

DARDENNE CREEK SEWER

"AS-BUILTS"

TOWNSHIP 46 NORTH, RANGE 3 EAST
5th PRINCIPAL MERIDIAN,
ST. CHARLES COUNTY, MISSOURI



LOCATION MAP
NTS

- GENERAL CONSTRUCTION NOTES -

- Trench backfills within the road right-of-way will be water settled and granular backfill will be used under paved areas.
- All filled places under proposed storm and sanitary sewer lines and/or paved areas including trench backfills within and off the road right-of-way shall be compacted to 90% of maximum density as determined by the Modified AASHTO T-180 Compaction Test (ASTM D-1557). All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations.
- All sanitary sewer construction shall conform to current MISSOURI SEWER DISTRICT SPECIFICATIONS.
- All manhole and catch basin tops built without elevations furnished by the Engineer will be the responsibility of the Sewer Contractor. At the time of construction stake-out of the sewer lines, all curb and grate inlets will be face-marked; provided said stakes do not fall in the ditch line. If stakes fall within the ditch line, the Sewer Contractor or Job Superintendent shall notify the Engineer by phone that stakes are needed and allow 48 hours for cuts.
- All dimensions are in feet and decimals of a foot unless otherwise specified.
- Confirmation of soils compaction shall be the responsibility of the Developer.
- It shall be the responsibility of the Contractor to perform his services in a workmanlike manner and to see that all facilities are complete and usable.
- The Contractor shall notify the Engineer of any discrepancy before proceeding with construction. Dimensioned distances take precedence over unaided distances.
- Easements shall be provided for the sanitary sewers.
- Gas, water and other underground utilities shall not conflict with the depth or horizontal locations of existing and proposed sanitary and storm sewers including house laterals.
- Existing underground utilities have been plotted from available information, and therefore, their locations must be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans, is the responsibility of the Contractor.
- All construction and materials used shall conform to current standards.
- No changes shall be made without written permission of the Engineer.
- Clearing is not allowed except as shown on the construction plans.
- All grades shall be within 0.2 feet more or less of those shown on the grading plan.
- All swales shall be sodded or seeded to prevent erosion.
- No slope shall be greater than 3 : 1.
- No graded area shall remain undeveloped without being seeded to provide erosion control. Straw bales shall be provided for sediment control where needed.
- POLY-VINYL CHLORIDE (PVC) SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034 STANDARD SPECIFICATIONS FOR 4" AND 6" POLY-VINYL CHLORIDE SEWER PIPE AND FITTINGS, SIZE 15.
- ALL EXISTING IMPROVEMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED IN KIND.
- ALL SLOUT FOR REPAIR SHALL BE HIGH STRENGTH READY MIX CONCRETE.
- THE CONTRACTOR SHALL PROVIDE A WELL OR OTHER SUITABLE WATER SUPPLY AS PER APPROVAL OF DUCKETT CREEK SEWER DISTRICT.

Rev. 5-15-89 Per Duckett Creek Sewer District

PICKETT RAY & SILVER
Civil Engineers
Planners
Land Surveyors
333 Mid Rivers Mall Dr.
St. Peters, MO 63376
441-1211 278-1211

"AS-BUILTS"
Alternate Force Main

DRAWN: JWE DATE: 4-26-89
CHECKED: DATE: 4-28-89

FIELD BOOK: PROJECT: 89-047
JOB ORDER: 3844

1 / 8

TERRA ASSOCIATES

DATE: 06/1/89
REVISED: 2/02/89 2/23/89

LEGEND

BM	BENCHMARK	MH	MANHOLE
CB	CATCH BASIN	NTS	NOT TO SCALE
CC	CONCRETE COLLAR	PVC	POLY-VINYL CHLORIDE PIPE
CF	CAST IRON PIPE	R/W	RIGHT OF WAY
C	CENTER LINE	RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE	STA	STATION
CO	CLEAN OUT	TBM	TEMPORARY BENCHMARK
CONC.	CONCRETE	TC	TOP OF CURB
DCB	DOUBLE CATCH BASIN	UP	UTILITY POLE
EP	END OF PIPE	VCP	VITRIFIED CLAY PIPE
E/P	EDGE OF PAVEMENT	YCB	YARD CATCH BASIN
FF	FINISHED FLOOR	GT	GRADED TROUGH
FES	FLARED END SECTION	IL	FLOW LINE
FO	FLUSH OUT	PVMT	PAVEMENT

— G —	GAS LINE	■	GRATE INLET
— W —	WATER LINE	— TV —	CABLE TELEVISION LINE
— E —	ELECTRIC LINE		
— T —	TELEPHONE LINE		
○	EXISTING MANHOLE		
□	EXISTING CATCH BASIN		
●	PROPOSED MANHOLE		
■	PROPOSED CATCH BASIN		
---520---	EXISTING CONTOUR		
—520—	PROPOSED CONTOUR		
—●—	PROPOSED SANITARY SEWER		
—■—	PROPOSED STORM SEWER		
4	BSMT ELEVATION AT LATERAL CONNECTION		
—○—	UTILITY POLE W/ GUY WIRES		
—■—	FIRE HYDRANT		
—○—	WATER VALVE		
—○—	GENERAL SURFACE DRAINAGE		
—○—	SWALE		
—○—	HIGH WATER ELEVATION		

BENCHMARKS:

- BM-1 "□" CHISELED ON SOUTHWEST CORNER OF CONC. RAILING WALL OF ST CHARLES CO. HENNING ROAD BRIDGE AT OLD DARDENNE CREEK - ELEV 493.76
- BM-2 "□" ON SOUTHEAST PIER OF ST CHARLES CO HENNING ROAD BRIDGE AT NEW DARDENNE CREEK - ELEV 486.44 (RM 75, U.S. DEPT. H.U.D. NATIONAL FLOOD INSURANCE STUDY, COMM. PANEL NO 290315 0250 A, PG. 250 OF 350, SEPT 1978)
- BM-3 "□" ON NORTHWEST CORNER OF STATE OF MISSOURI HIGHWAY "K" BRIDGE (L-15) WINGWALL AT DARDENNE CREEK - ELEV 487.62 (RM 69, U.S. DEPT. H.U.D. NATIONAL FLOOD INSURANCE STUDY, COMM. PANEL NO 290315 0250 A, PG. 250 OF 350, SEPT 1978).

PREPARED FOR:
SPRING MEADOWS PARTNERSHIP
828 OFALLON ROAD
ST. CHARLES, MO 63303
314-441-6221

PREPARED BY:
TERRA ASSOCIATES, LTD.
67 CHARLESTON SQUARE
ST. CHARLES, MO 63303
314-926-8222

— INDEX —

1. LIFT STATION SITE & SEWER
2,3,4 SANITARY SEWER
3,6 FORCE MAIN
7 LIFT STATION
8 DETAILS

ALTERNATE FORCE MAIN ONLY

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authorized by the seal, signature and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in the project and specifically excludes revisions after this date unless reauthorized.

PICKETT RAY & SILVER, INC.

by Pickett Ray & Silver

Dalmar F. Vincent
MO R.L.S. No. 1869
Date: 2/27/90

RAY
PICKETT
1-14395
PROFESSIONAL ENGINEER

Signature: [Signature]
Date: 4-27-89

This is to certify to Duckett Creek Sewer District that these "As-Built" Sewer plans were based on actual field surveys conducted during Feb. 1989 and the results are shown here on.

REVISED

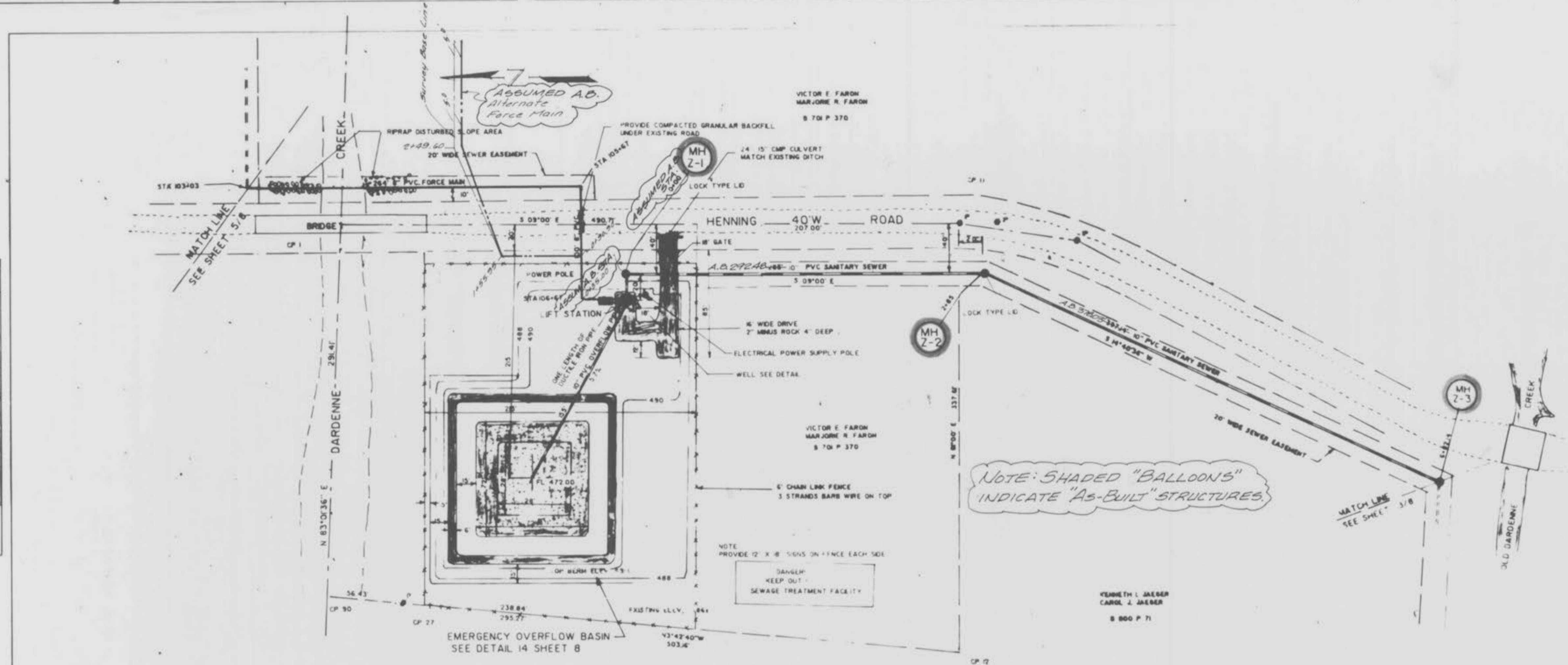
CONSTRUCTION PLANS

ENGINEERS SEAL

"AS-BUILTS"

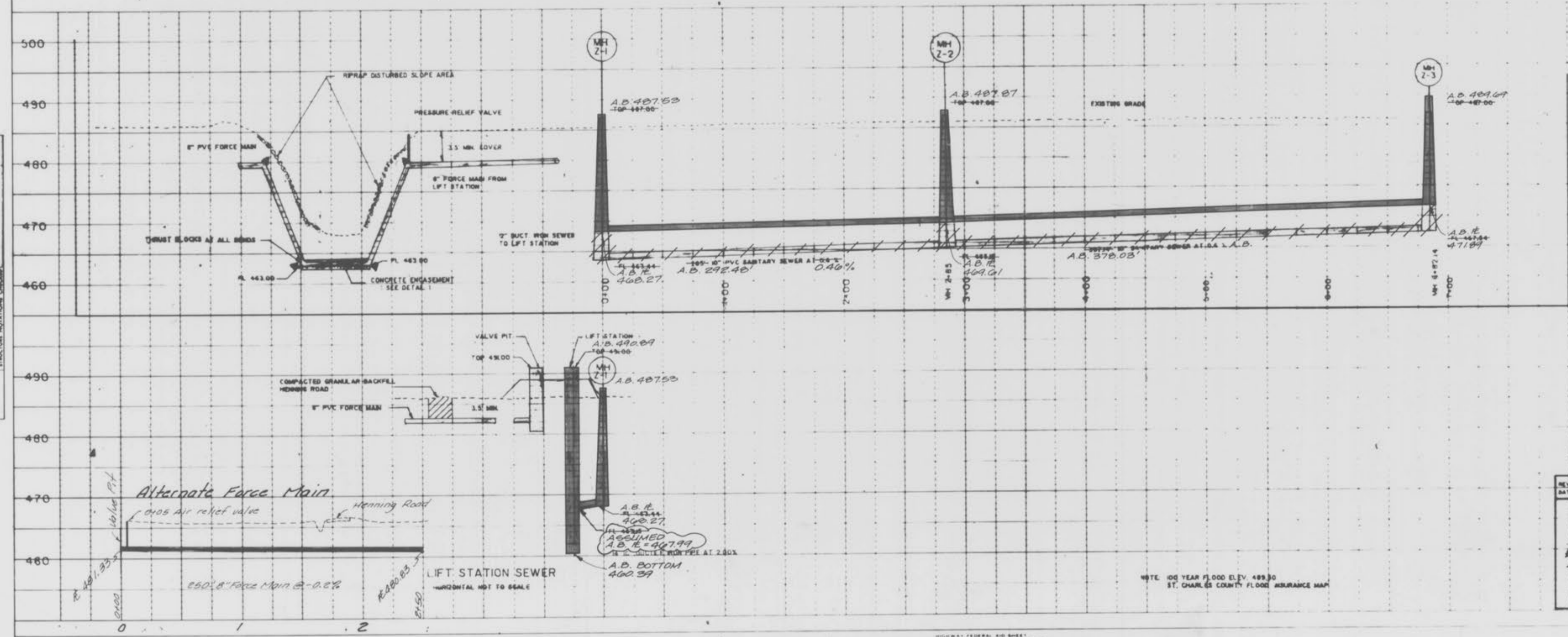
DARDENNE CREEK SEWER
SANITARY SEWER
LIFT STATION SITE

