

**STREETS AND STORM SEWER**

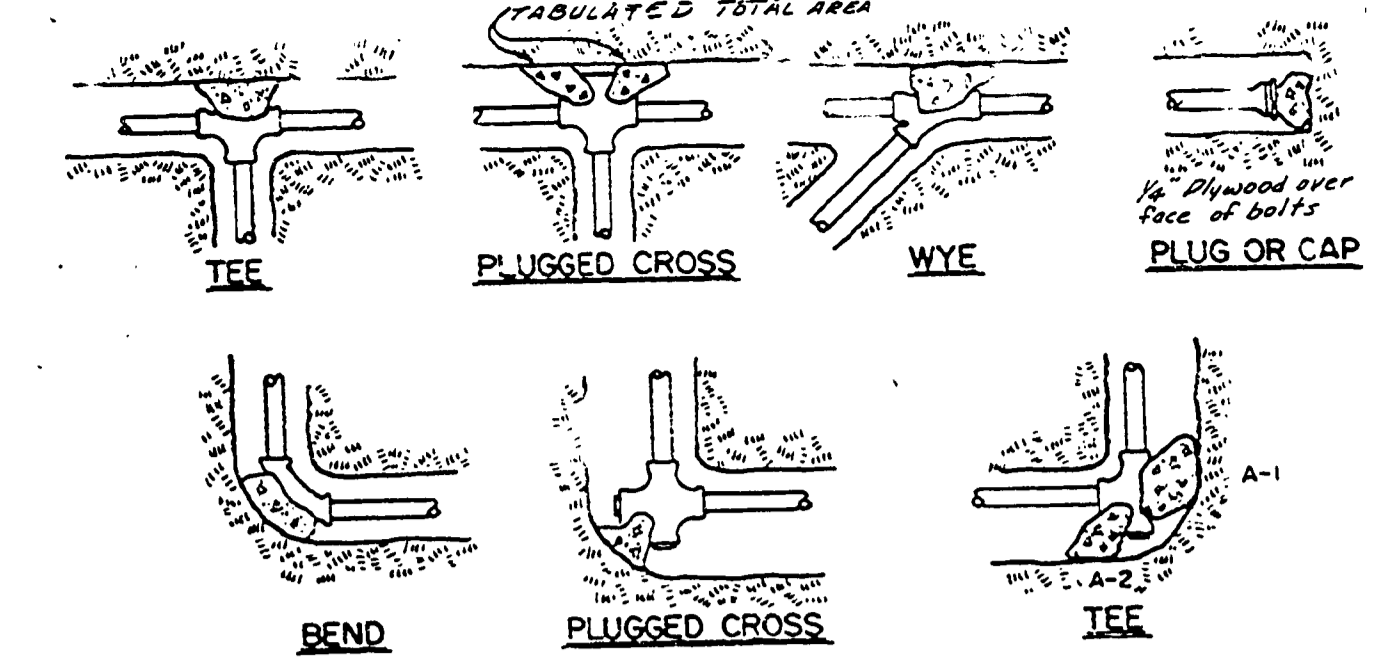
- THE SITE SHALL BE HOUGH GRADED TO THE APPROVAL OF THE ENGINEER AND OWNER. EXCAVATED SOILS SHALL BE PLACED IN LIFTS OF 8" OR LESS. FILL SLOPES SHALL BE 1 1/2:1 OR LESS.
- ALL FILL TO BE CONSTRUCTED ON SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY AASHTO T99, METHOD A. ALL COMPACTION REQUIREMENTS AND TESTS SHALL BE AT THE CONTRACTORS EXPENSE. REFER TO SECTION 303.41 FOR COMPACTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING MOISTURE CONTROL THROUGH OUT CONSTRUCTION
- PROJECT INSPECTIONS:**
  - DOUGLAS COUNTY DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED-
    - IMMEDIATELY PRIOR TO CONSTRUCTION.
    - ANYTIME CONSTRUCTION IS STOPPED, THEN RESUMED.
    - AT COMPLETION OF CLEARING AND GRUBBING.
    - AT COMMENCEMENT OF DRAINAGE AND SEWERS.
    - IMMEDIATELY PRIOR TO LAYING BASE ROCK.
    - IMMEDIATELY PRIOR TO LAYING ASPHALT OR CURBS.
    - AFTER PAVING IS COMPLETED.
  - NOTIFY ROBERTS CREEK WATER DISTRICT, GREEN SANITARY DISTRICT, PP & L, PACIFIC N. W. BELL, AND BETTER VIEW CABLE TV, 48 HOURS PRIOR TO INSTALLATION OF RESPECTIVE UTILITY THE CONTRACTOR SHALL COMPLY WITH EACH UTILITY COMPANY'S INSTALLATION AND TESTING PROCEDURES.
  - THE ENGINEER SHALL BE NOTIFIED 48 HOURS PRIOR TO TESTING OF WATER AND SEWER SYSTEMS. ALL INSPECTIONS AND TESTING OTHER THAN THOSE PERFORMED BY THE ENGINEER SHALL BE AT THE CONTRACTORS EXPENSE.

**FILED**  
Date: 2-16-97 By: J.P.  
This survey consists of:  
Map: \_\_\_\_\_  
Narrative: \_\_\_\_\_  
Corner Ppt: \_\_\_\_\_  
**DOUGLAS COUNTY SURVEYOR**

- STREETS, CURBS, AND GUTTERS SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND AS SHOWN ON THE PLANS. CLEARING AND GRUBBING OF THE STREET SUBGRADE SHALL CONFORM TO SECTION 201. ALL TOP SOIL SHALL BE STOCK PILED AND SPREAD ON FINISHED SLOPES. ALL EXCESS MATERIAL MAY BE PLACED ON LOWER PORTION OF OWNERS PROPERTY. THE SUBGRADE SHALL MEET SAID COMPACTION REQUIREMENTS OF SECTION 303.41 AND THE BASE AND LEVELING COURSE SHALL MEET COMPACTION REQUIREMENTS OF SECTION 303.35. ALL TESTS SHALL BE AT THE CONTRACTORS EXPENSE. BASE AND LEVELING COURSE GRADATION SHALL BE AS SPECIFIED IN SECTION 703. THE ASPHALT SHALL BE CLASS B AS SPECIFIED IN SECTION 403. AN ASPHALT TACK COAT AS SPECIFIED IN SECTION 407 SHALL BE APPLIED AS REQUIRED. CURBS AND GUTTERS SHALL CONFORM TO SECTION 609. ALL UTILITY TRENCHES CROSSING EXISTING STREETS SHALL BE RESTORED TO DOUGLAS COUNTY STANDARDS OR AS DIRECTED BY ENGINEER.
- AFTER THE CURB IS FINISHED (PRIOR TO FINAL SET) A "M" AND/OR "S" SHALL BE STAMPED IN THE TOP OF THE CURB OVER EACH WATER AND SEWER HOUSE SERVICE. OTHER UTILITY CROSSING SHALL BE MARKED WITH A "M" AT ALL CURB UNDERCROSSINGS.
- STORM SEWER PIPE SHALL BE "EXTRA STRENGTH" T & G CONCRETE AS SPECIFIED IN SECTION 706.01. THE STORM SEWER SHALL BE CLEAN OF ALL DEBRIS AND SHALL BE LAMPED PRIOR TO FINAL APPROVAL.
- STORM SEWER CATCH BASINS SHALL CONFORM TO OREGON STATE HIGHWAY STANDARDS AS SHOWN IN THE PLANS.
- CONCRETE USED ON THE SITE SHALL BE MINIMUM 3,300 PSI STRENGTH AT AN AGE OF 28 DAYS. THE CONCRETE SHALL HAVE A SLUMP OF 3" TO 5". CONCRETE CURBS SHALL BE IN CONFORMANCE WITH SECTION 609.
- REFER TO NUMBER 4 IN SANITARY SEWER SPECIFICATIONS.

