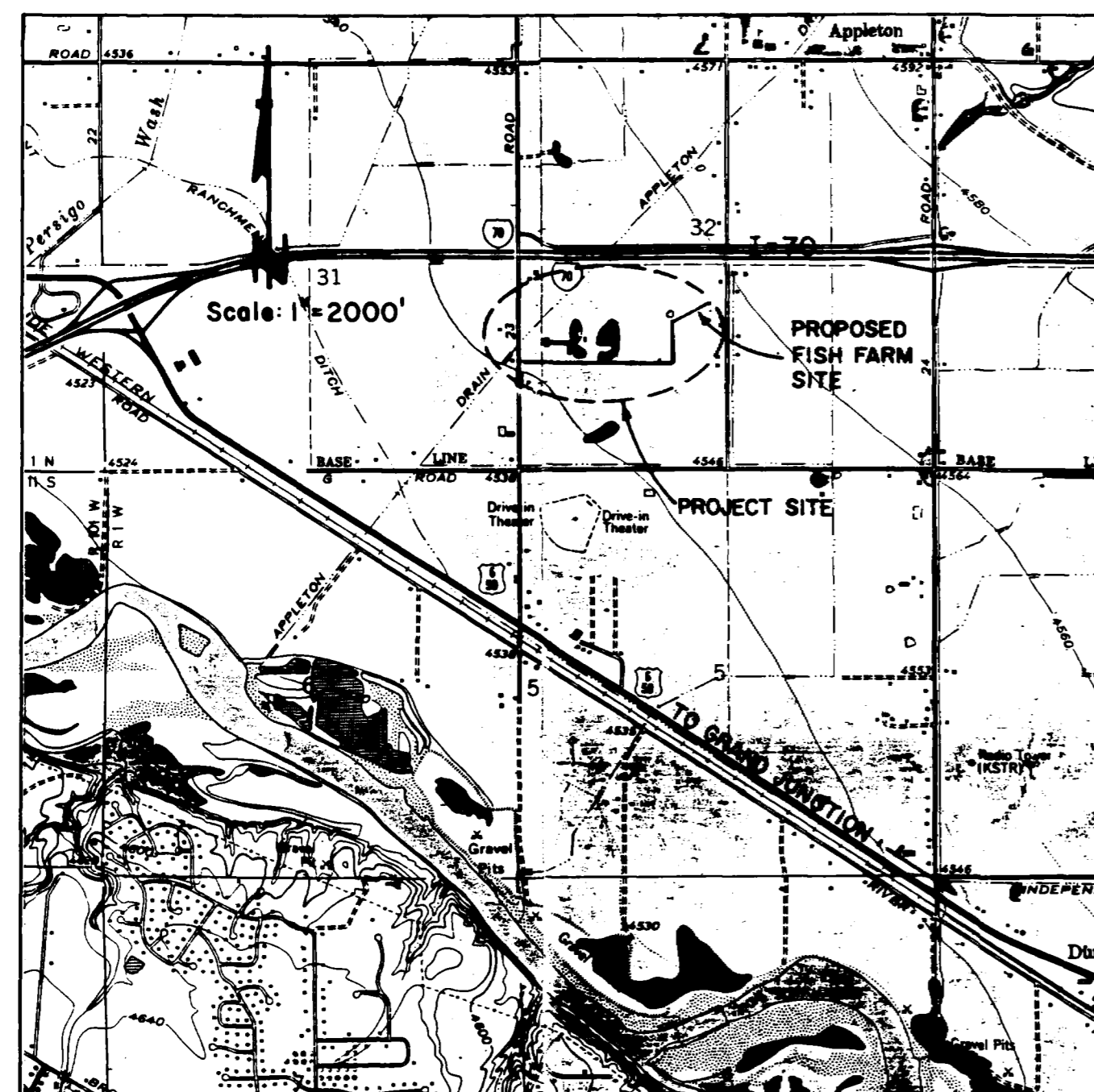


SOLAR FISH PRODUCTION & MARKETING FACILITY

SEWERLINE EXTENSION

MESA COUNTY, COLORADO

AUGUST, 1991



Submitted For Review 9 / 91

Approved For One Year From Date

Mesa County Engineering Date

City of Grand Junction Date

Ute Water District Date

INDEX TO PLANS

SHEET NO.	TITLE
1	Sewerline Extension
2	Sewerline Extension and Utility Services
3	Sewerline Details

PREPARED FOR:

FISH FARM, INC. P.O. BOX 2026
GRAND JUNCTION, CO 81502-2026



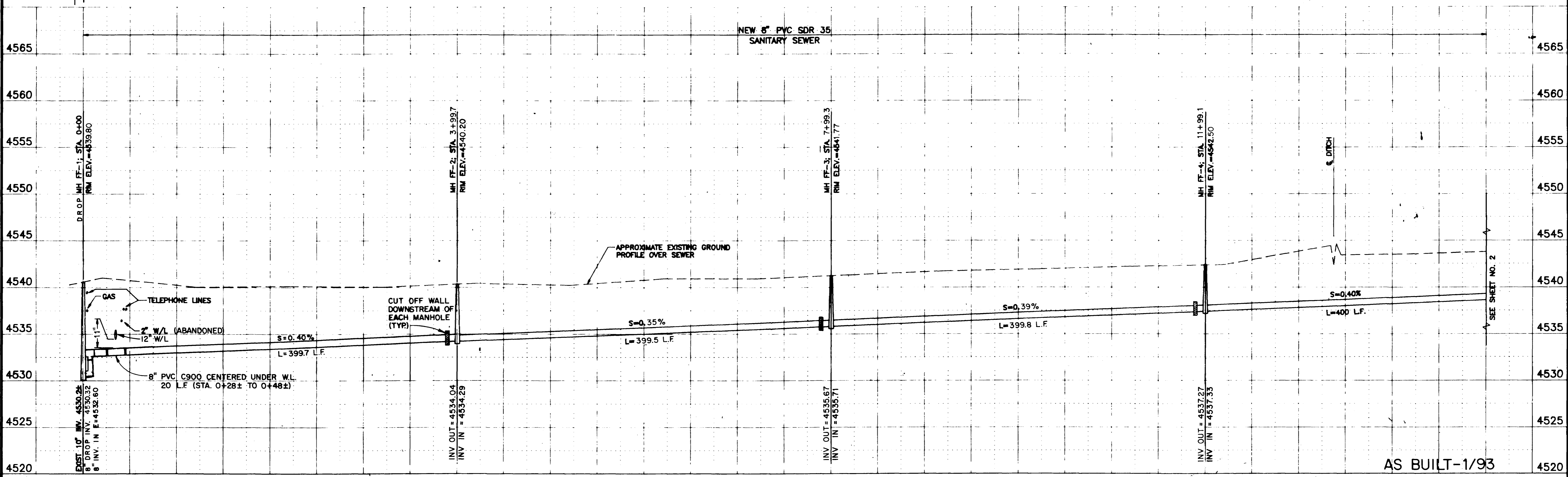
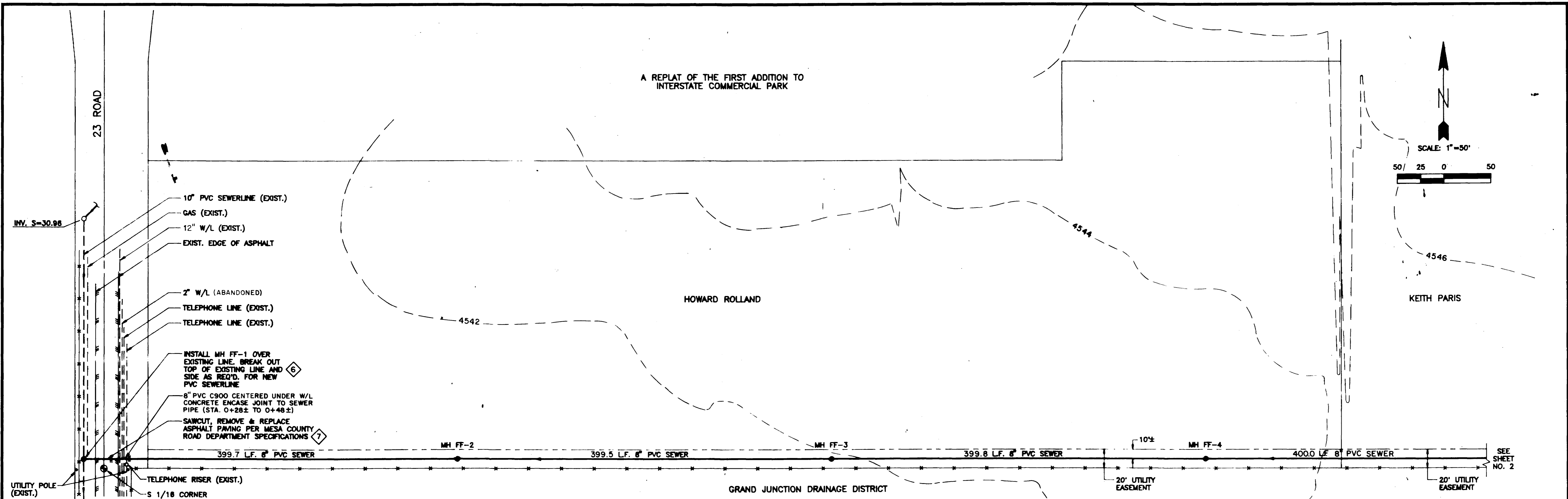
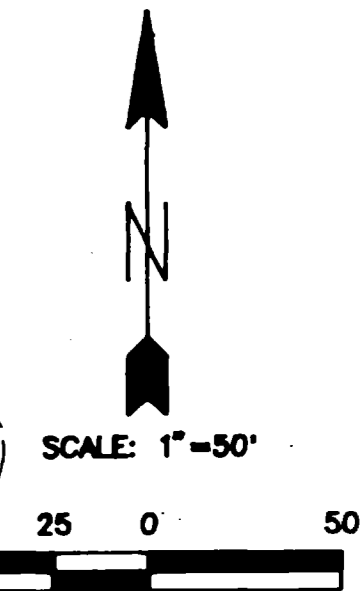
AS BUILT-1/93



PREPARED BY:
WESTWATER ENGINEERING
Consulting Engineers
Palisade, Colorado

Received 2-23-93

A REPLAT OF THE FIRST ADDITION TO INTERSTATE COMMERCIAL PARK



AS BUILT-1/93

KEY

- NEW SEWERLINE & MH
- - - EXISTING FENCE
- - - FUTURE SEWERLINE
- - - EASEMENT
- - - EXISTING UTILITIES

REVISIONS

REVISIONS	DATE
DROP M.H. FF-1	11/92
AS BUILT - STL	1/93

HORIZ. SCALE: 1" = 50'
VERT. SCALE: 1" = 5'

- GENERAL NOTES**
- Location of existing utilities shown is approximate only, based on information furnished by utility companies and field surveys, and presented in Paragon Engineering's sewerline Construction Drawings, 1981, for the City of Grand Junction. The Contractor shall be responsible for verifying actual utility location and protection during construction.
 - All sanitary sewer construction shall be in accordance with the City of Grand Junction's standards and specifications.
 - All sewer main pipe shall be PVC SDR 35 unless otherwise specified.
 - All sanitary sewer connections to the private 8" sewerline shall be 4" SDR 35 PVC.
 - The Contractor shall notify the City of Grand Junction and the Ute Water District 24 hours prior to beginning of construction. Contractor shall be responsible for controlling live sewage during installation of manhole FF-1, including any necessary bypass pumping, and coordinate installation of manhole with the City of Grand Junction.
 - Contractor to be responsible for obtaining Mesa County Utility Permit for connection crossing at 23 Road.
 - On manholes with straight run and no grade change, sewer pipe to run through manhole with top half of pipe cut out.
 - Except at service line crossings, minimum separation between water and sewer lines shall be 18 feet horizontally. Vertical separation less than 18 inches or sewerlines above waterlines shall have structural sewerline (PVC C900 or SPP) to at least ten feet beyond waterlines.
 - All waterline construction shall be in accordance with the Ute Water District's standards and specifications. Service top and meter shall be 24", with 2" service line.
 - Water meters shall be supplied by the Ute Water District.

