEASON WATER TABLE
APPROX. DRY SEASON WATER TABLE

SEE SECTION B-B ABOVE FOR BANK-BERM DETAIL

* FLOOD INSURANCE RATE MAP

RECORD DRAWINGS FOR WATER TRANSMISSION/DISTRIBUTION FACILITIES AND SANITARY SEWER FACILITIES ONLY

COASTAL ENGINEERING CONSULTANTS, INC.
DEC 15 1989

PLAN
SURVISED
NOTED
NOTE BOOK
RT. OF WAY CHECKED
No.

PROFILE
SURVISED
NOTED
NOTE BOOK
CHECKED
8" x 11" NOTED
STRUCTURE INDICATIONS CHECKED
No.

NOTE:
Known existing utilities are shown in approximate locations. The contractor is responsible for coordinating the preconstruction utility locations with the respective utilities.

NOTE: FOR HORIZONTAL AS-BUILT SEWER LATERAL LOCATION SEE SHEET 3 OF 17

NOTE: Horizontal and vertical deflection of the water main shall not exceed the pipe manufacturer's specifications. Elbows shall be used where deflections may exceed the pipe manufacturer's specifications.

SCALE: 1" = 60'

N

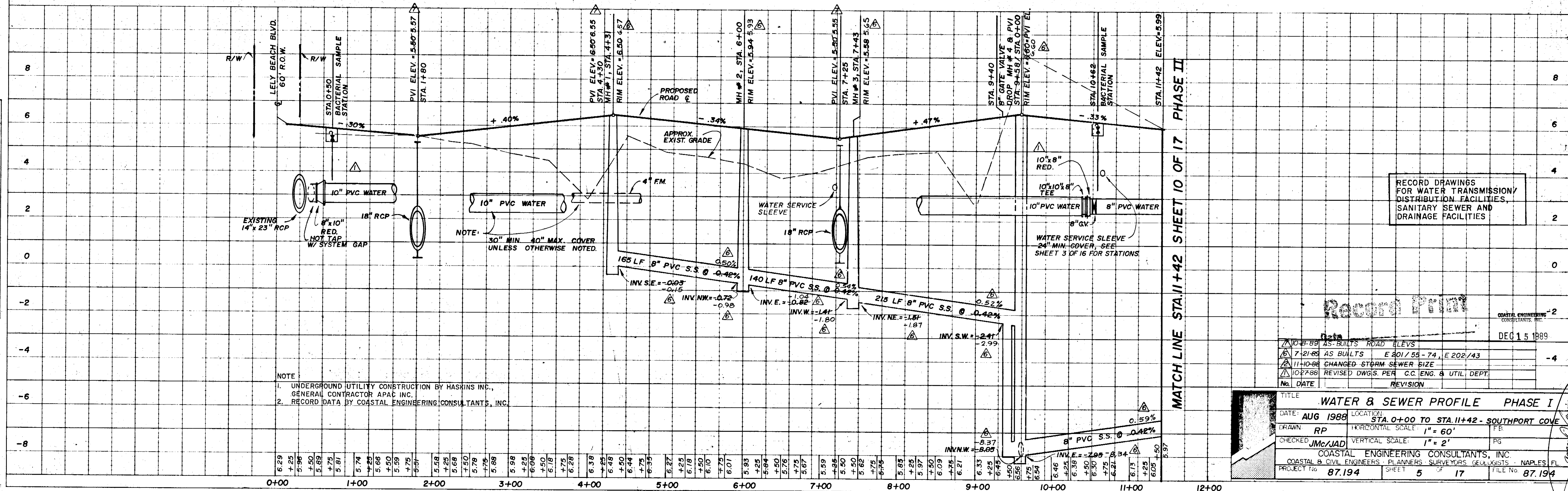
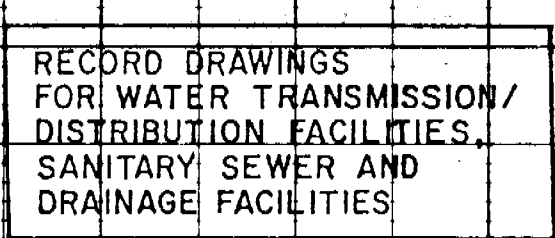
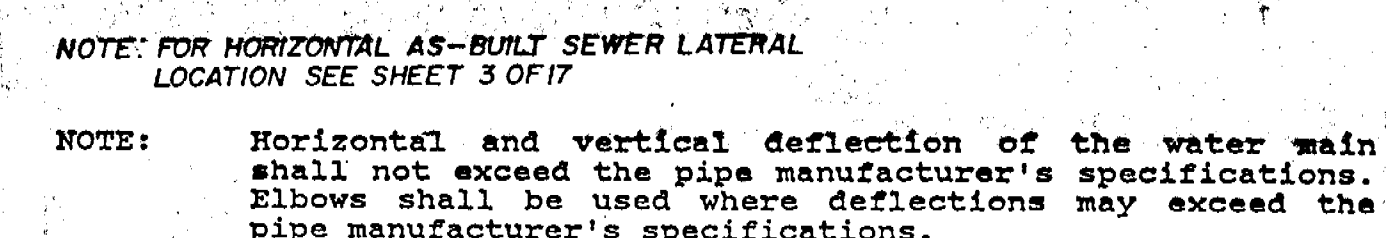
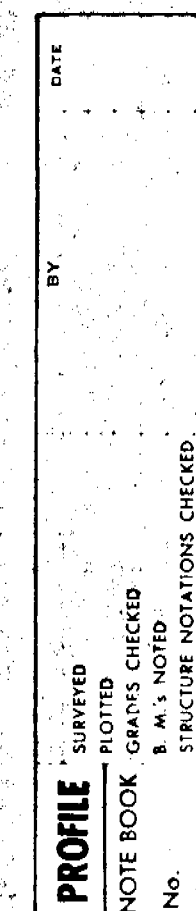


PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
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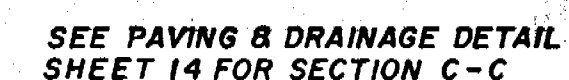
COASTAL ENGINEERING CONSULTANTS, INC.
COASTAL & CIVIL ENGINEERS - PLANNERS - SURVEYORS - GEOLOGISTS - NAPLES, FL
PROJECT NO. 87.194 SHEET 5 OF 17 FILE NO. 87.194



Revised Print

DATE			
10-6-89	AS BUILTS ROAD ELEV.		
7-21-88	AS BUILTS E201/55-74, E202/43		
11-40-88	CHANGED STORM SEWER SIZE		
10-27-88	REVISED DWGS PER C.C. ENG. & UTIL. DEPT.		
NO.	DATE	REVISION	
TITLE			
WATER & SEWER PROFILE PHASE I			
DATE:	AUG. 1988		
LOCATION:	STA. 0+00 TO STA. 11+00 - TOPANGA DRIVE		
DRAWN:	RP	HORIZONTAL SCALE:	1" = 60'
CHECKED:	JMC/JAD	VERTICAL SCALE:	1" = 2'
PG			
COASTAL ENGINEERING CONSULTANTS, INC.			
COASTAL & CIVIL ENGINEERS - PLANNERS SURVEYORS GEOLOGISTS - NAPLES, FL			
PROJECT NO.	87 194	SHEET	6 OF 17
FILE NO.		87 194	

PROFILE SURVEYED _____ BY _____ DATE _____
 PLOTTED _____
 NOTE BOOK GRAPHS CHECKED _____
 No. _____ B M NOTED _____



NOTE: Horizontal and vertical deflection of the water main shall not exceed the pipe manufacturer's specifications. Elbows shall be used where deflections may exceed the pipe manufacturer's specifications.

NOTE: FOR HORIZONTAL AS-BUILT SEWER LATERAL
LOCATION SEE SHEET 3 OF 17

TOPANGA DRIVE

7	0-8-89	AS BULTS ROAD ELEV.	
8	7-21-89	AS BULTS E 201/53-79, E 202/43	
9	1-9-89	CORRECT STORM SEWER LENGTH MM #11 to #12	-4
10	11-0-88	CHANGED STORM SEWER SIZE & REVISED NOTE	
11	10-27-88	REVISED DWGS. PER C.C. ENG. & UTIL. DEPT.	
12	DATE	REVISION	

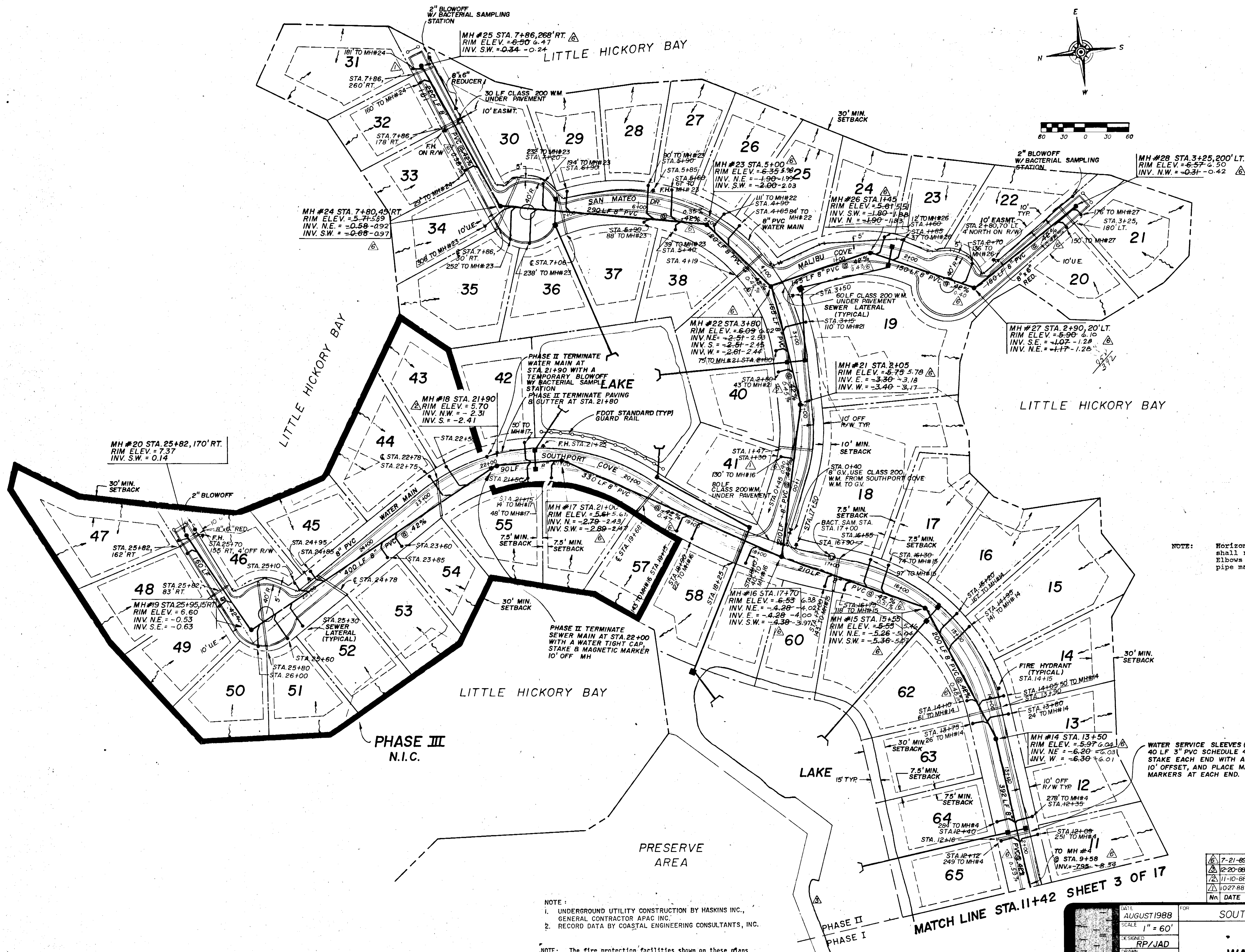
WATER & SEWER PROFILE PHASE I

DATE: AUG. 1988	LOCATION: STA. 11+00 TO 21+50 - TOPANGA DRIVE
DRAWN: RP	HORIZONTAL SCALE: 1" = 60' FB
CHECKED: JMc/JAD	VERTICAL SCALE: 1" = 2' PG
COASTAL ENGINEERING CONSULTANTS, INC. COASTAL CIVIL ENGINEERS - PLANNERS SURVEYORS GEOLOGISTS - NAPLES, FL	
PROJECT No 87.194	SHEET 7 OF 17 FILE No 87.194

RECORD DRAWINGS
FOR WATER TRANSMISSION/
DISTRIBUTION FACILITIES,
SANITARY SEWER AND
DRAINAGE FACILITIES

SEE GRADES ON THE
DRAINAGE PLAN FOR
THE CUL-DE-SAC

PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE

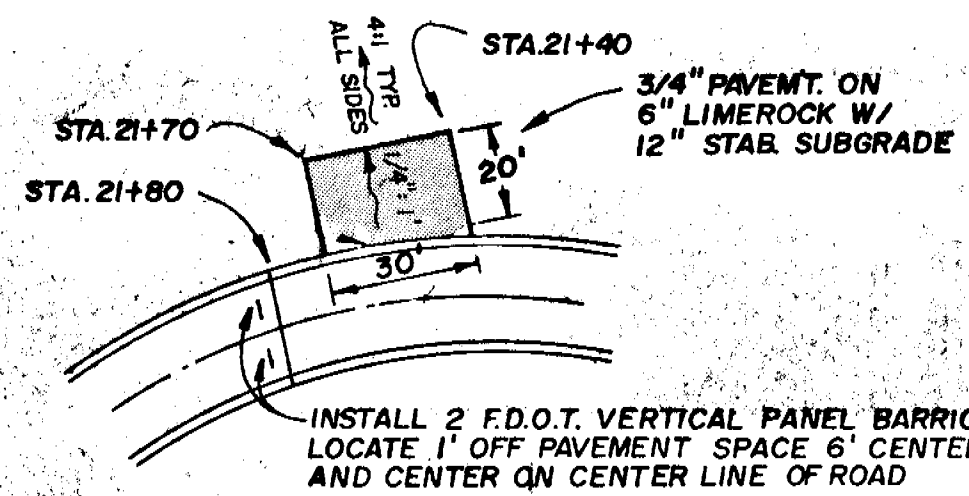


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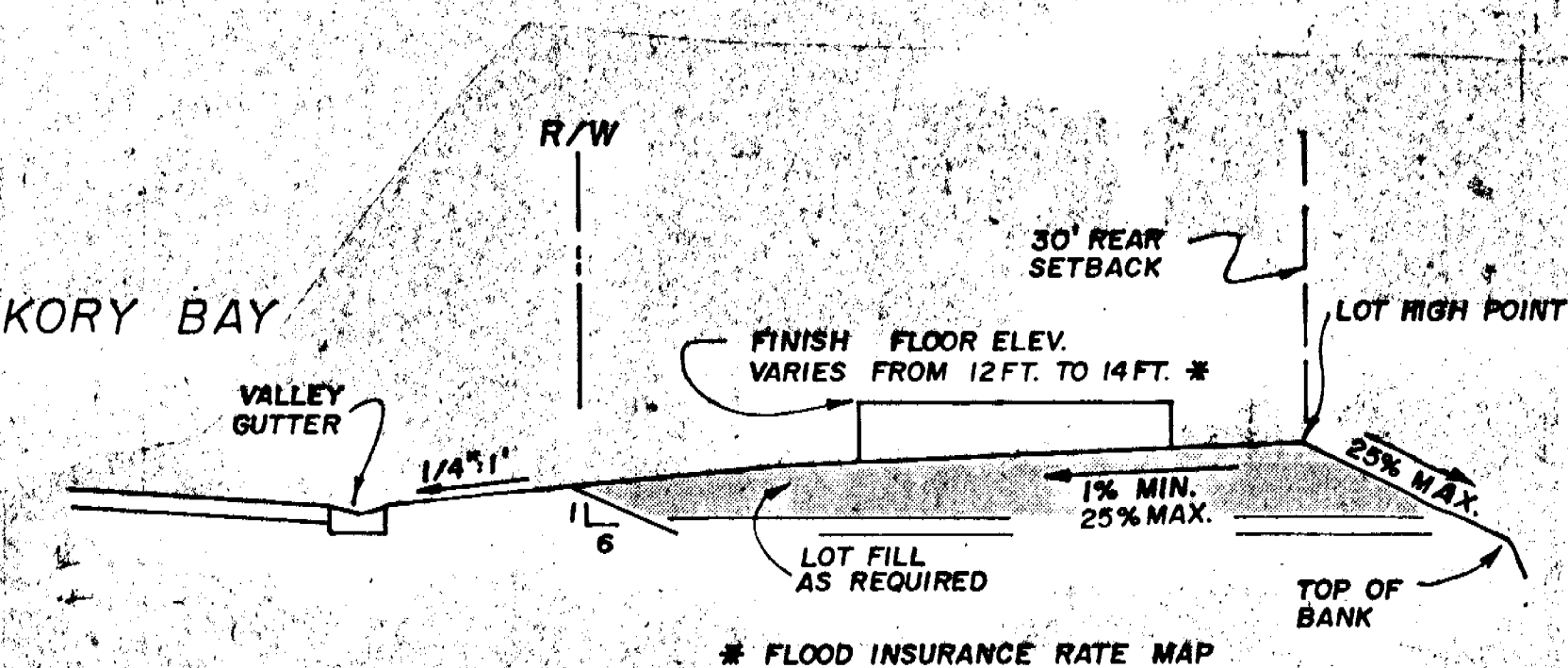
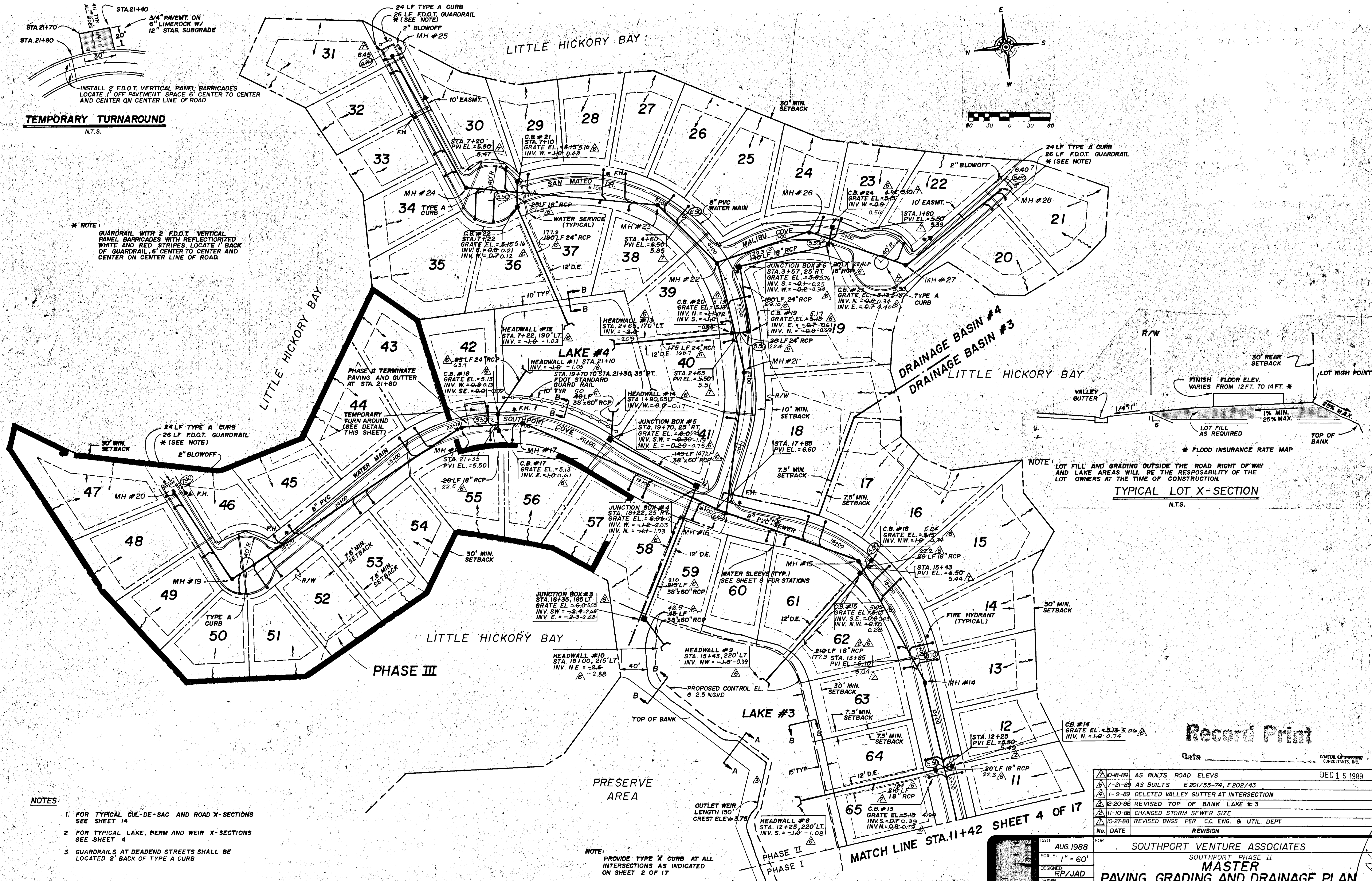
7-21-88	AS BUILT	E 201/55-74, E 202/43
12-20-88	REVISED TOP OF BANK LAKE # 3	
11-10-88	CHANGED RIM EL. OF MH #18	
10-27-88	REVISED DWGS PER CC. ENG. & UTIL. DEPT.	
No. DATE	REVISION	

DATE	AUGUST 1988	FOR	SOUTHPORT VENTURE ASSOCIATES
SCALE	1" = 60'		SOUTHPORT PHASE II
DESIGNED	RP/JAD		MASTER
DRAWN	RP		WATER AND SEWER PLAN
CHECKED	JMc	TWP 48 S. RNG 25 E. SEC. 6 & 5	COLLIER COUNTY, FLORIDA
PG			COASTAL ENGINEERING CONSULTANTS, INC.
PROJECT	87.194	REFERENCE	87.077, MP 22
SHEET	8	OF	17
FILE		NO.	87.194



TEMPORARY TURNAROUND
N.T.S.

