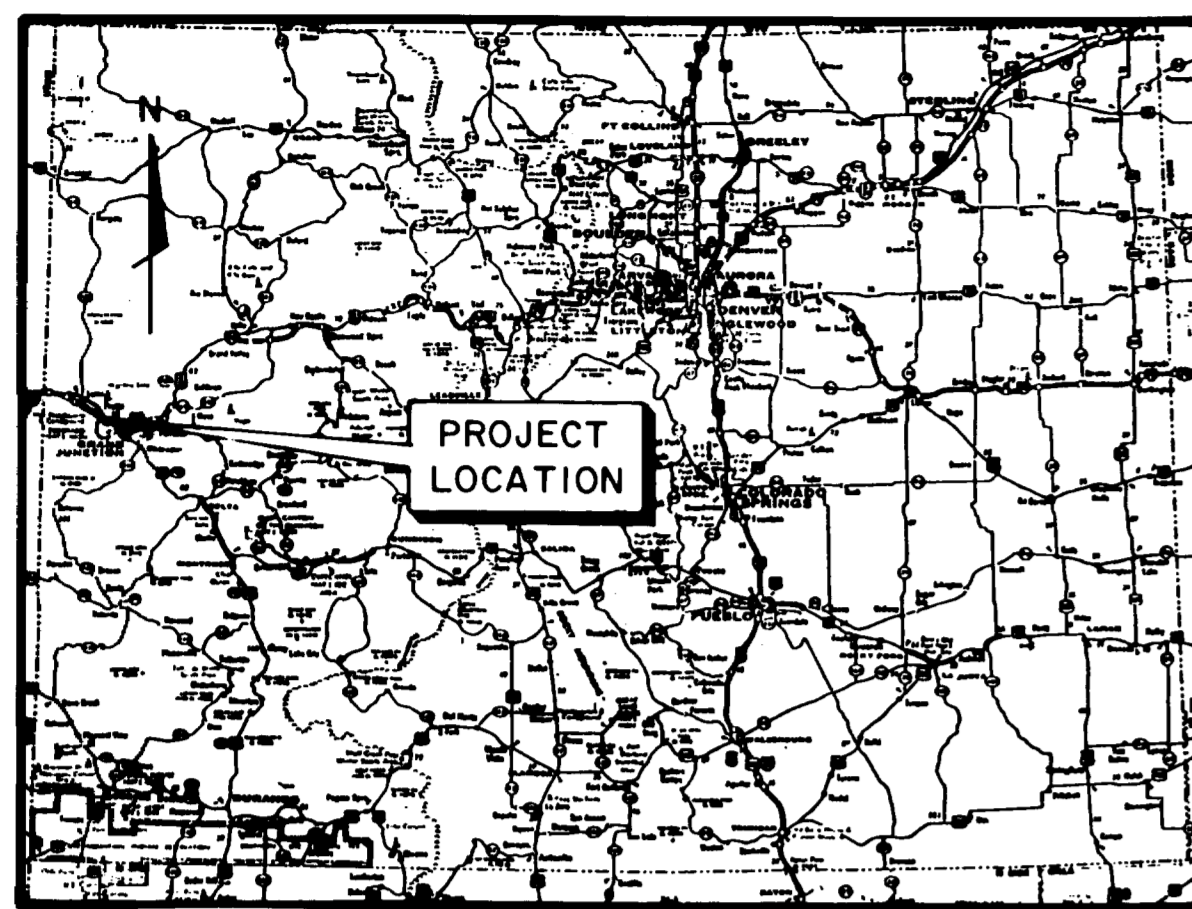


PLANS FOR
**APPLETON SANITARY SEWER
 LOCAL IMPROVEMENT
 DISTRICT NO. LID-1984**
 MESA COUNTY, COLORADO



VICINITY MAP

PROJECT NO. 844432

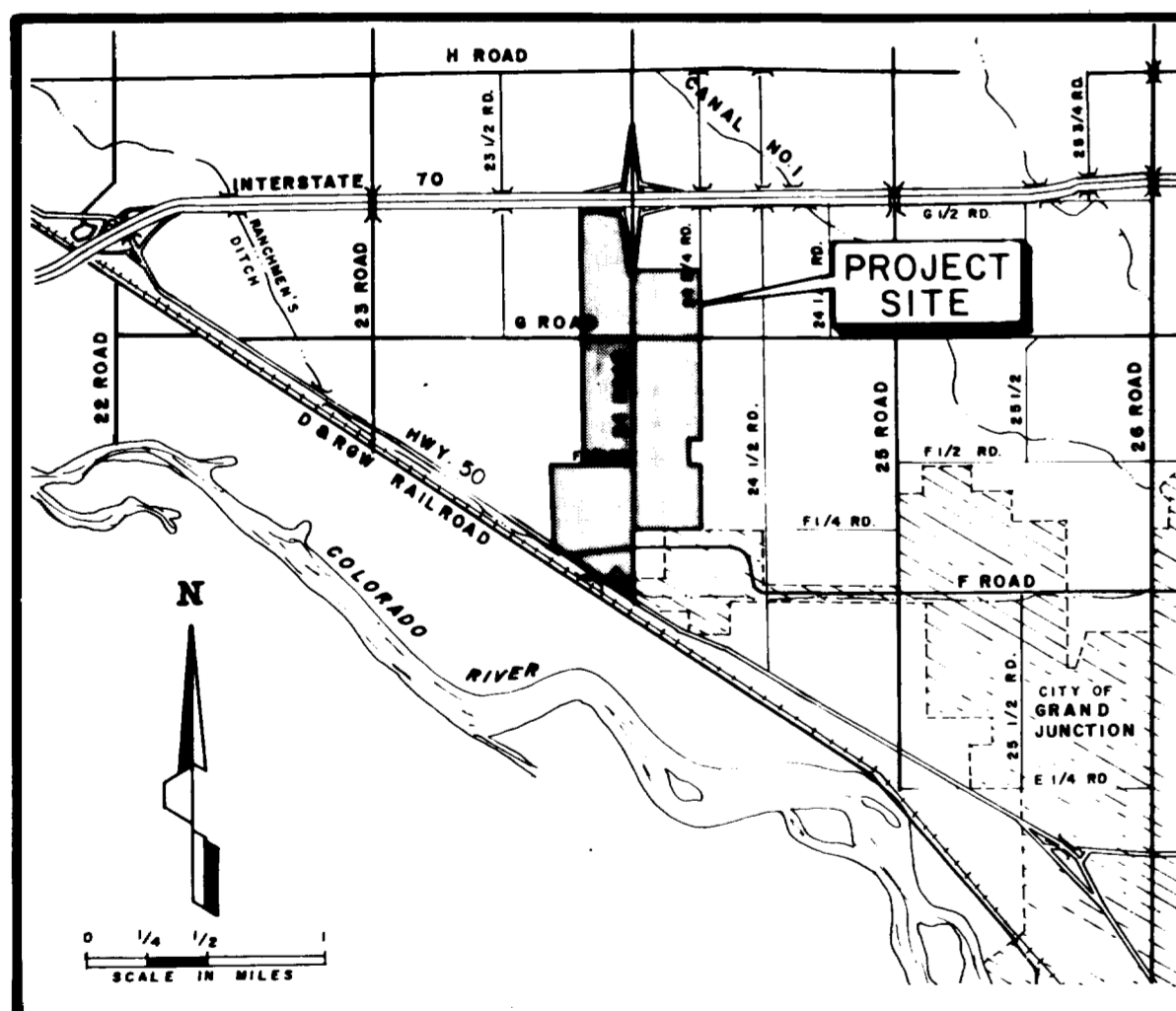
BENCHMARKS

LOCATION	ELEVATION
1) BRASS CAP @ 24RD & GRD	4563.27'
2) NAIL IN P.P. @ 24RD & F 1/2 RD	4554.00'
3) NAIL IN GUARD RAIL POST @ 24RD & FRD EXT.	4548.56'
4) NAIL IN P.P. @ WEST RIVER RD RAMP & RIVER ROAD	4538.52'
5) Brass Cap @ 24 Rd. & F 3/4 Rd. Line	4556.31'

NOTE:
 THESE DRAWINGS, NUMBERED SHTS. 1 THROUGH 12 OF 12 SHEETS, ARE THE PROPERTY OF ARMSTRONG & ASSOCIATES, INC. AND AS SUCH SHALL NOT BE COPIED, DUPLICATED, OR OTHERWISE BE REPRODUCED IN WHOLE OR IN PART, WITHOUT THE EXPRESS WRITTEN CONSENT OF ARMSTRONG & ASSOCIATES, INC.