**SANITARY SEWER SPECIFICATIONS**

- SANITARY SEWER PIPE SHALL BE AC CLASS 2400 PIPE CONFORMING TO C 408 TYPE II. JOINTS SHALL CONFORM TO ASTM D1869. TESTING SHALL CONFORM TO SECTION 403.40. ALL SEWER CROSSINGS OF WATER LINES WITH LESS THAN 18" VERTICAL AND 9'-0" HORIZONTAL CLEARANCE SHALL BE MADE WITH DUCTILE IRON PIPE, CLASS 50, CONFORMING TO ANSI A21.51 PIPE AND ANSI A21.10 FOR FITTINGS.
- MANHOLES SHALL BE MINIMUM 42" DIAMETER AS SPECIFIED ON THE PLANS AND SHALL CONFORM TO SECTION 604.
- THE "WATER DISTRIBUTION SYSTEM" IS SHOWN ON THE PLANS FOR UTILITY COORDINATION ONLY. THE MATERIALS AND WORKMANSHIP SHALL CONFORM TO ROBERTS CREEK WATER DISTRICT STANDARDS AND SPECIFICATIONS.
- PIPE ZONE BACKFILL FOR ALL UTILITY TRENCHES SHALL BE 1/2" CRUSHED ROCK, COMPACTED BEDDING MATERIAL. COMPACT BY HAND TAMPING INTO PLACE. THE TRENCH BACKFILL ABOVE THE PIPE ZONE MATERIAL SHALL BE NATIVE MATERIAL PLACED IN MAXIMUM ONE (1) FOOT WHEN NOT UNDER PAVED STREETS AND SHALL BE 1/2" CRUSHED ROCK OR ENGINEER APPROVED BAR RUN MATERIAL PLACED IN ONE (1) FOOT LIFTS, WHEN UNDER PAVED STREETS AND GUTTERS. COMPACTION OF "NATIVE BACKFILL MATERIAL" SHALL BE ACCOMPLISHED BY A MINIMUM OF THREE (3) PASSES OF A LOADED NINE (9) YARD DUMP TRUCK. THE TRENCH SHALL BE MOUND TO ALLOW FOR SETTLEMENT. COMPACTION SHALL BE TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. COMPACTION OF GRANULAR BACKFILL ABOVE THE PIPE ZONE MATERIAL SHALL BE MECHANICALLY AND CALIBRATED OR WATER SETTLED AS APPROVED BY THE ENGINEER. THE GRANULAR BACKFILL SHALL CONFORM TO COMPACTION REQUIREMENTS AS SPECIFIED IN SECTION 303.35. THIS SHALL BE UNDER PAVED AREA OF THE STREETS.
- PVC PIPE AS APPROVED BY THE ENGINEER AND THE GREEN SANITARY DISTRICT MAY BE SUBSTITUTED FOR AC PIPE AS SPECIFIED IN ITEM NUMBER 1 ABOVE. PVC PIPE AND FITTINGS SHALL MEET ASTM D2334, "TYPE PSM POLY (VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS". THE SDR SHALL NOT BE GREATER THAN 35.
- "RECORD DRAWINGS" SHALL BE PROVIDED TO GREEN SANITARY DISTRICT, DOUGLAS COUNTY DEPARTMENT OF PUBLIC WORKS, AND ROBERTS CREEK WATER. THE CONTRACTOR SHALL, AT HIS EXPENSE, BE RESPONSIBLE FOR PROVIDING "RECORD DRAWINGS" INFORMATION TO THE ENGINEER. THE ENGINEER SHALL COMPLETE THE FINAL "RECORD DRAWINGS" AT THE OWNERS EXPENSE.