* NOTE:
GUARDRAIL WITH 2 F.D.O.T. VERTICAL PANEL BARRICADES WITH REFLECTORIZED WHITE AND RED STRIPES LOCATE 1' BACK OF GUARDRAIL, 6' CENTER TO CENTER AND CENTER ON CENTER LINE OF ROAD.



NOTE: LOT FILL AND GRADING OUTSIDE THE ROAD RIGHT OF WAY AND LAKE AREAS WILL BE THE RESPONSIBILITY OF THE LOT OWNERS AT THE TIME OF CONSTRUCTION.

- NOTES:**
- FOR TYPICAL CUL-DE-SAC AND ROAD X-SECTIONS SEE SHEET 14
 - FOR TYPICAL LAKE, BERM AND WEIR X-SECTIONS SEE SHEET 4
 - GUARDRAILS AT DEADEND STREETS SHALL BE LOCATED 2' BACK OF TYPE A CURB

* NOTE:
1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC.
GENERAL CONTRACTOR APAC INC.
2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.

NOTE: PROVIDE TYPE A CURB AT ALL INTERSECTIONS AS INDICATED ON SHEET 2 OF 17

RECORD-DRAWINGS FOR WATER TRANSMISSION/DISTRIBUTION FACILITIES, SANITARY SEWER AND DRAINAGE FACILITIES

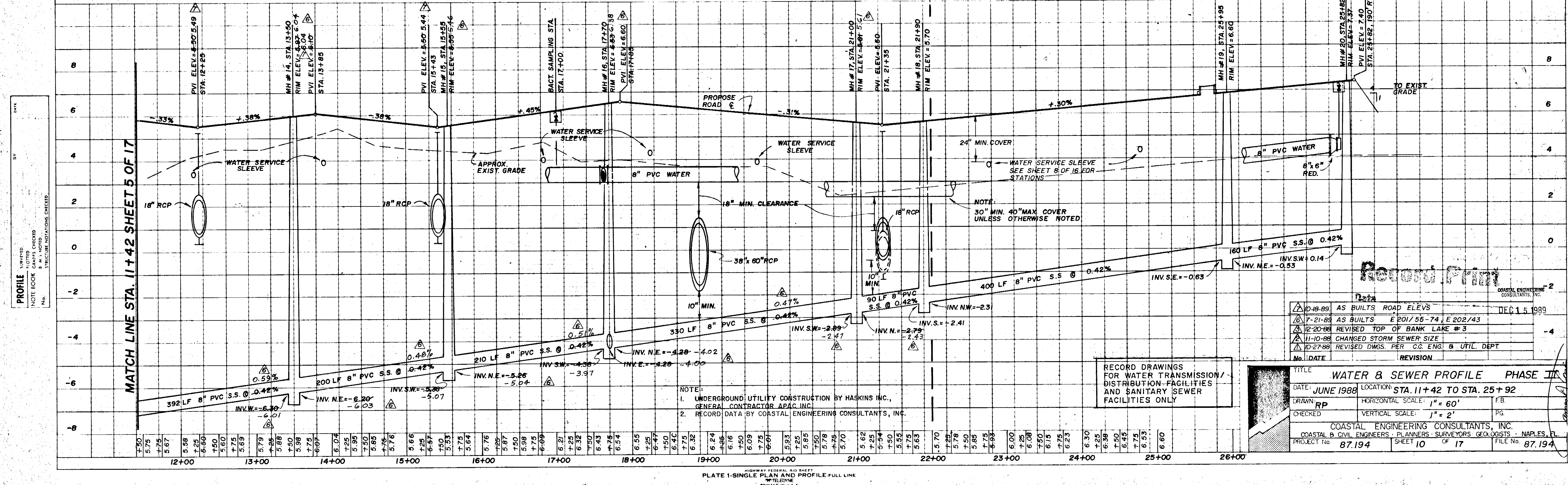
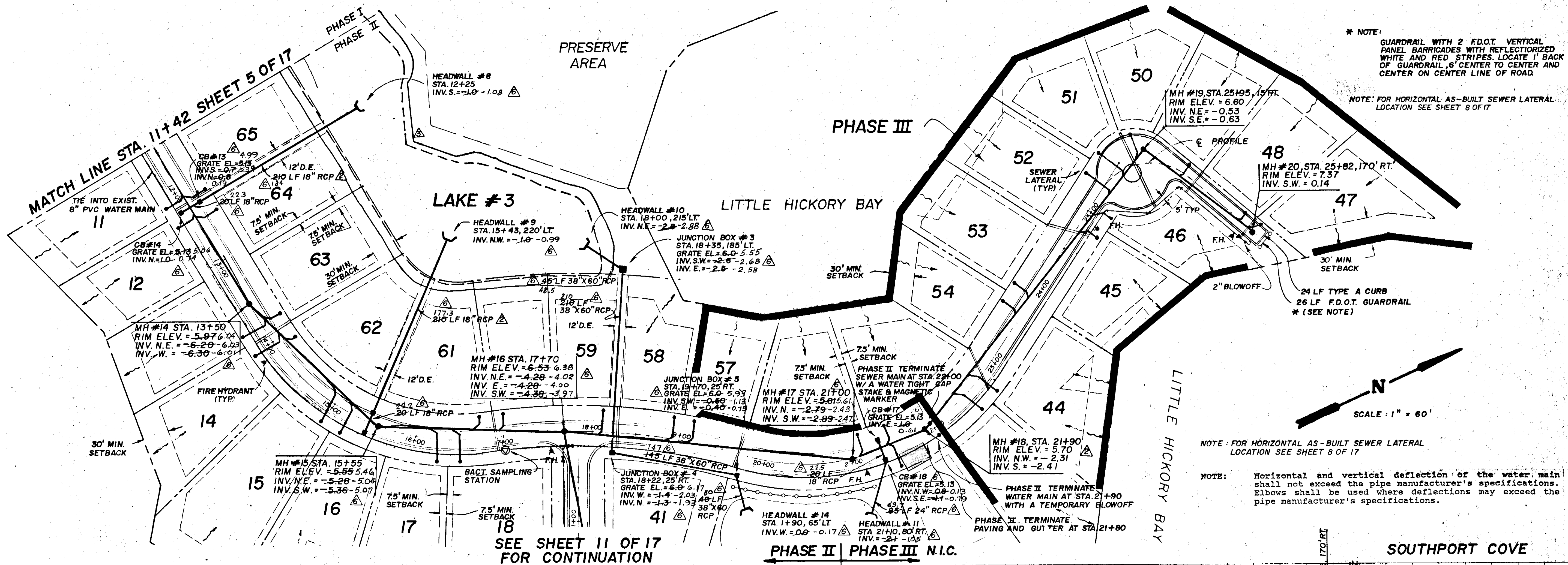
DATE	AUG. 1988
SCALE	1" = 60'
DESIGNED	RP/JAD
DRAWN	RP
CHECKED	JMc
P.B.	
PROJECT NO.	87.194

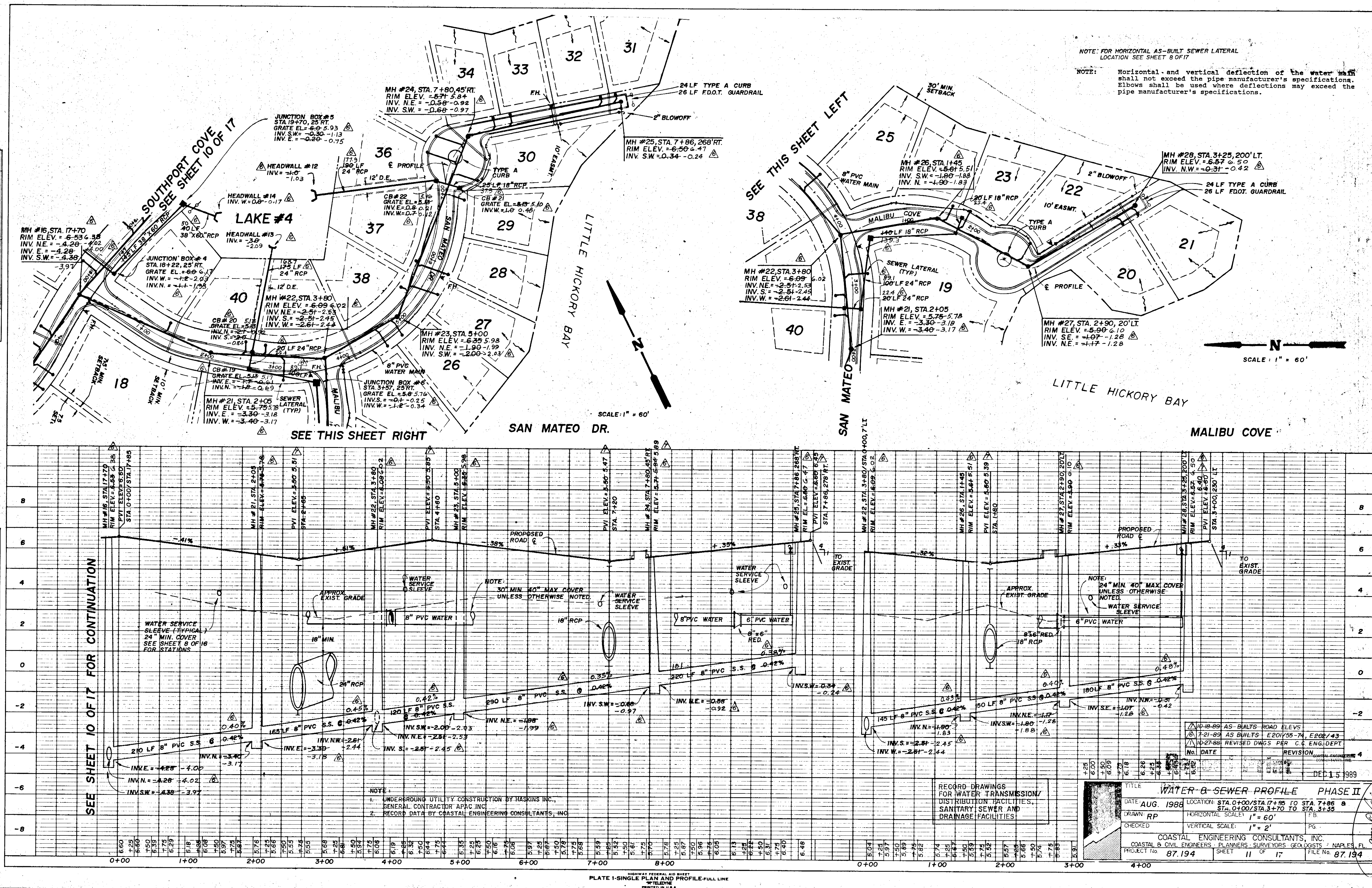
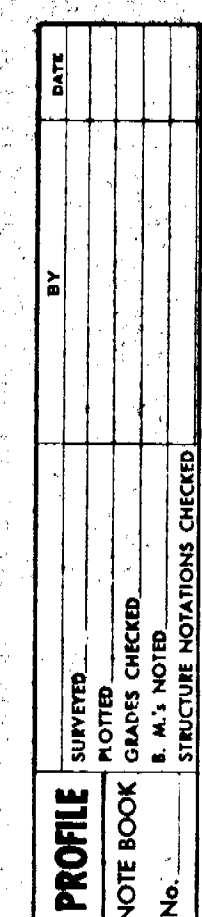
NO.	DATE	REVISION
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7-21-89	AS BUILT E 201/55-74, E 202/43	
1-9-88	DELETED VALLEY GUTTER AT INTERSECTION	
12-20-88	REVISED TOP OF BANK LAKE #3	
11-10-88	CHANGED STORM SEWER SIZE	
10-27-88	REVISED DWGS PER C.C. ENG. & UTIL. DEPT.	

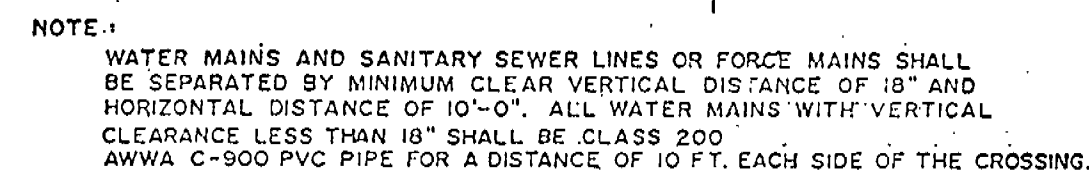
DATE		FOR	
AUG. 1988		SOUTHPORT VENTURE ASSOCIATES	
SCALE		SOUTHPORT PHASE II	
1" = 60'		MASTER	
DESIGNED		PAVING, GRADING AND DRAINAGE PLAN	
RP/JAD			
DRAWN		TWP 48 S. RING 25 E. SEC 6 & 5	
RP		COLLIER COUNTY, FLORIDA	
CHECKED		COASTAL ENGINEERING CONSULTANTS, INC.	
JMc		COASTAL & CIVIL ENGINEERS - PLANNERS - SURVEYORS - GEOLOGISTS - NAPLES, FLA.	
P.B.		PROJECT NO. 87.077, MP 22	
PROJECT NO. 87.194		SHEET 9 OF 17	
		FILE NO. 87.194	

Record Print

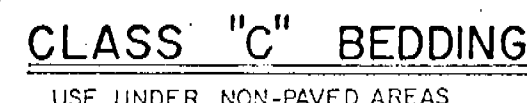
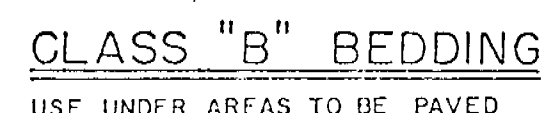
COASTAL ENGINEERING CONSULTANTS, INC.







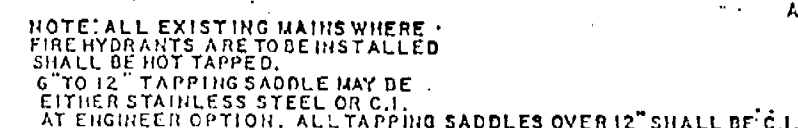
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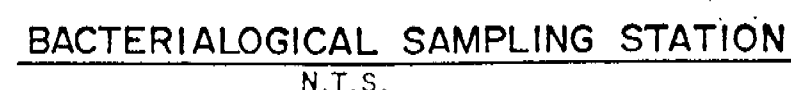
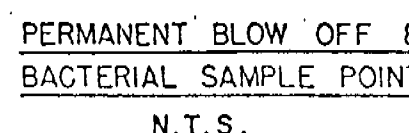
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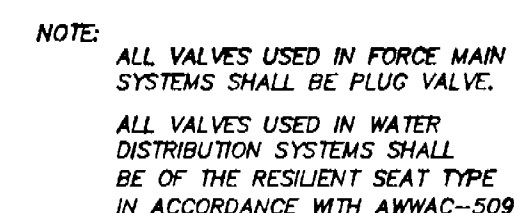
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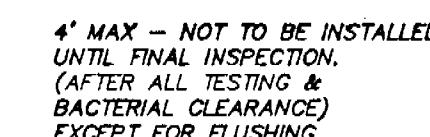
NY 5



NTS



TYPICAL VALVE SETTING



- NOTE: 1. ALL NEW PIPING TO BE PROPERLY RESTRAINED TO PERMANENT BLOW OFF.
2. FINAL CONNECTION TO BE WITNESSED BY COLLIER COUNTY UTILITIES DIVISION.
3. INSTALL JUMPER TAP ON NEW SYSTEM FOR TEMPORARY MEAN DOWNSTREAM OF BLIND FLANGE FOR CONSTRUCTION WATER AFTER SYSTEM HAS BEEN SATISFACTORILY CLEARED.
4. 6" TO 12" TAPPING SADDLE MAY BE EITHER STAINLESS STEEL OR C.I. AT FAVORABLE OPTION. TAPPING SADDLES OVER 12" SHALL BE C.I.

NTS

NOTE: Horizontal and vertical deflection of the water main shall not exceed the pipe manufacturer's specifications. Elbows shall be used where deflections may exceed the pipe manufacturer's specifications.

0272

COASTAL ENGINEERING
6000 LEBLANC AVENUE, SUITE 100
HOUSTON, TEXAS 77056
(713) 865-1100

DEC 15 1989

8	FOR:	SOUTHPORT VENTURE ASSOCIATES
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TWP 48 S RNG 25 E SEC 5 & 6 COLLIER COUNTY, FLORIDA

COASTAL ENGINEERING CONSULTANTS, INC.

COASTAL & CIVIL ENGINEERS · PLANNERS · SURVEYORS · GEOLOGISTS · NAPLES, FL

REFERENCE :	SHEET : 12	OF : 17	FILE NO. : 87 194
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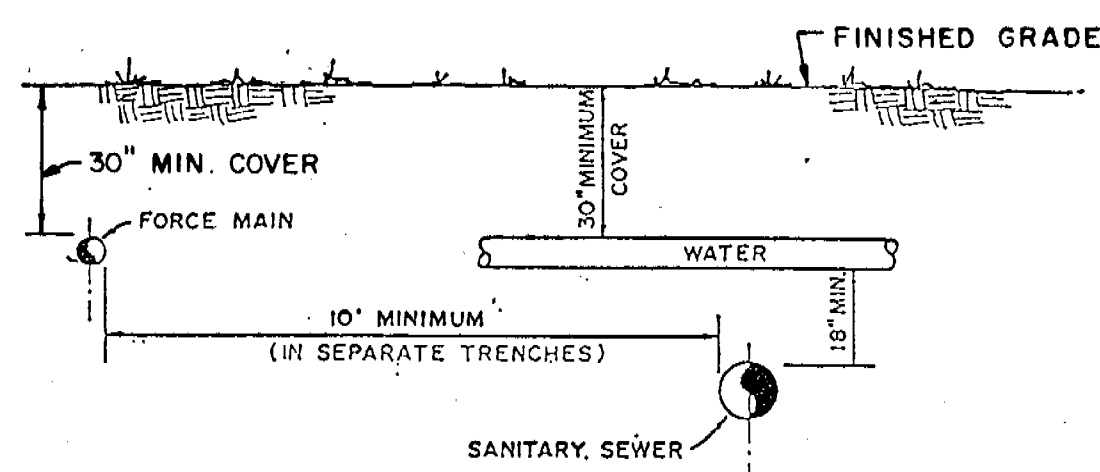
	12	17	NO. 87.194
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RECORD DRAWINGS
FOR WATER TRANSMISSION/
DISTRIBUTION FACILITIES,
SANITARY SEWER AND
DRAINAGE FACILITIES

NOTE: The fire protection facilities shown on these plans were designed to function in accordance with local and federal standards. However, the design engineer does not warrant that the utility supplying water can provide adequate volume and pressure to meet the applicable local and national standards.

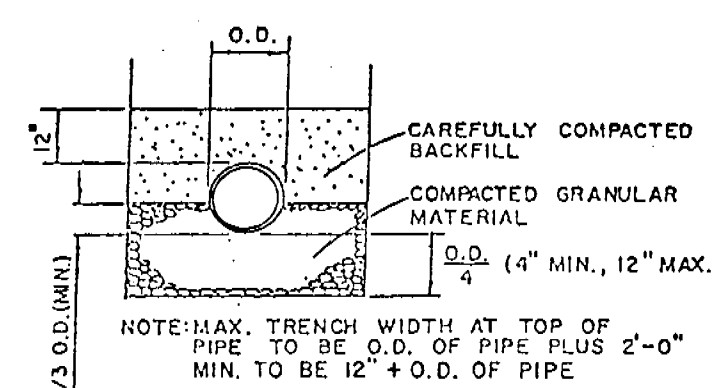
NOTE :

1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC.,
GENERAL CONTRACTOR APAC INC.
2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.