LEGEND

EXISTING UTILITIES	
---UGT---	UNDERGROUND TELEPHONE
---UGE---	UNDERGROUND ELECTRIC
---G---	GAS LINE
---W---	WATER LINE
○	MANHOLE
---S---	SEWER LINE
⊕	BENCH MARK
PROPOSED UTILITIES	
---10'S---	SEWER MAIN
-----	SEWER SERVICE LINE
○	MANHOLE
-----	CONCRETE ENCASUREMENT
-----	STEEL ENCASUREMENT
-----	REMOVAL & REPLACEMENT OF EXIST. PAVEMENT
-----	RIGHT OF WAY OR PROPERTY LINE
-----	CENTERLINE OR SECTION LINE
-----	EASEMENT LINE



LOCATION MAP

CERTIFICATION

In accordance with the City of Grand Junction Standard Specifications for Construction of Water Lines, Sanitary Sewers, Storm Drainage and Irrigation Systems, I hereby certify that the average infiltration for this sewer system does not exceed 200 gallons per inch of nominal pipe diameter per day per mile of sewer line in the system.

by: Ronald P. Pish date: 10-22-85

APPROVALS

ARMSTRONG & ASSOCIATES, INC.

DESIGNED _____ DATE: _____
 APPROVED _____ DATE: _____

INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PROJECT LOCATION & INDEX MAP
3	DETAILS
4	DETAILS
5	LIFT STATION DETAILS
6	23 3/4-(US HWY 6 & 50 TO F 1/2 RD)
7	NORTH 1/2=G RD-(G. JCT. TECH CENTER PROPERTY) SOUTH 1/2=F RD EXT.-(HIMES & MESA MACK PROPERTIES)
8	F RD EXT.-(U.S. HWY 6 & 50 TO MESA MALL)
9	LELAND AVE.-(23 3/4 TO 24 RD)
10	F 1/2 RD-(23 3/4 TO 24 RD)
11	24 RD-(F 1/2 TO G RD)
12	G RD-(23 3/4 TO 24 RD)

"AS BUILT"

Engineers
 Planners
 Surveyors
 Soil Testing
 Material Testing
 U.S. Mineral Surveyors
 Geotechnical Engineers

ARMSTRONG & ASSOCIATES, INC.

881 Road Avenue
 Grand Junction, Colorado 81501
 (303) 245-3061

NO.	REVISION DESCRIPTION	DATE	BY
1	"As Built"	10/22/85	R.P.H.

SHEET 1 OF 12



ARMSTRONG & ASSOCIATES, INC.
 881 Road Avenue
 Grand Junction Colorado 81501
 (303) 245-3801

Engineers
 Planners
 Surveyors
 Soil Testing
 Material Testing
 U.S. Mineral Surveyors
 Geotechnical Engineers

**Appleton Sanitary Sewer
 Local Improvement
 District-84**

Project No: 894432
 Date: 1-23-85
 Revisions:

Drawn: RCB
 Checked:
 Approved:

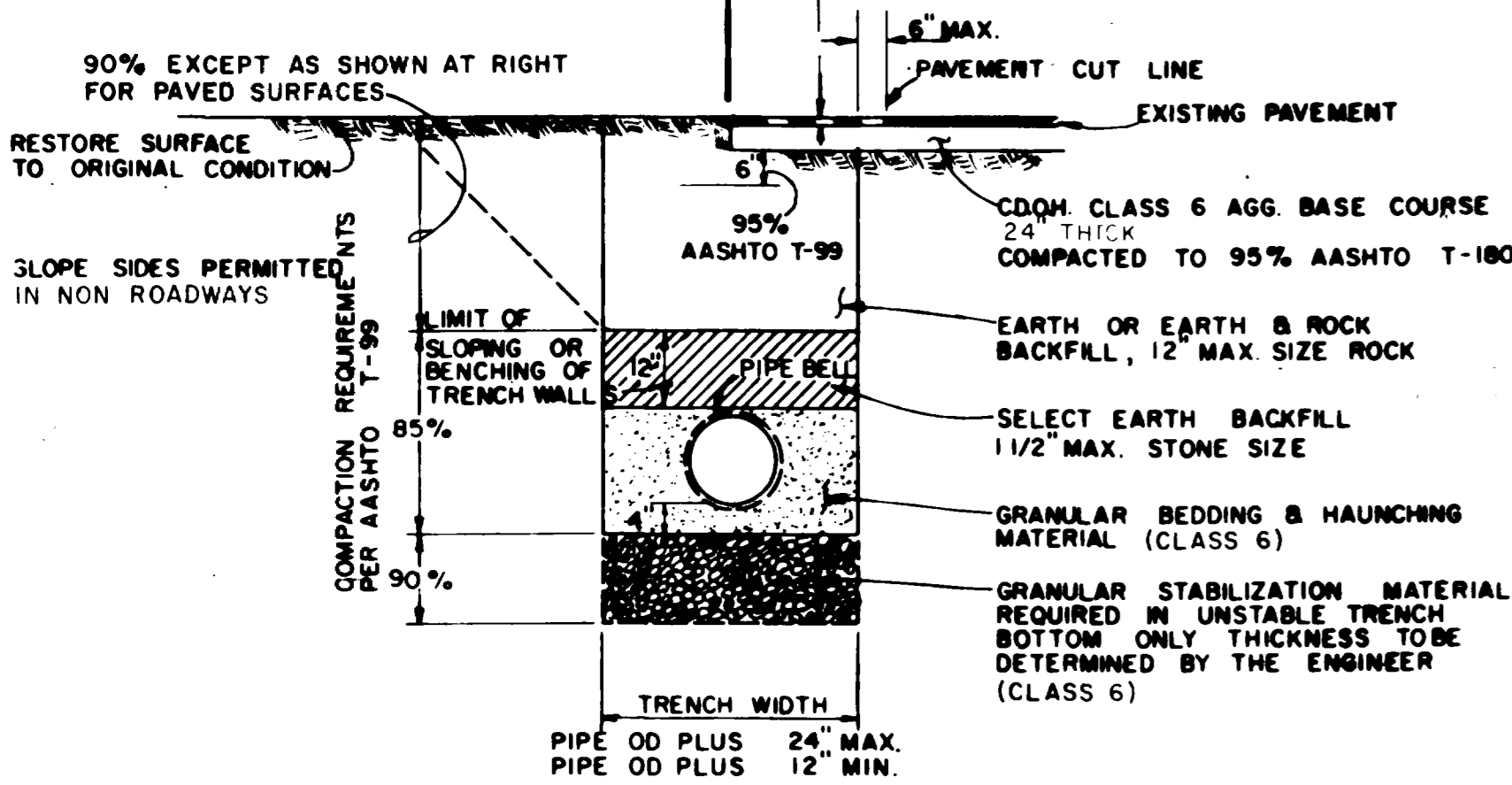
**PROJECT
 LOCATION
 & INDEX MAP**

Sheet 2 of 12

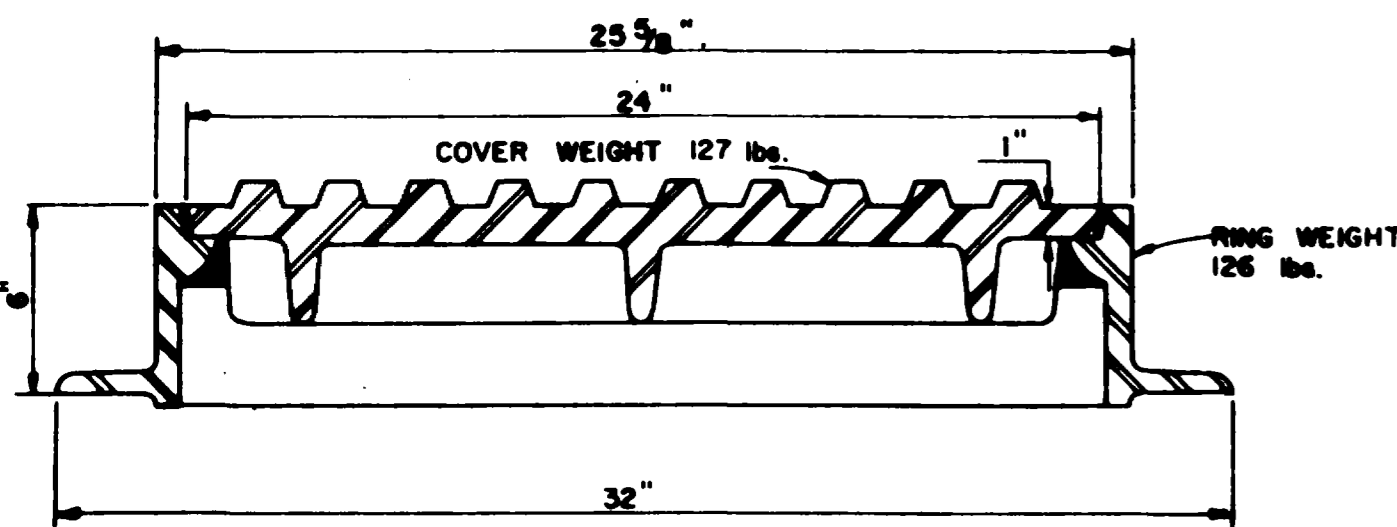
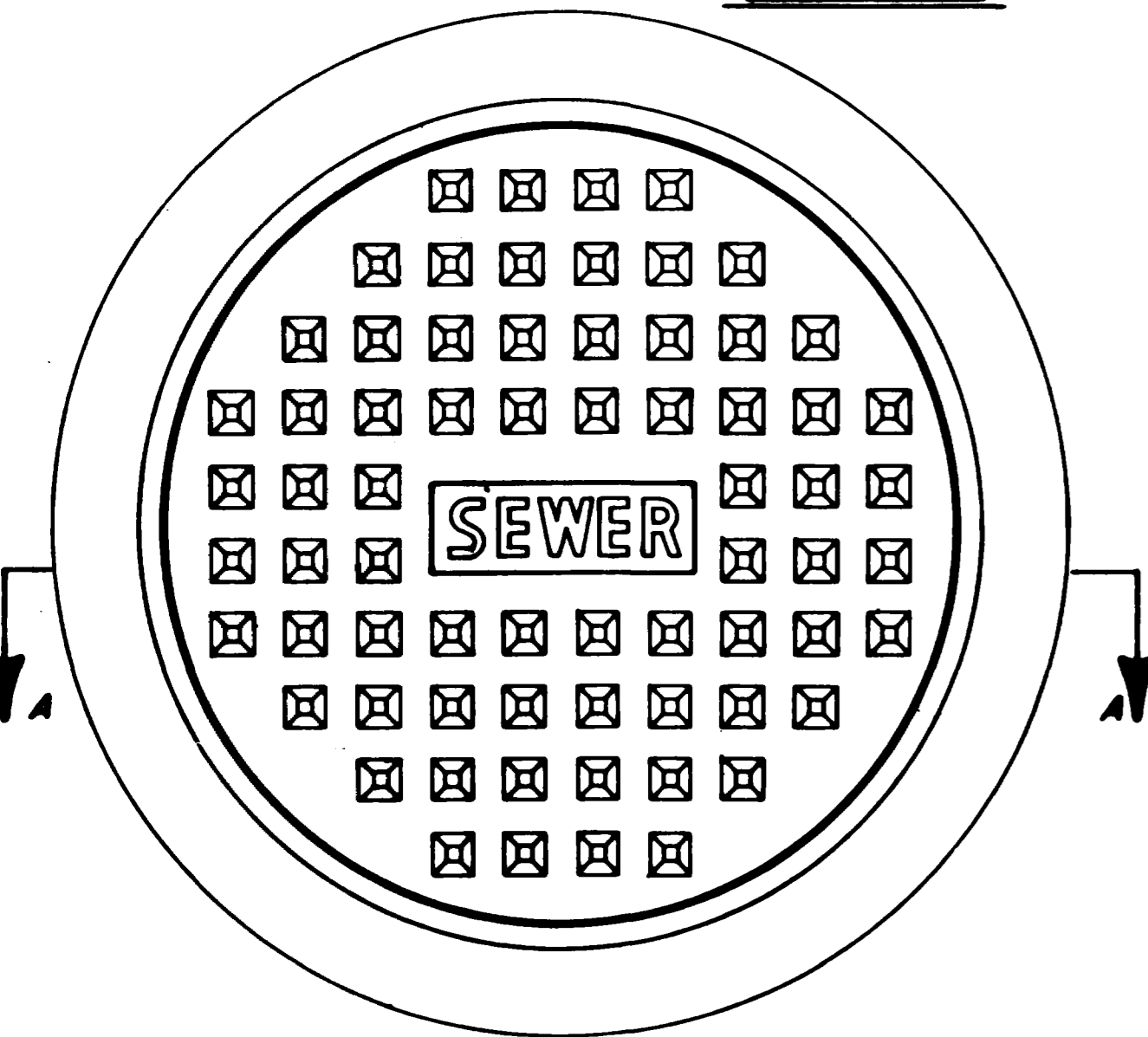
NON ROADWAYS **PAVED ROADWAYS**

NOTE: FOR NON PAVED ROADWAYS AND DRIVEWAYS THE PAVED ROAD SECTION SHALL BE USED WITHOUT HOT BITUMINOUS PAVEMENT.

REPLACE WITH 4" THICK HOT BITUMINOUS PAVEMENT (GRADING E)