PLAN
NOTED
NOTE BOOK
NO. 1
BY
DATE



HENNING ROAD CROSSING
1. ONE LANE OF TRAFFIC MAINTAINED AT ALL TIMES
2. REPAIR & REPLACE CRUSHED ROCK SURFACE W/ 4" #1 ST. CHARLES COUNTY HIGHWAY PERMIT REQUIRED
3. NOTIFY HIGHWAY DEPARTMENT MIN 24 HOURS PRIOR TO START OF CONSTRUCTION
4. CRUSHED ROCK SURFACE TO BE REPAIRED PRIOR TO THE END OF EACH WORK DAY
5. CONTRACTOR TO NOTIFY UTILITY COMPANIES AS PER GENERAL NOTE NO. 11

PROFILE
NOTED
NOTE BOOK
NO. 1
BY
DATE



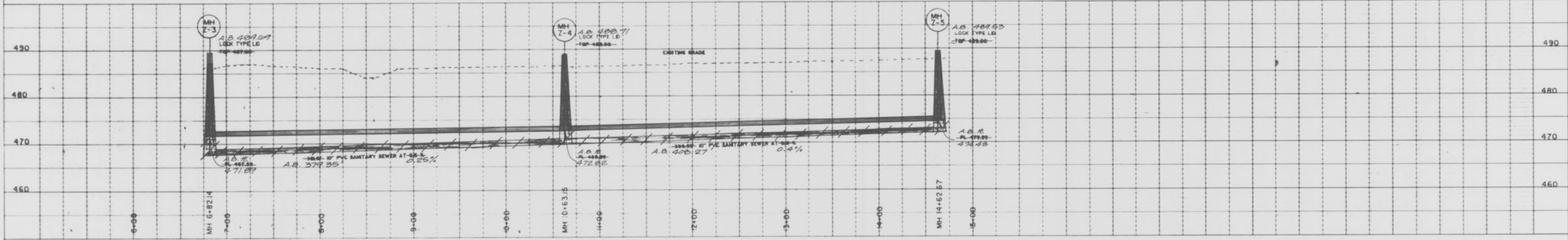
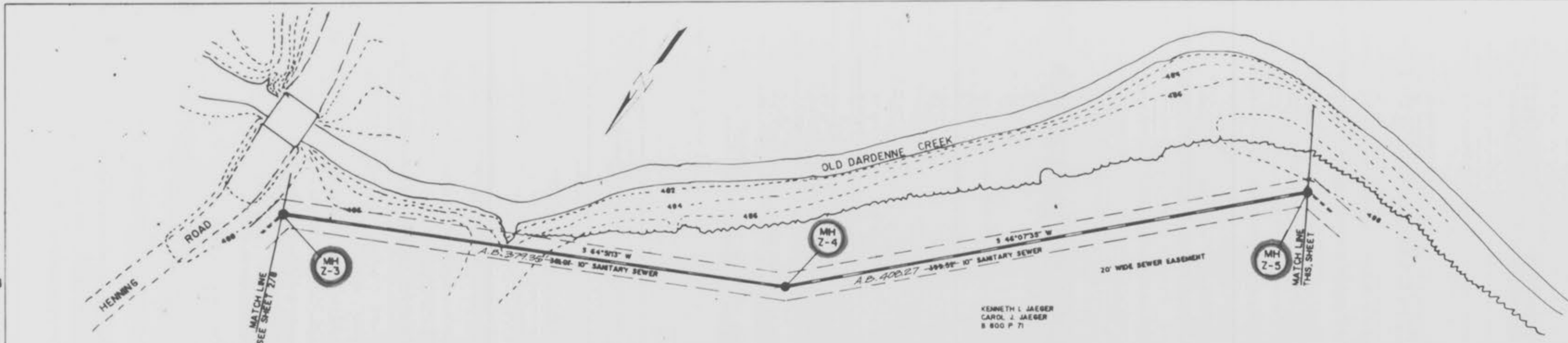
5-23-90

REVISION DATE 2/02/89	DESCRIPTION 2/23/89	"AS-BUILTS"	NO. 10
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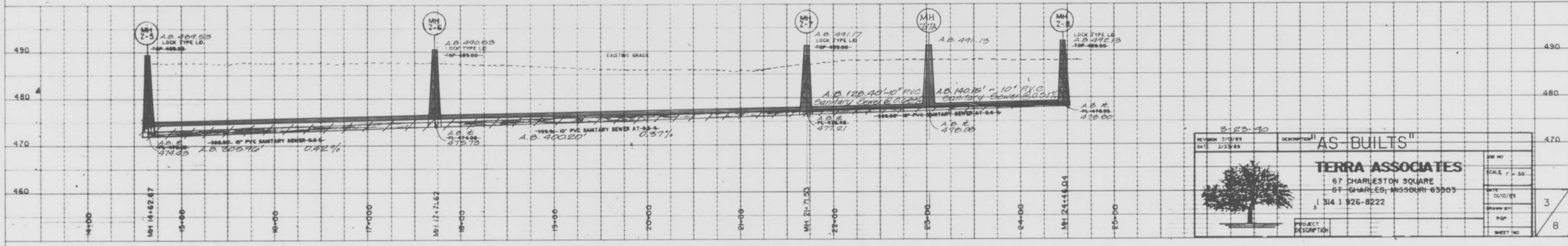
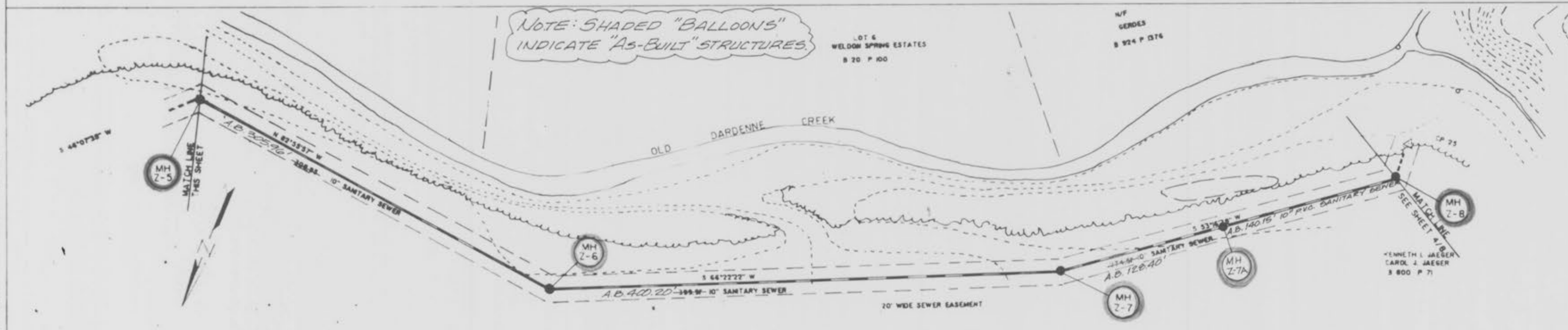
"AS-BUILTS"

DARDENNE CREEK SEWER
SANITARY SEWER

PLAN
SCALE: 1" = 40'
NOTE: BOOK ALIGNMENT CHECKED
BY: [Signature]



PROFILE
SCALE: 1" = 40'
NOTE: BOOK ALIGNMENT CHECKED
BY: [Signature]



3-23-90

REVISION 7/03/89
DATE 2/23/89

DESCRIPTION "AS-BUILTS"

TERRA ASSOCIATES
67 CHARLESTON SQUARE
ST. CHARLES, MISSOURI 63503
314 926-8222

PROJECT DESCRIPTION

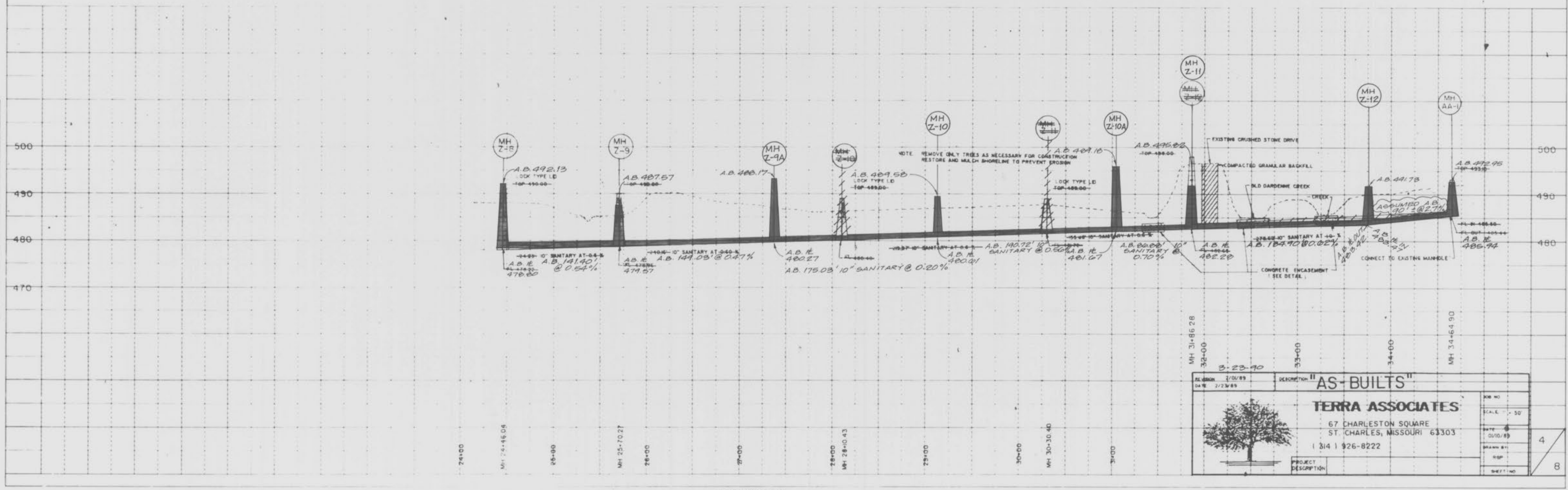
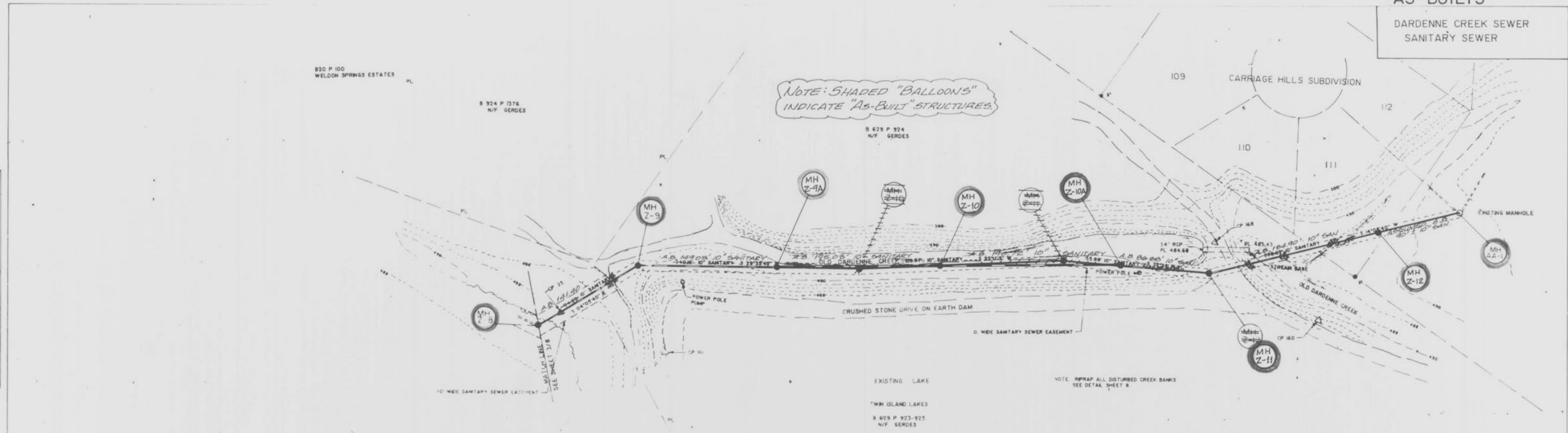
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DATE 05/10/89	3
DRAWN BY RSP	8
SHEET NO.	