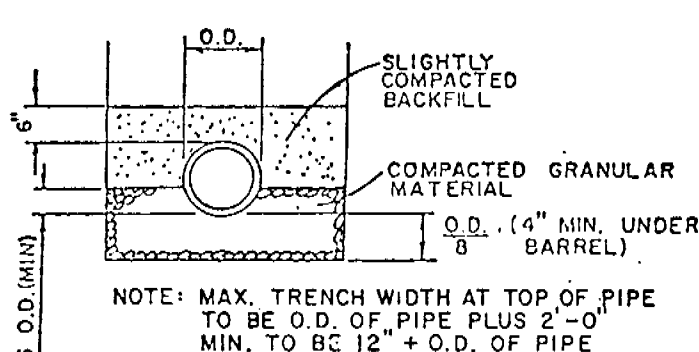


NOTE: WATER MAINS AND SANITARY SEWER LINES OR FORCE MAINS SHALL BE SEPARATED BY MINIMUM CLEAR VERTICAL DISTANCE OF 18" AND HORIZONTAL DISTANCE OF 10'-0". ALL WATER MAINS WITH VERTICAL CLEARANCE LESS THAN 18" SHALL BE CLASS 200 AWWA C-900 PVC PIPE FOR A DISTANCE OF 10 FT. EACH SIDE OF THE CROSSING.

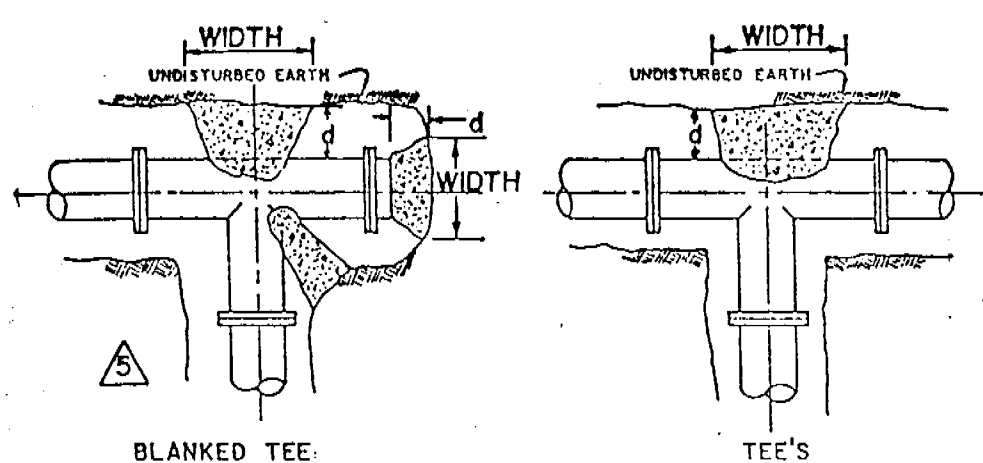
WATER & SEWER SEPARATION DETAIL
N.T.S.



CLASS "B" BEDDING
USE UNDER AREAS TO BE PAVED



CLASS "C" BEDDING
USE UNDER NON-PAVED AREAS
TRENCH AND BEDDING DETAILS
N.T.S.

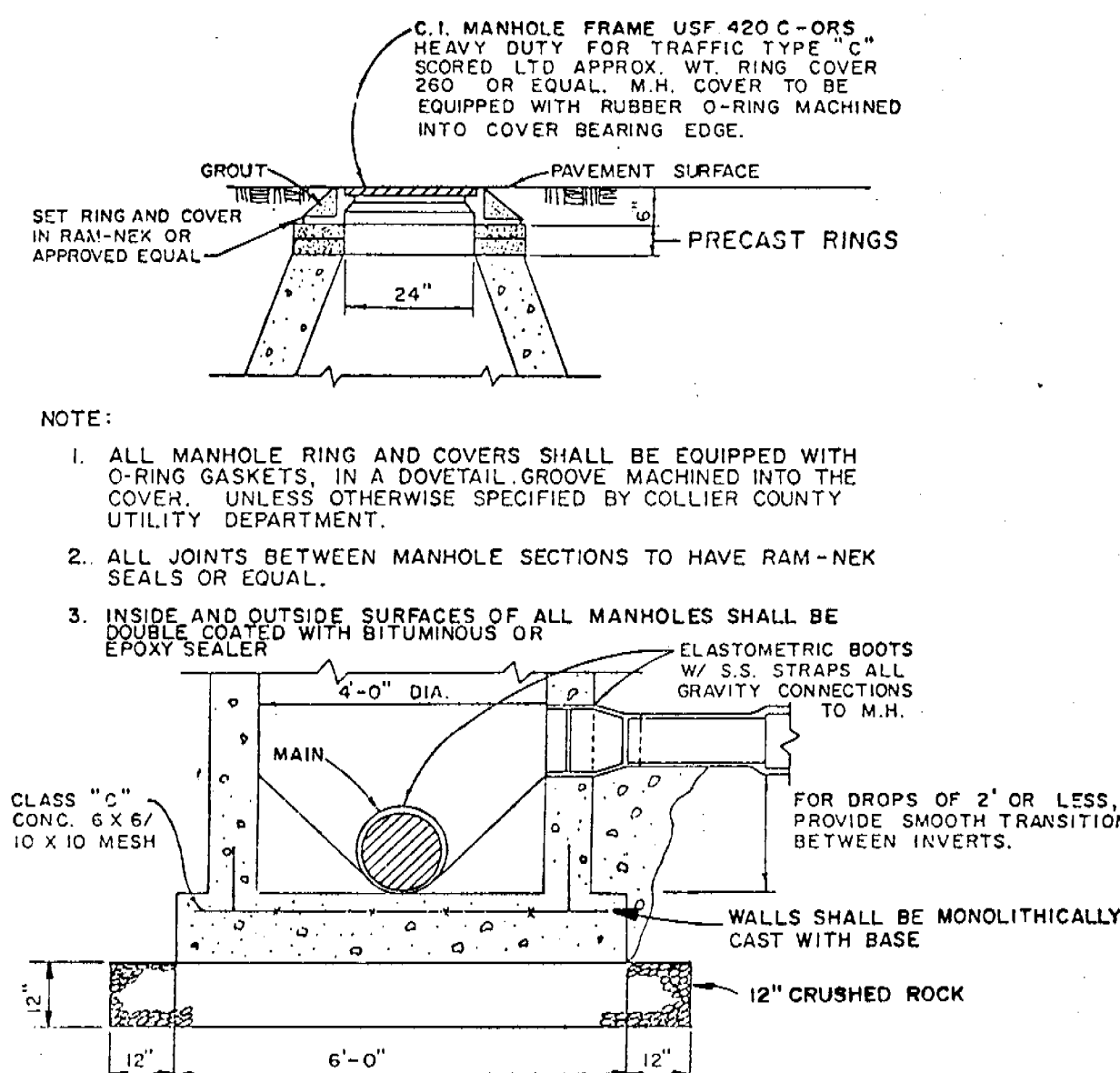


THrust BLOCK SCHEDULE
MINIMUM BEARING AREA S.F. AGAINST UNDISTURBED SOIL

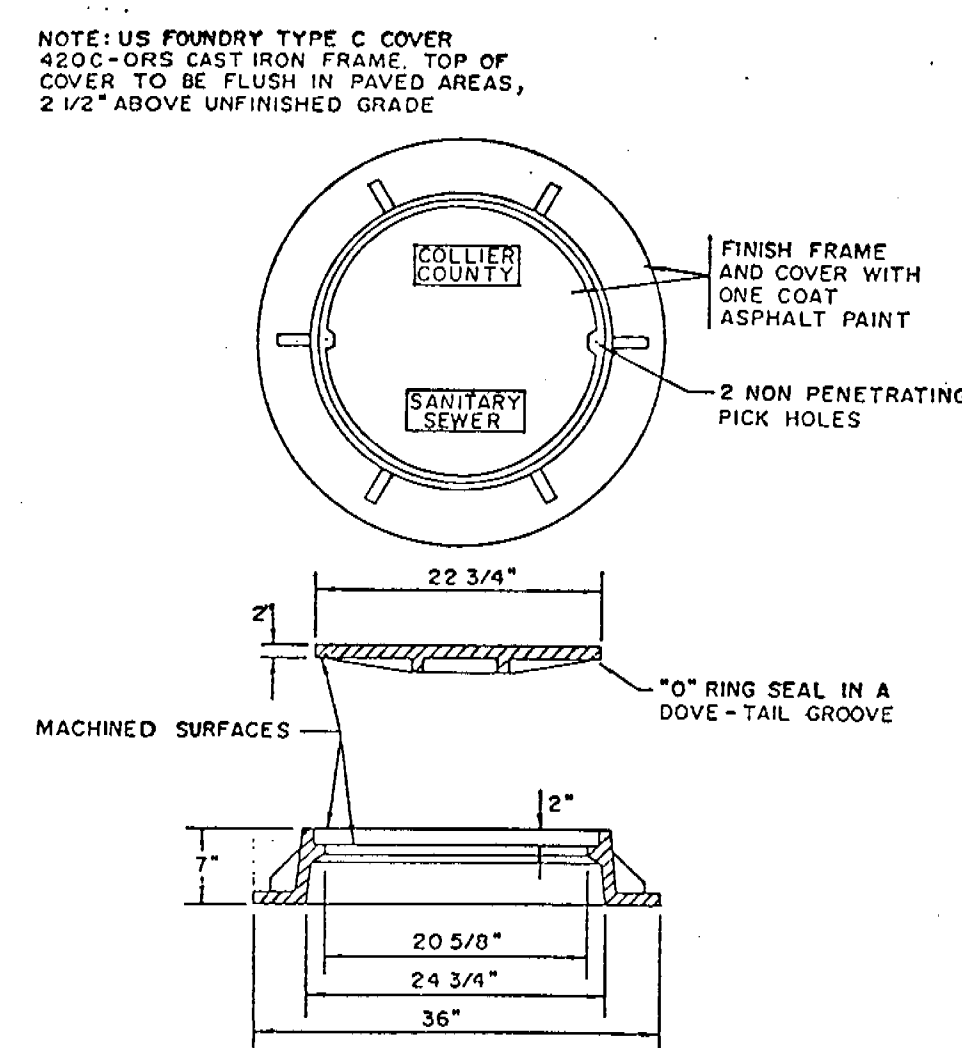
PIPE SIZE	90° BEND	45° BEND	TEE OR DEAD END	MIN. DEPTH, INCHES
4" or less	1.5	1.0	1.5	12
6"	2.0	1.5	2.0	18
8"	2.5	2.0	2.5	24
12"	3.0	2.5	3.0	36

- NOTES:
- Based on a thrust block bearing against undisturbed soil having a bearing value of 3,000 lbs./sq. ft. and a line pressure of 150 lbs./sq. inch.
 - The bearing area of the thrust block against the wall shall be square in shape, with the width equal to the square root of the minimum bearing area listed above.
 - The length of the bearing area along the pipe shall in no case be less than two-thirds of the width as determined above.

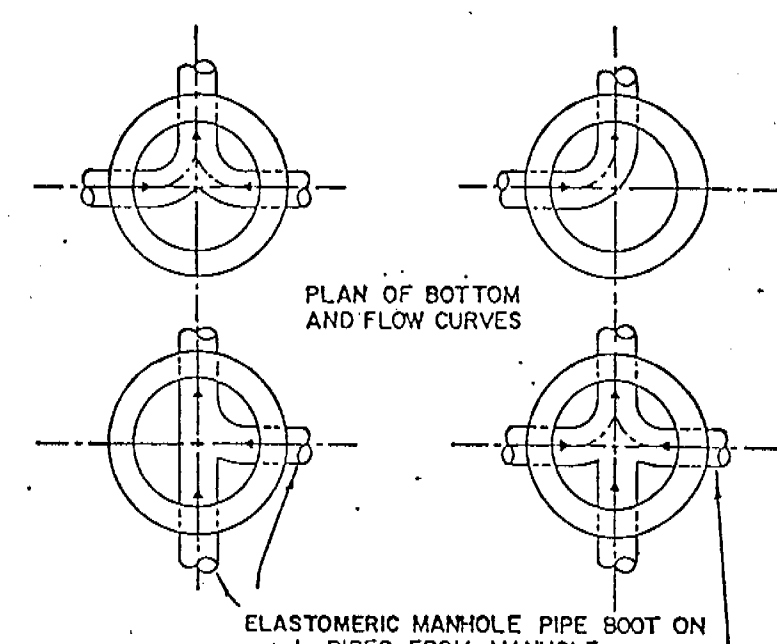
THRUST BLOCK DETAILS
N.T.S.



STANDARD MANHOLE & COVER DETAIL
FOR ALL MANHOLES LOCATED IN STREET
N.T.S.



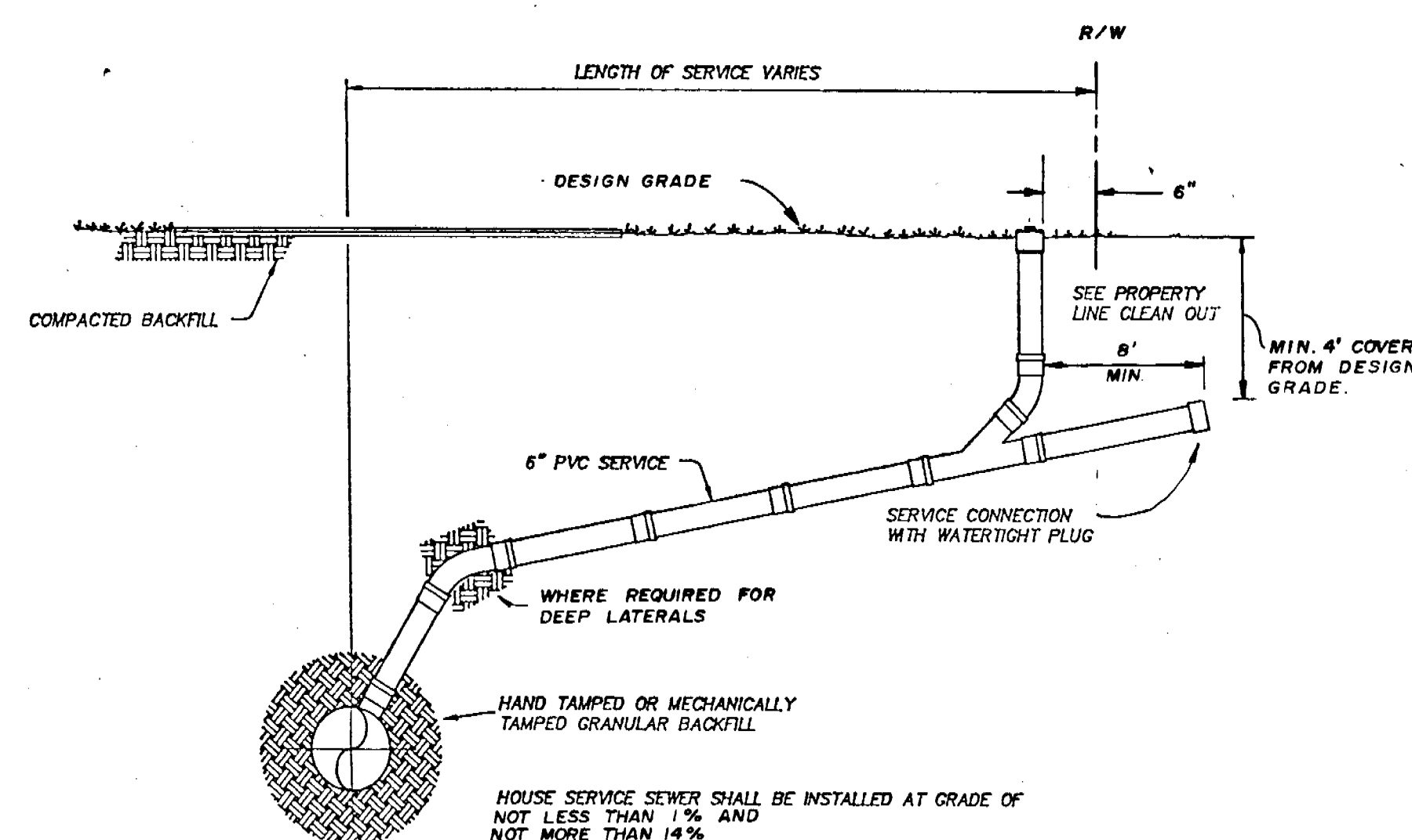
STANDARD MANHOLE COVER DETAIL
N.T.S.



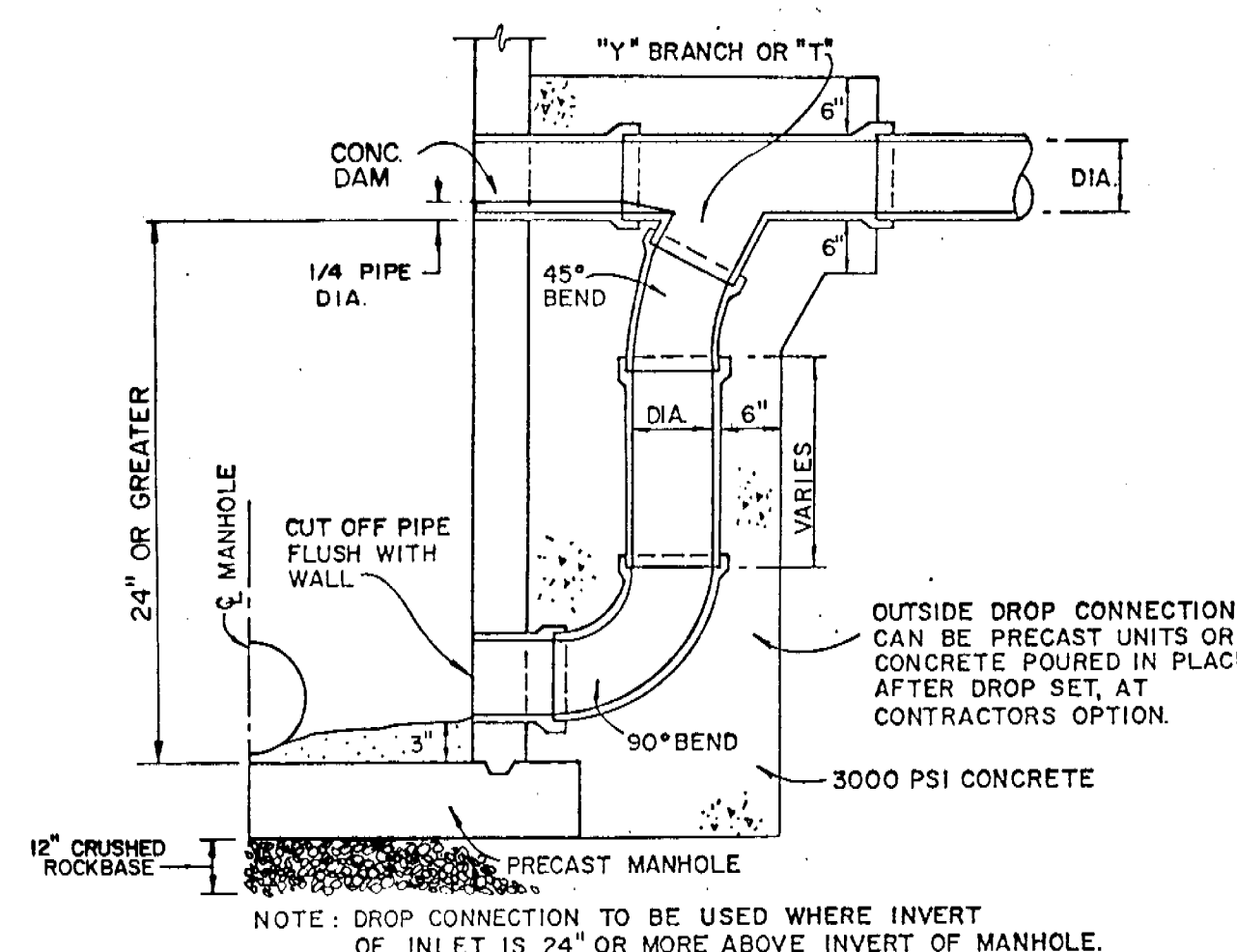
- NOTES:
- PROVIDE SPILLWAY FOR SMOOTH FLOW BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS.
 - SLOPE MANHOLE SHELVE WITH 1/2" MIN. TO 1" MAX. DROP FROM MANHOLE WALL TO CHANNEL.

MANHOLE FLOW CHANNELS
N.T.S.