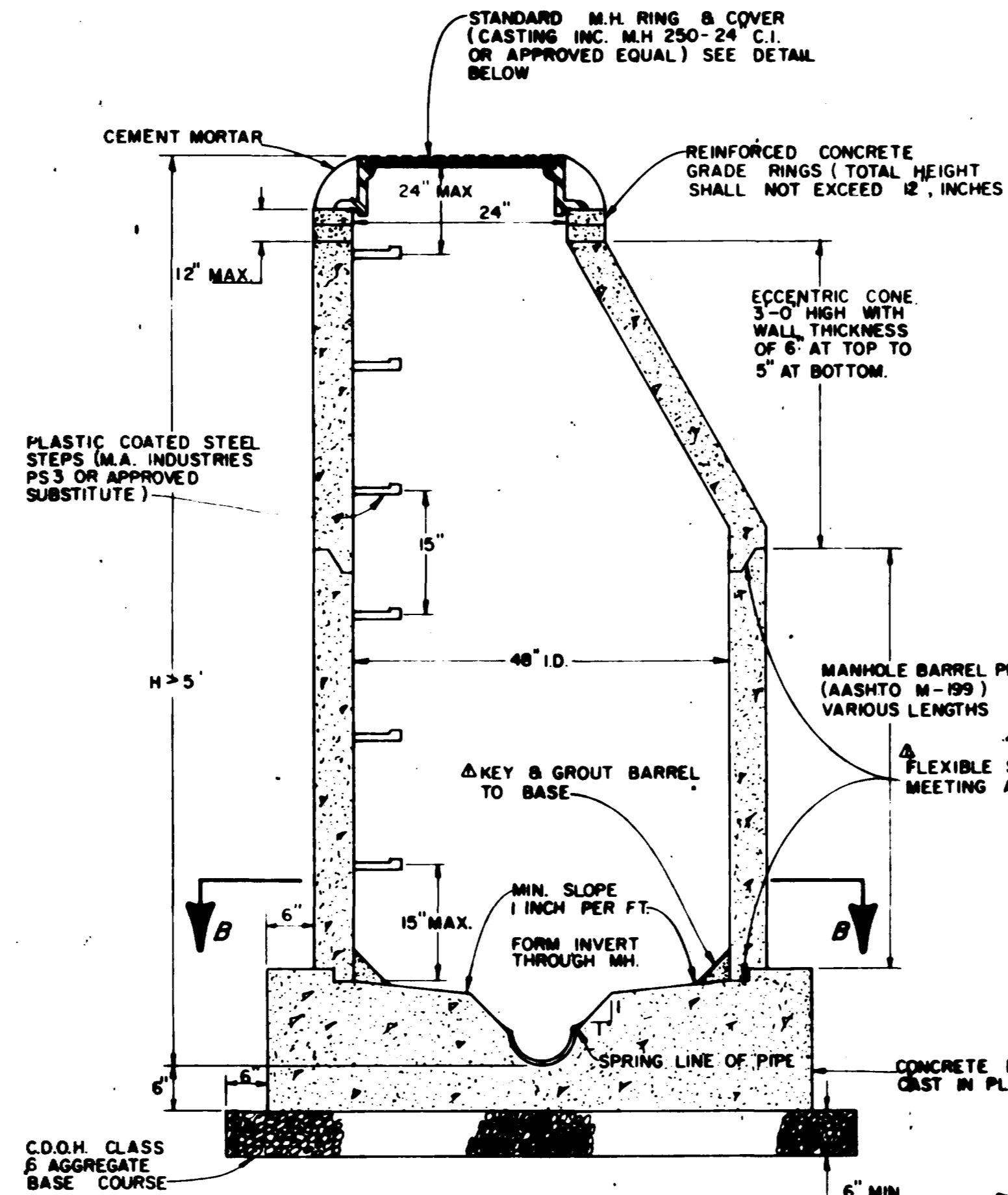


TYPICAL TRENCH DETAIL FOR ALL UNDERGROUND CONDUIT

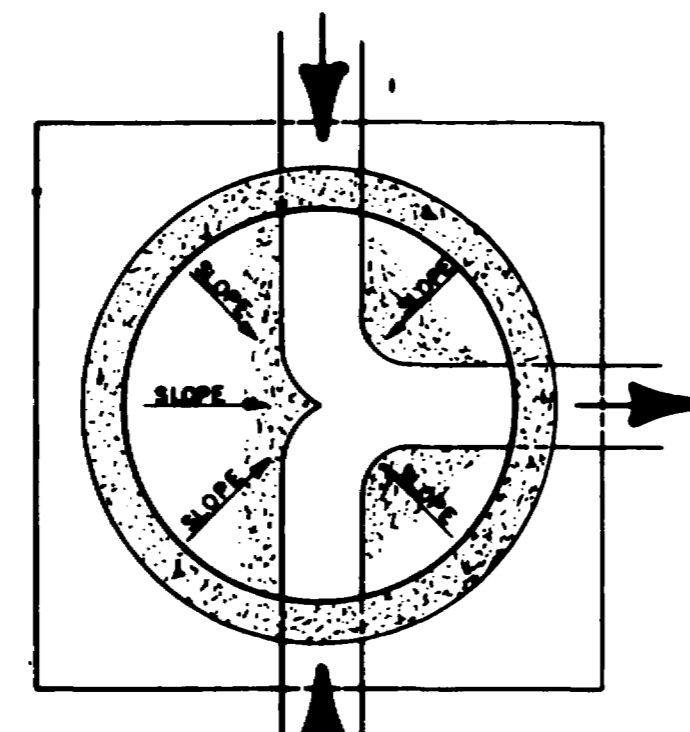


SECTION A-A

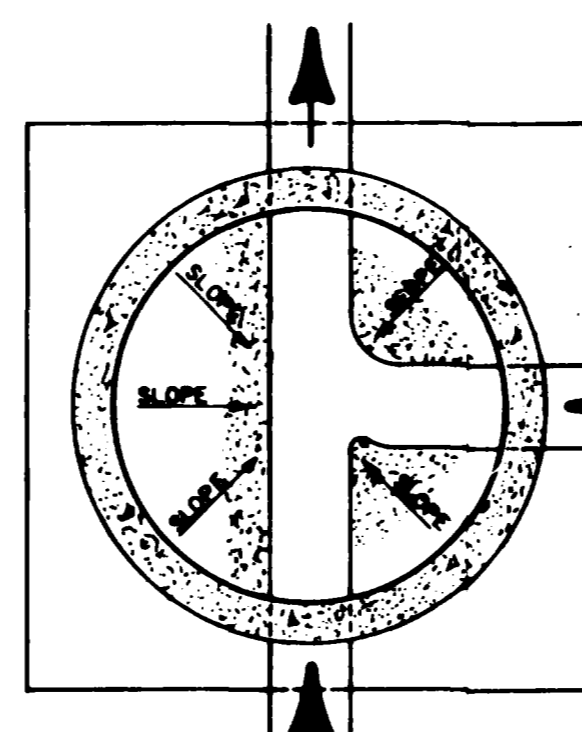
STANDARD CAST IRON MANHOLE RING & COVER



STANDARD MANHOLE



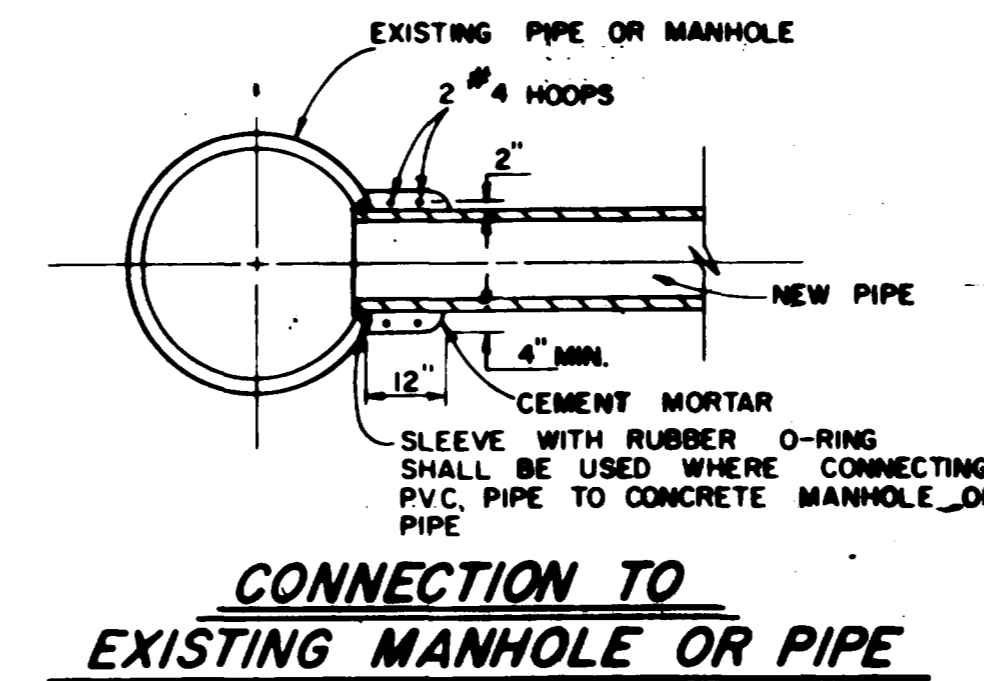
"T" JUNCTION