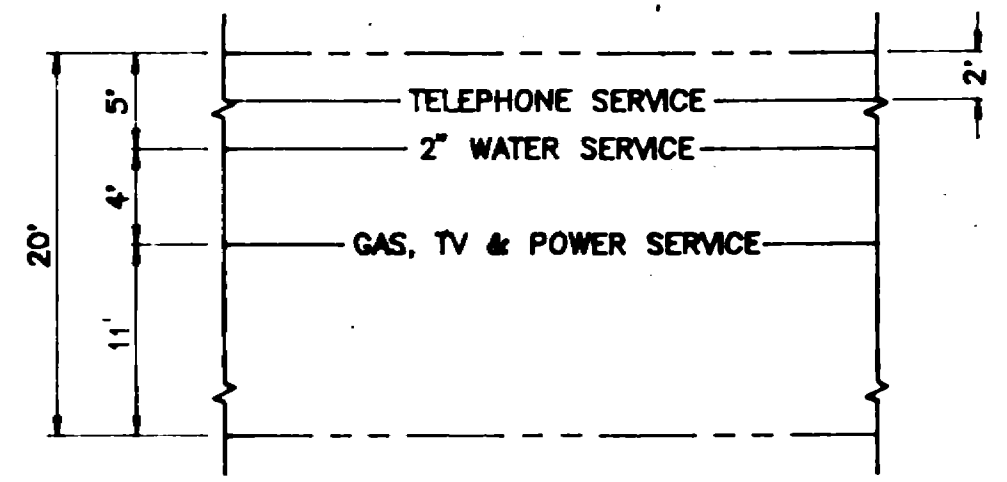
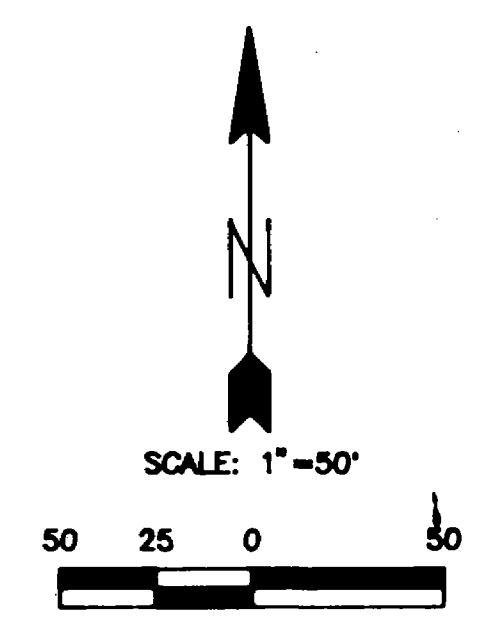
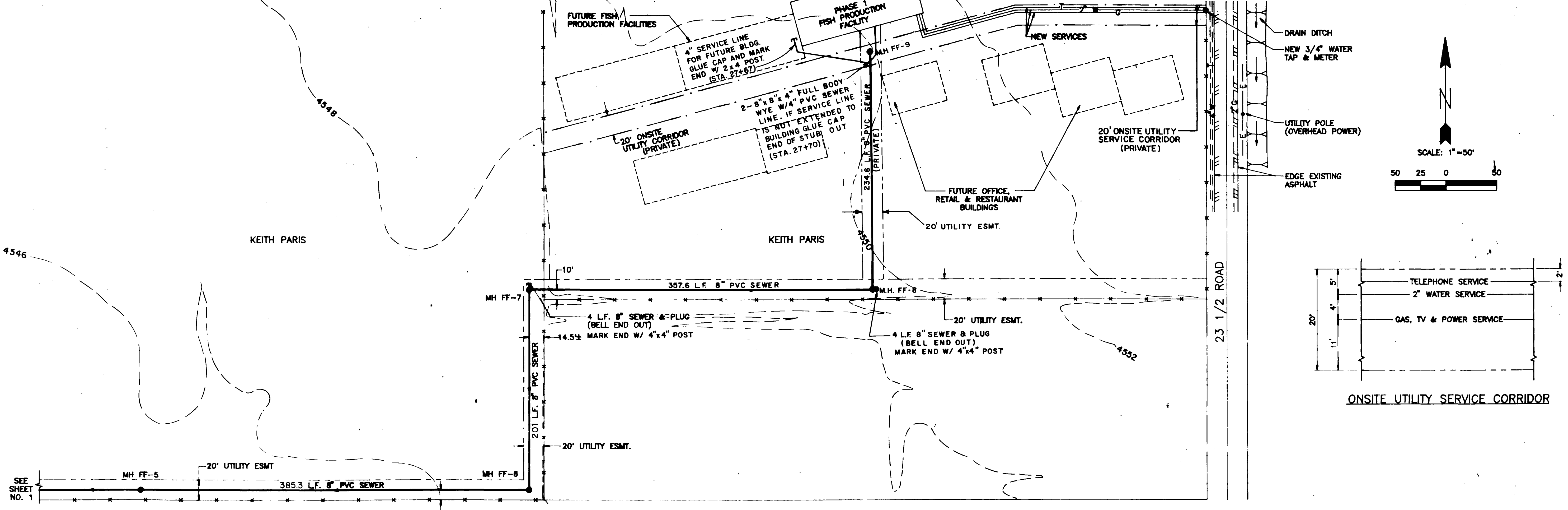


WestWater Engineering
P.O. Box 1470
Palisade, Colorado 81526

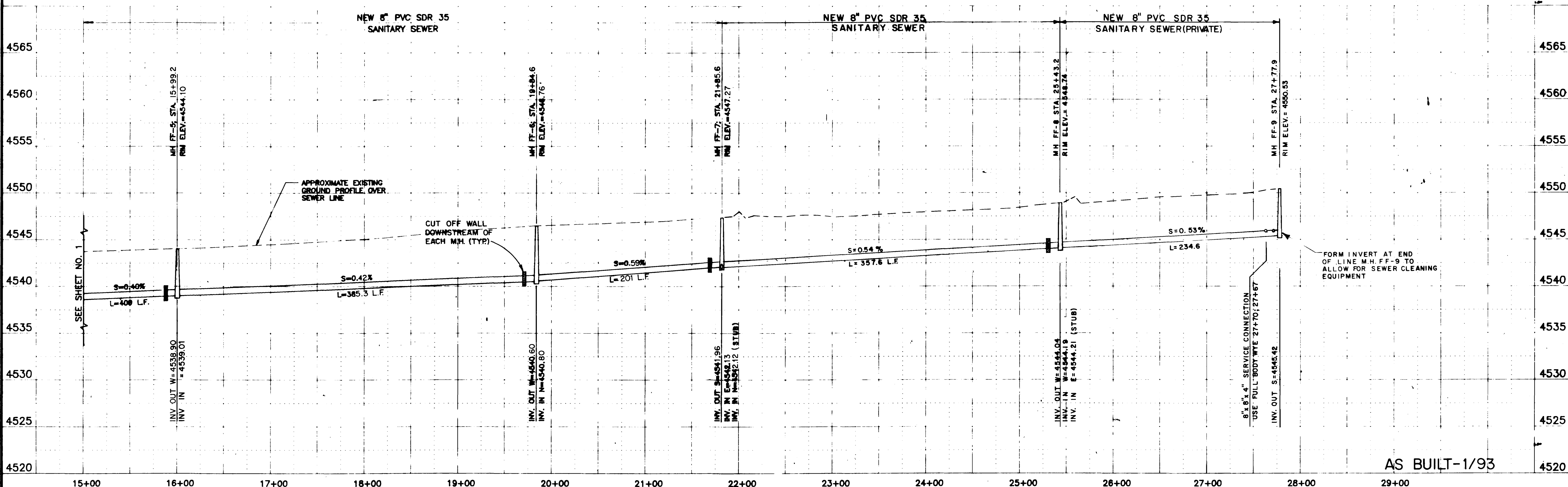
SOLAR FISH PRODUCTION & MARKETING FACILITY FISH FARMS, INC.