"AS-BUILTS"

DARDENNE CREEK SEWER
SANITARY SEWER

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NOTED
PLANNING
NOTE BOOK
ALIGNMENT CHECKED
BY: [Signature]
DATE: [Date]

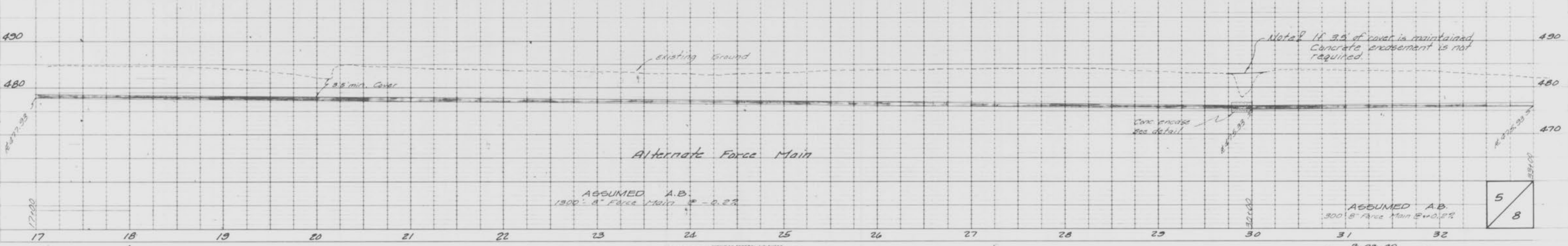
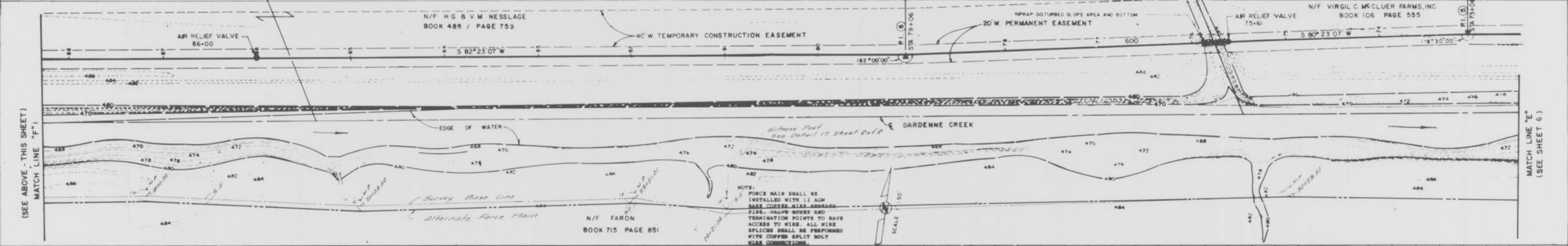
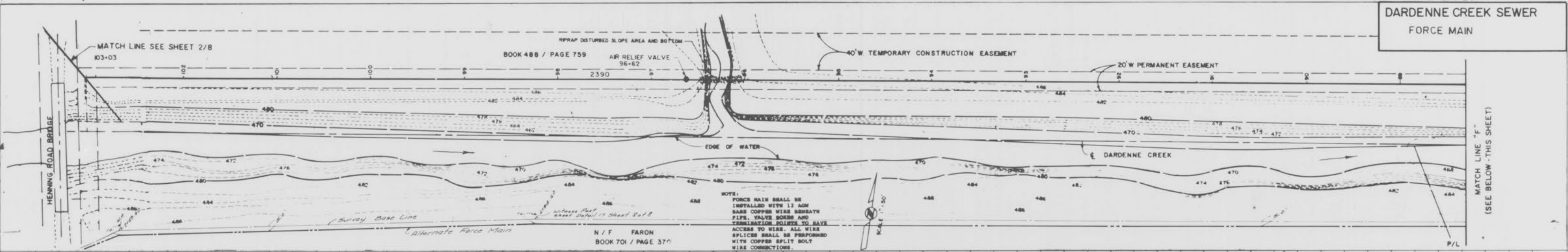
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DATE: [Date]



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TERRA ASSOCIATES	
67 CHARLESTON SQUARE ST. CHARLES, MISSOURI 63303 1 314 926-8222	
PROJECT DESCRIPTION:	DATE: 01/10/89
	SCALE: 1" = 30'
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	CHECKED: [Signature]
	APPROVED: [Signature]
	SHEET NO: 4
	OF 8

PLATE 1 SINGLE PLAN AND PROFILE

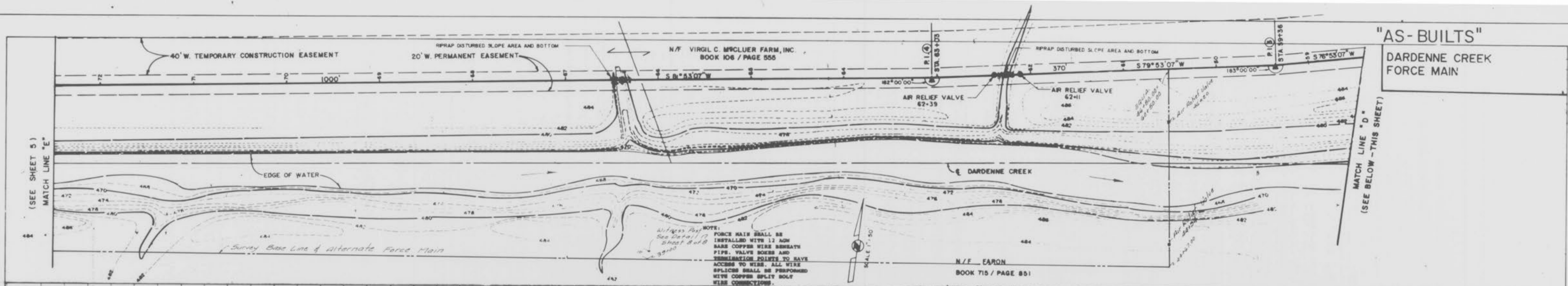
"AS-BUILTS"
DARDENNE CREEK SEWER
FORCE MAIN



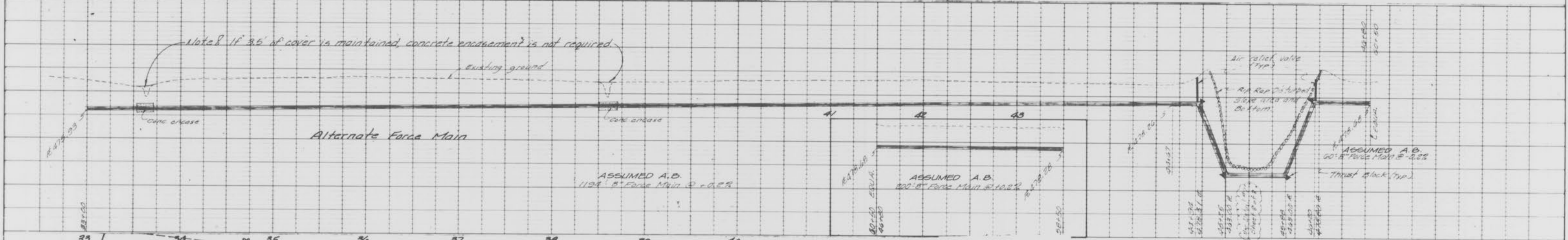
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BY: [Signature]
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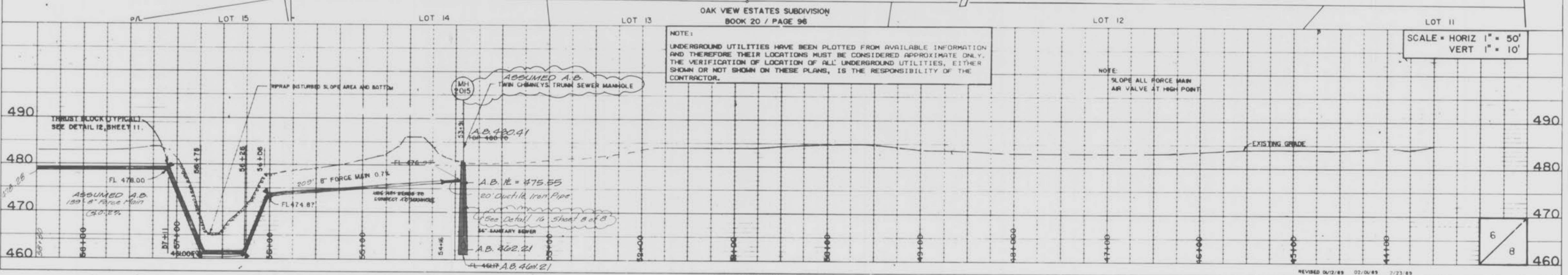
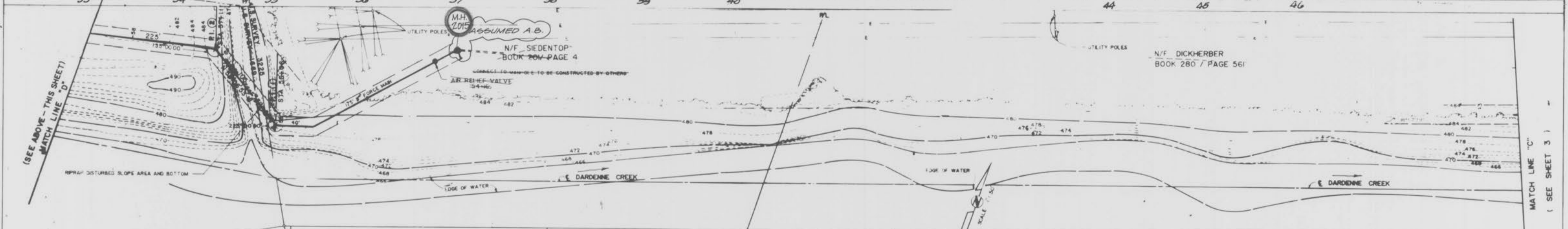
"AS-BUILTS"
DARDENNE CREEK
FORCE MAIN



PLAN
NOTED
NOTE BOOK
NO.



PROFILE
NOTED
NOTE BOOK
NO.