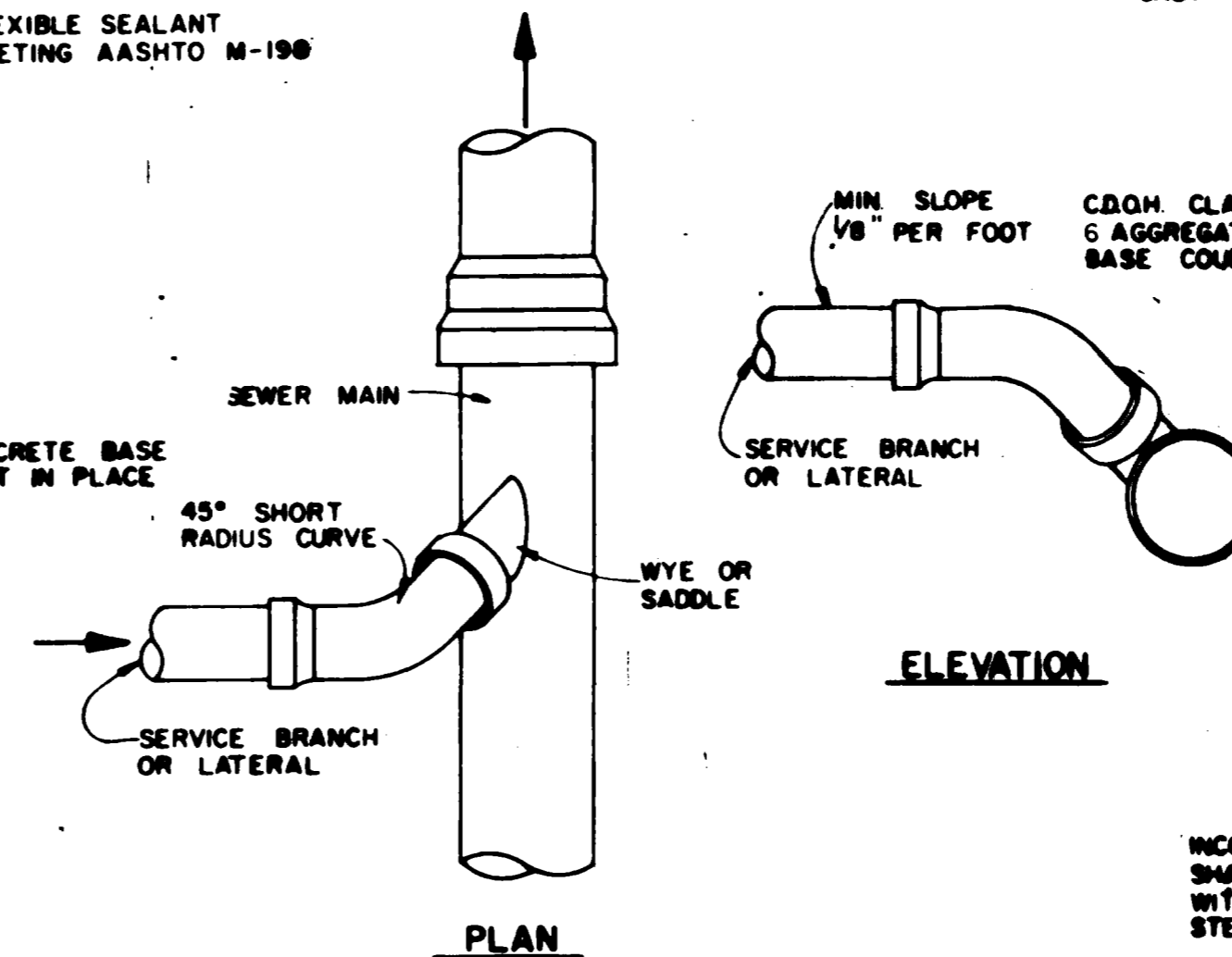
"Y" JUNCTION

SECTION B-B

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

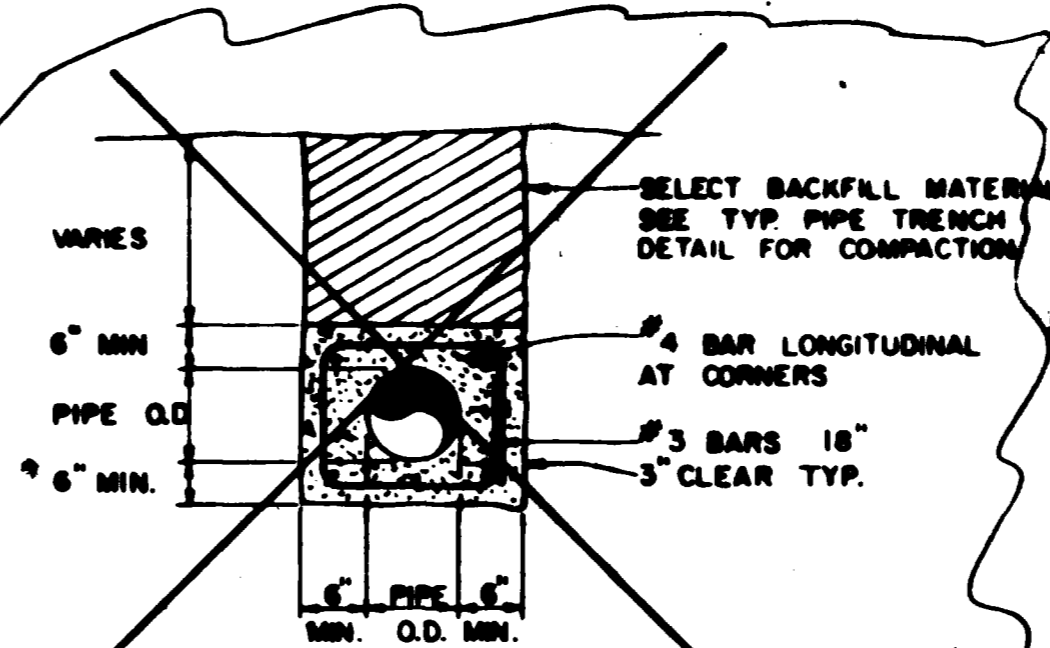


CONNECTION TO EXISTING MANHOLE OR PIPE



ELEVATION

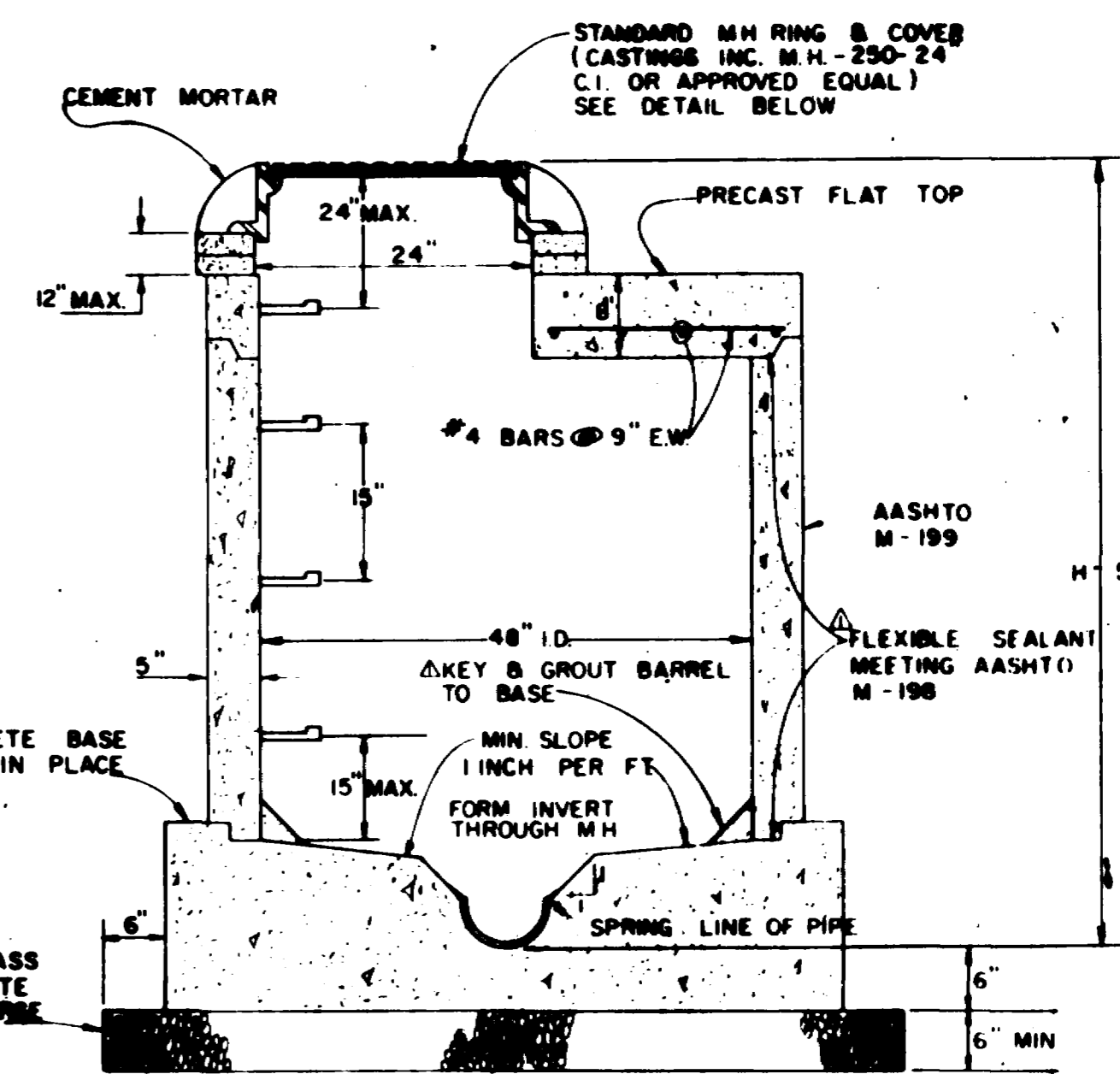
TYPICAL SERVICE "Y" CONNECTION