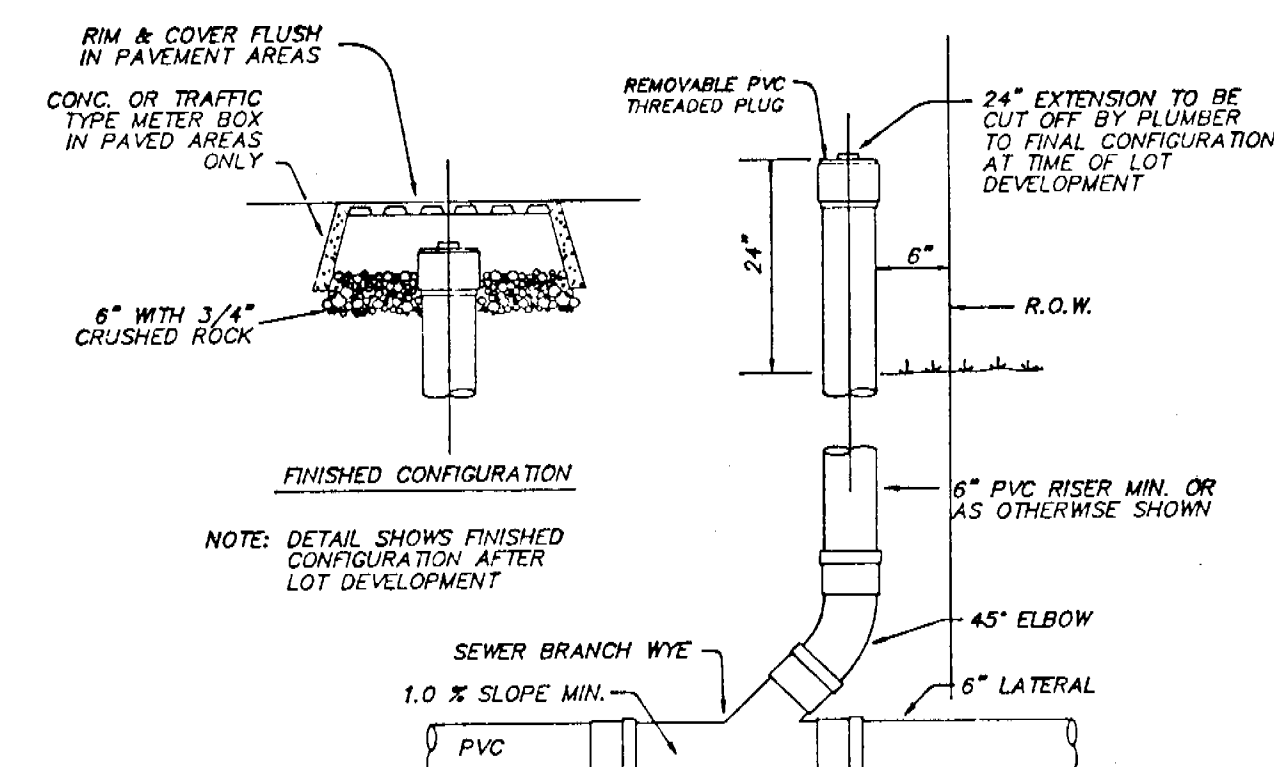
- NOTE:
- UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC., GENERAL CONTRACTOR APAC INC.
 - RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.



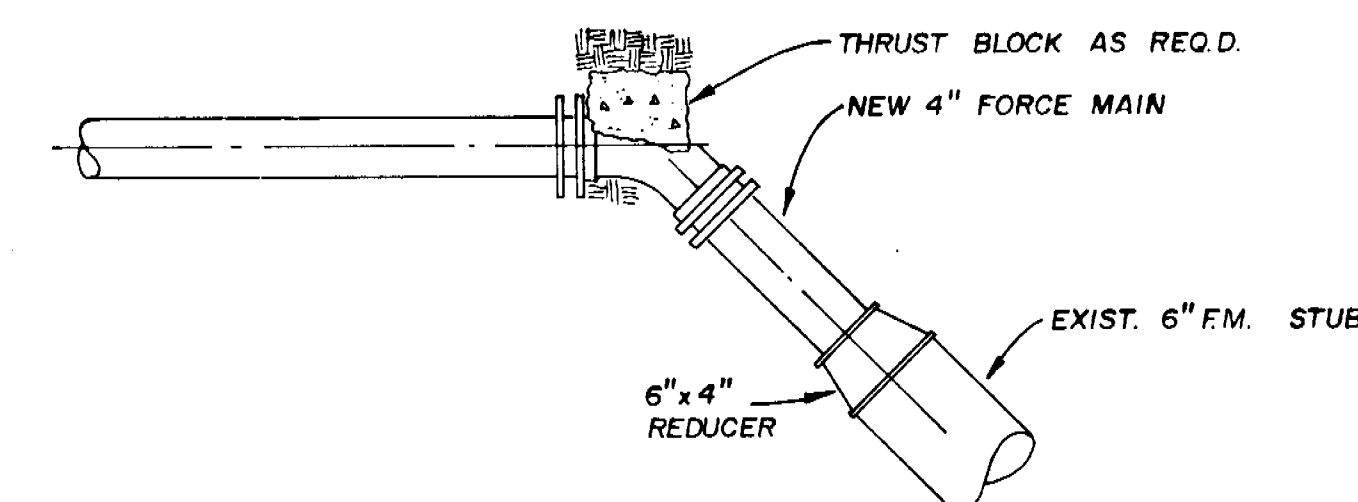
STANDARD LATERAL
N.T.S.



DROP MANHOLE
N.T.S.



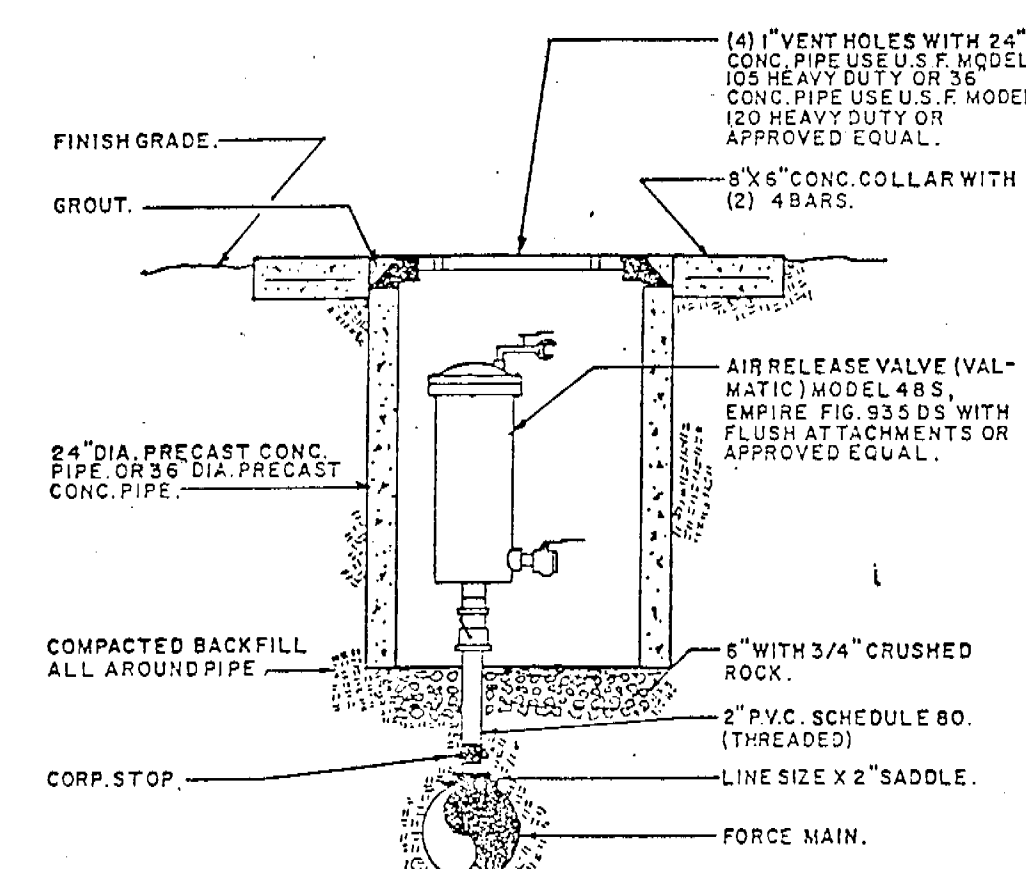
LATERAL CLEAN OUT
N.T.S.



FORCE MAIN CONNECTION DETAIL
N.T.S.

- NOTE: Horizontal and vertical deflection of the force main shall not exceed the pipe manufacturer's specifications. Elbows shall be used where deflections may exceed the pipe manufacturer's specifications.

SANITARY AIR RELEASE VALVE DETAIL
N.T.S.



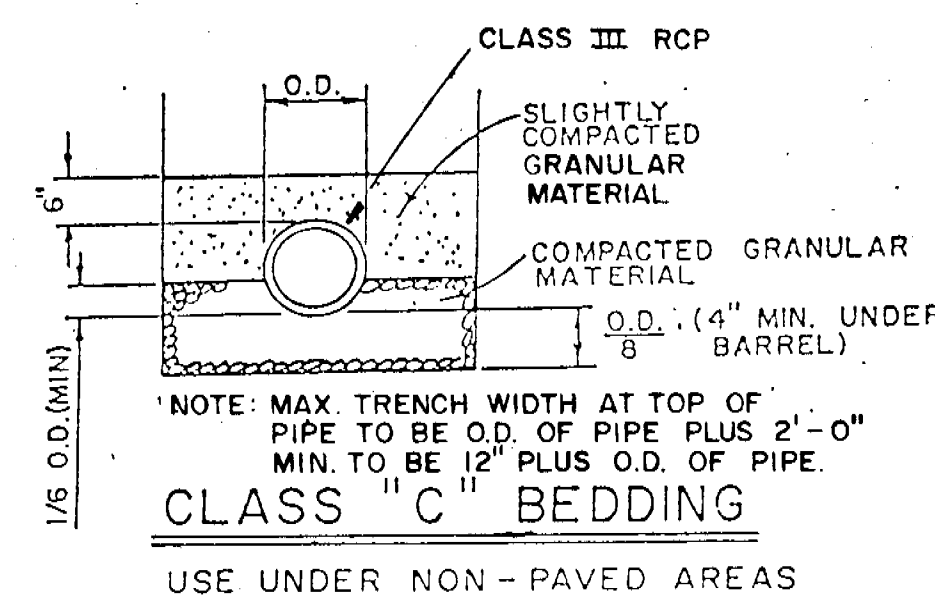
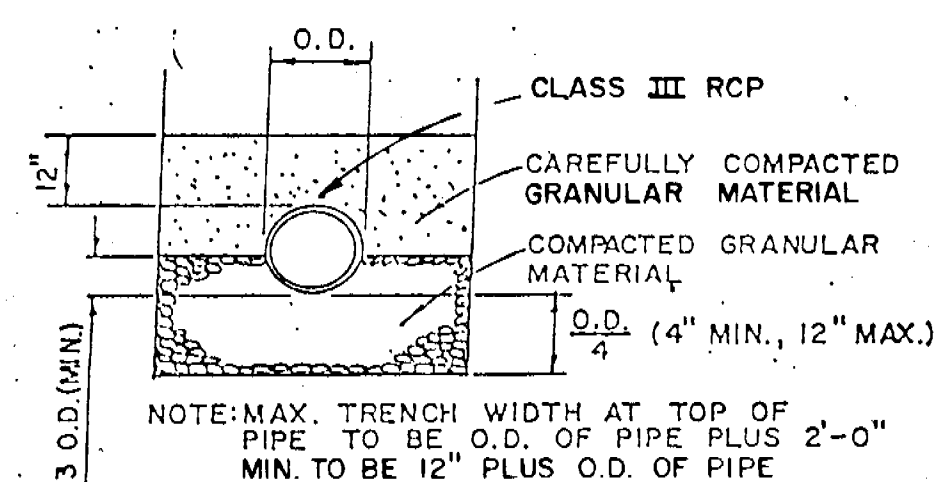
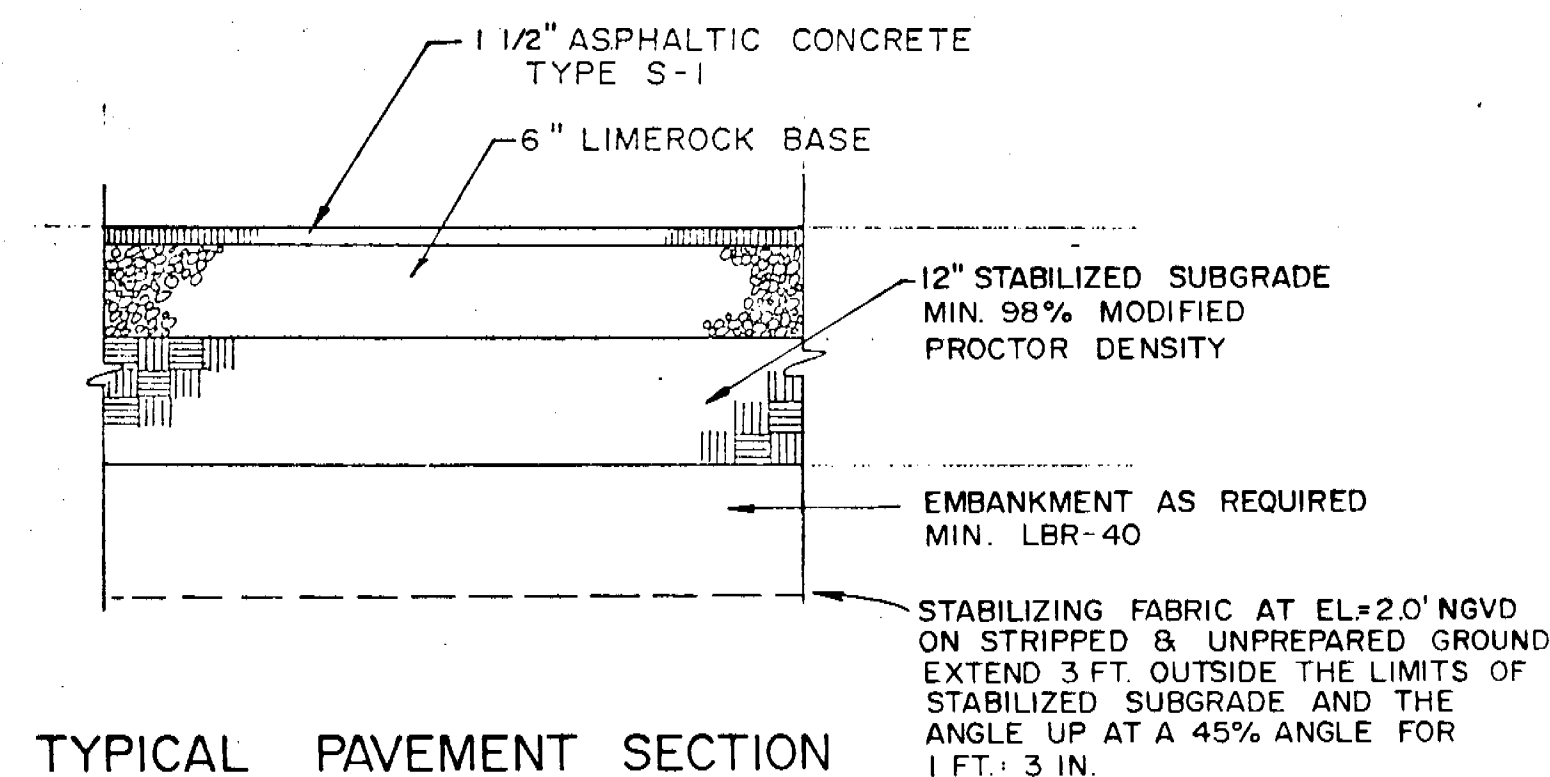
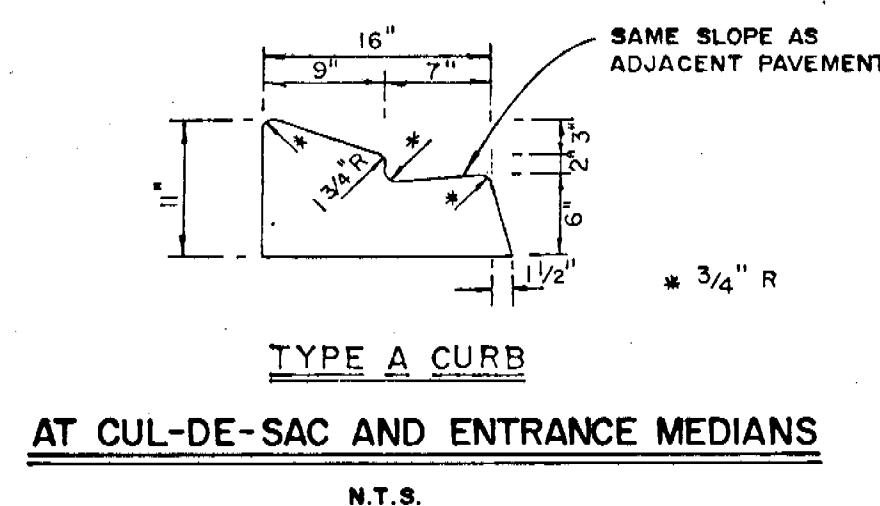
Record Print

Date: DEC 15 1989

DATE	REVISION
11-10-88	CHANGED AIR RELEASE VALVE DETAIL
10-27-88	REVISED DWGS. PER C.C. ENG. & UTIL. DEPT.