SEWERLINE EXTENSION

Design By: G.R.W.	Drafted By: C.A.K.	Date: 8-22-91	Project No.: 9147	Sheet No.: 1	Of: 3
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ONSITE UTILITY SERVICE CORRIDOR



AS BUILT-1/93

KEY	REVISIONS	DATE
—●— NEW SEWERLINE & MH	ALIGNMENT REV. FF-7 TO FF-9	11/92
- - - EXISTING FENCE	AS BUILT - STL	1/93
- - - FUTURE SEWERLINE		
- - - EASEMENT		
- - - EXISTING UTILITIES		
- - - UTILITY CORRIDOR		

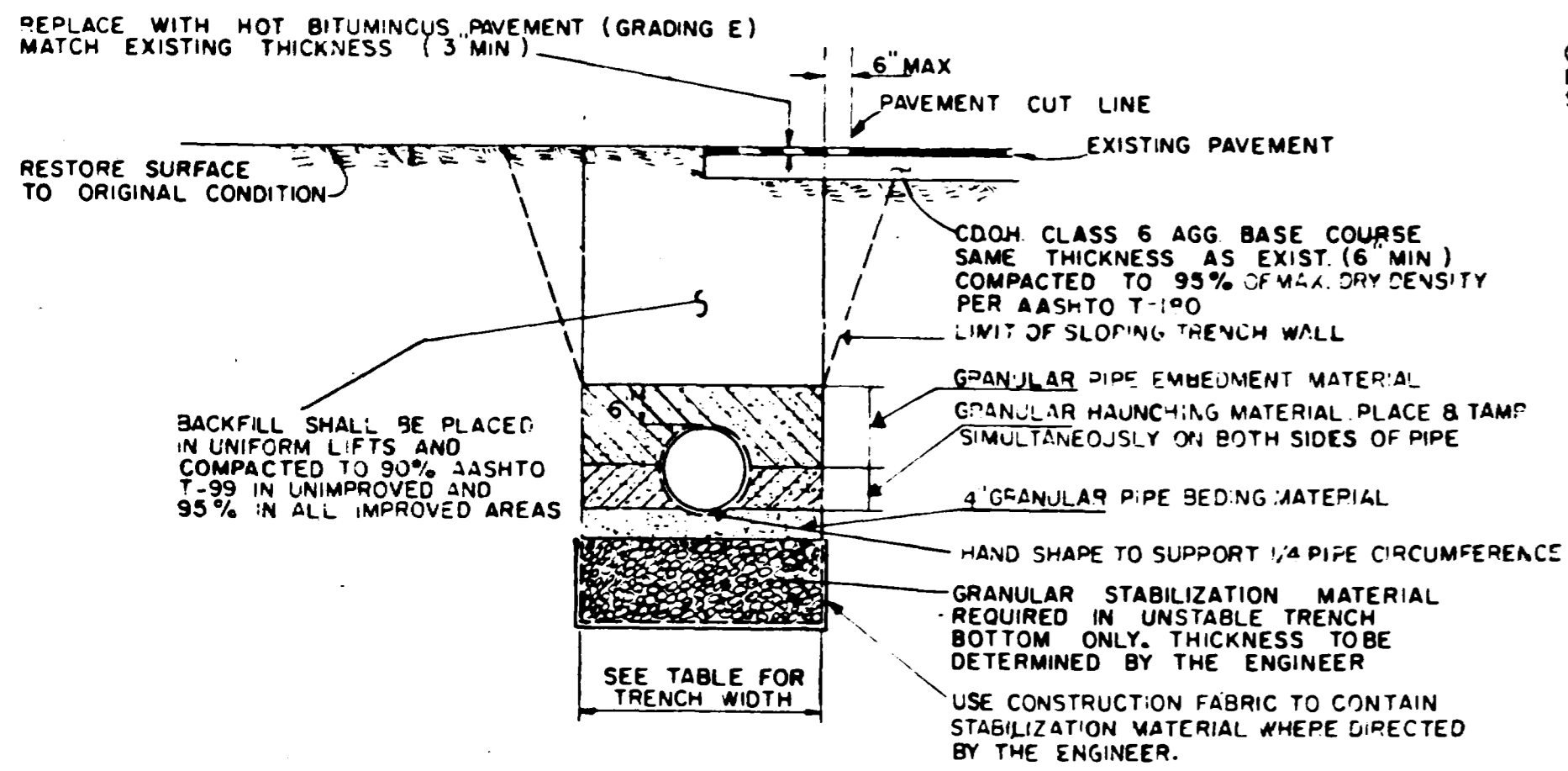
HORIZ. SCALE: 1" = 50'
VERT. SCALE: 1" = 5'

- GENERAL NOTES**
- Location of existing utilities shown is approximate only, based on information furnished by utility companies and field surveys, and presented in Paragon Engineering's sewerline Construction Drawings, 1991, for the City of Grand Junction. The Contractor shall be responsible for verifying actual utility location and protection during construction.
 - All sanitary sewer construction shall be in accordance with the City of Grand Junction's standards and specifications.
 - All sewer main pipe shall be PVC SDR 35 unless otherwise specified.
 - All sanitary sewer connections to the private 8" sewerline shall be 4" SDR 35 PVC.
 - The Contractor shall notify the City of Grand Junction and the Water Meter District 24 hours prior to beginning of construction.
 - On embankments with straight run and no grade change, sewer pipe to run through manhole with top half of pipe cut out.
 - Except at service line crossings, minimum separation between water and sewer lines shall be 10 feet horizontally. Vertical separation less than 18 inches or sewerlines above waterlines shall have structural sewerline (PVC C900 or RPP) to at least ten feet beyond waterlines.
 - All underline construction shall be in accordance with the Water Meter District's standards and specifications. Service tap and meter shall be 24", with 2" service line.
 - Water meters shall be supplied by the Water Meter District.



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P.O. Box 1470
Palisade, Colorado 81526

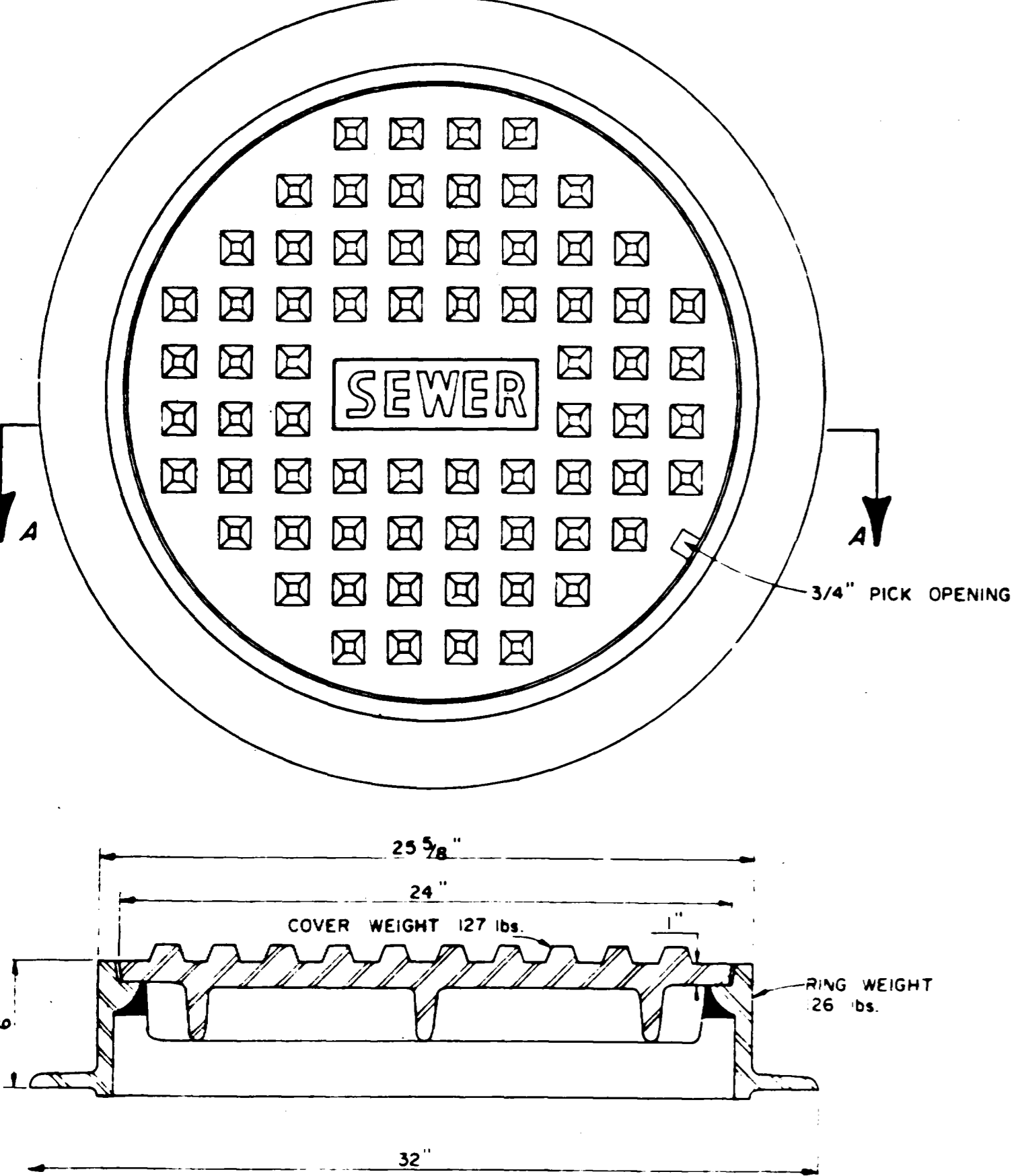
SOLAR FISH PRODUCTION & MARKETING FACILITY FISH FARMS, INC. SEWERLINE EXTENSION				
Design By:	Drafted By:	Date:	Project No.:	Sheet: 2
G.R.W.	C.A.K.	8-21-91	9147	Of 3