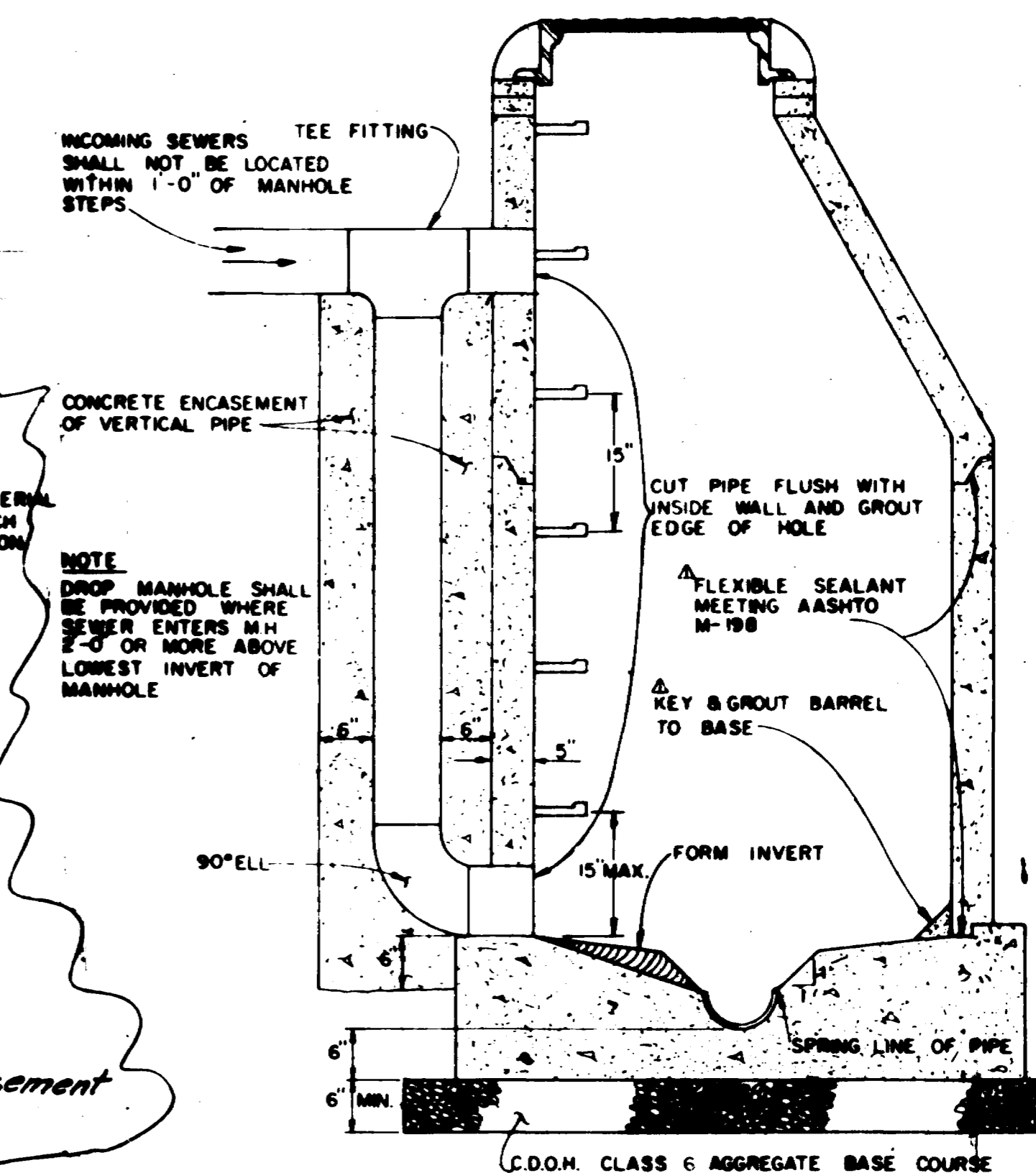
CONCRETE ENGASEMENT DETAIL

Note: 8" Cast Iron Pipe Was Used in Lieu of the Concrete Encasement

"AS BUILT"



STANDARD SHALLOW MANHOLE



DROP MANHOLE

NO.	REVISION DESCRIPTION	DATE	BY
Δ	"As Built"	10/22/85	ALM

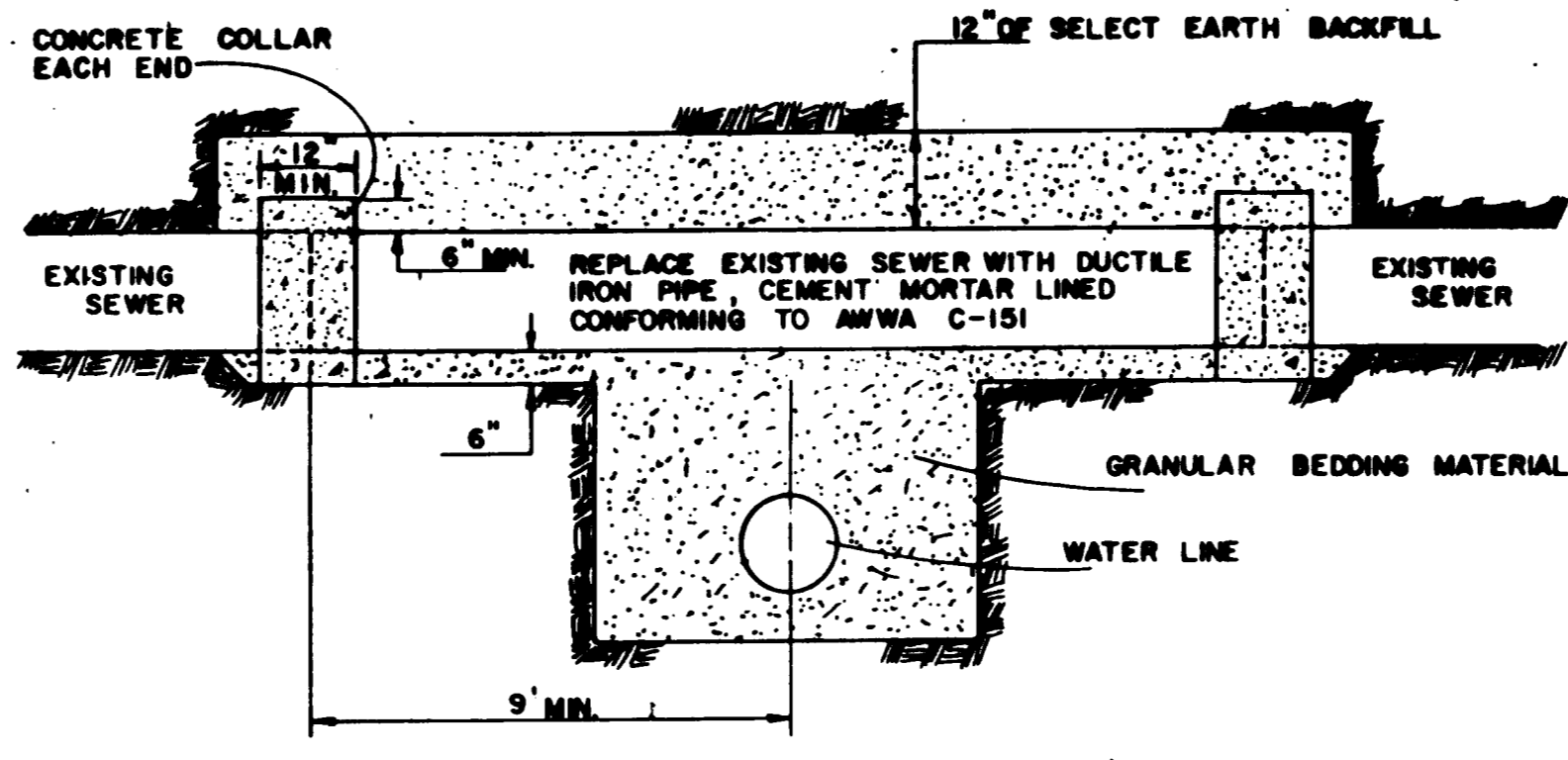
ARMSTRONG & ASSOCIATES, INC.