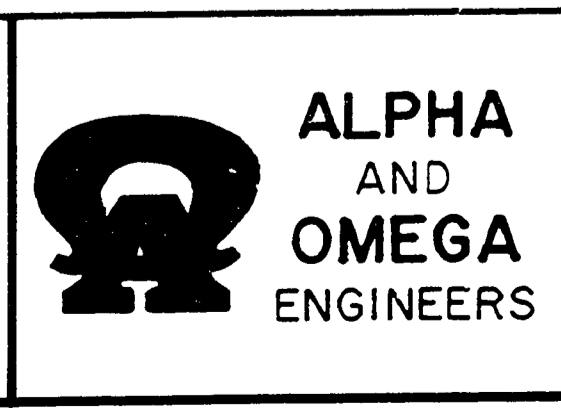
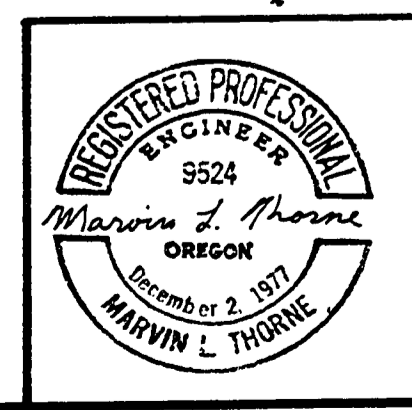
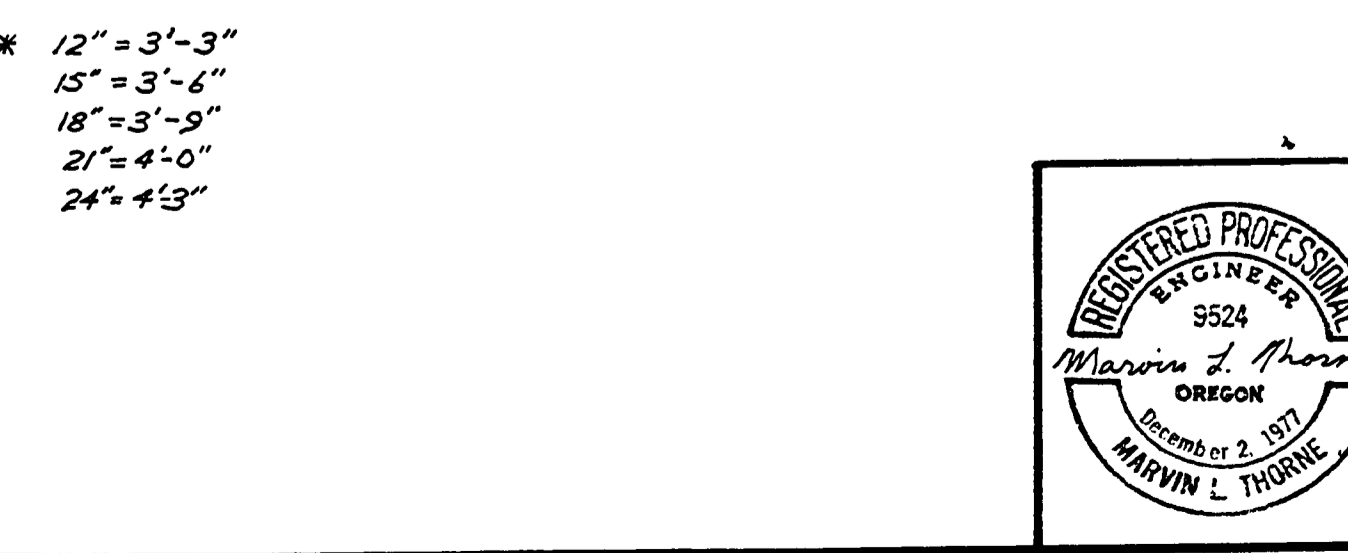
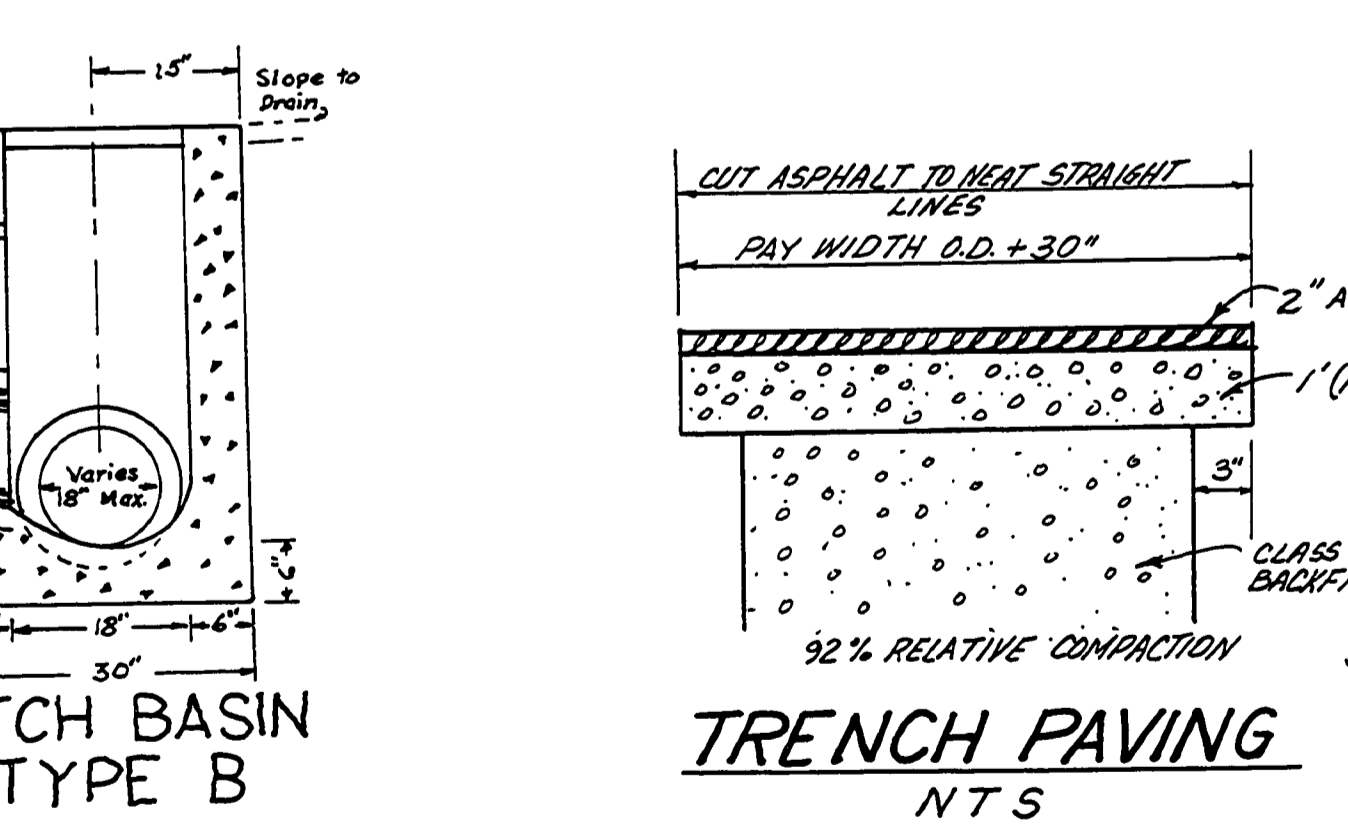
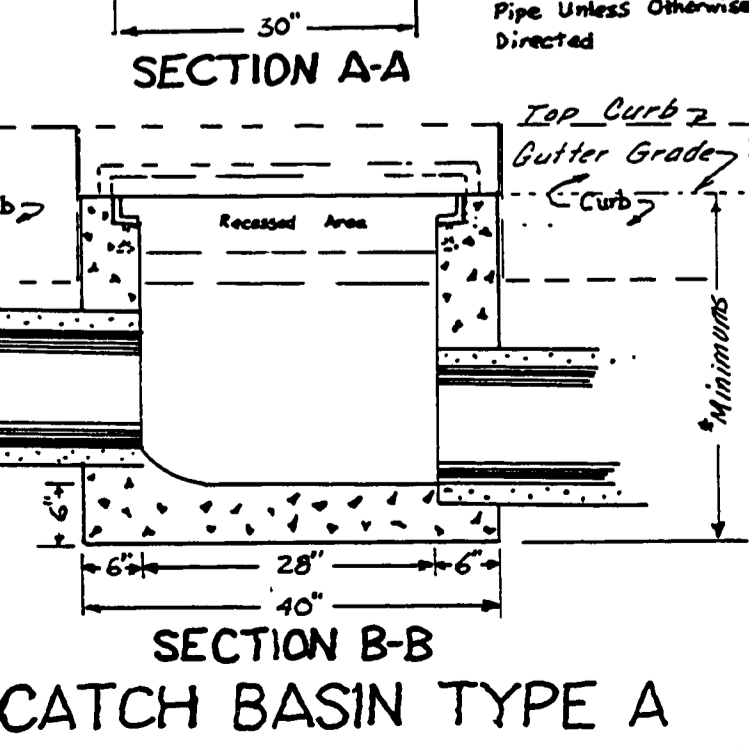
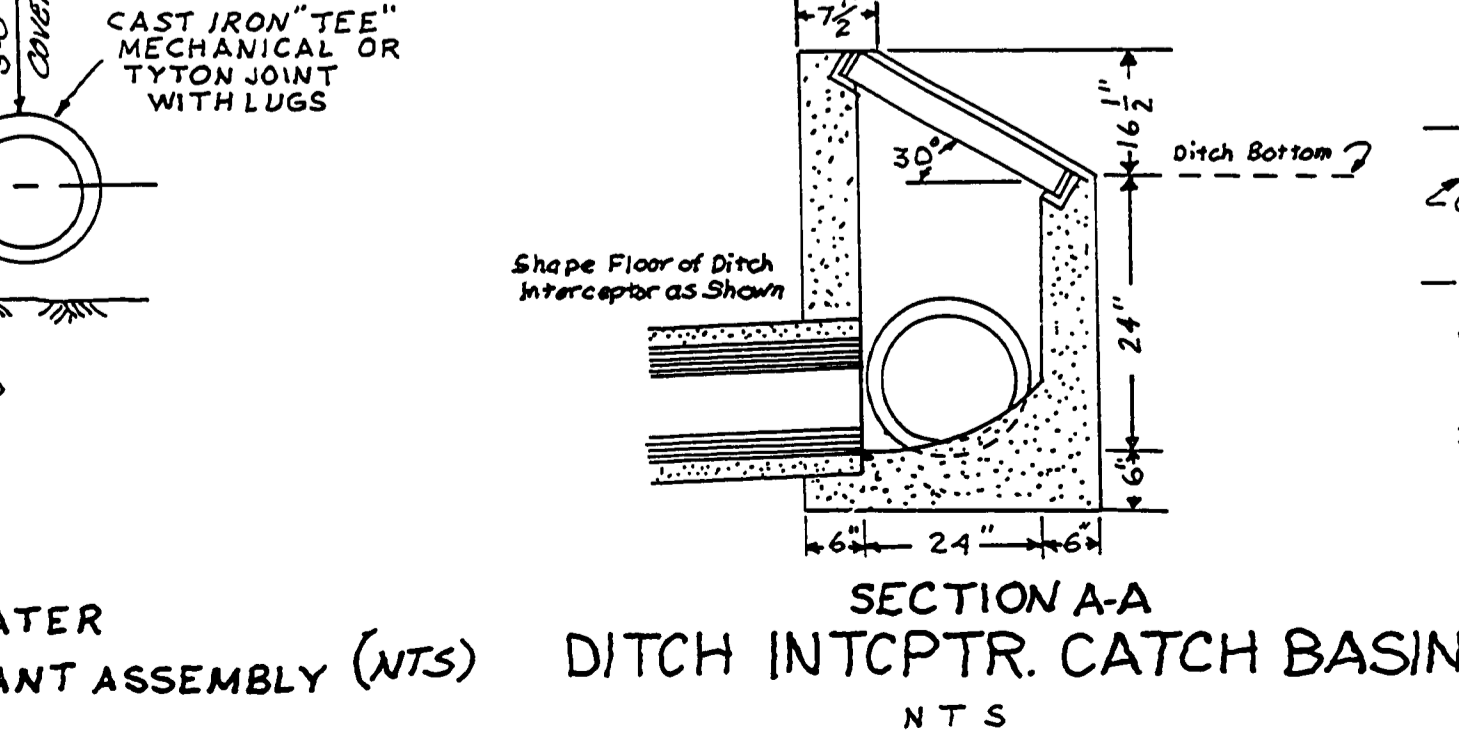
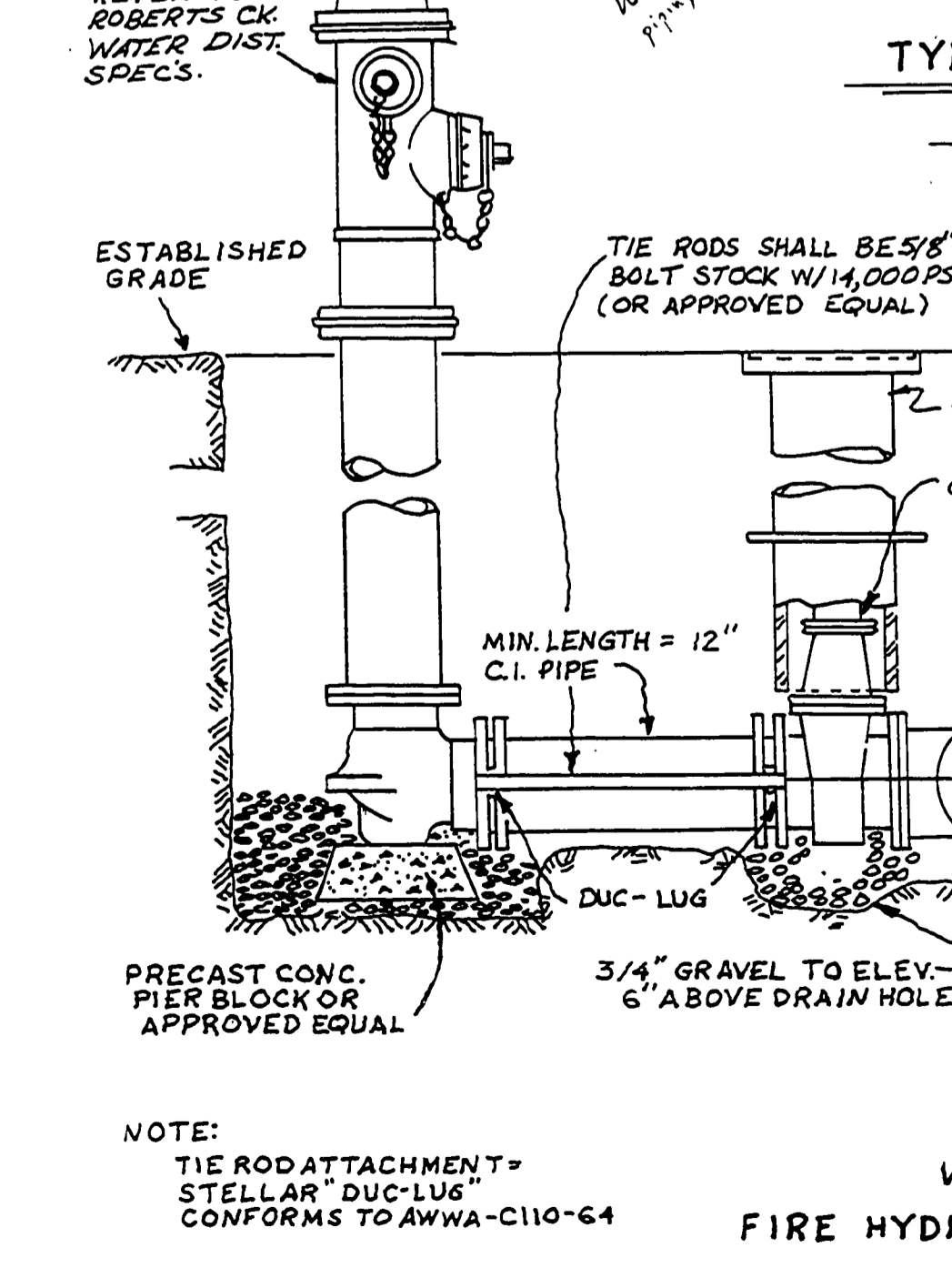