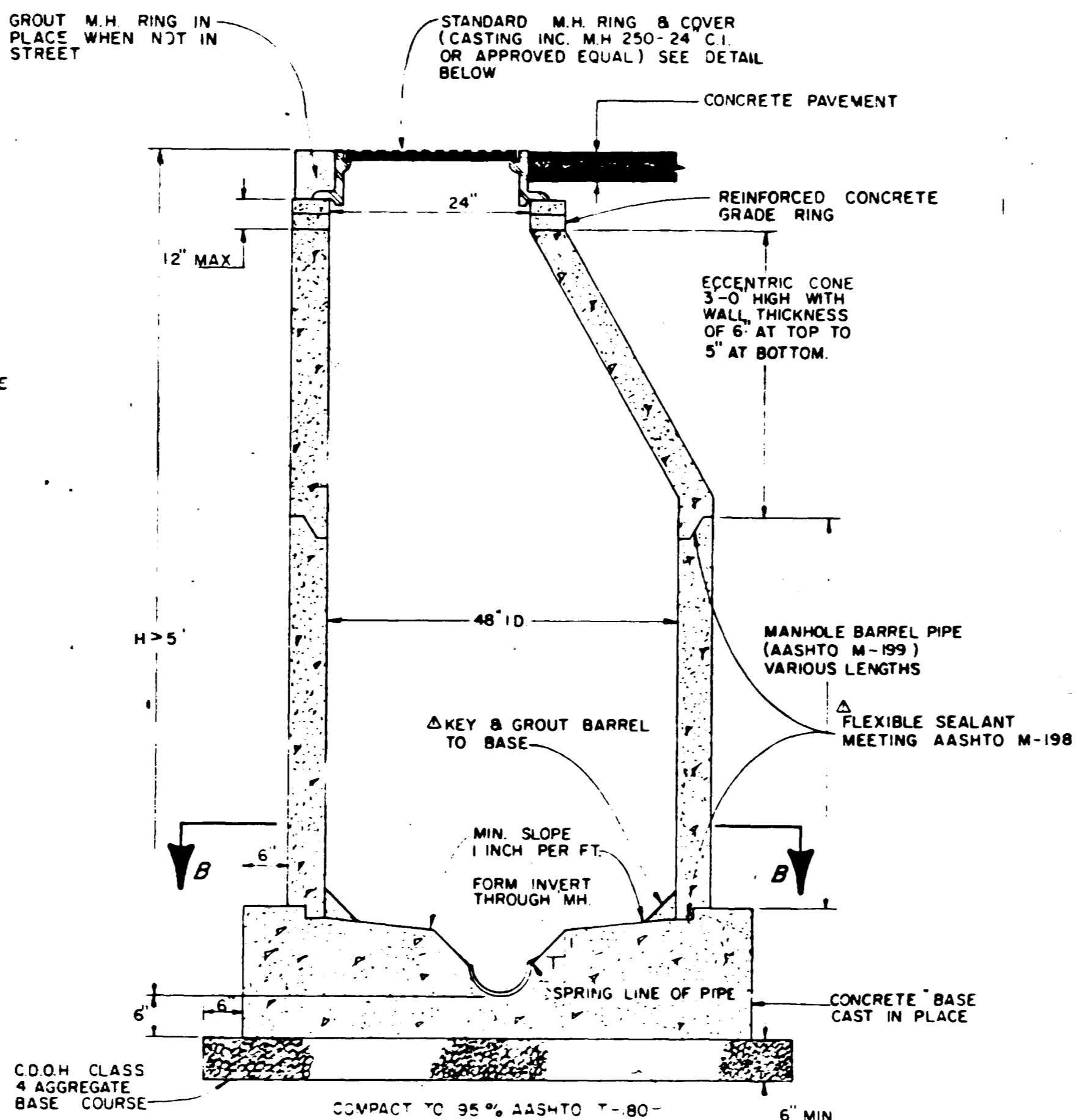
PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES			
SIEVE SIZE	PIPE BEDDING & HAUNCHING & EMBEDMENT MATERIAL (CRUSHED OR SCREENED ROCK)	GRANULAR STABILIZATION MATERIAL (SCREENED OR CRUSHED ROCK)	PIT RUN AGGREGATE (TO BE USED WHERE SPECIFIED OR DIRECTED BY THE ENGINEER)
12 INCH	---	---	100
2 INCH	---	100	---
1 INCH	100	---	---
NO 200	20 MAX	20 MAX	20 MAX

NOMINAL SIZE OF PIPE	MAXIMUM TRENCH WIDTH AT TOP OF PIPE	MINIMUM TRENCH WIDTH AT PIPE SPRINGLINE
LESS THAN 18"	PIPE O.D. + 18"	PIPE O.D. + 12"
18" THRU 36"	PIPE O.D. + 24"	PIPE O.D. + 18"
37" THRU 60"	PIPE O.D. + 30"	PIPE O.D. + 24"