Appleton Sanitary Sewer Local Improvement

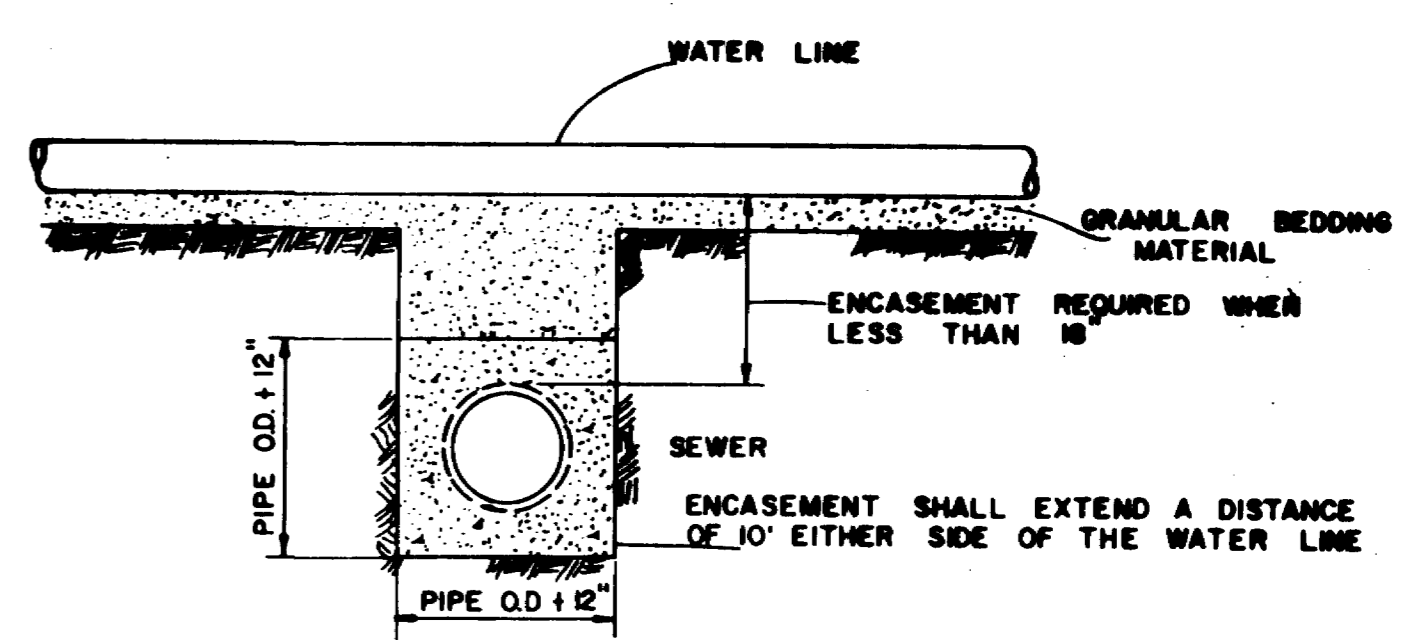
Project No: 6444
Date: 1-23-85
Revision:

Drawn: RCB
Checked:
Approved:

DETAILS

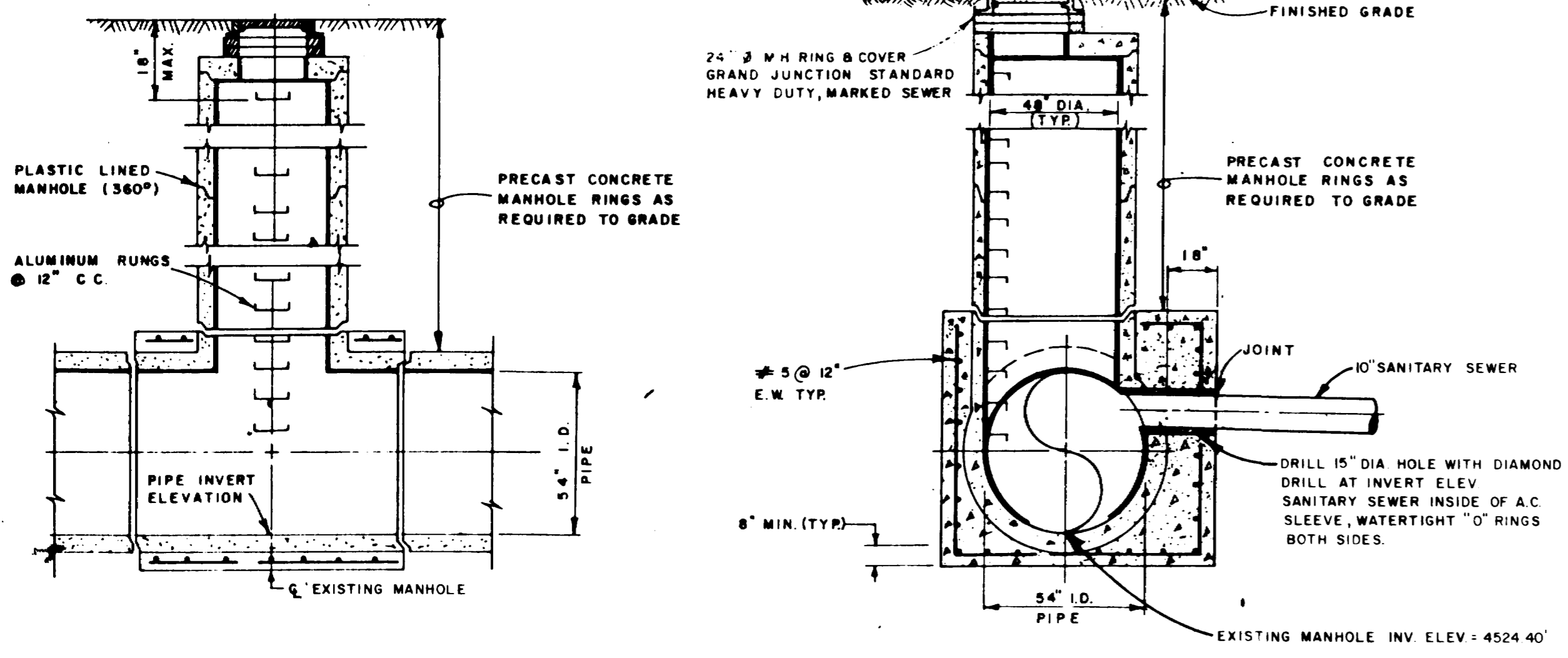


WATER LINE UNDER SEWER LINE



WATER LINE ABOVE SEWER LINE

TYPICAL WATER AND SEWER LINE CROSSINGS



TYPICAL MANHOLE DETAIL
RIVER ROAD INTERCEPTOR SEWER
Not to Scale

Note: 10" Sewer Main Tapped into Existing 54" Dia. River Road Interceptor Pipe - See Detail on Sheet 3.