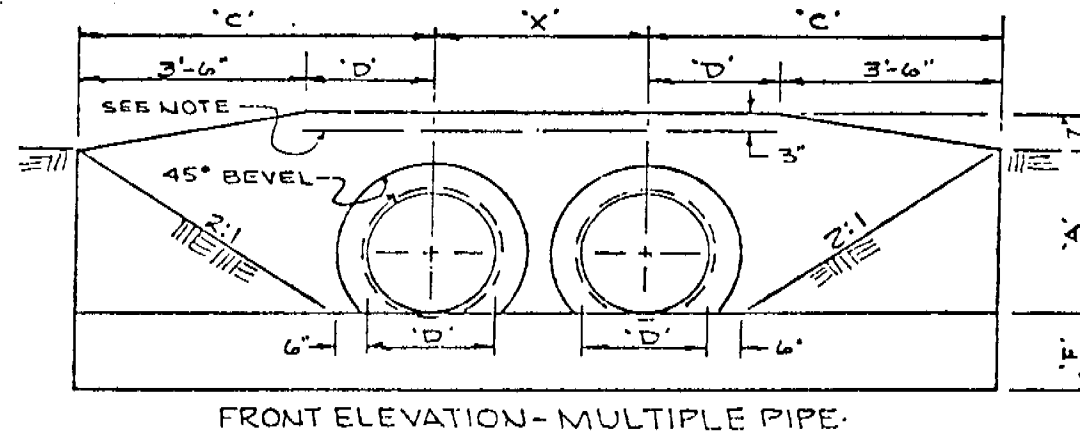
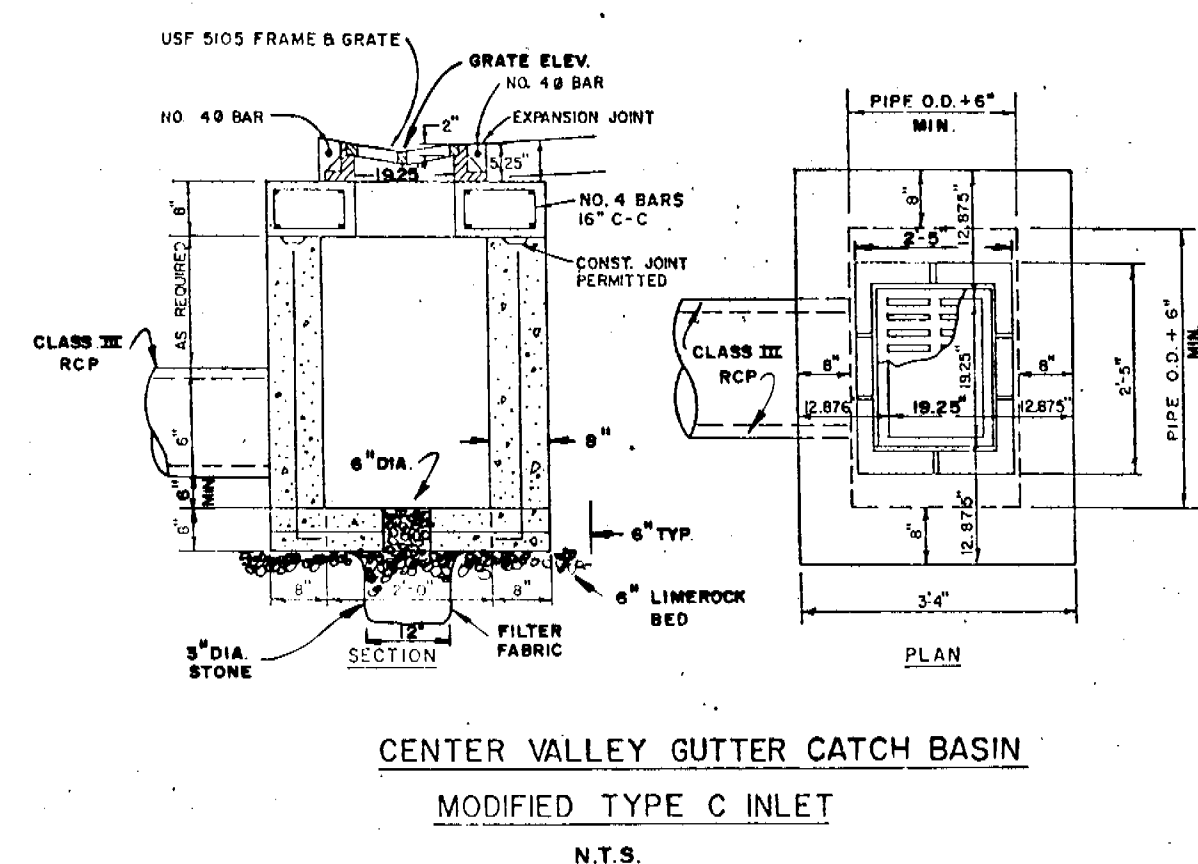
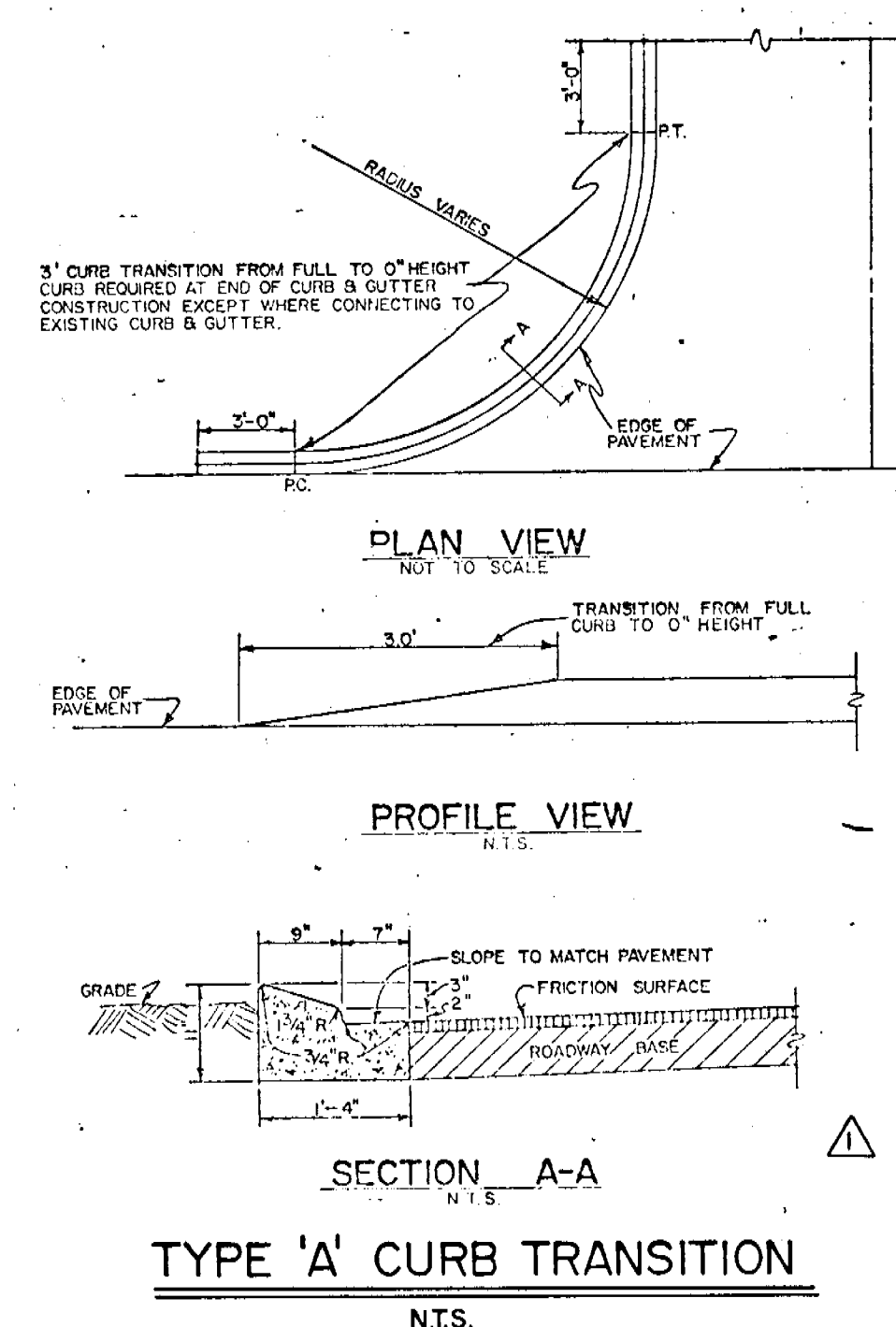
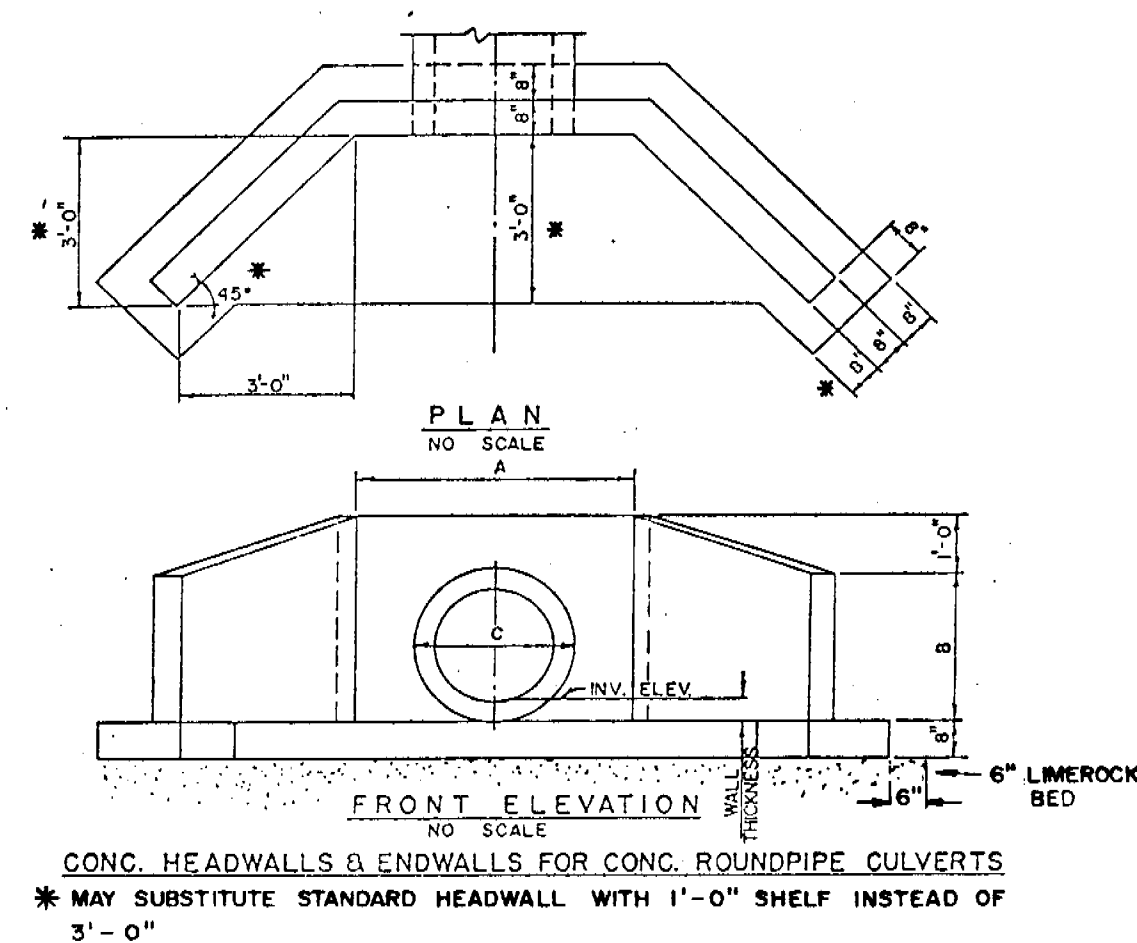
SOUTHPORT VENTURE ASSOCIATES
 SOUTHPORT ON THE BAY
 STANDARD SEWER DETAILS
 COLLIER COUNTY
 TWP 48 S RNG 25 E SEC 5 & 6
 COLLIER COUNTY, FLORIDA
 COASTAL ENGINEERING CONSULTANTS, INC.
 COASTAL & CIVIL ENGINEERS - PLANNERS - SURVEYORS - GEOLOGISTS - NAPLES, FLA.

PROJECT NO. 87.194
 SHEET 13 OF 17
 FILE NO. 87.194



TRENCH AND BEDDING DETAILS

WINGWALL	SCHEDULE		
PIPE DIA.	A	B	C
15"	4'-0"	1'-8"	1'-11"
18"	4'-3"	2'-0"	2'-2"
24"	4'-9"	2'-6"	2'-9"
30"	5'-3"	3'-4"	3'-5"
36"	6'-0"	4'-0"	3'-11"
42"	6'-6"	4'-7"	4'-7"
48"	7'-0"	5'-2"	5'-2"



SEE NOTE

Diagram illustrating the typical side elevation of a concrete gravity endwall for a 50-inch elliptical pipe. The diagram shows the cross-section of the endwall with dimensions labeled: 10" (top width), 3" (side slope), 1" (top flange), 4" (side flange), 2" (bottom flange), 6" (length of culvert pipe), and 1" (bottom flange). The side slope is indicated by a dashed line. The length of the culvert pipe is labeled as "LENGTH OF CULVERT PIPE".

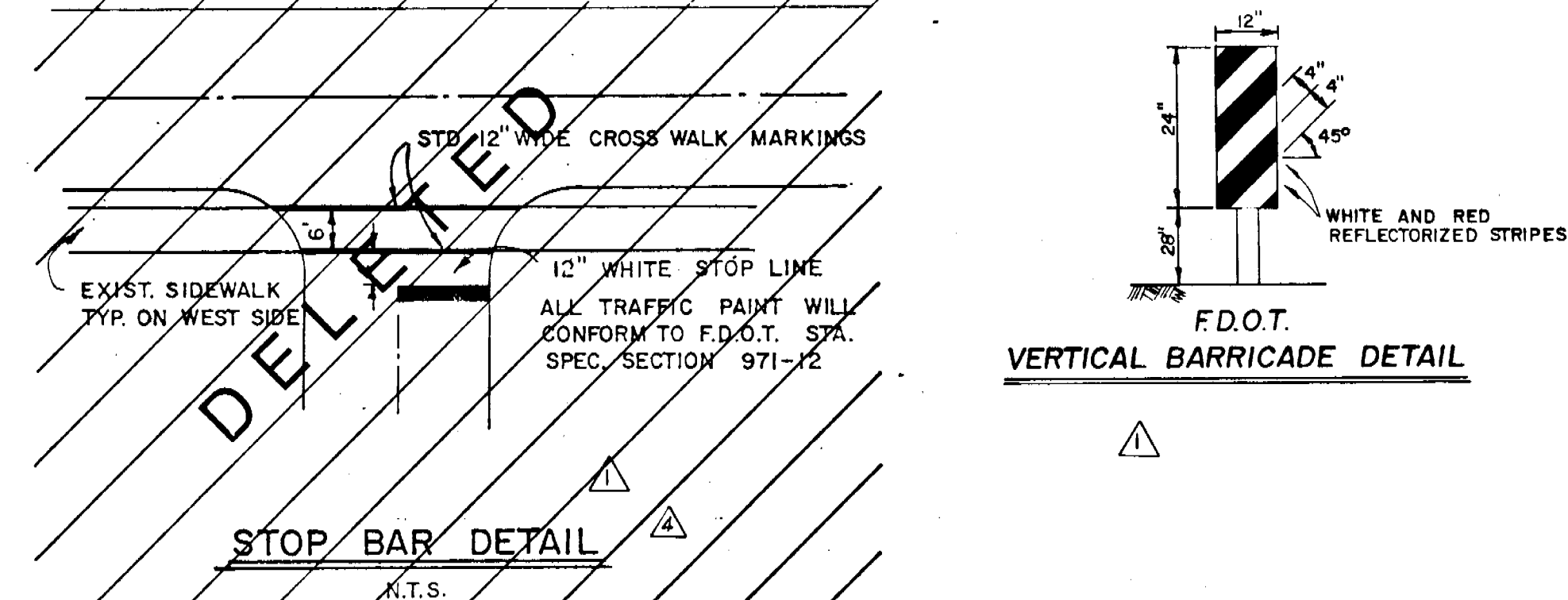
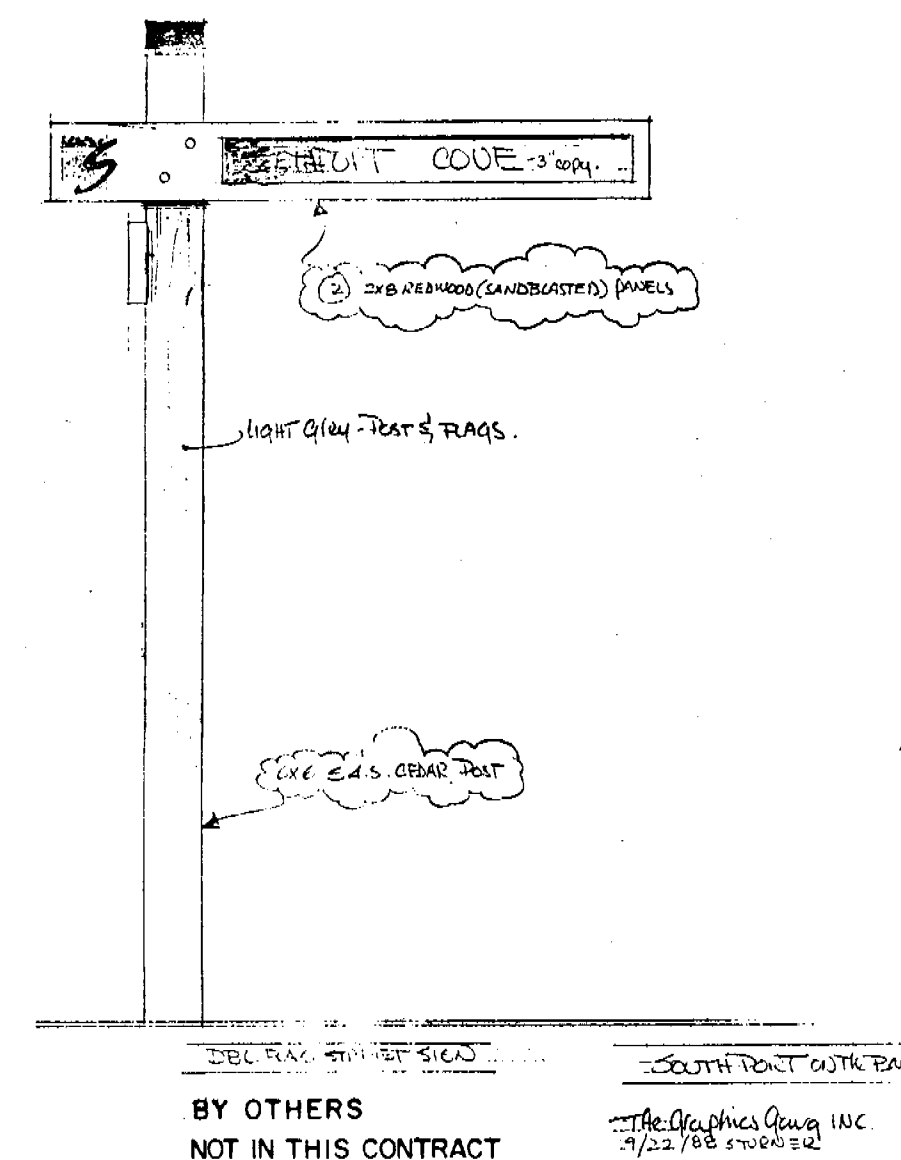
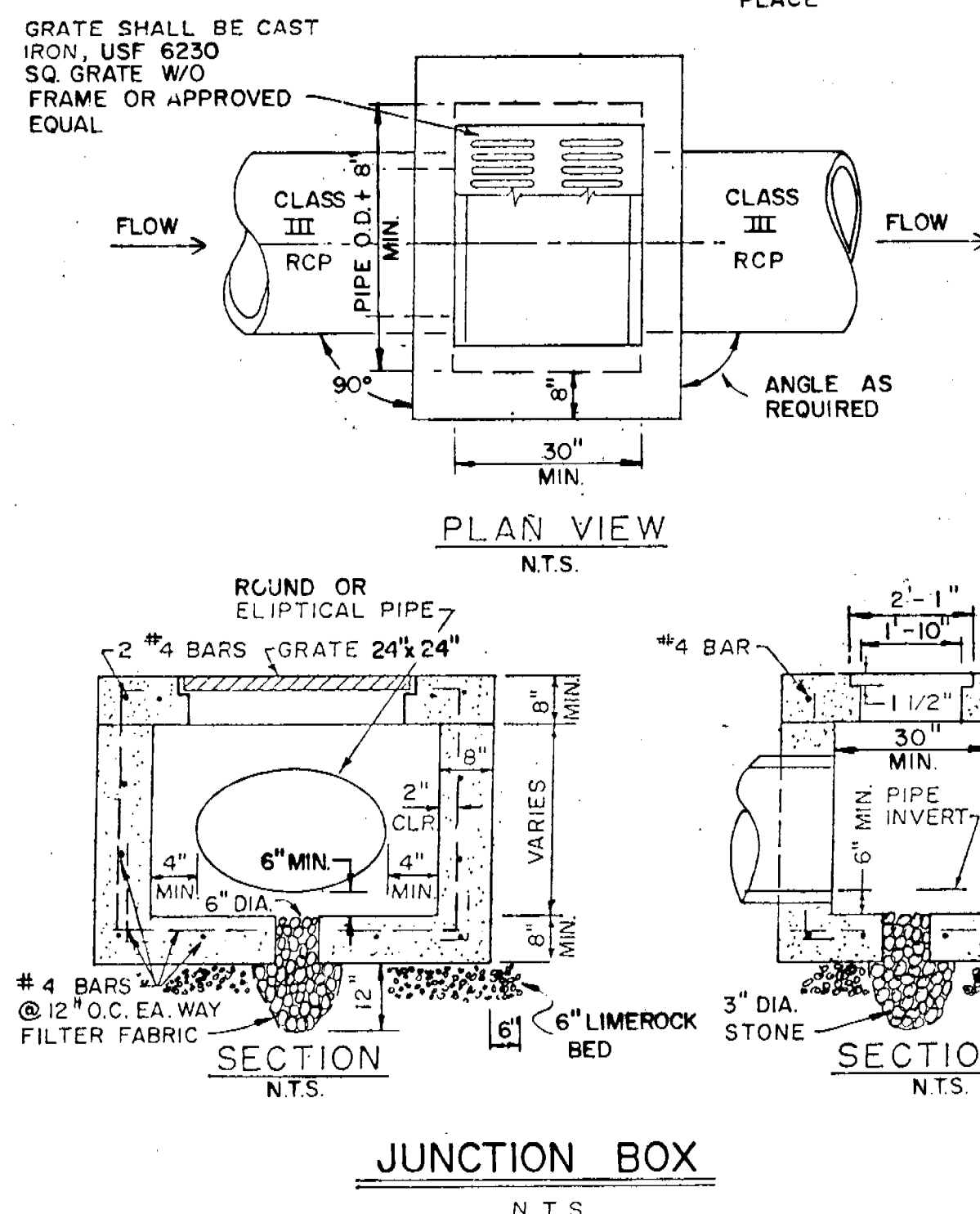
TYPICAL SIDE ELEVATION