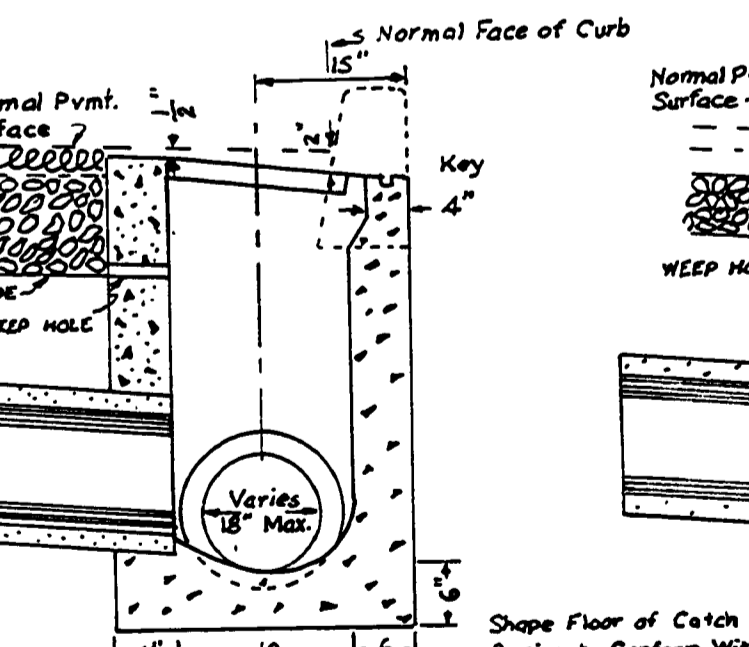
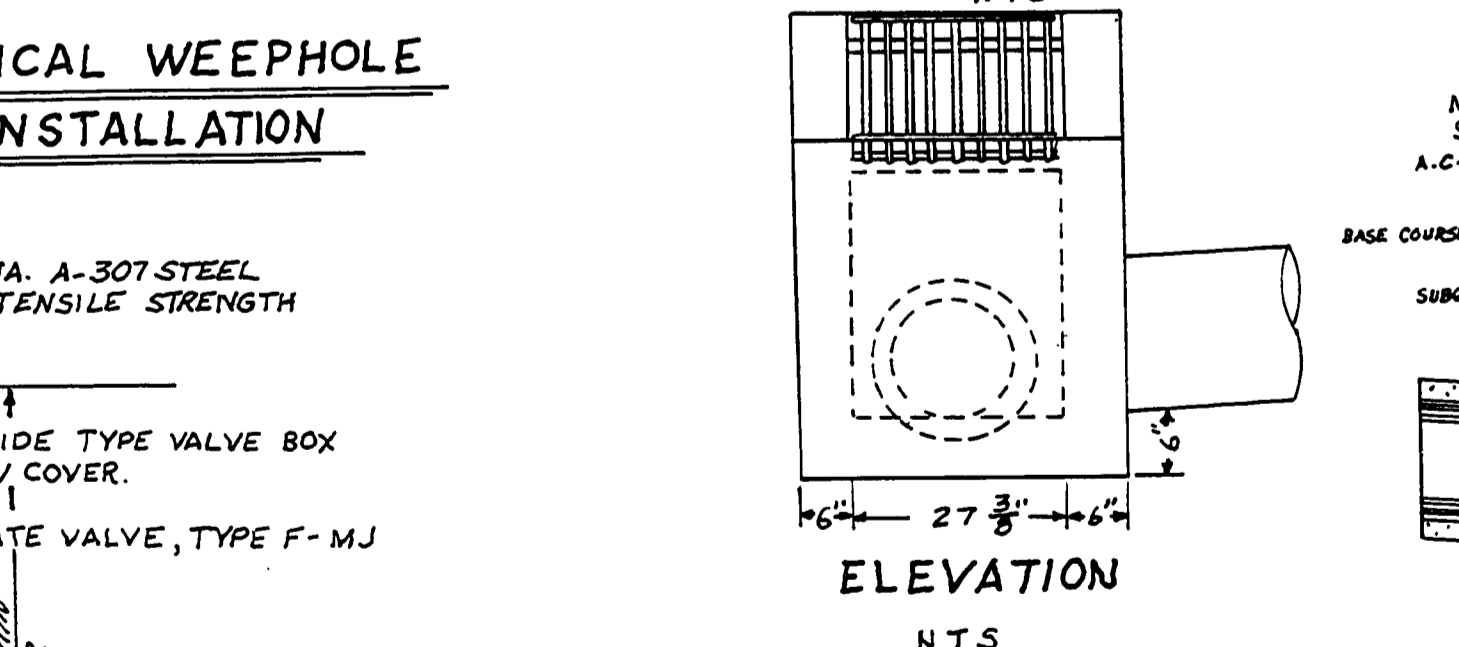
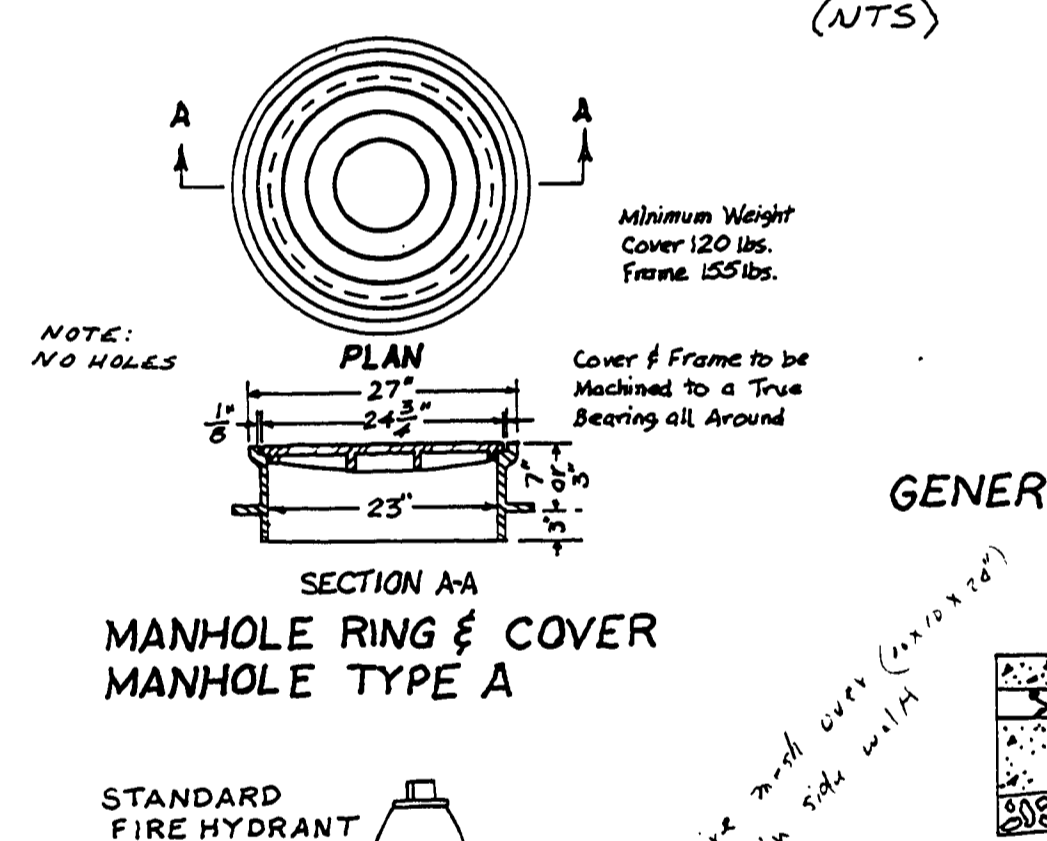
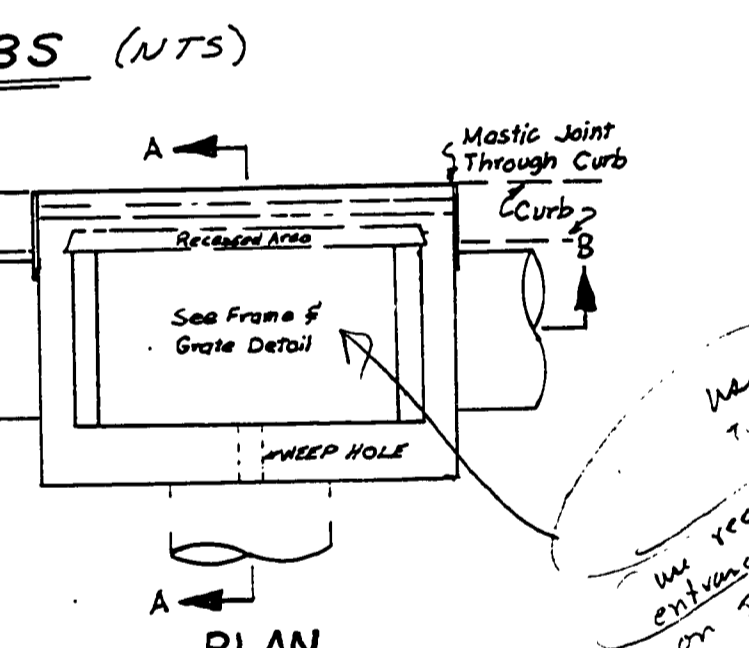
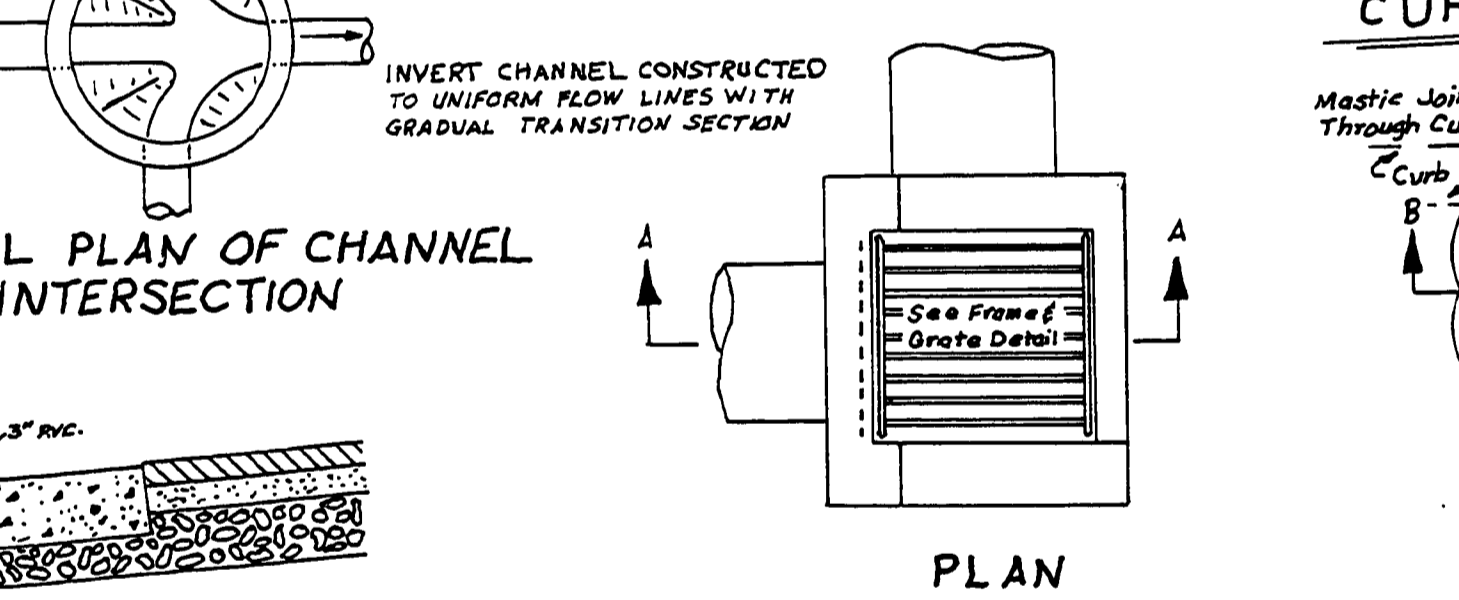
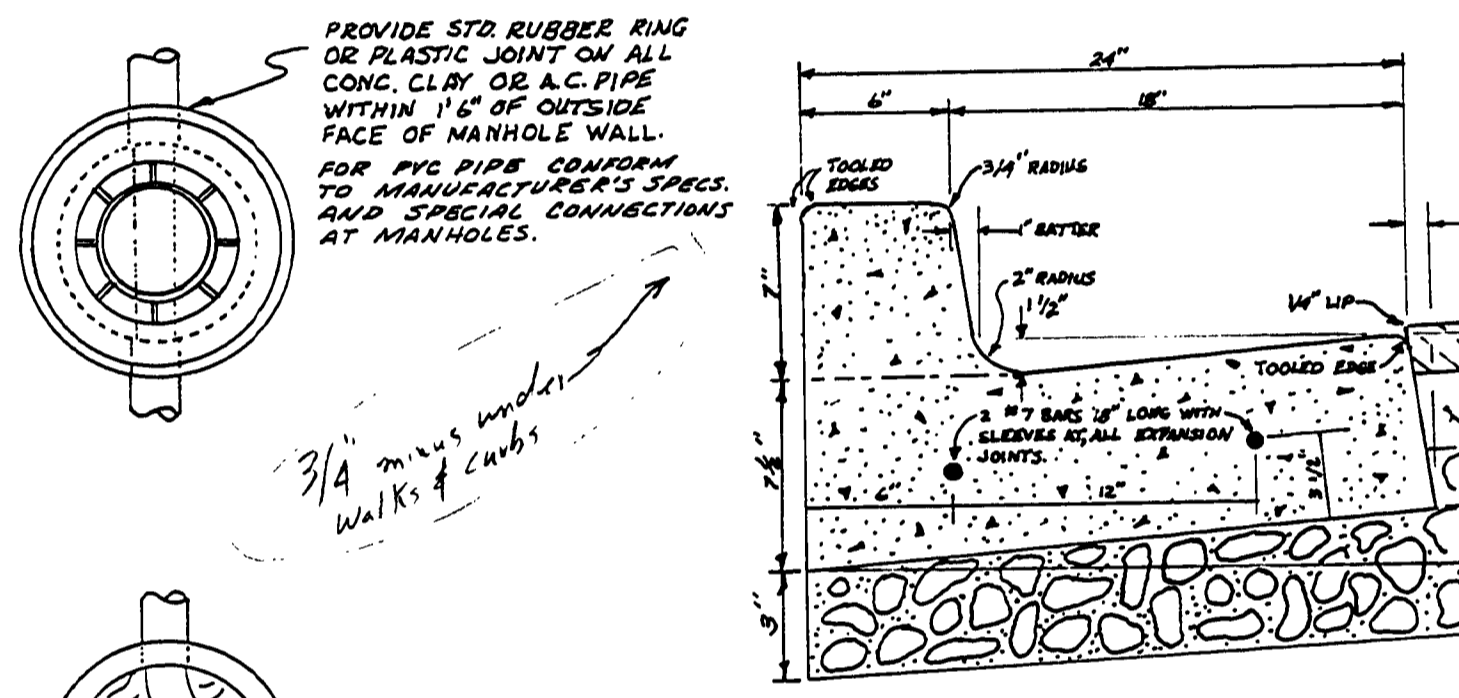
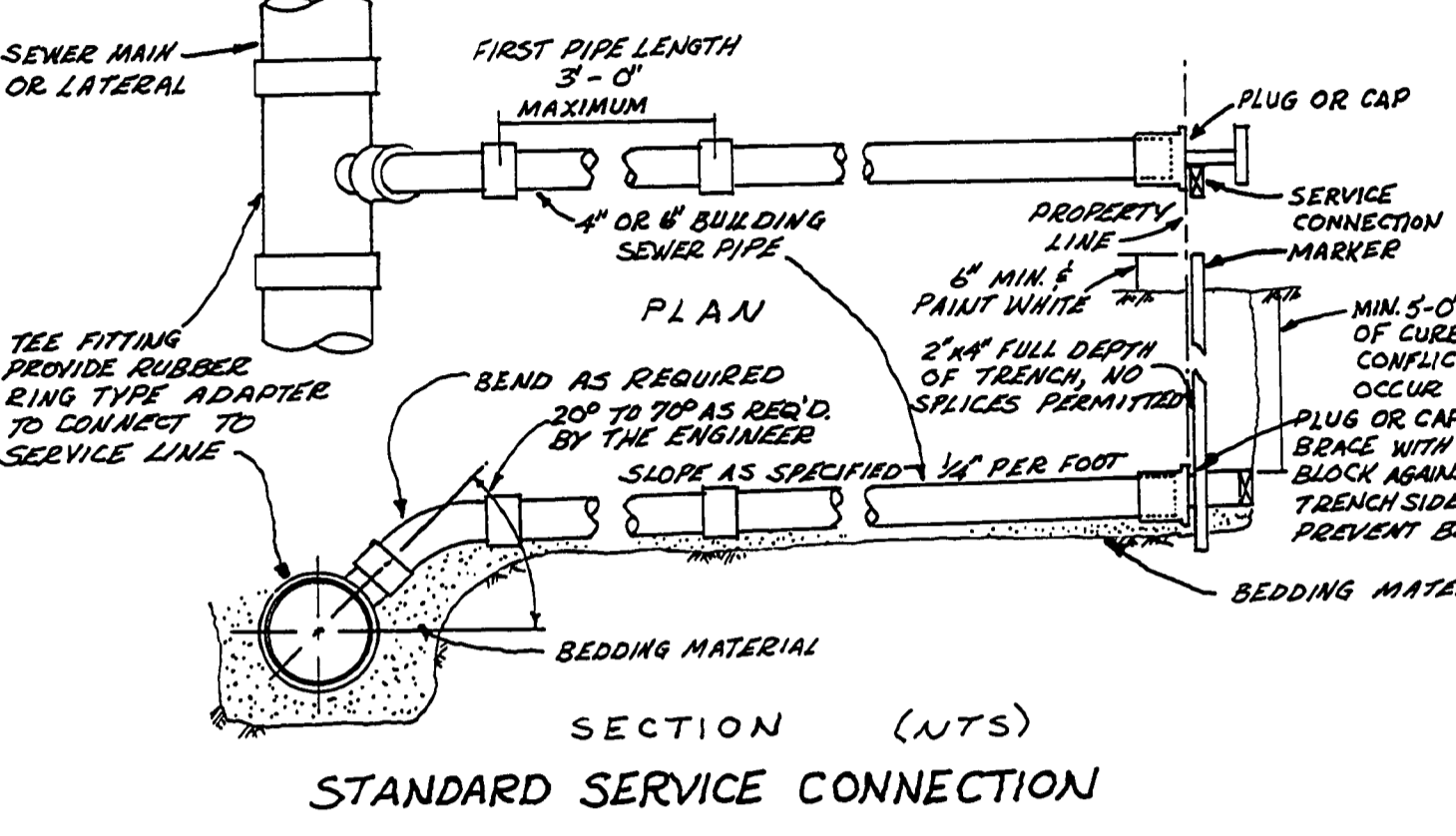