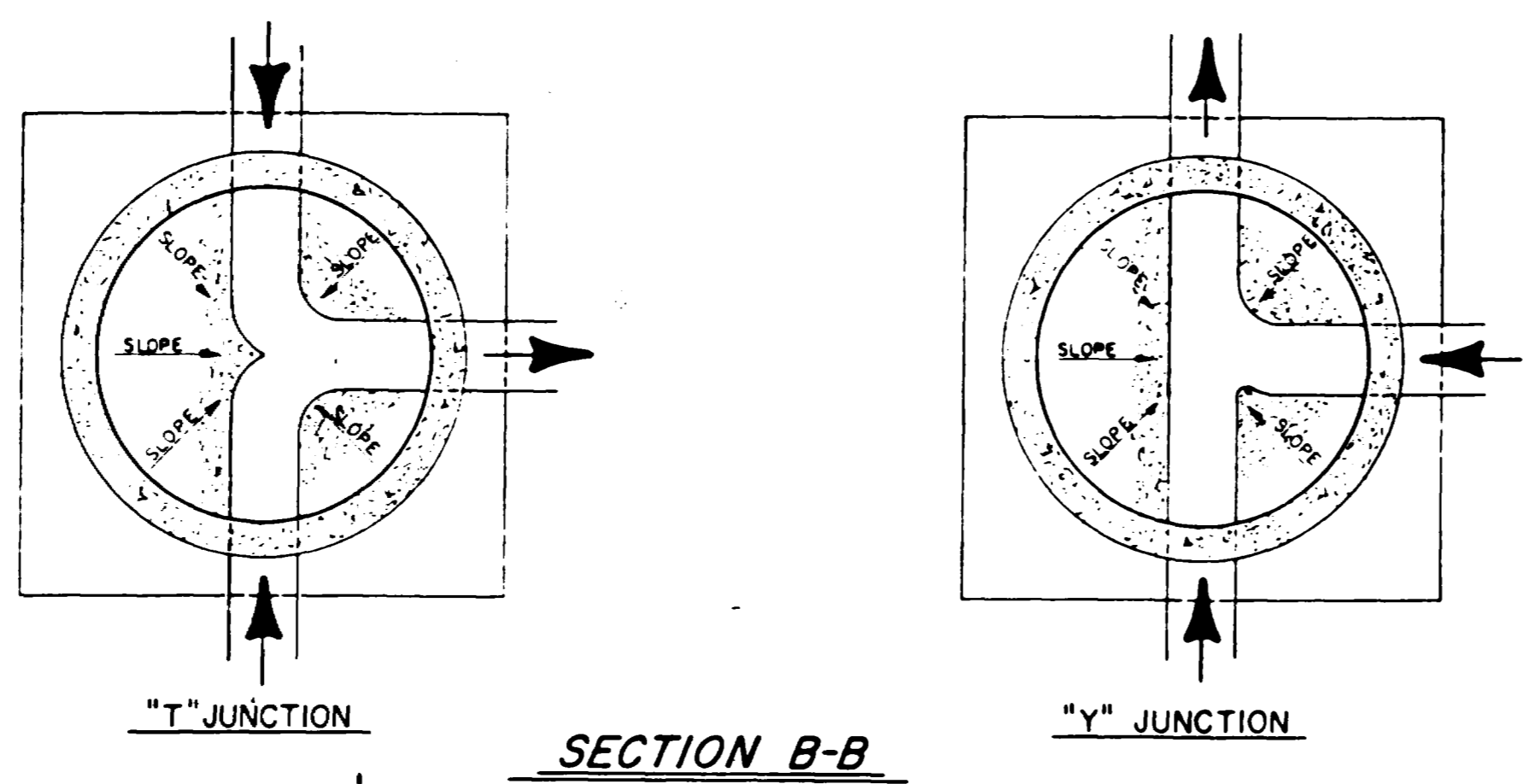
TYPICAL TRENCH DETAIL FOR ALL UNDERGROUND CONDUIT