TABLE OF DIMENSIONS
FOR
CONCRETE (GRAVITY) ENDWALLS

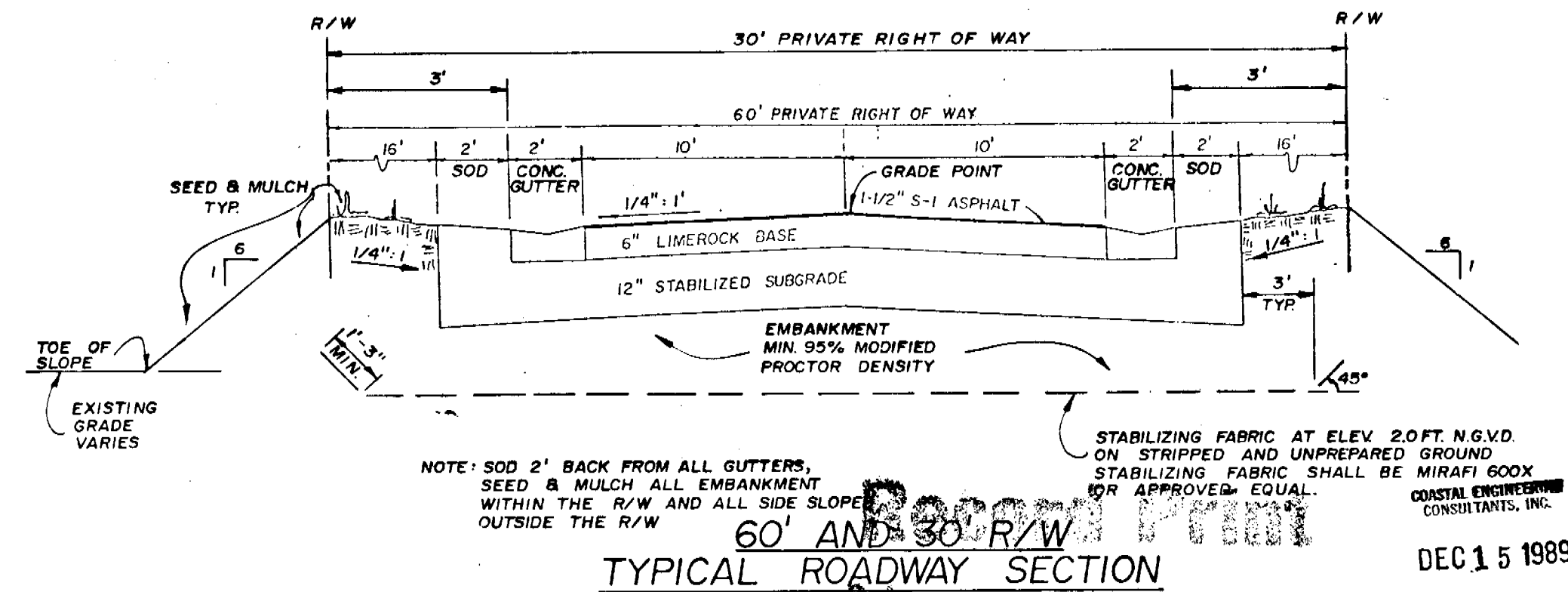
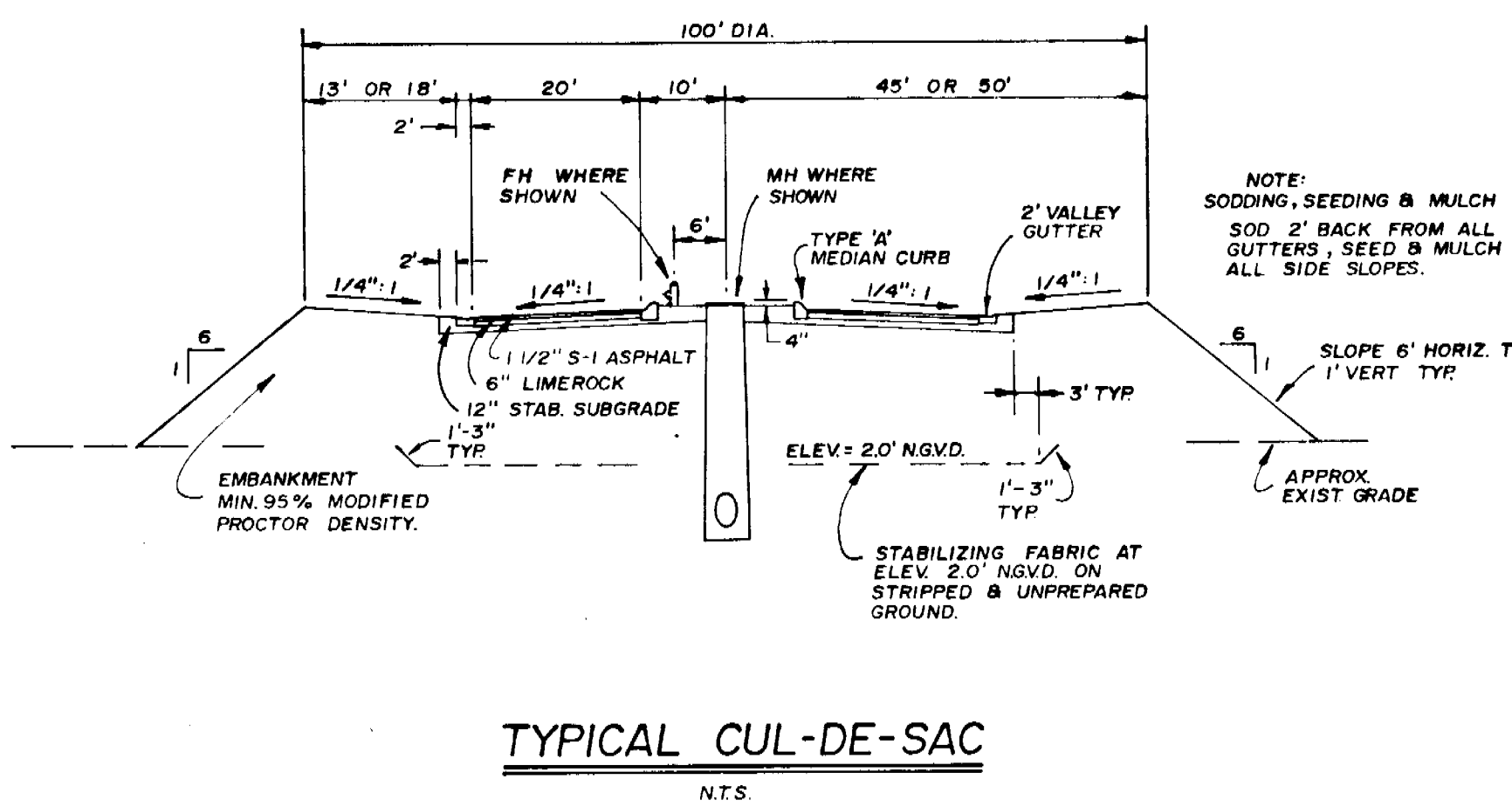
ELLIPTICAL PIPE-REINFORCED CONCRETE																									
TYPE	"D"	"A"	"C"	"X"	"E"	"B"	PIPE	"D"	"A"	"C"	"X"	"E"	"B"	"D"	"A"	"C"	"X"	"E"	"B"	"D"	"A"	"C"	"X"	"E"	"B"
23" x 14"	1'-8"	4'-10"	3'-5"	1'-10"	1'-2"	1'-2"	50"	4'-5"	2'-9"	3'-1"	8'-7"	6'-0"	2'-2"	1'-6"	1'-5"	1'-7"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"
30" x 19"	2'-3"	6'-5"	4'-2"	1'-11"	1'-3"	1'-3"	50"	5'-3"	3'-4"	3'-6"	9'-9"	7'-1"	2'-4"	1'-8"	1'-5"	1'-7"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"	1'-1"
38" x 24"	2'-8"	7'-5"	5'-2"	2'-0"	1'-4"	1'-4"	76"	6'-4"	4'-8"	4'-8"	13'-0"	9'-9"	2'-9"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"

NOTE: 1. REINFORCING FOR WALL AND FOOTING IS NO. 4 BARS AT 12" O.C. EACH WAY AND TWO ADDITIONAL NO. 4 BARS IN ONE LAYER ABOVE OPENING.
2. FOR SINGLE PIPE HEADWALL DELETE DIMENSION "X".

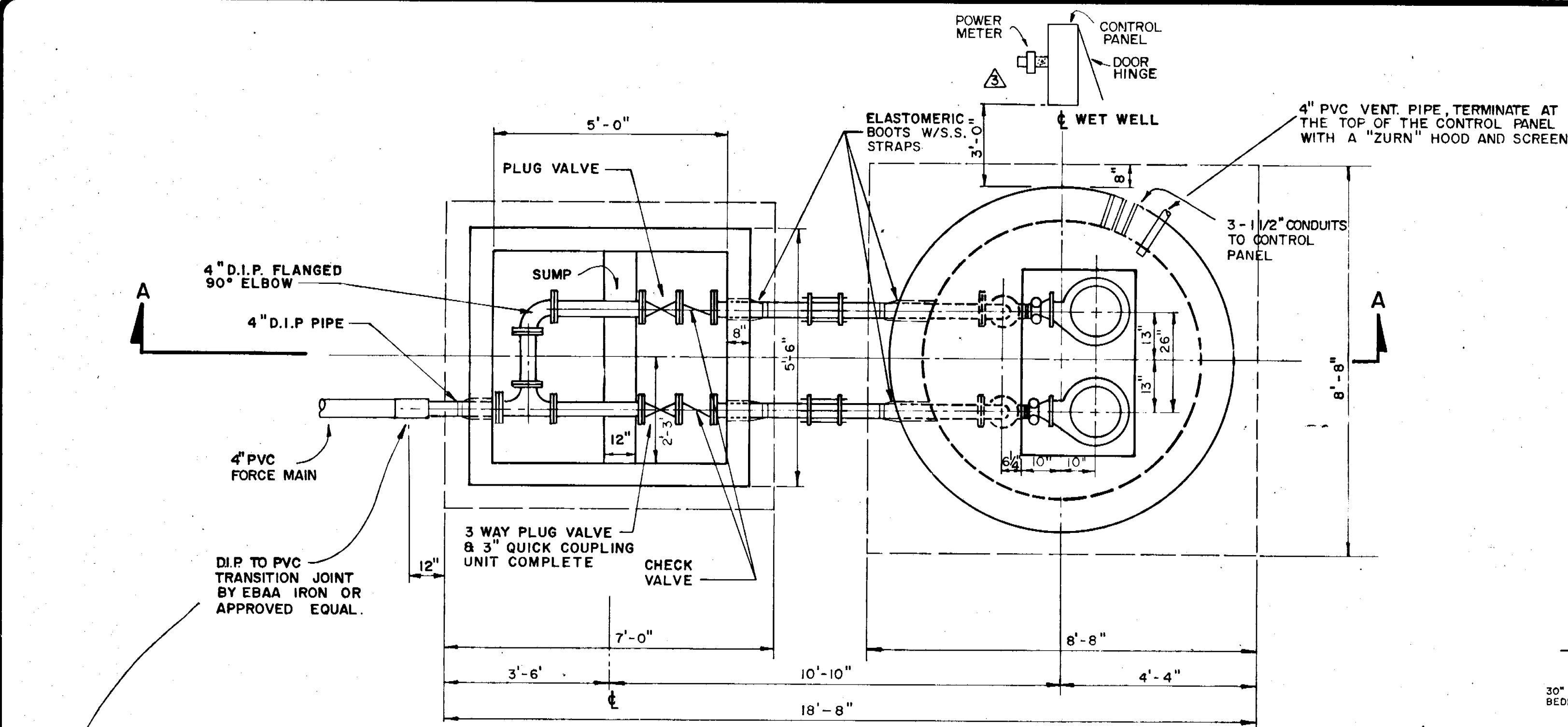
NOTE:
1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC., GENERAL CONTRACTOR APAC INC.
2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.



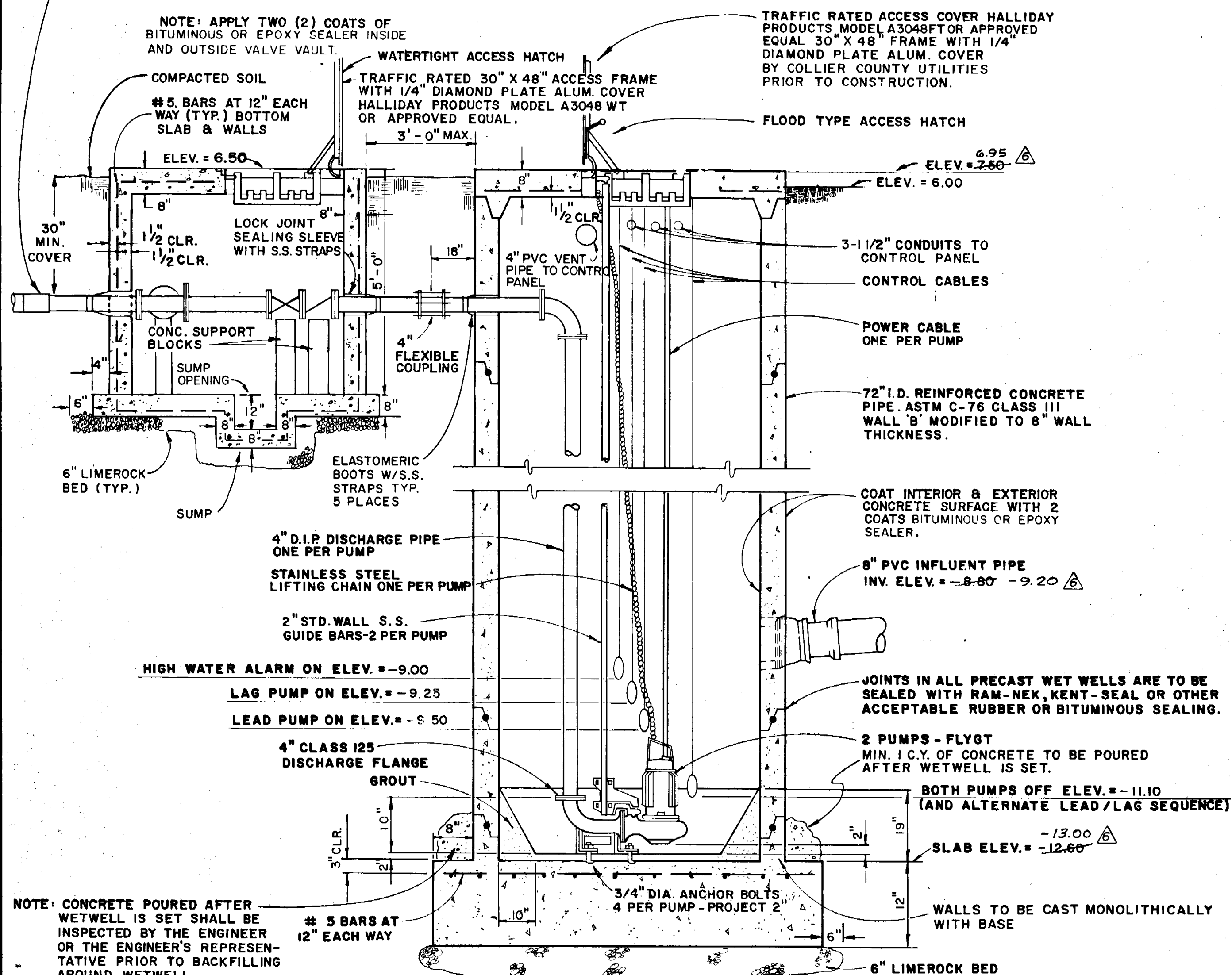
FDOT GUARD RAIL DETAIL



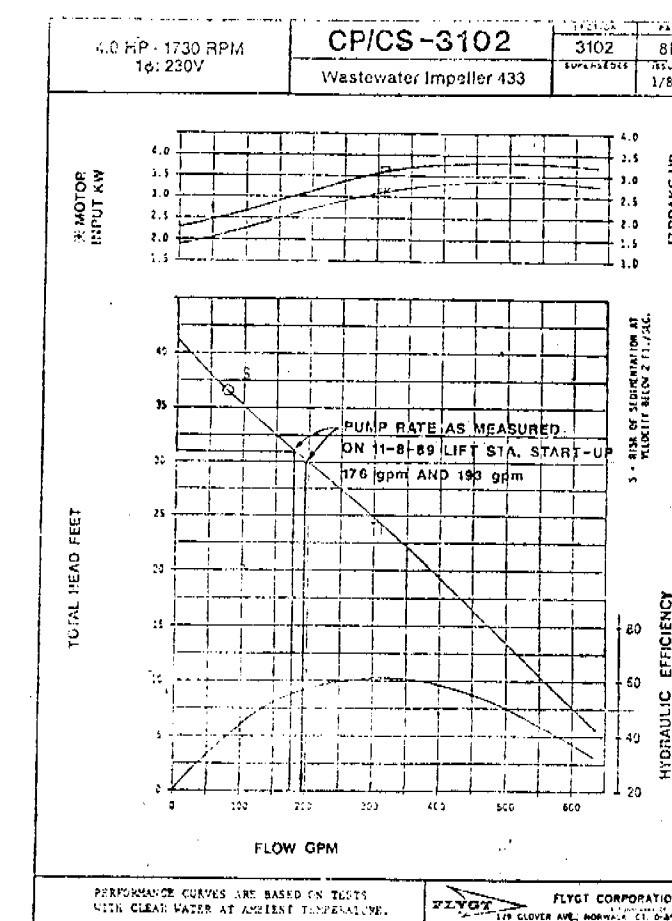
DATE	AUG. 1988	FOR	SOUTHPORT VENTURE ASSOCIATES
SCALE	N.T.S.	DESIGNED	JMc/JAD
DRAWN	JFS	CHECKED	JMc/JAD
PROJECT NO.	87.194	REFERENCE	TWP 48 S RING 25 E SEC 6 & 5
SHEET	14	OF	17
NO.	87.194	DATE	DEC 15 1989



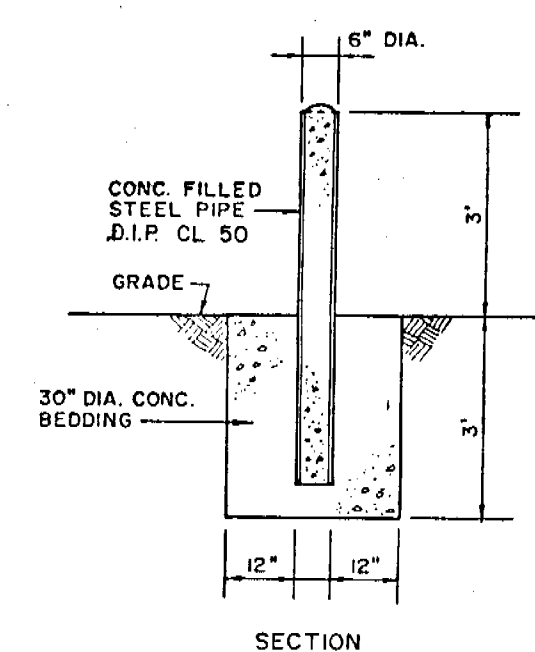
PLAN VIEW
N.T.S.



SECTION A-A
N.T.S.

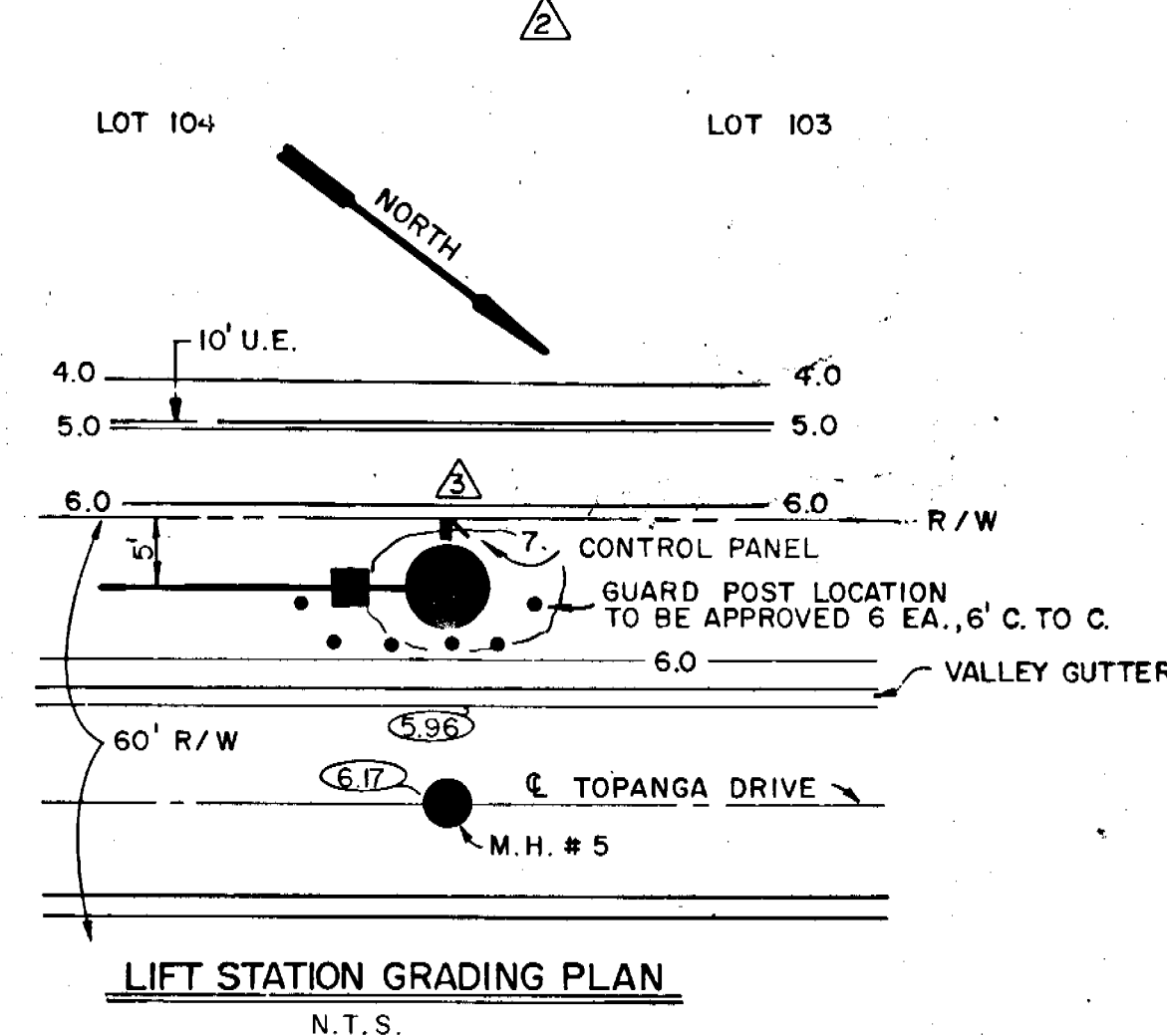


PUMP STATION SPECIFICATIONS	
1. Lift station control panel shall be positioned as shown.	
2. The control panel shall be a NEMA-3R 304 stainless steel, STA-CON Model 3825 or approved equal. It shall have a NEMA type 3R enclosure with dead front inner door. The control panel shall be equipped with the standard equipment necessary to operate the specified two electric submersible pumps. Alter the lead/lay sequence of the pumps, and operate all other station equipment. In addition to the standard equipment, the control panel shall be equipped with an alarm light and bell with silencer, elapsed time meters for each pump, lightning arrester, main circuit breaker, emergency circuit breaker, and generator receptacle.	
3. Lift station control panels shall be adequately protected from vehicular access by a system of concrete filled pipe guards. Pipe also shall be 6" minimum diameter, with embedment 3 feet below grade and extending 3 feet above grade. Pipe shall be completely embedded in concrete which extends out at least 12 inches from the pipe.	
4. The arrangement of pipe guards shall be specified by the Collier County Utility Department.	
5. Control panel support posts shall be concrete.	
6. Control panel tie-bars shall be galvanized unistrut, cut evenly to the width of the panel box. All hardware shall be stainless steel.	
7. Sewage pump guide rails shall be stainless steel.	
8. Check valves in lift station valve vaults shall be of the spring-type, weighted design as manufactured by Kennedy, weight and lever type. Ball-type check valves are not acceptable.	
9. Separate 2" conduits, with seal lock fitting, shall be provided between the lift station control panel and wetwell for pump wiring and float wiring.	
10. The Engineering Department must have an inspector present for the following construction activities:	
a. Hot taps, including tapping sleeve pressure test, to sewage force mains.	
b. Force main pressure testing.	
c. Collection system inspection.	
d. Infiltration testing.	
e. Lift station start-up.	
f. Lapping of sewer lines.	
11. All hardware and guide bars within the pumping station shall be stainless steel.	
2 way plug valve by Homestead.	
3 way plug valve by Desuirex.	