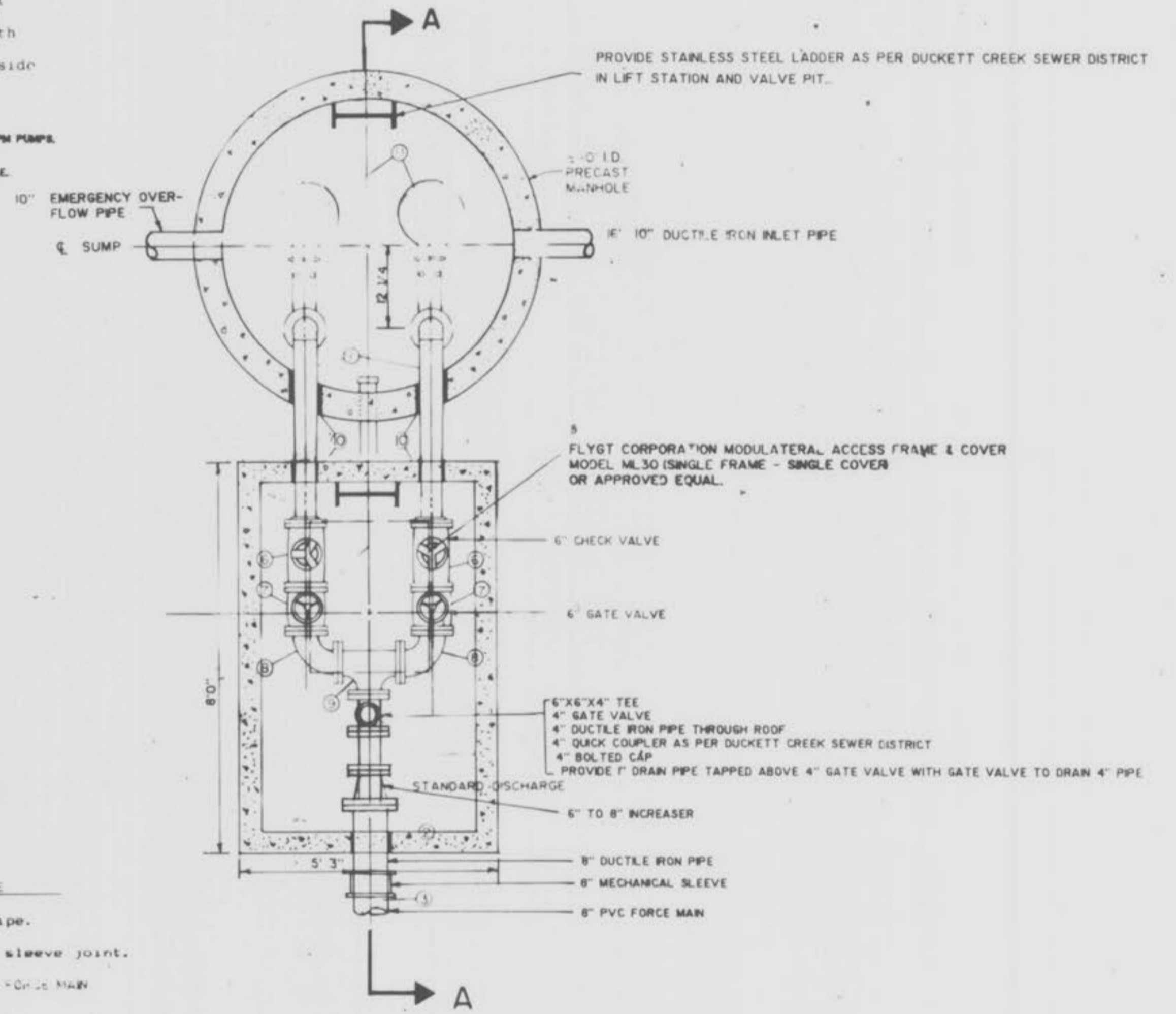
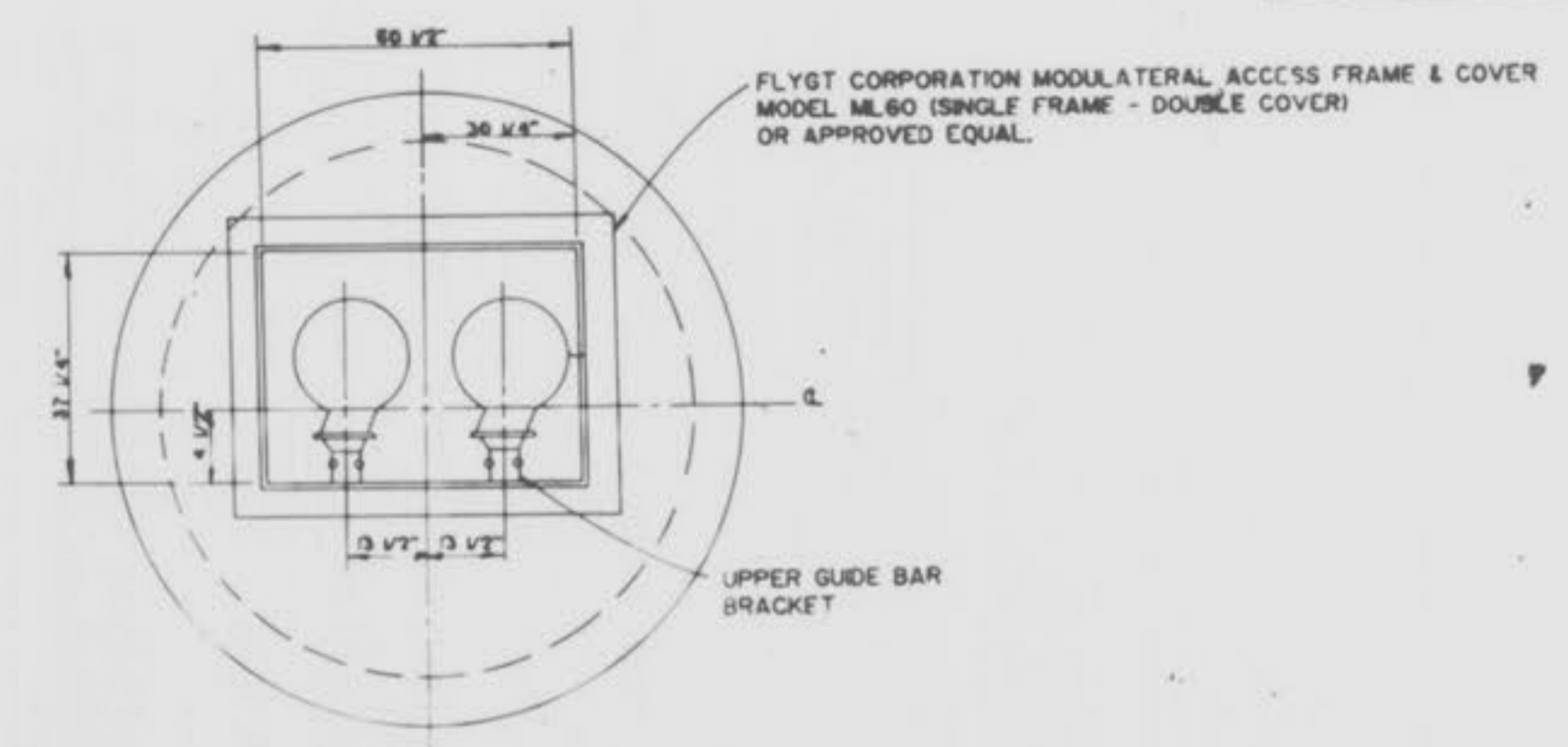


GENERAL NOTES

- Controls provided shall be of the floating mercury switch type.
- Control wires that enter the wet well shall be either ground fault protected or less than 25 volts to ground.
- The control panel supplied shall be rated as Nema 3R, have a tamper proof locking outer door, contain a GFI duplex receptacle that can provide 20 amperes at 115 volts, and have an audio-visual alarm with a self contained power source that activates upon a power outage and/or high wastewater level. The control voltages must be provided in one of the following ways:
 A. Separate, plainly marked fuse or circuit breakers, or,
 B. If the control voltage is taken from the fuse(s) or circuit breaker(s) that supplies power for any other device, a method must be provided to switch to an alternate fuse(s) or circuit breaker(s) in the event that the breaker or fuse opens.
- An easily accessible, permanently fixed ladder shall be provided in the wet well.
- Pumps supplied shall meet the following specifications:
 A. Pumps shall be three phase pumps installed on a GFI circuit breaker.
 B. Pumps shall have heat sensors that will not allow the pump to restart in the event of failure without manual resetting of the pump at the control panel.
 C. Pumps shall be capable of pumping 350 gpm against 35 ft. T.D.H. with 7 1/2 HP MOTORS 3 # FLYGT CP327 OR EQUAL.
 D. Pump flanges and carriages shall be compatible with the pump manufacturer's requirements.
- Electrical connections and splices shall be made outside the wet well in the control box.

- PUMPS, VALVES AND ELECTRICAL PANEL SHALL BE ADEQUATE FOR FUTURE 20 HP 700 GPM PUMPS.
- PROVIDE 20 AMP GFI RECEPTACLE IN CONTROL PANEL.
- PROVIDE RACO MODEL CB-4 TELEMETRY UNIT TO MONITOR HIGH WATER AND POWER OUTAGE.

NOTE: ALTERNATE POWER LEADS SHALL BE PROVIDED AT THE CONTROL BOX TO ACCOMMODATE A PORTABLE GENERATOR IN THE EVENT OF A POWER FAILURE.

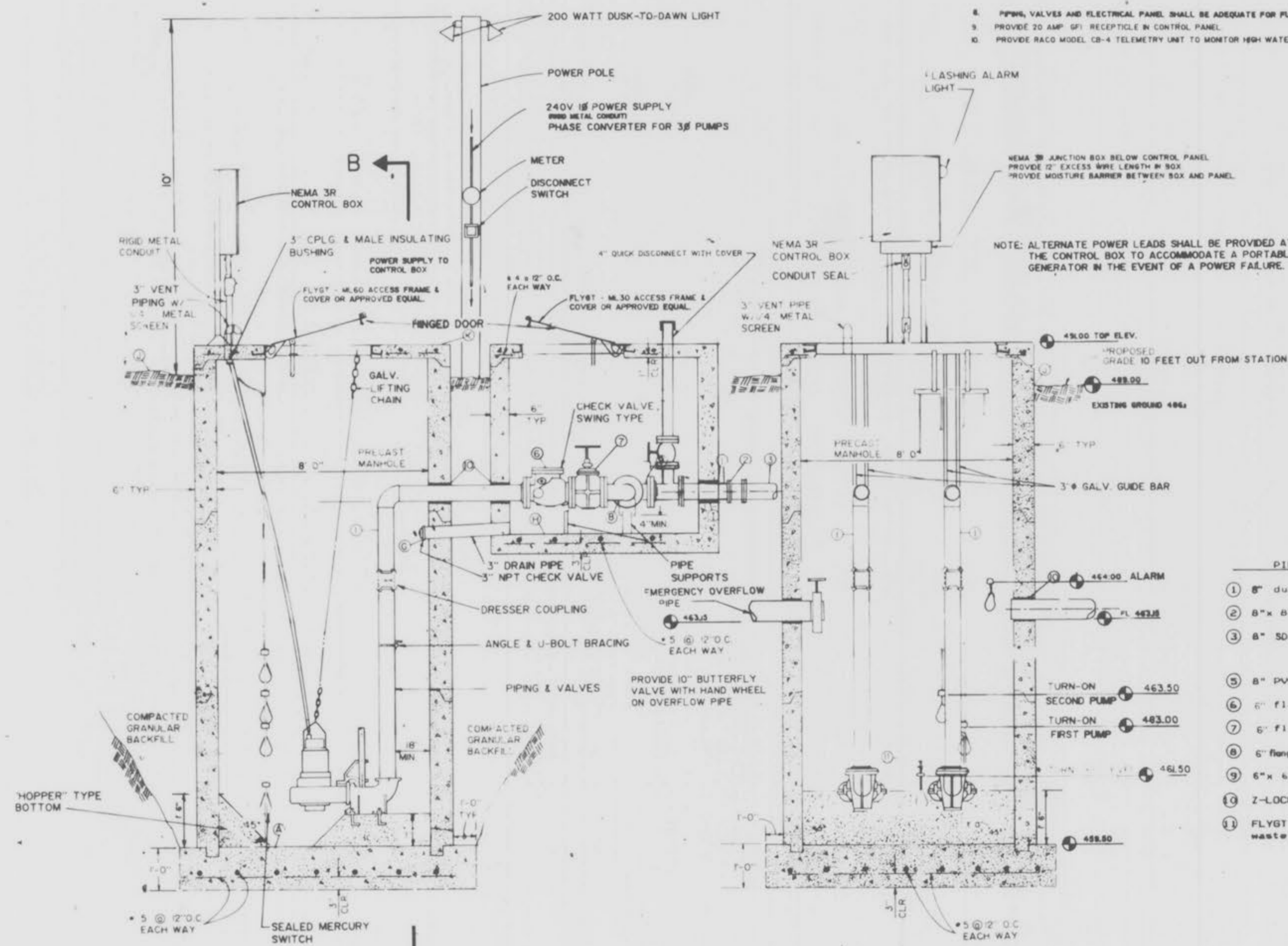


TOP VIEW

PIPING SCHEDULE

- 8" ductile iron pipe.
- 8"x 8" mechanical sleeve joint.
- 8" SDR-26 CHGO PVC OR GRS MAN
- 8" PVC pipe.
- 6" flange check valve.
- 6" flange wheel operated gate valve.
- 6" flange 90 degree elbow.
- 6"x 6"x 6" flange tee.
- Z-LOCK type compression fitting.
- FLYGT model CP 327 non-lug submersible waste water pump or approved equal.

CONSTRUCTION NOTES:
 1. LOCATE VALVE PIT ON UNDISTURBED SOIL 2' FROM LIFT STATION
 2. VERIFY ALL LOCATIONS AND DIMENSIONS WITH M.P.'S SHOP DRAWINGS PRIOR TO CONSTRUCTION.