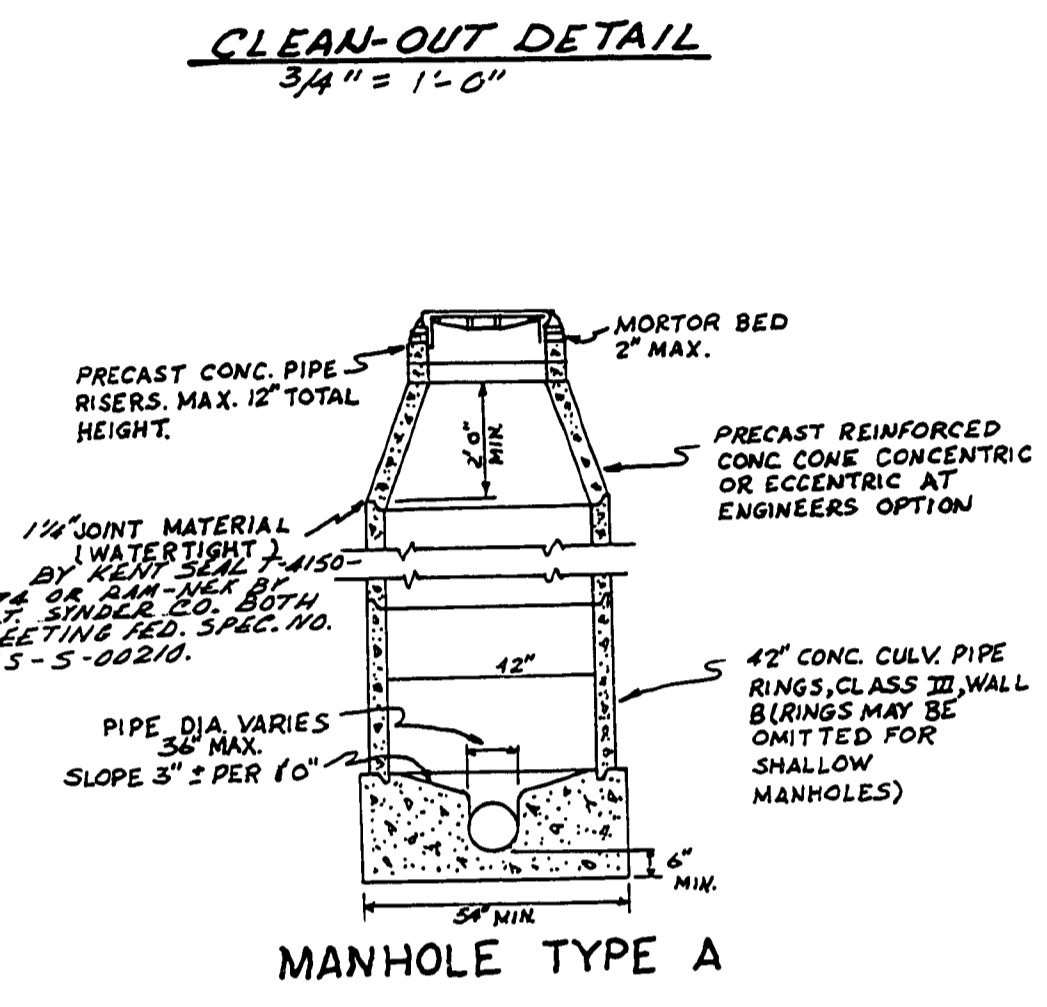
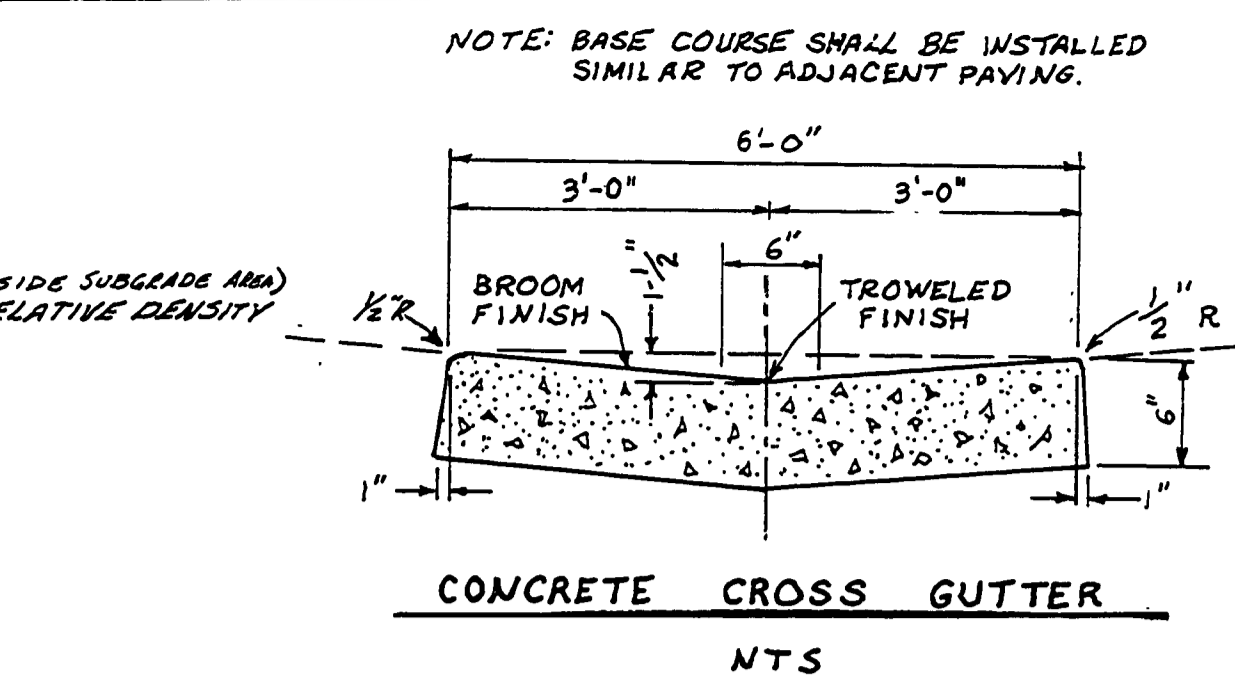
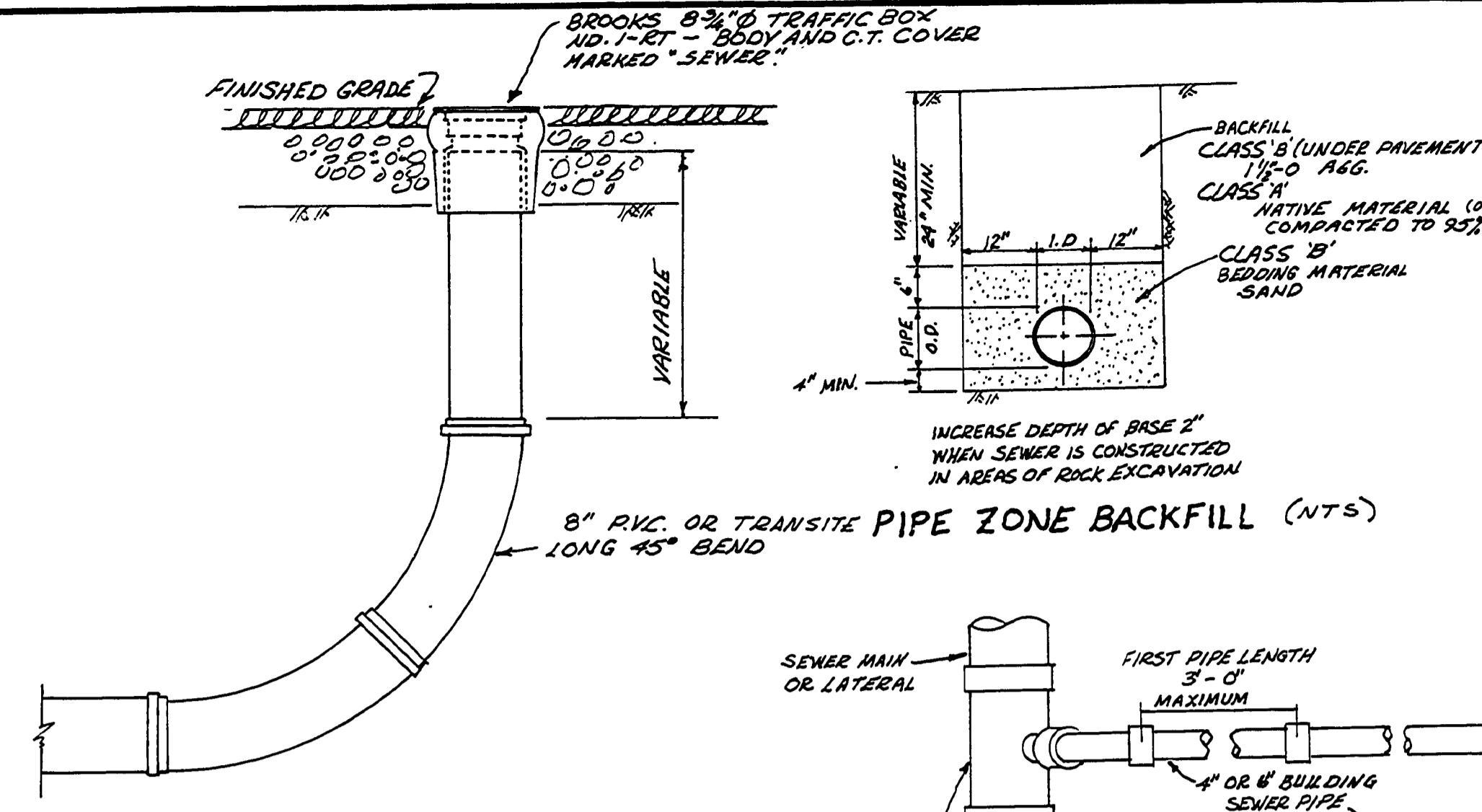
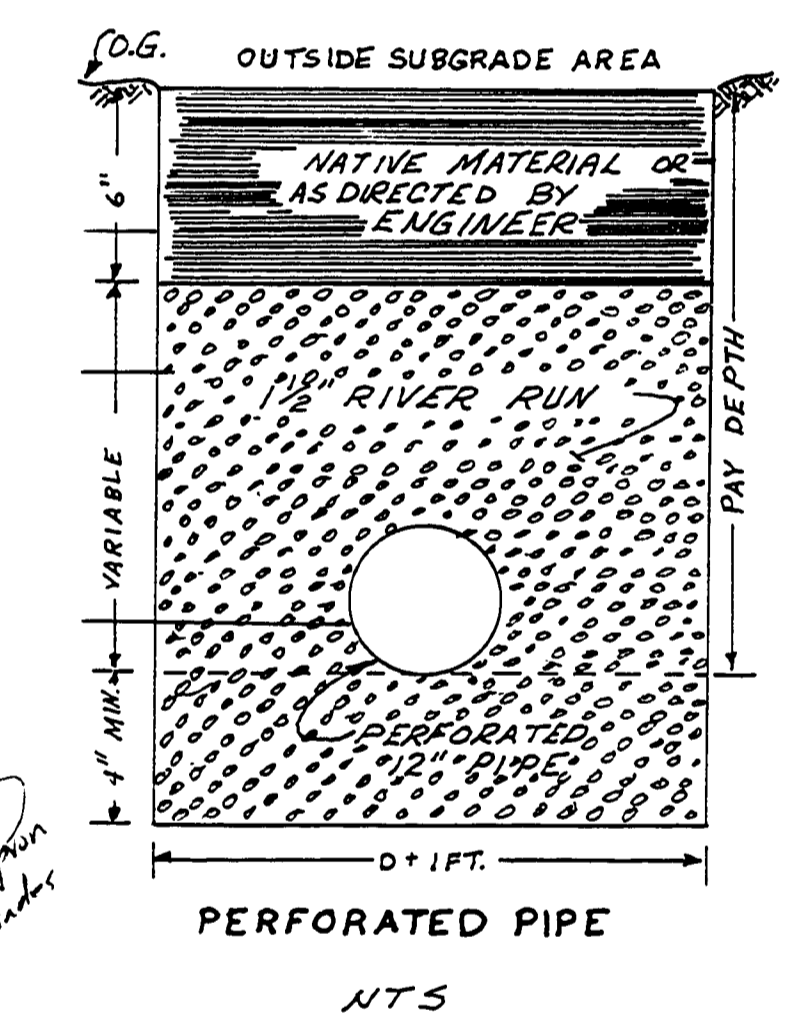
- NOTES:**
- Concrete thrust blocking to be poured against undisturbed earth.
  - Keep concrete clear of joint and accessories.
  - The required thrust bearing areas for special connections are shown encircled on the plans. (D) indicates 15 square feet bearing area required.
  - If not shown on plans required bearing areas at fitting shall be as indicated below, adjusted if necessary, to conform to the test pressure(s) and allowable soil bearing stress(es) stated in the special specifications.
  - Bearing areas and special blocking details shown on plans take precedence over bearing areas and blocking details shown on this standard detail.