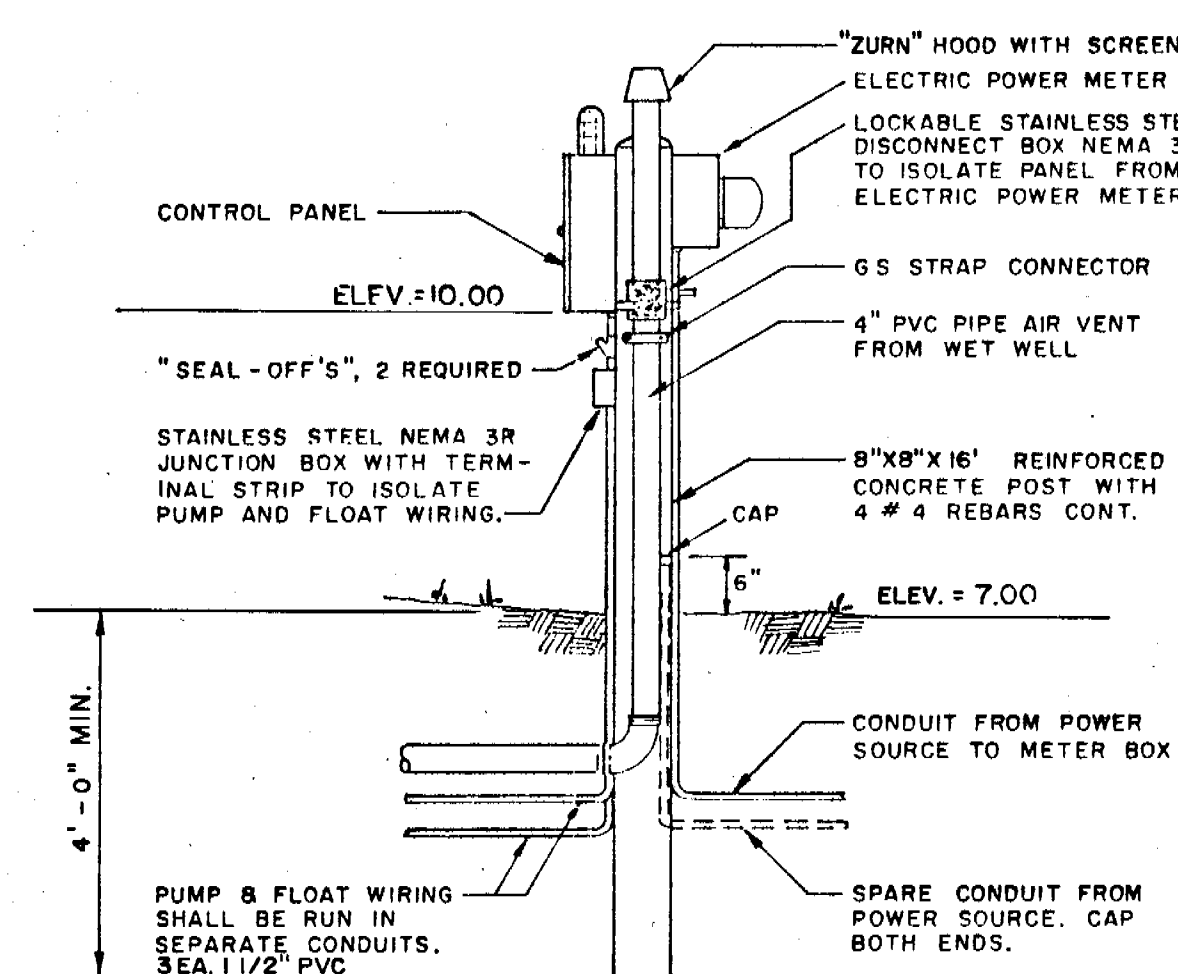


GUARD POST DETAIL
N.T.S.

NOTE: ALL GUARD POSTS SHALL RECEIVE TWO COATS OF PAINT. THE COLOR & TYPE SHALL BE SPECIFIED BY THE UTILITY DEPT.



LIFT STATION GRADING PLAN
N.T.S.



CONTROL PANEL DETAIL
N.T.S.

NOTE:
1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC., GENERAL CONTRACTOR APAC INC.
2. RECORD DATA BY COASTAL ENGINEERS CONSULTANTS, INC.

RECORD DRAWINGS
FOR WATER TRANSMISSION/
DISTRIBUTION FACILITIES,
SANITARY SEWER AND
DRAINAGE FACILITIES

Record Print

COASTAL ENGINEERS
CONSULTANTS, INC.

DEC 15 1989

DATE	REVISION
11-10-89	REVISE PUMPS/AS-BUILT PUMP RATE
7-21-89	AS BUILT SEWERS E201/57
11-16-88	RELOC. CONTROL PANEL PER UTIL. DEPT.
11-8-88	CHANGED PUMP
10-27-88	REVISED DWGS PER CC. ENG. DEPT.
No. DATE	REVISION

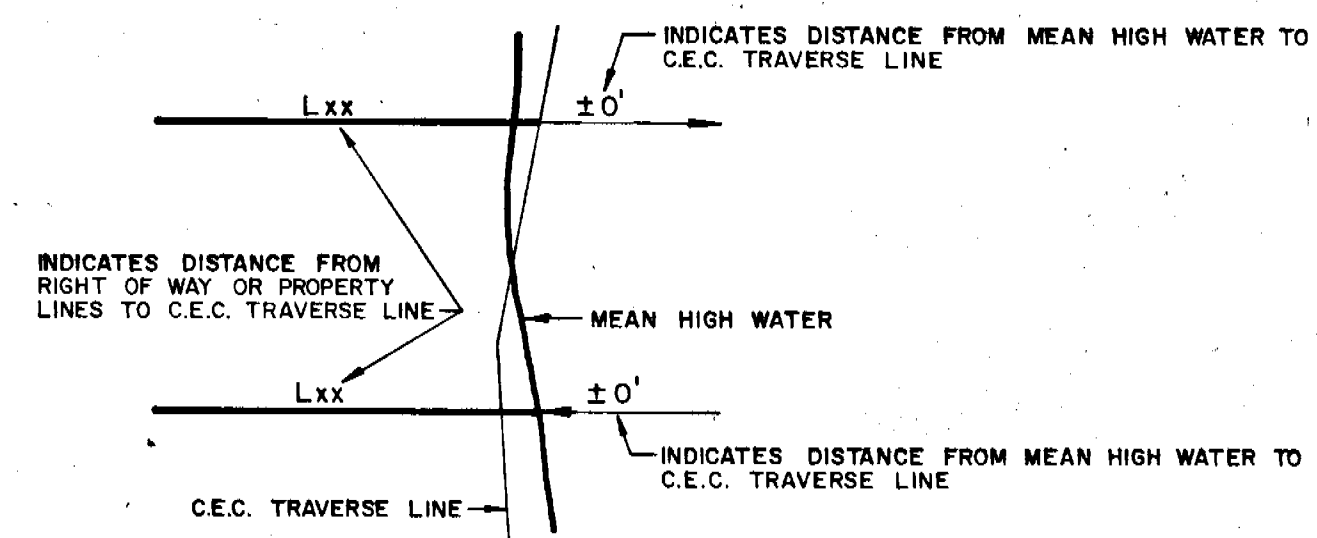
DATE	AUG 1988	FOR	SOUTHPORT VENTURE ASSOCIATES
SCALE	N.T.S.		SOUTHPORT ON THE BAY
DESIGNED BY	J.Mc./J.A.D.		LIFT STATION DETAILS
DRAWN BY	H.G.		COLLIER COUNTY
CHECKED BY	J.Mc./J.A.D.		COASTAL ENGINEERING CONSULTANTS, INC.
PROJECT NO.	87.194	REFERENCE:	COASTAL & CIVIL ENGINEERS - PLANNERS - SURVEYORS - GEOLOGISTS - NAPLES, FLA.
SHEET	15	OF	17
FILE NO.	87.194		

SOUTHPORT ON THE BAY, UNIT ONE

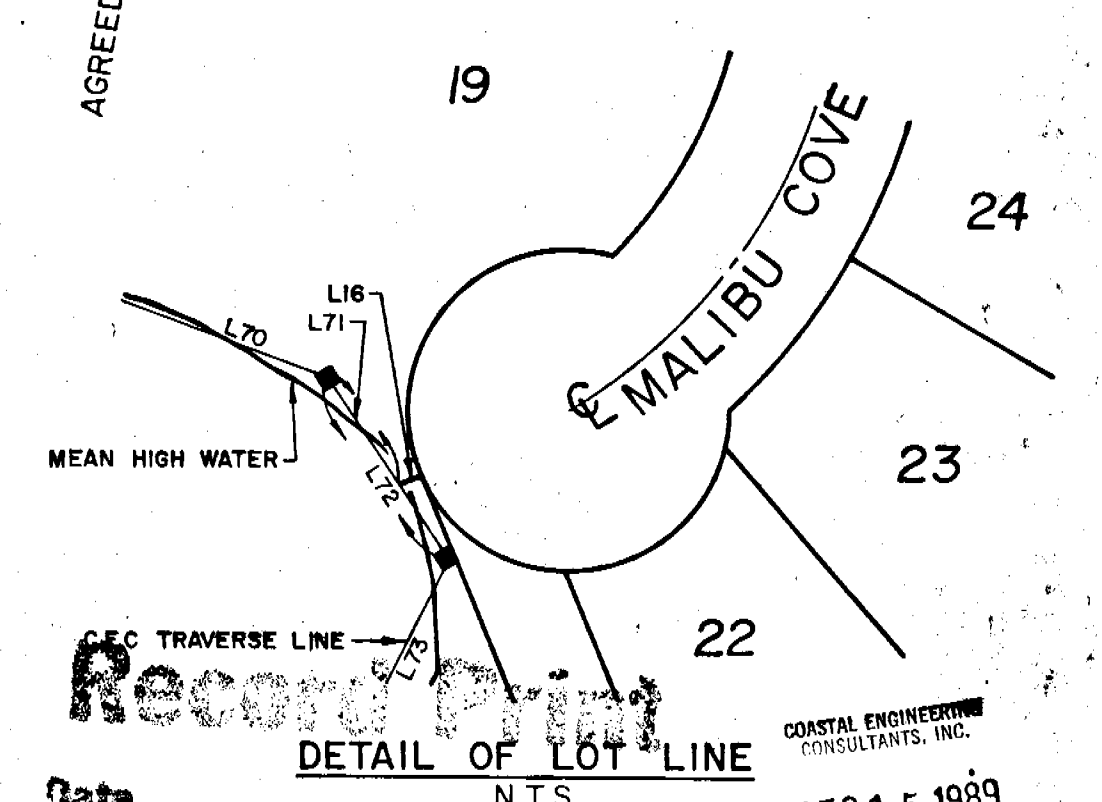
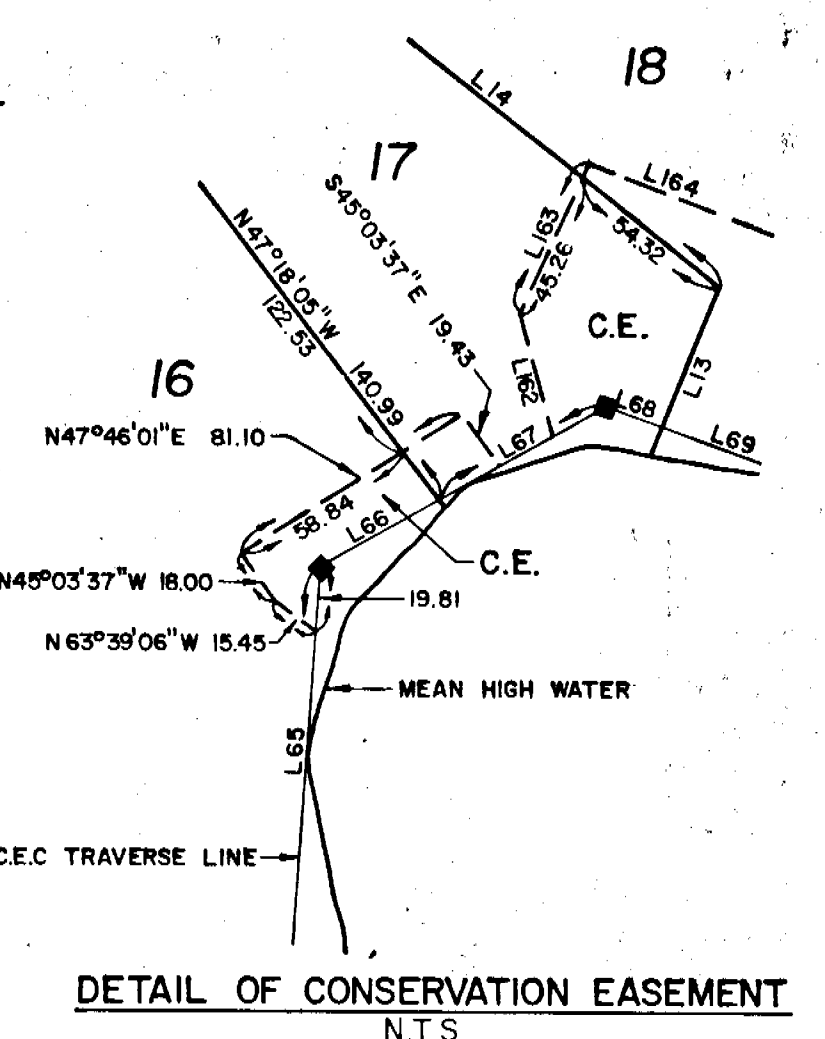
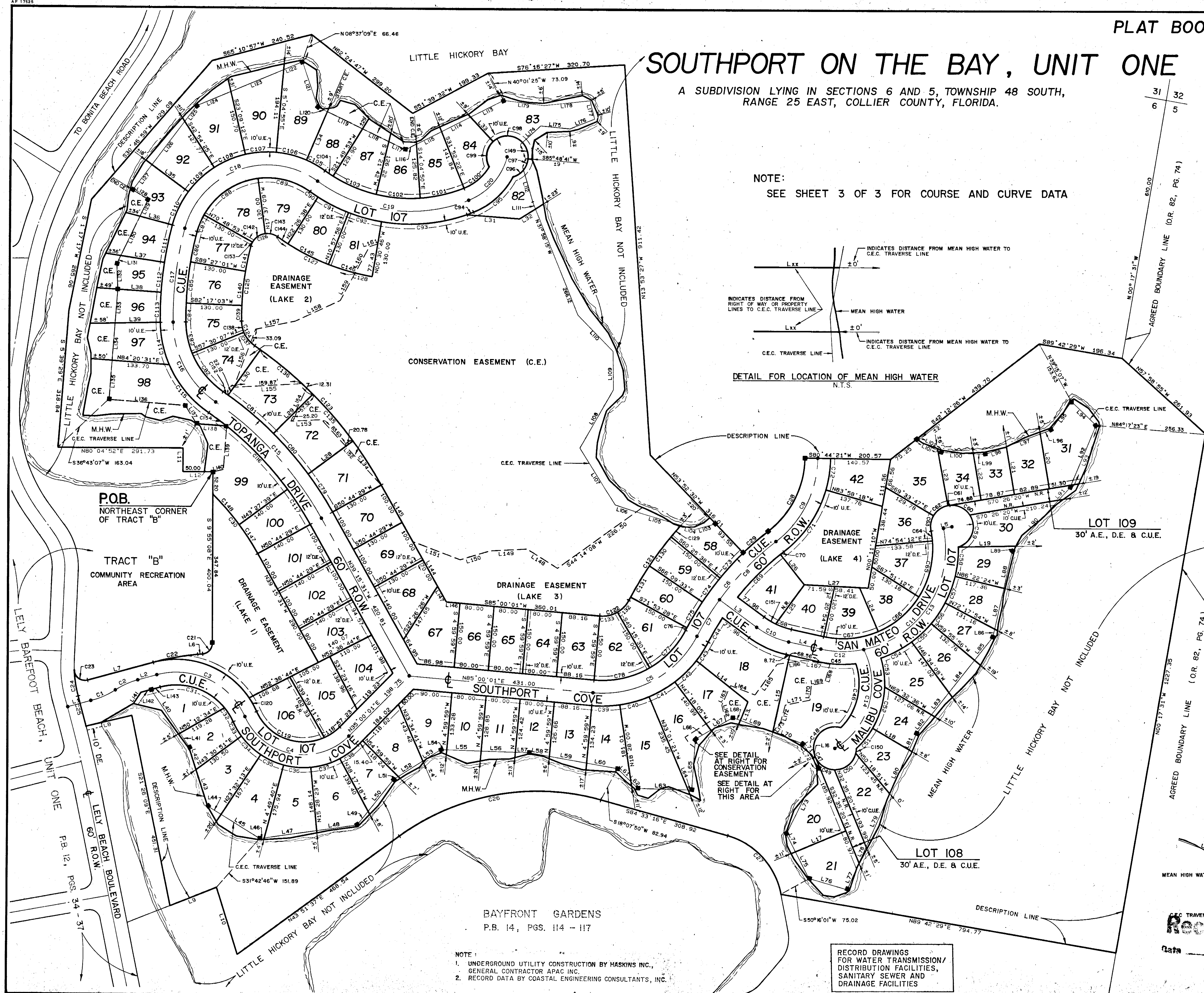
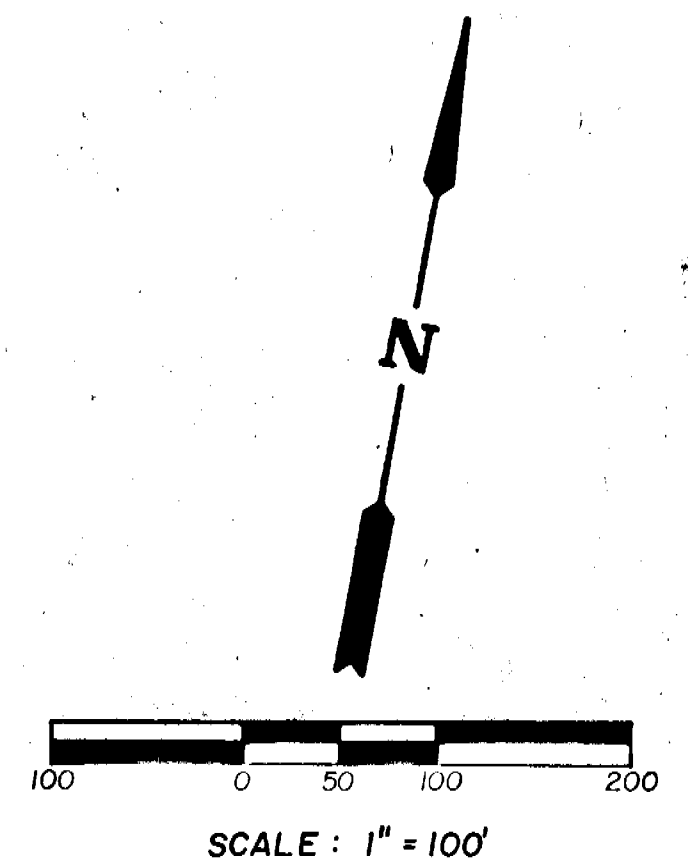
A SUBDIVISION LYING IN SECTIONS 6 AND 5, TOWNSHIP 48 SOUTH,
RANGE 25 EAST, COLLIER COUNTY, FLORIDA.