SECTION A-A

SECTION B-B

NOTE: DRAWING NOT TO SCALE - USE DIMENSIONS

3-23-90
 2/23/89

"AS-BUILTS"

TERRA ASSOCIATES

67 CHARLESTON SQUARE
 ST. CHARLES, MO 63303
 (314) 926-8222

LIFT STATION

VARIES

DATE: 06/10/89

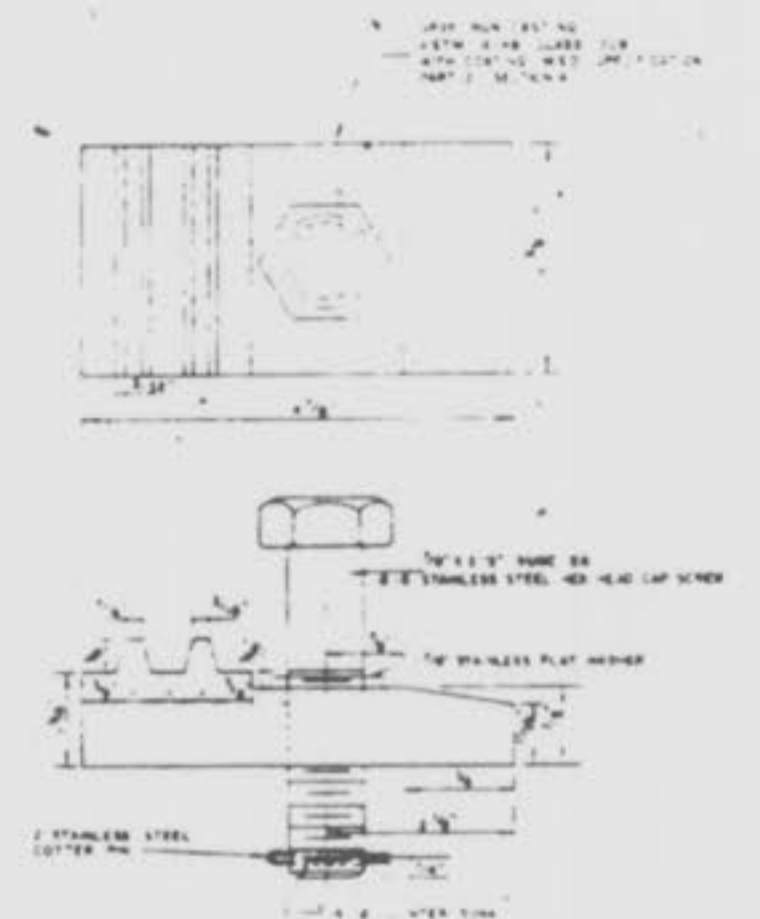
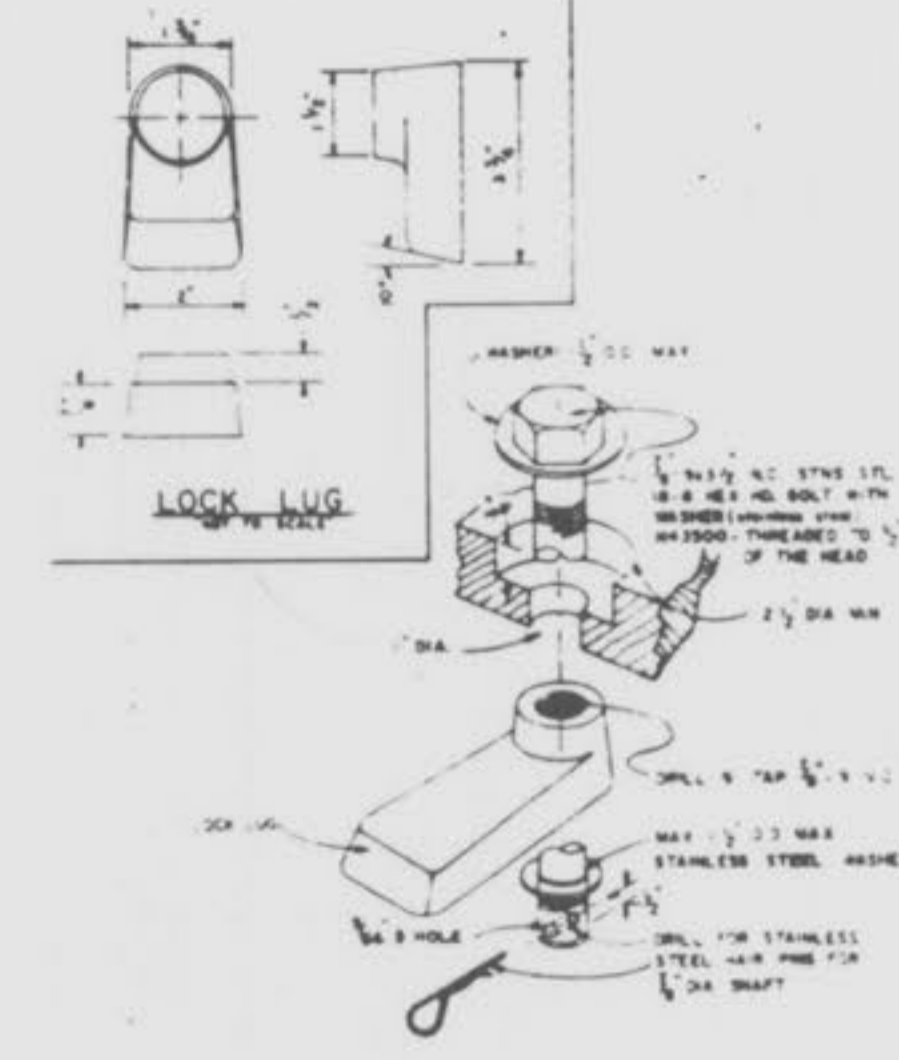
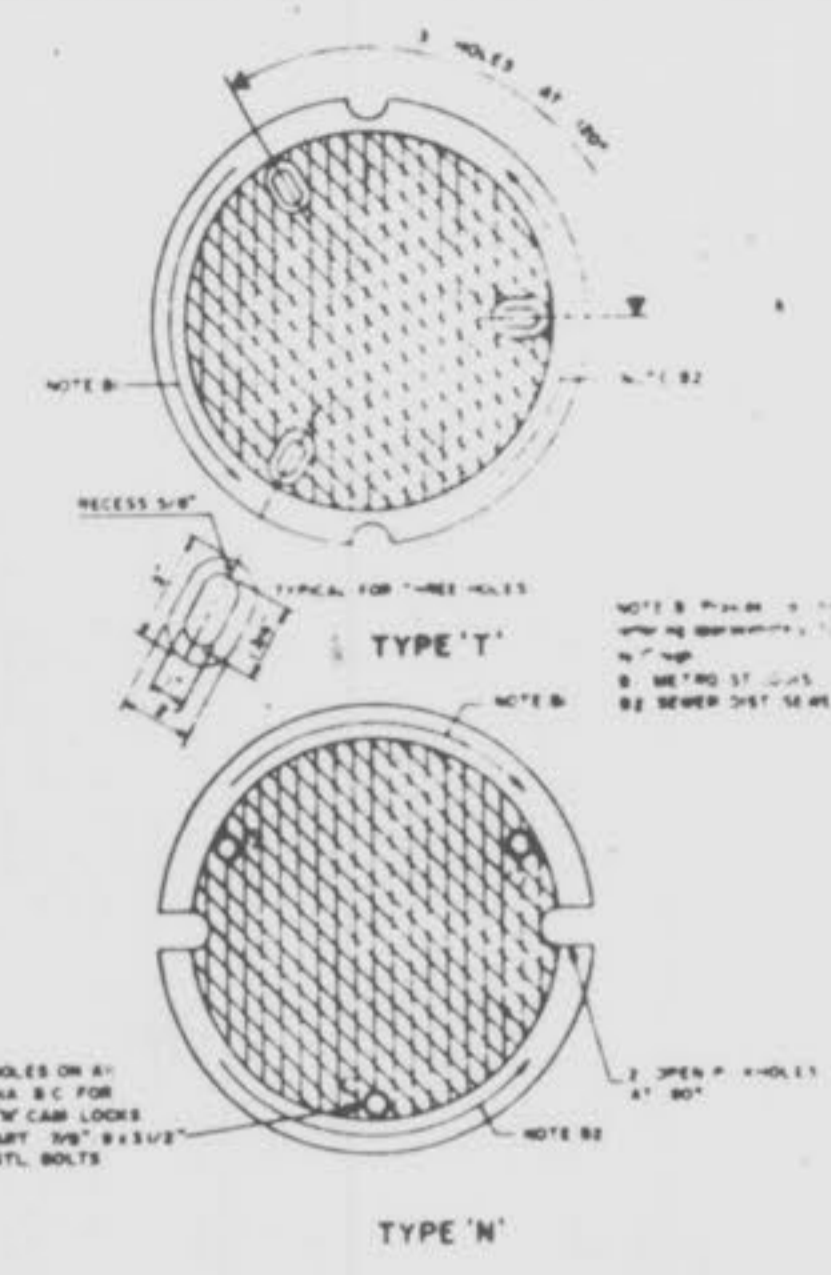
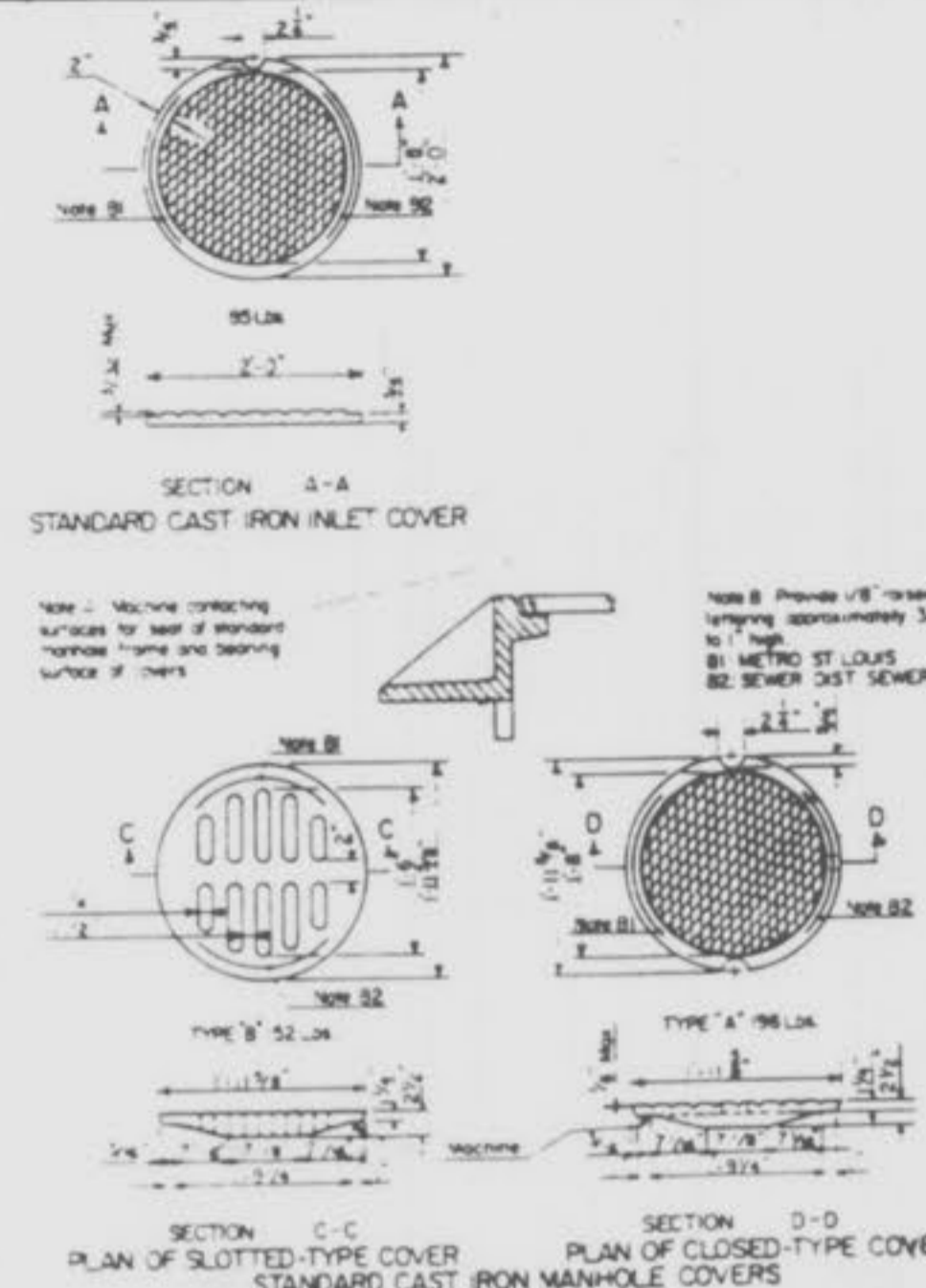
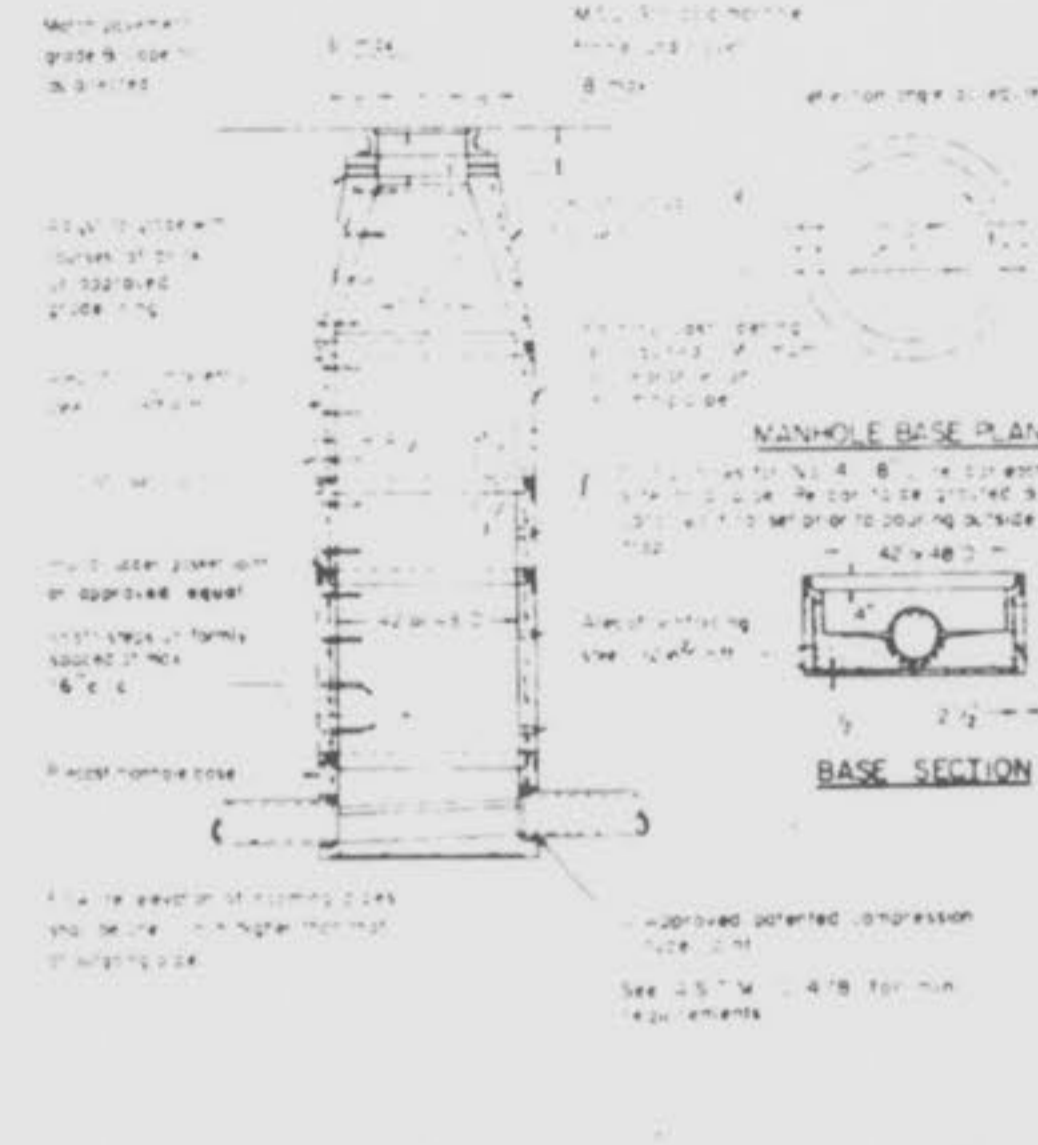
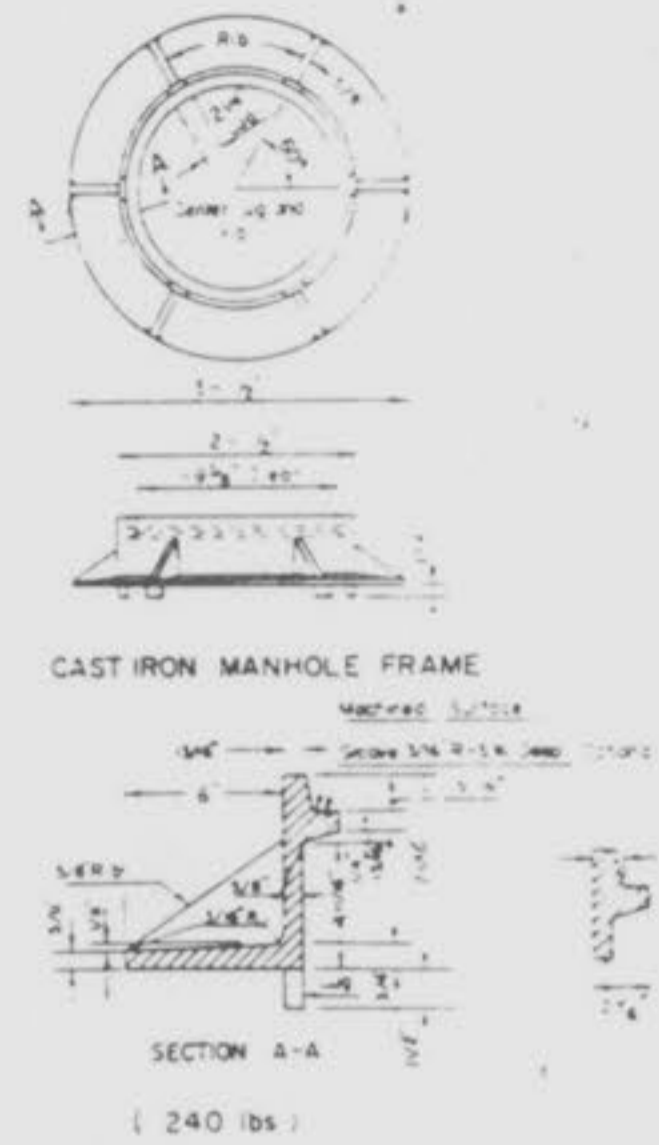
DESIGNER: RSP