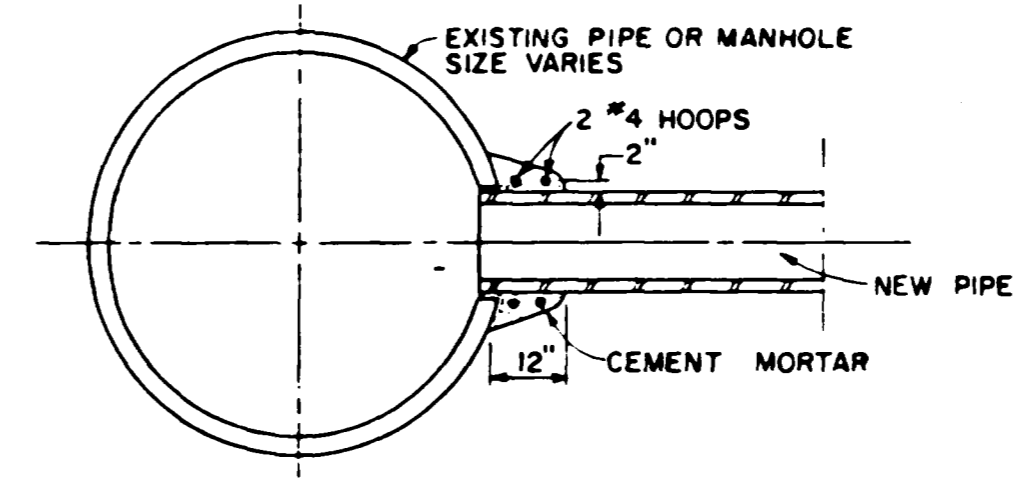
STANDARD CAST IRON MANHOLE RING & COVER



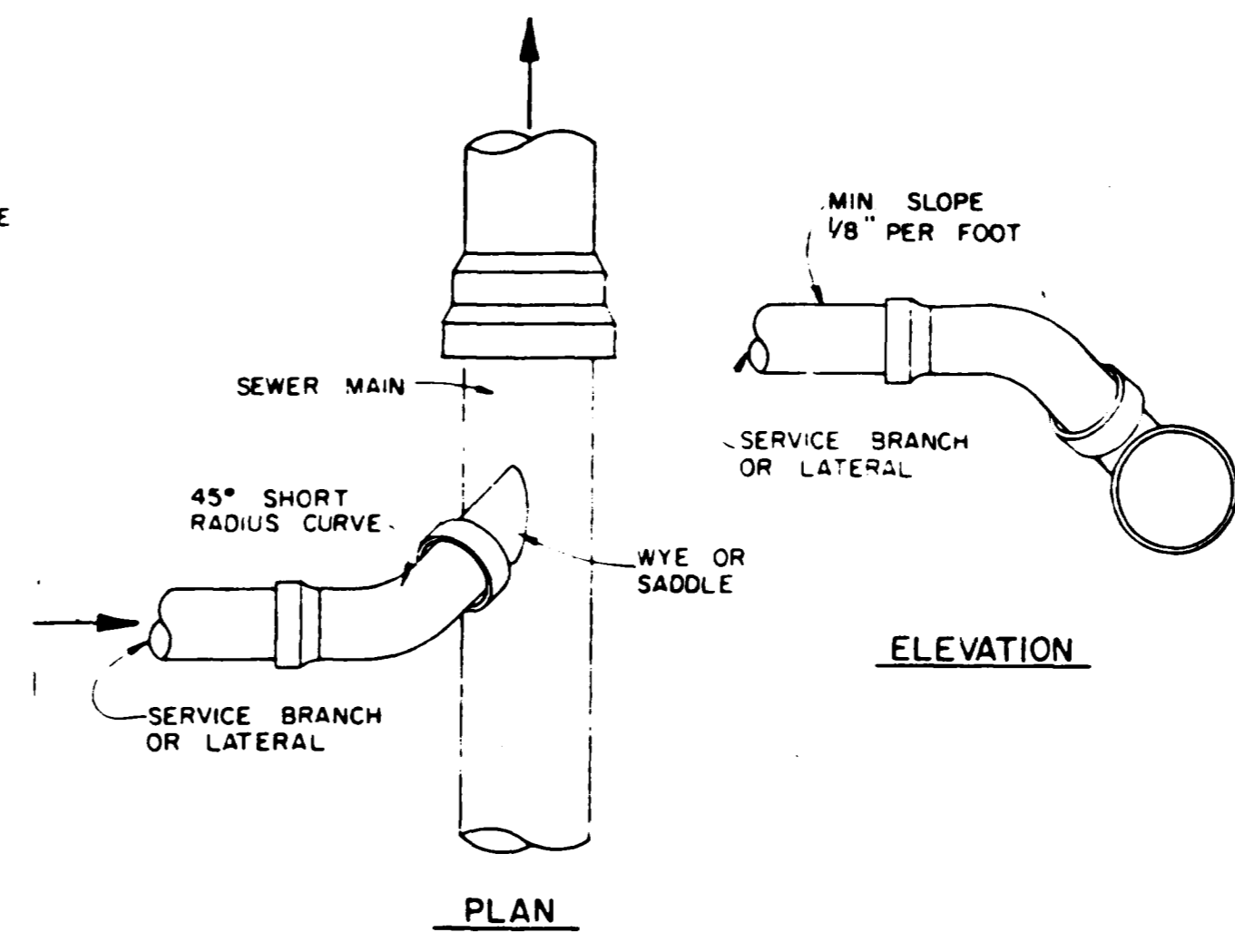
STANDARD MANHOLE



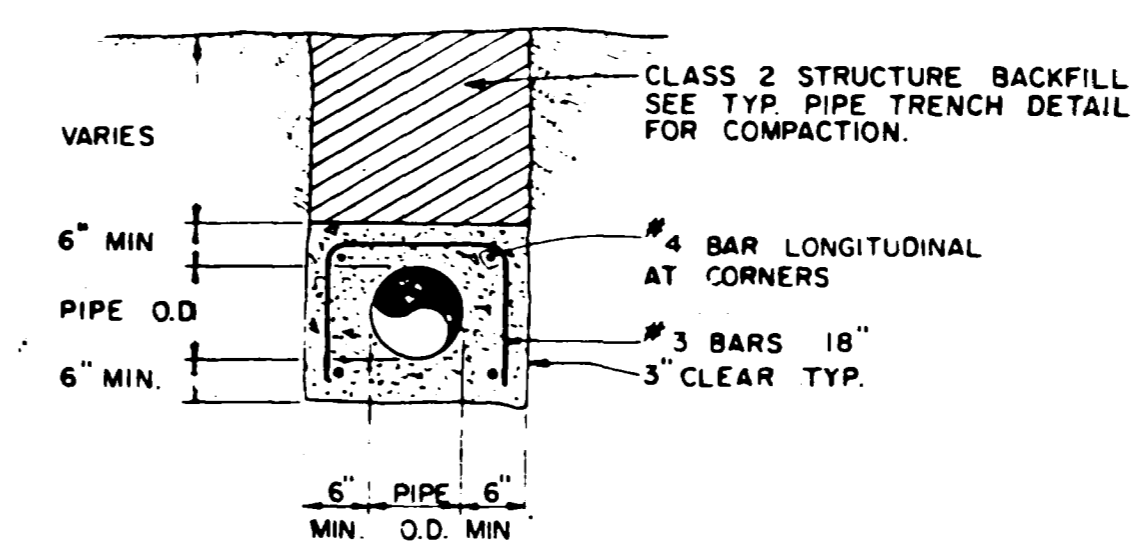
SECTION B-B



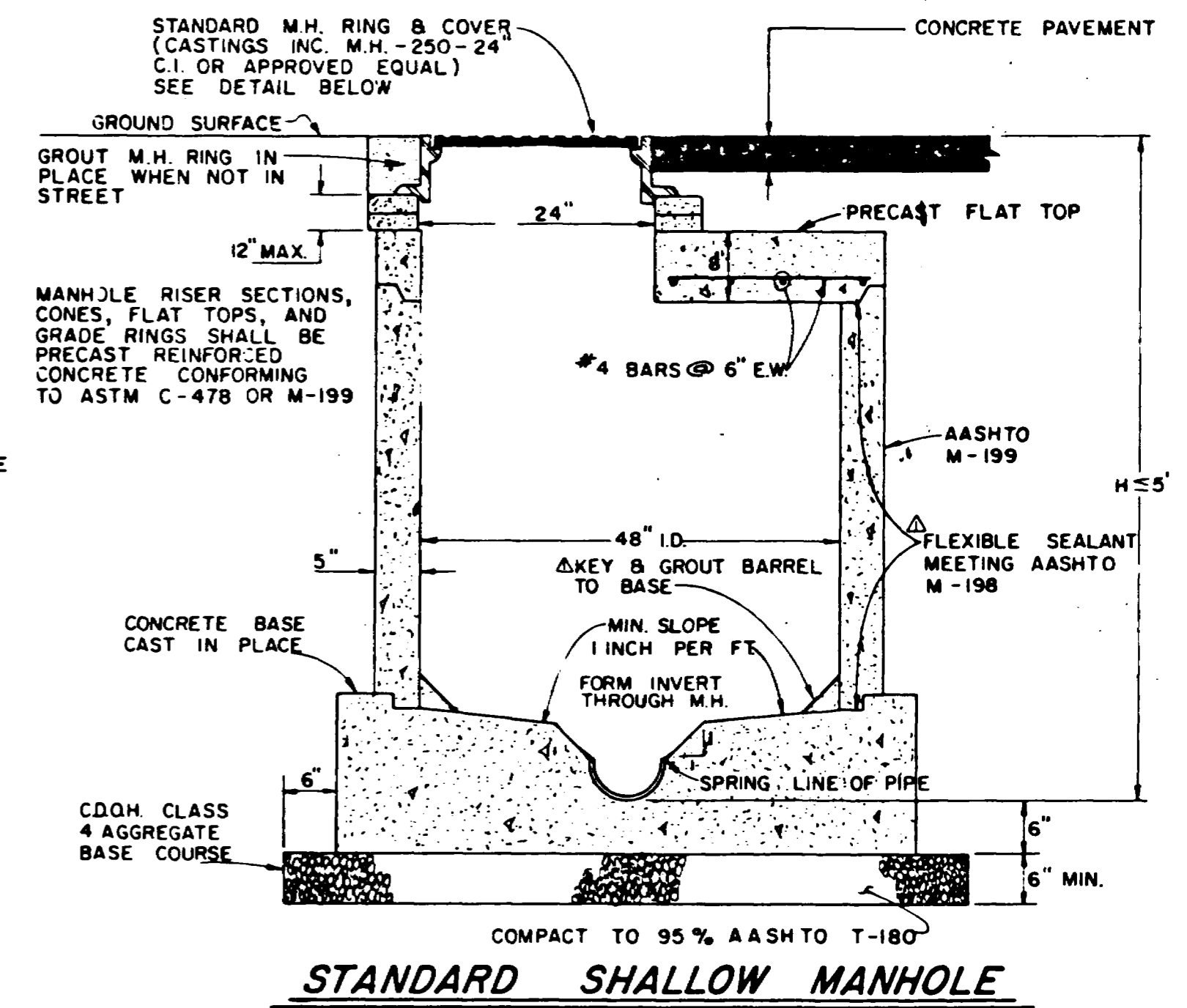
CONNECTION TO EXISTING MANHOLE OR PIPE



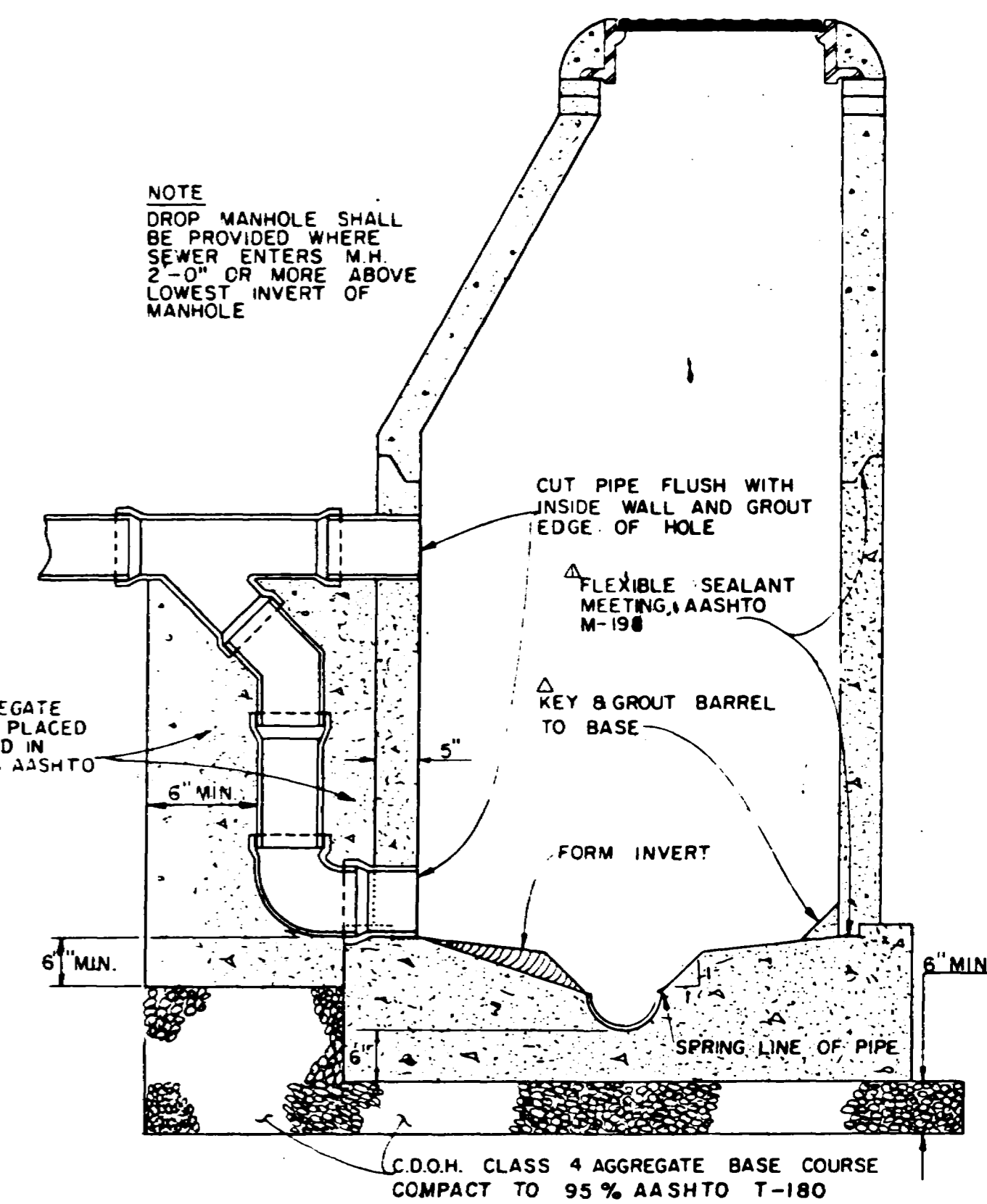
TYPICAL SERVICE 'Y' CONNECTION



CONCRETE ENCASEMENT DETAIL



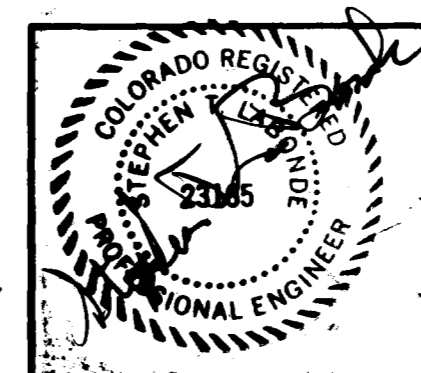
STANDARD SHALLOW MANHOLE



DROP MANHOLE

1. CONCRETE SHALL BE COLORADO DIVISION OF HIGHWAYS CLASS "B" (SECTION 601.02)
2. ALL CEMENT USED IN MORTAR, CONCRETE BASES, GRADE RINGS, RISER SECTIONS, CONES, AND FLAT TOPS, FOR SANITARY SEWER MANHOLES, SHALL BE TYPE I OR MODIFIED TYPE II PORTLAND CEMENT WITH LESS THAN 5% TRICALCIUM ALUMINATE
3. MANHOLE RISER SECTIONS, CONES, FLAT TOPS, AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE CONFORMING TO ASTM C-478 OR AASHTO M-199
4. BACKFILL AROUND MANHOLES AND OTHER STRUCTURES SHALL BE PLACED IN 8" MAX. LIFTS AND COMPACTED TO 95% AASHTO T-99.
5. ALL WORK SHALL BE IN ACCORDANCE WITH APPROVED PLANS AND CITY SPECIFICATION.
6. MANHOLE CONE AND FLAT TOP SECTIONS SHALL BE POSITIONED SUCH THAT THE M.H. RING AND COVER IS CENTERED OVER THE MAIN SEWER LINE.
7. SEWERLINE DETAIL SHEET PREPARED BY THE CITY OF GRAND JUNCTION.

AS BUILT-1/93



WestWater Engineering
P.O. Box 1470
Palisade, Colorado 81526

SOLAR FISH PRODUCTION & MARKETING FACILITY				
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SEWERLINE EXTENSION				
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