NOTE: THIS SHEET INCLUDED
AS A REFERENCE FOR
R/W CURVE DATA ONLY.

NOTE:
SEE SHEET 3 OF 3 FOR COURSE AND CURVE DATA



DETAIL FOR LOCATION OF MEAN HIGH WATER
N.T.S.



- NOTE:
1. UNDERGROUND UTILITY CONSTRUCTION BY HASKINS INC., GENERAL CONTRACTOR APAC INC.
 2. RECORD DATA BY COASTAL ENGINEERING CONSULTANTS, INC.

RECORD DRAWINGS
FOR WATER TRANSMISSION/
DISTRIBUTION FACILITIES,
SANITARY SEWER AND
DRAINAGE FACILITIES

Record
Data
SHEET 16 OF 17
C.E.C. FILE NO.: 87-194
DEC 15 1989

SOUTHPORT ON THE BAY, UNIT ONE

A SUBDIVISION LYING IN SECTIONS 6 AND 5, TOWNSHIP 48 SOUTH,
RANGE 25 EAST, COLLIER COUNTY, FLORIDA.

NOTE: THIS SHEET INCLUDED
AS A REFERENCE FOR
R/W CURVE DATA ONLY.

Lxx - COURSE DATA

No.	Direction	Length	No.	Direction	Length
1	N64°58'02"E	55.95	101	N73°25'59"W	57.19
2	N64°40'18"E	46.18	102	N73°25'59"W	56.07
3	S63°50'54"E	108.67	103	S64°44'41"W	51.69
4	S87°39'06"E	77.28	104	N83°31'15"W	33.85
5	N68°26'00"E	20.00	105	N83°31'15"W	108.99
6	S74°34'52"W	11.90	106	N81°55'44"W	51.87
7	S64°40'18"W	158.59	107	N42°02'50"W	156.63
8	N66°37'04"E	110.00	108	N19°58'54"E	156.56
9	N58°25'00"E	116.70	109	N10°37'34"W	90.13
10	S27°18'21"E	163.32	110	N54°17'42"W	118.24
11	S09°55'08"E	55.00	111	N31°58'15"W	17.73
12	N80°04'52"E	70.00	112	N26°13'09"W	76.13
13	N12°23'17"E	46.65	113	S53°05'02"W	86.74
14	N61°50'22"W	155.00	114	S53°05'02"W	75.55
15	N02°50'54"E	184.34	115	S53°05'02"W	85.70
16	N55°50'43"E	7.22	116	S53°05'02"W	28.85
17	N57°24'40"E	127.63	117	N74°20'29"W	43.18
18	N69°36'42"W	99.47	118	N74°20'29"W	68.12
19	S79°02'33"W	136.26	119	N74°20'29"W	91.55
20	S19°33'40"E	129.58	120	N74°20'29"W	25.51
21	S19°33'40"E	113.70	121	N26°34'24"W	111.36
22	S19°33'40"E	130.00	122	S57°08'44"W	47.63
23	S20°33'47"E	130.25	123	S57°08'44"W	133.47
24	S33°18'09"E	111.17	124	S57°08'44"W	87.01
25	S26°09'06"W	113.22	125	S27°00'58"W	45.78
26	S48°26'42"E	90.00	126	S27°00'58"W	126.46
27	N82°47'58"E	150.00	127	S27°00'58"W	74.02
28	S43°24'30"W	130.00	128	S68°56'00"W	41.80
29	S34°52'38"W	130.00	129	S15°39'08"W	144.11
30	S25°18'19"W	130.00	130	S15°39'08"W	101.96
31	N84°14'32"E	124.23	131	S15°39'08"W	21.05
32	N47°47'56"E	44.07	132	S12°22'38"E	59.44
33	S52°55'08"E	76.15	133	S05°39'29"E	78.81
34	S13°08'54"W	122.85	134	S05°39'29"E	87.22
35	S63°35'17"E	106.05	135	S05°39'29"E	91.86
36	S85°10'34"E	78.63	136	N84°12'38"E	178.27
37	N88°39'47"E	103.17	137	S41°30'30"E	49.78
38	N83°49'46"E	101.25	138	N84°12'38"E	70.83
39	N78°59'45"E	105.28	139	S05°47'22"E	101.00
40	S44°04'55"E	122.13	140	S66°23'29"W	24.76
41	S44°04'55"E	38.44	141	N23°54'46"E	31.79
42	S27°41'50"E	90.00	142	N64°40'18"E	23.81
43	S27°41'50"E	90.00	143	N64°40'18"E	22.37
44	S68°08'08"E	35.92	144	N39°15'31"W	160.64
45	S68°08'08"E	106.49	145	N39°15'31"W	151.17
46	N71°53'17"E	10.35	146	S85°00'01"W	31.85
47	N71°53'17"E	123.63	147	N39°15'31"W	42.00
48	N71°53'17"E	95.54	148	N67°55'44"W	84.24
49	N28°36'40"E	40.84	149	S76°51'21"W	86.84
50	N28°36'40"E	95.38	150	S63°00'42"W	72.48
51	N47°34'20"E	12.76	151	N79°07'44"W	118.70
52	N47°34'20"E	67.86	152	N52°39'23"W	205.99
53	N47°34'20"E	49.93	153	S76°58'59"W	71.93
54	N81°49'52"E	13.74	154	N15°24'50"E	98.07
55	N81°49'52"E	80.12	155	S76°42'57"W	176.02
56	N81°49'52"E	80.12	156	N10°30'11"E	144.35
57	N81°49'52"E	32.87	157	N68°17'03"E	94.55
58	N89°54'35"E	47.36	158	N55°06'22"E	115.46
59	N89°54'35"E	88.49	159	N18°19'54"E	72.53
60	N89°54'35"E	73.96	160	N18°19'54"E	70.06
61	S55°28'52"E	43.64	161	N61°34'50"E	20.43
62	S55°28'52"E	21.07	162	N24°56'23"W	39.74
63	N81°29'33"E	118.16	163	N14°39'34"E	49.77
64	N81°29'33"E	8.46	164	S79°18'51"E	61.44
65	N06°00'52"W	119.18	165	N25°43'16"E	89.08
66	N50°28'32"E	42.28	166	N71°49'23"E	63.39
67	N50°28'32"E	59.50	167	N88°15'35"E	61.63
68	S79°55'54"E	18.49	168	S06°09'49"W	45.33
69	S79°55'54"E	80.88	169	S70°41'01"W	31.66
70	S79°55'54"E	75.69	170	S05°24'16"E	35.37
71	S43°48'30"E	40.84	171	S68°37'52"W	59.40
72	S43°48'30"E	68.48	172	S05°05'16"W	40.51
73	S16°29'34"W	171.24	173	S27°16'46"W	30.89
74	S37°01'28"E	46.60	174	N37°07'55"E	56.99
75	S37°01'28"E	69.53	175	N85°42'17"E	68.42
76	S83°59'33"E	93.47	176	N58°25'08"E	62.31
77	N13°55'53"E	67.81	177	N24°52'11"W	44.33
78	N13°55'53"E	41.33	178	S73°43'27"W	108.88
79	N13°55'53"E	135.46	179	S87°11'49"W	94.14
80	N13°55'53"E	111.72			
81	N13°55'53"E	41.52			
82	N28°18'13"E	56.32			
83	N28°18'13"E	56.96			
84	N28°18'13"E	96.43			
85	N28°18'13"E	69.05			
86	N02°35'45"E	19.04			
87	N02°35'45"E	97.58			
88	N02°35'45"E	88.75			
89	N32°15'11"E	15.45			
90	N32°15'11"E	145.33			
91	N32°15'11"E	39.29			
92	N12°38'23"E	150.99			
93	N12°38'23"E	157.69			
94	N56°07'46"W	79.68			
95	S25°46'56"W	81.24			
96	S59°35'28"W	26.98			
97	S59°35'28"W	83.39			
98	S59°35'28"W	52.71			
99	S82°23'06"W	27.70			
100	S82°23'06"W	75.08			

Cxx - CURVE DATA

No.	Delta	Radius	Arc Length	Tangent	Chord	Bearing	No.	Delta	Radius	Arc Length	Tangent	Chord	Bearing
1	19°56'21"	180.00	62.64	31.64	62.33	N56°26'47"E	101	17°47'32"	340.00	105.58	53.22	105.16	S67°01'24"W
2	19°11'42"	180.00	57.16	28.82	56.92	N55°34'27"E	102	17°26'32"	340.00	103.50	52.16	103.10	S64°38'26"W
3	81°05'59"	175.00	247.70	149.73	227.54	S74°46'43"E	103	18°28'11"	340.00	109.60	55.28	109.13	N77°24'13"W
4	110°46'16"	150.00	290.00	217.32	246.90	S89°36'51"E	104	03°47'50"	340.00	22.53	11.27	22.53	N66°16'12"W
5	67°26'21"	250.00	294.26	166.85	277.56	N51°16'51"E	105	12°28'49"	230.00	50.10	25.15	50.00	N70°36'41"W
6	24°53'21"	670.00	291.05	147.86	288.76	N30°00'21"E	106	18°13'49"	230.00	73.18	36.90	72.87	N85°58'00"W
7	08°35'26"	670.00	100.46	50.32	100.36	N21°51'23"E	107	18°04'17"	230.00	72.54	36.58	72.24	S75°52'37"W
8	16°17'55"	670.00	190.59	95.94	189.54	N34°17'04"E	108	19°45'13"	230.00	79.30	40.05	78.90	S56°58'12"W
9	51°42'40"	250.00	225.63	121.45	218.05	N15°35'41"E	109	20°41'52"	230.00	83.09	42.00	82.64	S36°44'39"W
10	23°48'12"	200.00	83.09	42.15	82.49	S75°45'00"E	110	21°34'17"	230.00	86.59	43.82	86.08	S15°36'35"W
11	113°54'54"	240.00	477.17	368.97	402.37	N35°23'27"E	111	06°09'38"	830.00	89.25	44.67	89.20	S01°44'37"W
12	24°06'17"	240.00	100.97	51.24	100.23	N80°17'45"E	112	04°50'01"	830.00	70.02	35.03	70.00	S03°45'13"E
13	89°48'37"	240.00	376.20	239.21	338.85	N23°20'18"E	113	04°50'01"	830.00	70.02	35.03	70.00	S08°35'14"E
14	86°41'13"	175.00	264.77	165.16	240.23	S06°11'48"W	114	22°27'12"	260.00	101.89	51.61	101.24	S22°13'51"E
15	26°26'33"	800.00	369.21	197.95	365.94	N52°28'48"W	115	32°14'38"	260.00	146.32	75.15	144.39	S49°34'45"E
16	54°41'50"	230.00	219.57	118.86	211.33	N38°21'09"W	116	15°16'11"	770.00	205.21	103.22	204.60	S54°10'27"E
17	15°49'40"	800.00	221.00	111.21	220.30	N03°05'24"W	117	07°16'50"	770.00	97.84	48.99	97.78	S42°53'56"E
18	110°48'17"	200.00	386.78	289.94	329.26	N60°13'34"E	118	20°55'23"	120.00	43.82	22.16	43.58	S45°27'42"W
19	57°30'05"	370.00	371.33	202.99	355.94	N86°52'41"E	119	89°50'53"	120.00	188.18	119.68	189.48	N79°09'10"W
20	53°29'15"	150.00	140.03	75.59	135.00	N31°23'01"E	120	10°00'31"	205.00	35.81	17.95	35.76	N39°13'59"W
21	84°30'00"	25.00	36.87	22.71	33.62	S32°19'52"W	121	14°22'20"	850.00	213.22	107.17	212.66	S24°44'50"W
22	50°54'34"	606.75	104.94	52.60	104.81	S69°17'04"E	122	67°26'21"	70.00	46.72	77.72	46.72	S51°16'51"W
23	103°15'24"	25.00	45.05	31.57	39.20	N63°42'15"W	123	26°26'33"	960.00	443.05	225.54	439.13	N52°28'48"W
24	13°14'55"	265.00	61.28	30.78	61.14	S18°42'15"E	124	54°41'50"	70.00	66.83	36.20	64.32	N38°21'09"W
25	01°12'25"	3443.50	72.54	36.27	72.54	S24°39'30"E	125	15°49'40"	640.00	176.80	88.97	176.24	N03°05'24"W
26	51°35'07"	550.00	495.18	265.79	478.63	N69°39'10"E	126	110°48'17"	40.00	77.36	57.99	65.85	N60°13'34"E
27	63°40'28"	175.00	194.48	108.66	184.63	S52°43'02"E	127	21°44'22"	530.00	201.09	101.77	199.89	S75°14'28"E
28	51°42'40"	220.00	198.56	108.62	191.89	S16°35'41"W	128	04°24'07"	530.00	40.72	20.37	40.71	S98°18'42"E
29	06°19'39"	700.00	77.29	38.68	77.29	S39°14'39"W	129	02°21'36"	850.00	35.02	17.51	35.02	S30°45'11"W
30	15°51'51"	630.00	174.44	87.78	173.88	N47°11'27"W	130	05°43'55"	850.00	85.04	42.55	85.00	S26°42'24"W
31	65°55'38"	145.00	166.84	94.03	157.79	S82°21'53"E	131	05°43'55"	850.00	85.04	42.55	85.00	S20°58'29"W
32	15°10'21"	145.00	38.40	19.31	38.29	S41°48'53"E	132	32°10'50"	70.00	39.32	20.19	38.80	S33°39'05"W
33	12°15'25"	180.00	38.51	19.33	38.43	S40°21'26"E	133	35°15'31"	70.00	43.08	22.24	42.40	S67°22'16"W
34	18°58'38"	180.00	62.76	31.70	62.44	S56°28'28"E	134	07°16'50"	960.00	121.99	61.08	121.90	N42°53'56"W
35	18°42'33"	180.00	58.78	29.65	58.52	S75°48'03"E	135	08°35'01"	960.00	143.82	72.05	143.69	N50°48'52"W
36	20°18'04"	180.00	62.23	30.68	62.23	N84°40'38"E	136	09°34'19"	960.00	160.38	80.38	160.19	N59°54'32"W
37	22°48'54"	180.00	71.68	36.32	71.20	N63°07'09"E	137	33°12'11"	70.00	40.57	20.87	40.00	N49°05'59"W
38	16°42'41"	180.00	52.50	26.44	52.31	N43°21'22"E	138	21°29'39"	70.00	26.26	13.29	26.11	N21°45'04"W
39	13°28'01"	280.00	65.81	33.06	65.66	N78°16'01"E	139	03°17'18"	640.00	36.73	18.37	36.72	N09°21'36"W
40	14°33'22"	280.00	71.13	35.76	70.94	N64°15'20"E	140	07°09'59"	640.00	80.05	40.08	80.00	N04°07'58"W
41	14°16'44"	280.00	69.78	35.07	69.60	N49°50'17"E	141	05°22'24"	640.00	80.02	30.03	80.00	N02°08'14"E
42	14°32'17"	280.00	71.05	35.71	70.85	N35°28'46"E	142	53°11'44"	40.00	37.14	20.03	35.82	N45°46'59"E
43	10°35'57"	280.00	51.73	25.87	51.43	N22°51'39"E	143	43°14'52"	40.00	30.19	15.86	29.48	S65°59'43"E
44	05°54'14"	640.00	65.95	33.00	65.92	N20°30'47"E	144	03°11'05"	530.00	29.46	14.73	29.45	S65°57'49"E
45	18°50'09"	270.00	88.76	44.78	88.36	N82°55'50"E	145	11°28'42"	530.00	106.18	53.27	106.00	S73°17'43"E
46	63°50'13"	145.00	161.55	90.32	153.33	S03°11'45"W	146	11°28'42"	530.00	106.18	53.27	106.00	S84°46'25"E
47	285°41'17"	50.00	249.31	-37.89	60.40	S47°02'51"E	147	07°16'50"	630.00	80.05	40.08	80.00	N42°53'56"W
48	129°57'04"	50.00	113.40	107.11	90.61	S30°49'15"W	148	08°35'01"	630.00	94.38	47.28	94.29	N50°49'52"W
49	64°56'56"	50.00	56.61	51.77	55.63	S66°38'15"E	149	48°40'46"	50.00	42.48	22.62	41.21	N28°31'42"W
50	78°05'25"	50.00	68.15	40.55	62.99	N41°56'05"E	150	12°46'52"	50.00	11.15	5.60	11.13	N03°30'04"W
51	17°01'43"	205.00	60.93	30.69	60.70	N28°54'10"E	151	10°32'15"	170.00	31.27	15.68	31.22	N69°07'01"W
52	28°18'05"	205.00	101.26	51.69	100.23	N06°14'16"E	152	01°00'23"	830.00	14.58	7.29	14.58	N65°11'53"W
53	19°05'57"	205.00	68.34	34.49	68.02	N17°27'45"E	153	14°21'41"	40.00	10.03	5.04	10.00	N12°00'17"E
54	17°16'33"	270.00	81.41	41.62	81.10	N52°04'08"E	154	03°53'32"	770.00	52.31	26.16	52.30	S63°48'18"E
55	13°21'48"	270.00	62.97	31.63	62.83	N36°44'58"E							
56	12°21'58"	270.00	58.27	29.25	58.16	N23°05'05"E							
57	14°04'30"	270.00	66.33	33.33	66.16	N10°39'51"E							
58	14°35'03"	270.00	68.73	34.55	68.54	N03°39'56"W							
59	105°21'24"	50.00	91.94	65.58	79.52	N09°34'22"E							
60	63°28'43"	50.00	55.40	30.93	52.61	N74°50'42"W							
61	03°58'44"	50.00	3.47	1.74	3.47	S71°25'35"W							
62	49°00'00"	50.00	42.76	22.79	41.47	S44°56'13"W							
63	42°00'13"	50.00	35.84	19.20	35.84	S00°33'53"E							
64	06°28'12"	210.00	23.71	11.87	23.70	S18°19'54"E							
65	37°14'36"	210.00	136.50	70.76	134.11	S03°31'30"W							
66	34°33'03"	210.00	126.64	65.31	124.73	S39°25'19"W							
67	35°39'03"	210.00	130.67	67.53	128.57	S74°31'22"W							
68	13°15'57"	170.00	39.36	19.77	39.27	N81°01'07"W							
69	12°43'00"	640.00	142.05	71.32	141.75	N35°11'48"E							
70	00°43'43"	70.00	0.43	0.21	0.43	N42°00'10"E							
71	36°25'19"	280.00	177.99	92.12	175.01	N24°14'22"E							
72	15°17'21"	280.00	74.72	37.58	74.50	N01°36'59"W							
73	06°33'06"	700.00	80.04	40.07	80.00	S32°50'55"W							
74	05°43'55"	700.00	70.03	35.04	70.00	S26°42'24"W							
75	05°43'55"	700.00	70.03	35.04	70.00	S20°58'29"W							
76	00°32'51"	700.00	6.69	3.35	6.69	S17°50'06"W							
77	32°10'50"	220.00	121.95	62.46	121.95	S33°38'05"W							
78	35°15'31"	220.00	135.38	69.91	133.26	S67°22'16"W							
79	07°16'50"	830.00	105.47	52.80	105.40	N42°53'56"W							
80	08°35'01"	830.00	124.35	62.29	124.23	N50°49'52"W							
81	09°34'19"	830.00	138.66	69.49	138.50	N59°54'32"W							
82	33°12'11"	200.00	115.90	59.63	114.29	N49°05'59"W							
83	21°29'38"	200.00	75.03	37.96	74.59	N21°45'04"W							
84	03°17'18"	200.00	44.18	22.10	44.18	N09°21'36"W							
85	07°09'59"	770.00	96.31	48.22	96.24	N04°07'58"W							
86	05°22'24"	770.00	72.21	36.13	72.19	N02°08'14"E							
87	14°21'41"	170.00	42.61	21.42	42.50	N12°00'17"E							
88	53°11'44"	170.00	157.83	85.12	152.23	N45°46'59"E							
89	43°14'52"	170.00	128.32	67.39	125.29	S85°59'43"E							
90	03°01'05"	400.00	101.12	22.23	101.12	S65°57'49"E	</						