CHECKED: JSP

7

8

"AS-BUILTS"
DARDENNE CREEK SEWER
CONSTRUCTION DETAILS



CAST IRON MANHOLE FRAME 1

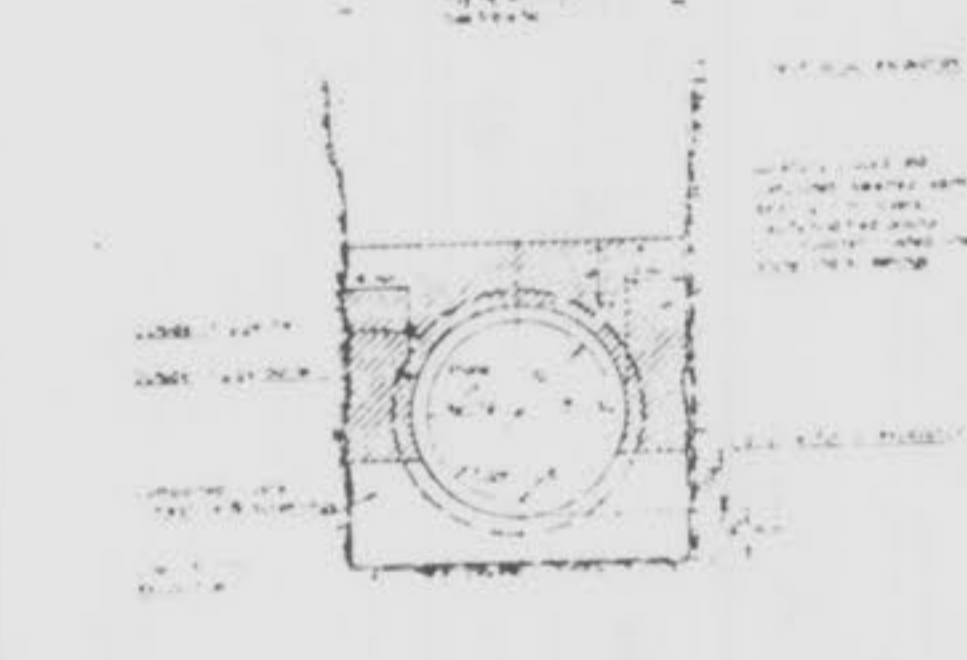
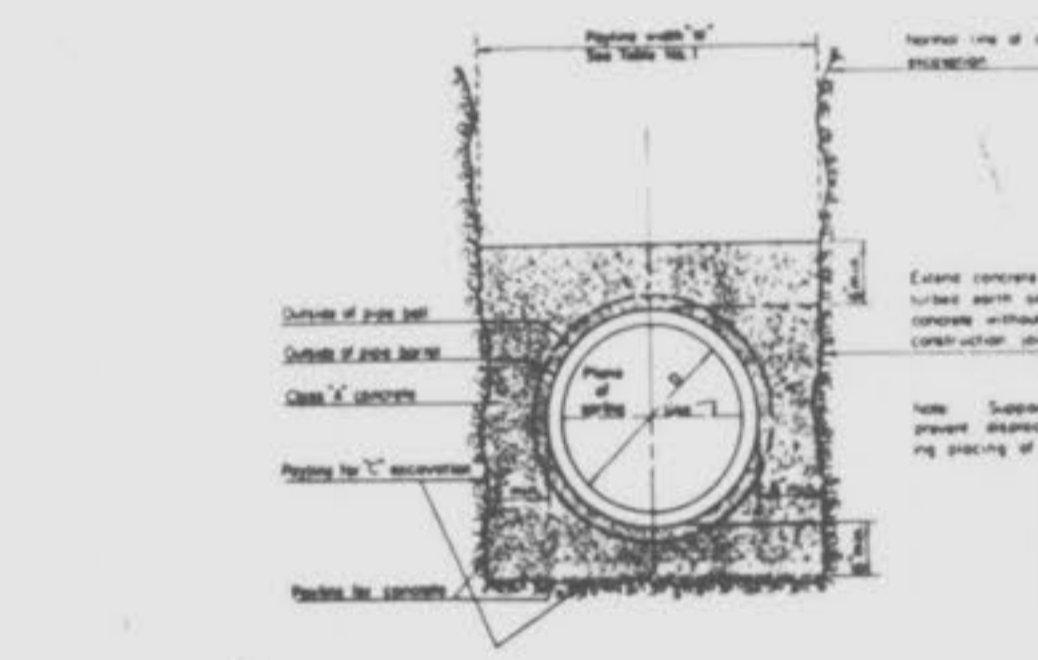
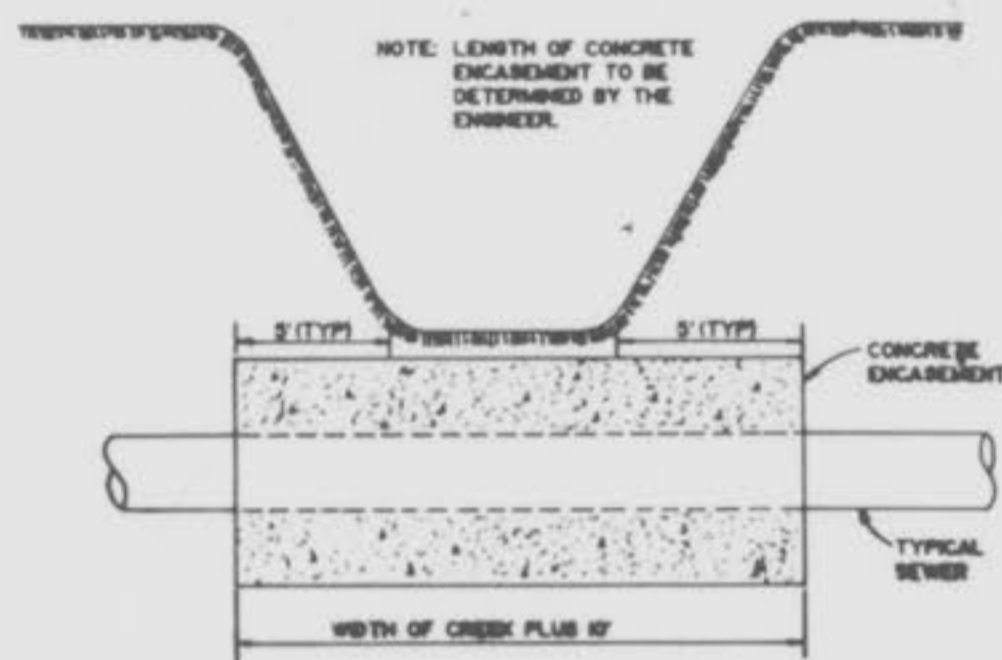
PRE-CAST CONCRETE MANHOLE 2