**BEARING AREA OF THRUST BLOCKS IN SQ. FT.**

Fitting Size	Tee, Plug or Cap	90° Bend	Tee, Plug or Cap	45° Bend	22-1/2° Bend	11-1/4° Bend
4	1.0	1.4	1.9	1.4	1.0	---
6	2.1	3.0	4.3	3.2	1.6	1.0
8	3.8	5.3	7.6	5.4	2.9	1.5
10	5.9	8.4	11.8	8.4	4.6	2.4
12	8.5	12.0	17.0	12.0	6.6	3.7
14	11.5	16.2	22.0	16.2	9.0	4.6
16	15.0	21.2	29.0	21.2	11.6	6.0
18	19.0	27.0	38.0	27.0	14.6	7.6
20	23.5	33.3	47.0	33.3	18.1	9.4
24	34.0	48.0	66.0	48.0	26.2	13.6

**NOTE:** Above bearing areas based on test pressure of 150 p.s.i. and an allowable soil bearing stress of 2,000 pounds per square foot. To compute bearing areas for different test pressures and soil bearing stresses, use the following equation: Bearing area = (Test Pressure/150)x(2000/Soil Bearing Stress)x(Table Value).

**STANDARD THRUST BLOCKING DETAILS**



**STANDARD DETAIL DRAWINGS**

NO.	DATE	REVISION	BY	APPD.
DES.	DR.	CHK.	APPD.	

SHEET OF 10  
PROJ. #  
DATE  
SCALE: HORIZ. VERT.  
DWG. NO.

RD378012