CAST IRON MANHOLE COVER 3

LOCK TYPE MANHOLE COVER 4

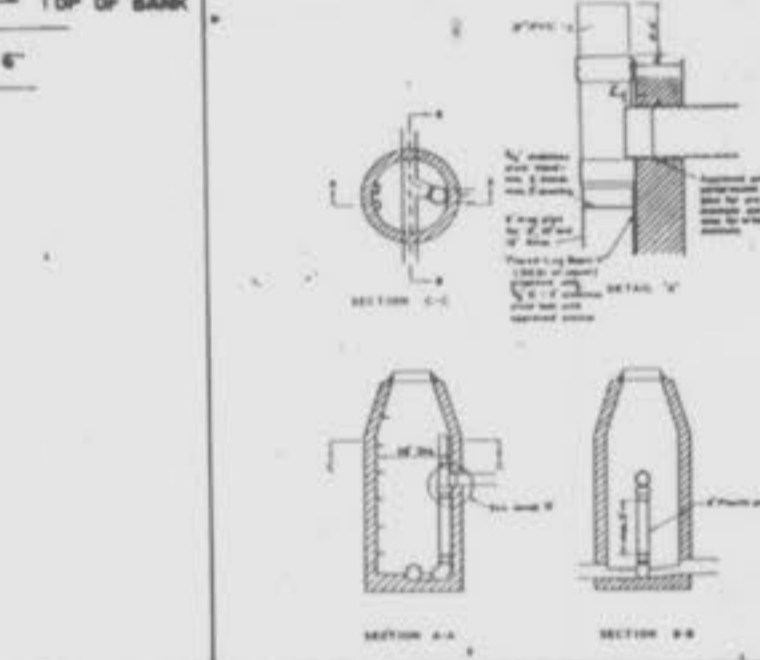
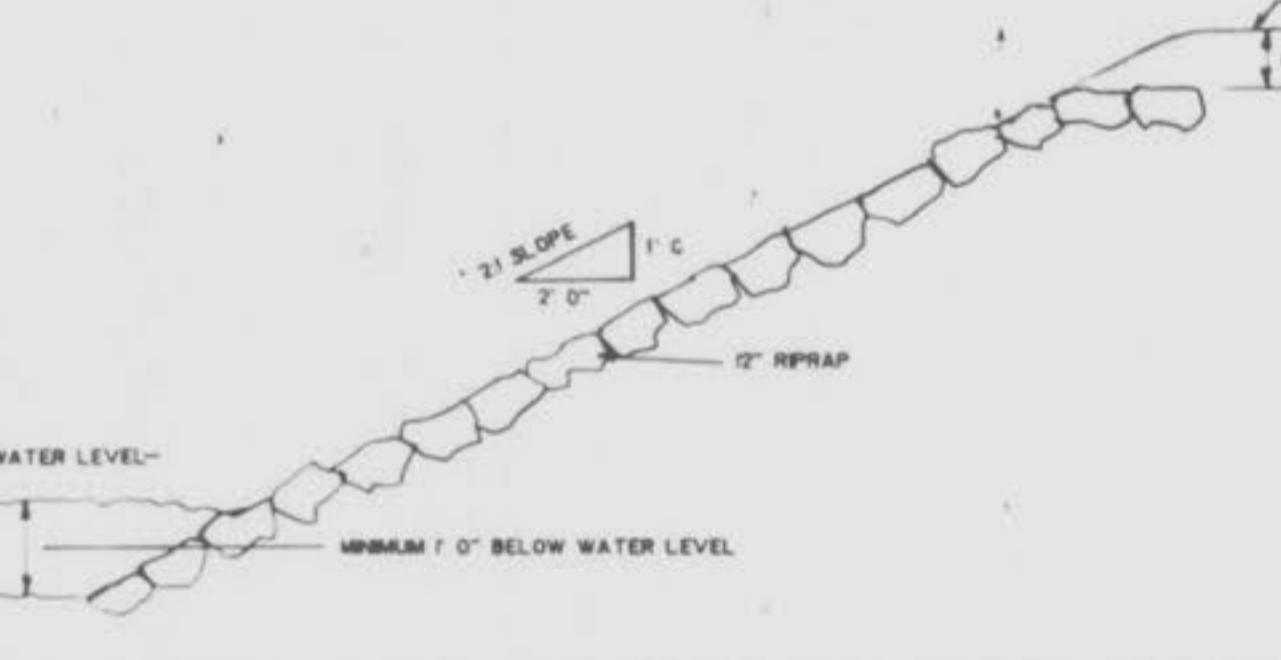
TYPE "N" LOCKING DEVICE 5

TYPE "T" LOCKING DEVICE 6



ROUND PIPE

Inside Diameter of Pipe (Inches)	Payline Width of Trench (Inches)	Payline Width of Trench (Feet)	Pay-volumes cu ft per ft Concrete Encasement
4	28	2.33	3.20
6	28	2.33	3.46
8	28	2.33	3.70
10	28	2.33	3.86
12	28	2.33	3.98
15	32	2.67	4.89
18	35	2.92	5.63
21	39	3.25	6.61
24	42	3.50	7.39



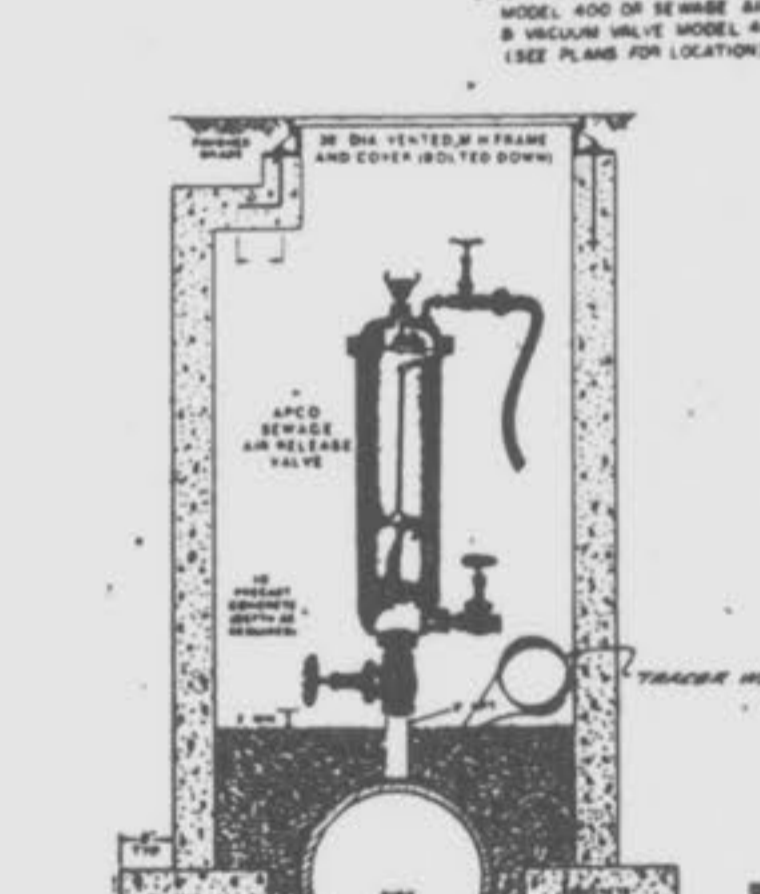
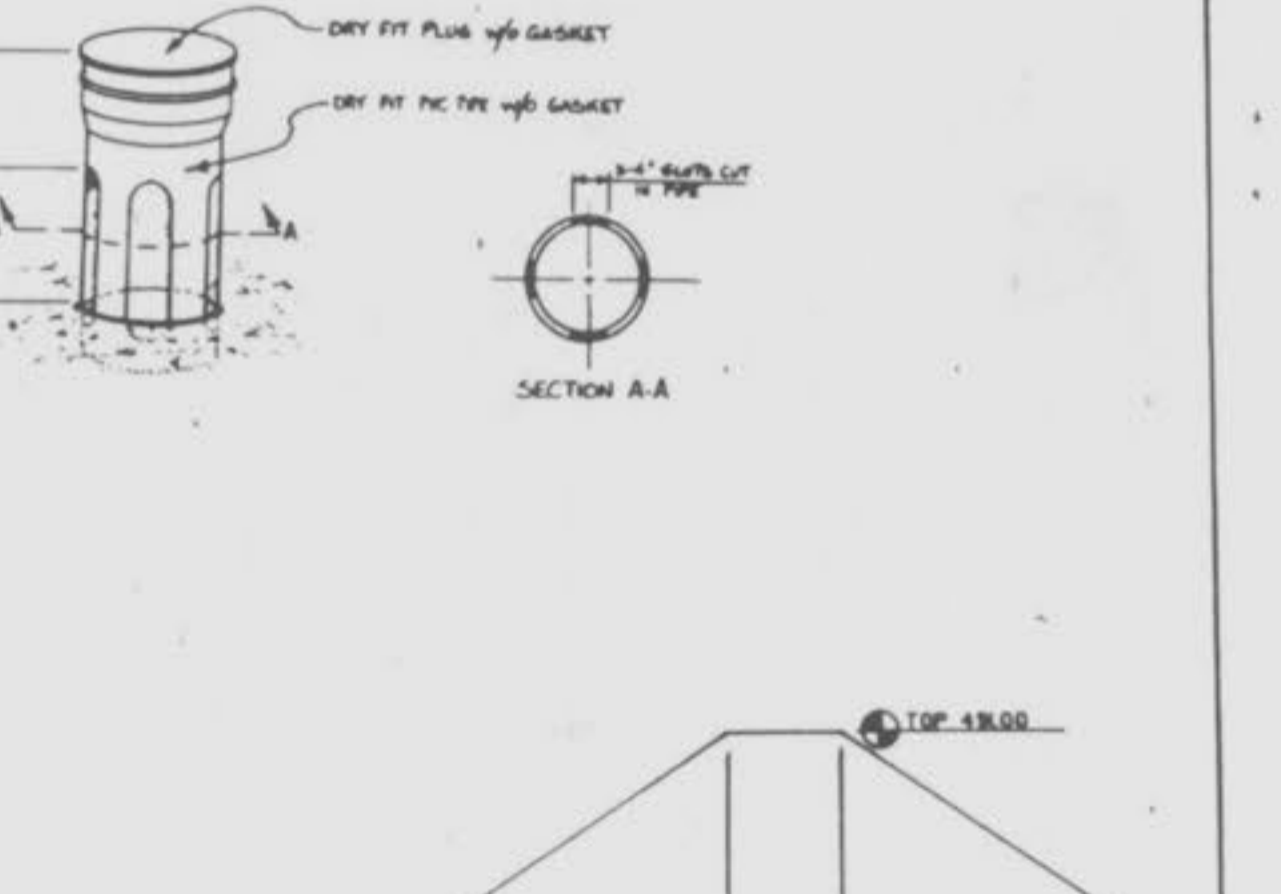
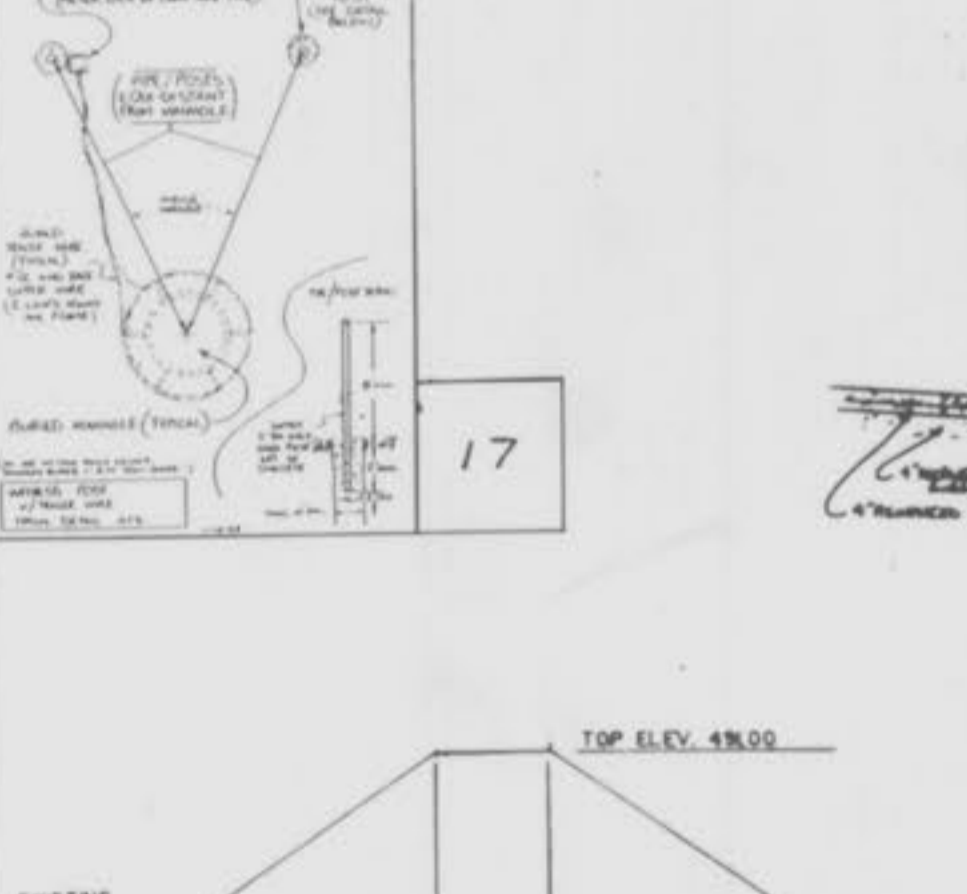
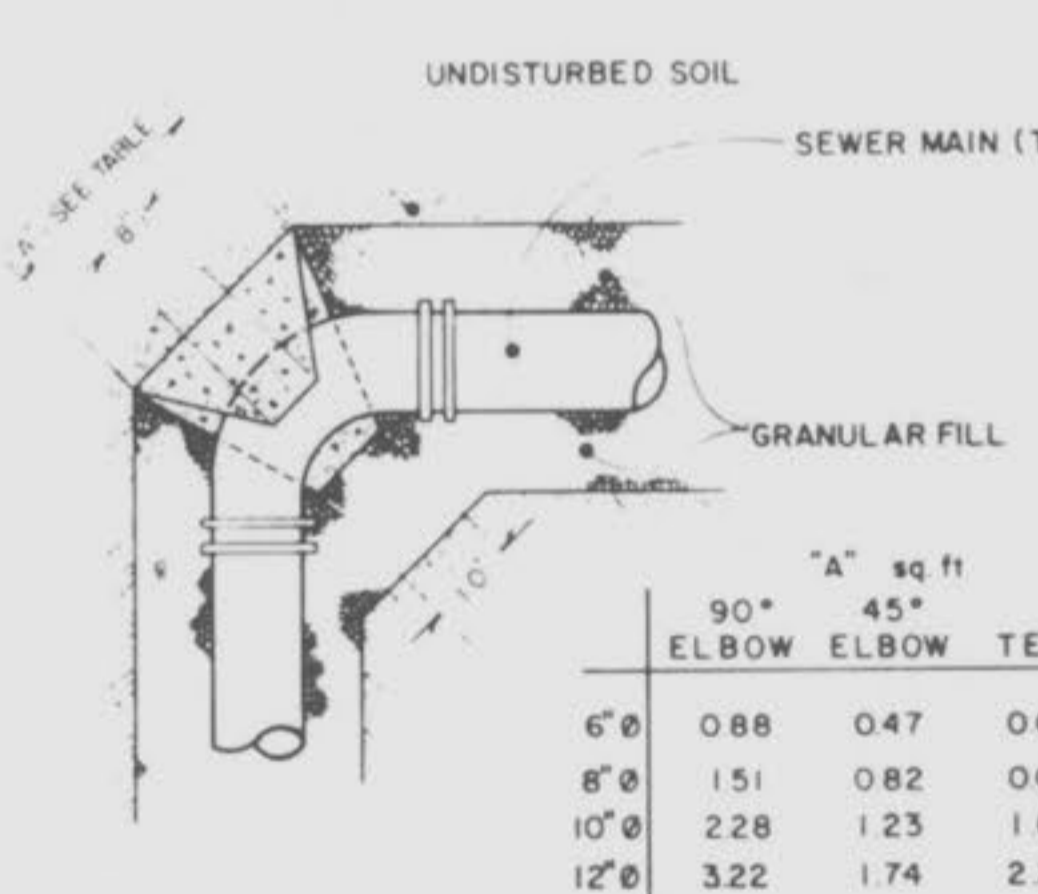
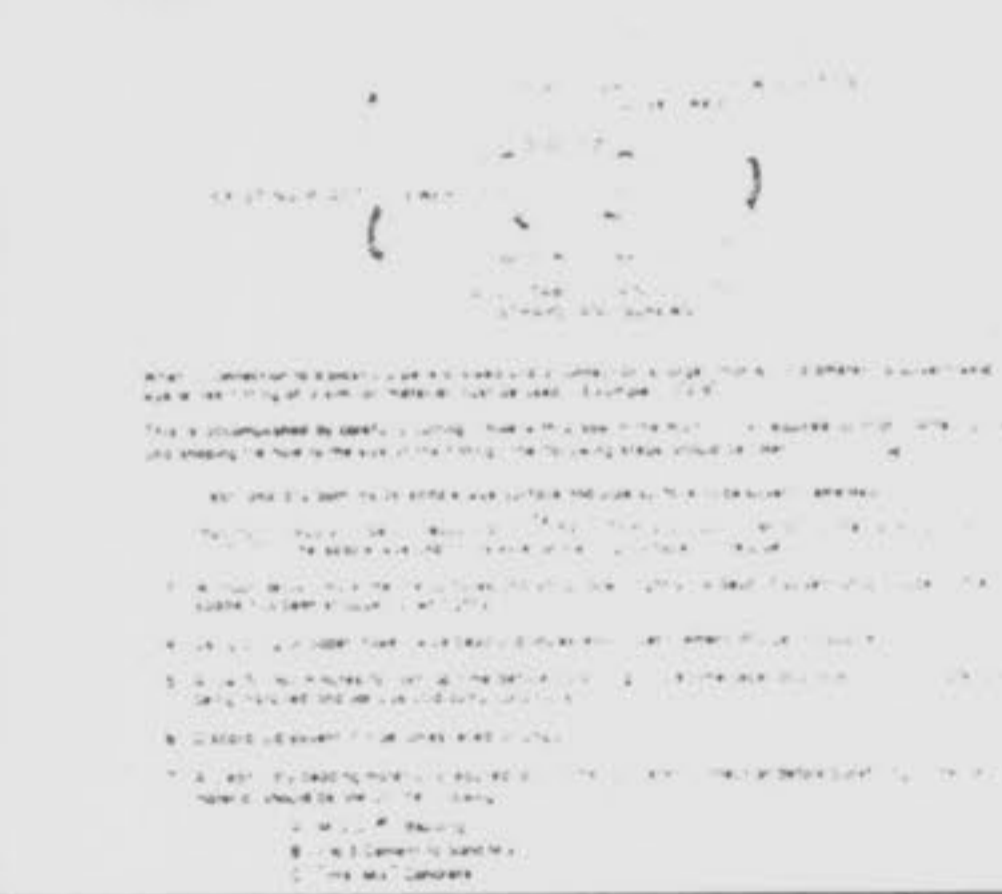
CREEK CROSSING - CONCRETE ENCASEMENT 7

PIPE BEDDING 8

PAY TABLE NO. 1 9

TYPICAL BANK RIPRAP 13

TYPICAL PIT INSTALLATION DETAIL FOR SEWAGE AIR VALVE 16



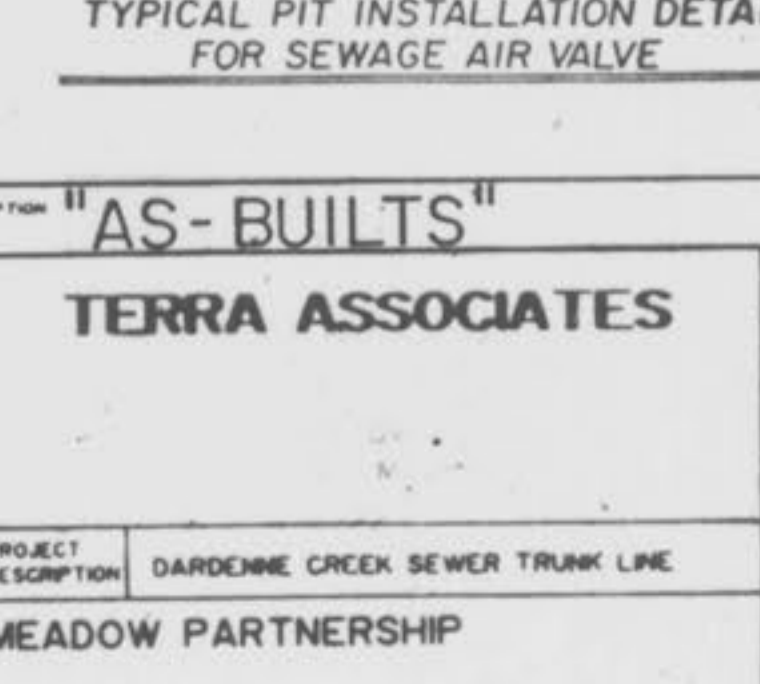
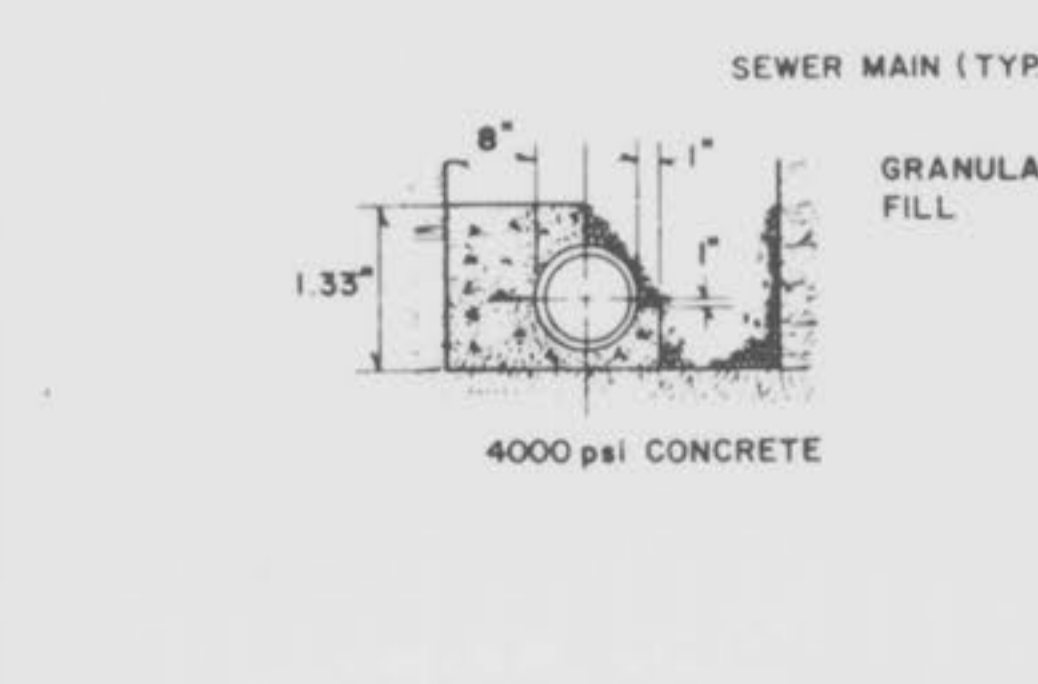
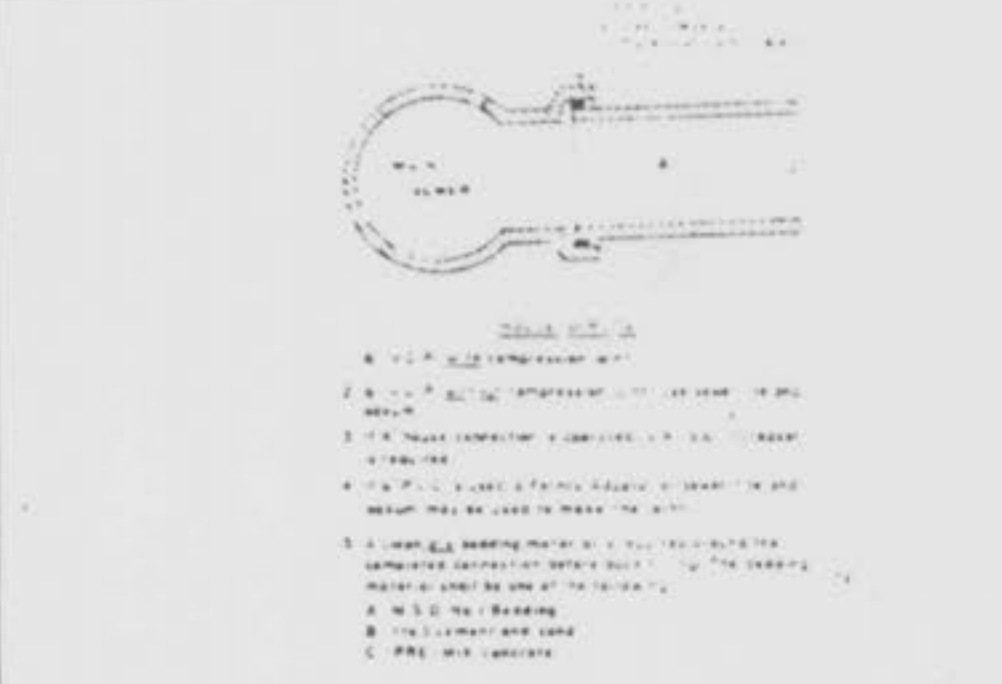
PLASTIC MAIN CONNECTION 10

THRUST BLOCK 12

TYPICAL SECTION EMERGENCY OVERFLOW BASIN 14

TYPICAL SECTION EMERGENCY OVERFLOW BASIN 14

TYPICAL SECTION EMERGENCY OVERFLOW BASIN 15



CONNECTION TO EXISTING 'Y' OR 'T' 11

THRUST BLOCK 12

TYPICAL SECTION EMERGENCY OVERFLOW BASIN 14

TYPICAL SECTION EMERGENCY OVERFLOW BASIN 14

TYPICAL SECTION EMERGENCY OVERFLOW BASIN 15

3-23-90
REVISED 02/20/89
DATE 2/23/89

DESCRIPTION "AS-BUILTS"

TERRA ASSOCIATES

PROJECT DESCRIPTION DARDENNE CREEK SEWER TRUNK LINE
CLIENT SPRING MEADOW PARTNERSHIP
ST. CHARLES, MISSOURI 63303

JOB NO. 041887
SCALE VARIES
DATE 10-22-87
DESIGNED BY MWM
CHECKED BY []
SHEET NO. 8