Sanitary Sewer Notes

- 1) All Construction shall be done in accordance with City of Grand Junction Sanitary Sewer Details - Drawing 55-1, and shall Conform to City of Grand Junction "Standard Specifications for Construction of Water Lines, Sanitary Sewer Lines, Storm Drainage and Irrigation Systems," 1981, and City of Grand Junction General Contract Conditions for Public Works and Utilities Construction GC-37, GC-50, & GC-65.
- 2) All Sewer Mains shall be constructed with a 5ft. Minimum Cover unless otherwise shown. All Sewer Elevations are Invert Elevations unless otherwise Noted.
- 3) Any "Break-Ins" or modifications to Existing installations shall be acceptable to the Engineer or his Representative. The Contractor shall contact the City Engineer for Inspection prior to covering.
- 4) See Typical Trench Detail.
- 5) All Mains and Laterals shall be tested in accordance with City of Grand Junction specifications. Armstrong & Associates shall be notified 48 Hours Prior to any Testing to assure. Testing is performed as specified.
- 6) Each 4" Lateral shall be set at a minimum grade of 1% with a minimum drop of 0.3' to the main, and the invert shall be at a minimum depth of 4.0' below finished grade at connection to collector. Unless otherwise noted, the locations shall be determined by the Engineer and shall be constructed perpendicular to the main.
- 7) No Laterals may be constructed into Manholes.
- 8) The Contractor is responsible for locating and protecting all buried utilities and their repair if damaged.
- 9) Contractor shall obtain all permits required by State and Local Agencies.
- 10) All sewer lines must have a 10' Horizontal Separation from any water line.
- 11) The Contractor shall restore all disturbed areas to a condition equal to or better than those that existed prior to construction.
- 12) The Contractor is specifically cautioned that the Location and/or Elevations of existing utilities as shown on these plans is based on records of the various utility Companies and, where possible, measurements taken in the Field. The information is provided for the convenience of the Contractor and is not to be relied on as being exact or complete. The Contractor shall call the mesa county Buried Utilities Location Service (245-2555) at least 48hrs before any excavation to request exact field location of utilities, or Appropriate Utility Company.
- 13) Subgrade at all traveled ways shall be compacted to 95% AASHTO T-180 at optimum moisture and the surface of all driveways shall be 24" of class 6 Base & 4" Bituminous surface compacted to 95% AASHTO T-180 at optimum moisture as shown on Typical Trench Detail (Sheet 3 of 12)
- 14) All 4" Lateral Service Lines shall be extended to the Property Line or as noted. The end of the Laterals shall be capped and mark with a 2"x4" Board extended to the ground line. See Technical Specification 103.1b. The location of the services may be field adjusted to accommodate the property owner or existing Structures.
- 15) Permanent and Construction Easements are shown on the plans. The Contractor is cautioned to stay within the easements or Public Right-of-Way during construction or make arrangements with the appropriate property Owner.
- 16) The Sanitary Sewer Pipe through the encasement shall have PSI Model PE 10"x14" supports at a maximum of 10' spacing. The Ends of the Casing are to be suitably protected against the Entrance of Foreign Material, but are not to be tightly sealed.
- 17) All 8" PVC Stubs shall be plugged with a PVC Cap and not with Concrete.

"AS BUILT"

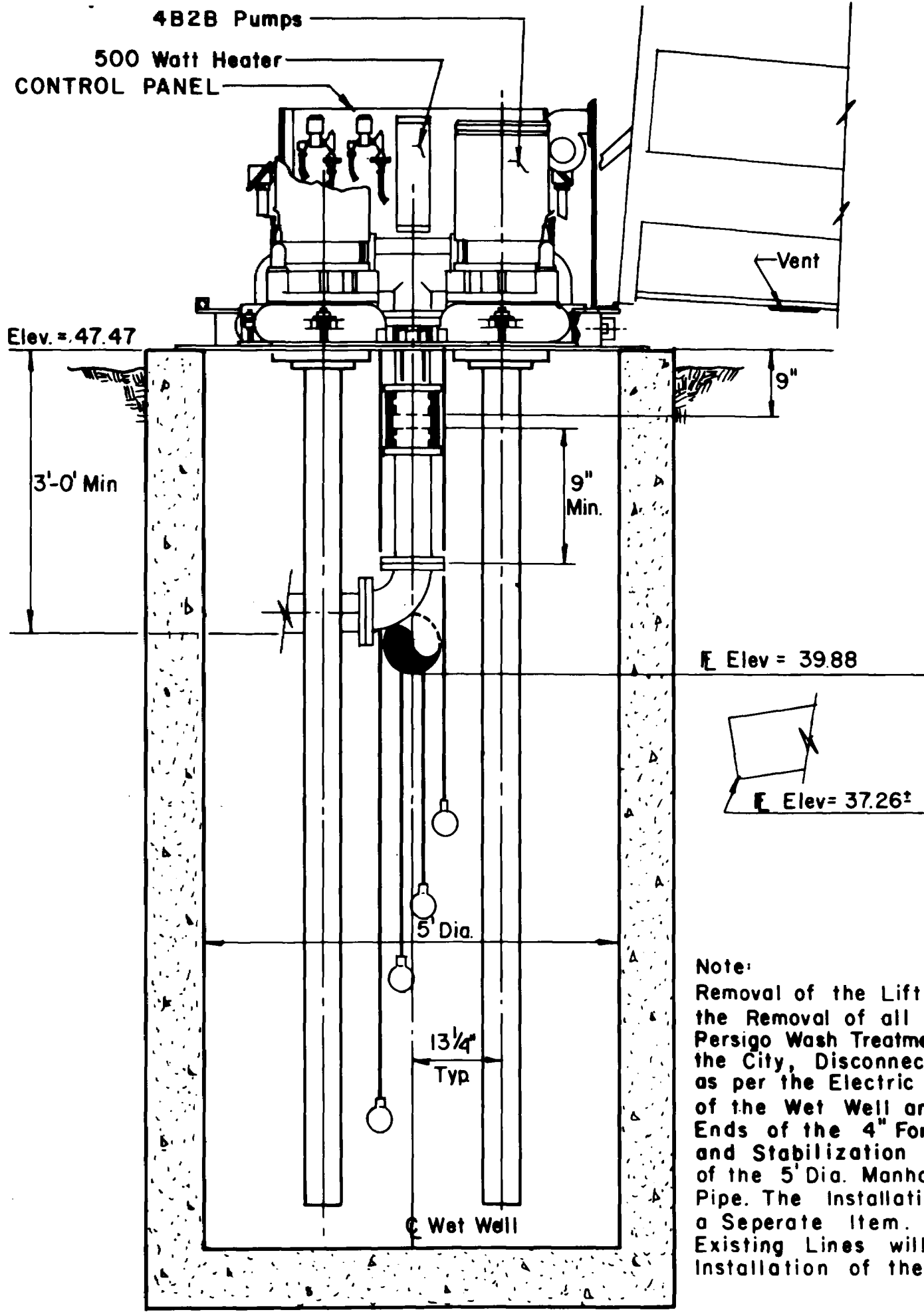
NO.	REVISION DESCRIPTION	DATE	BY
A	"As Built"	10/22/05	R.C.B.

ARMSTRONG & ASSOCIATES, INC.
 801 Road Avenue
 Grand Junction, Colorado 81501
 (970) 245-1500

Engineers
 Planners
 Surveyors
 Soil Testing
 Material Testing
 U.S. Mineral Surveyors
 Professional Engineers

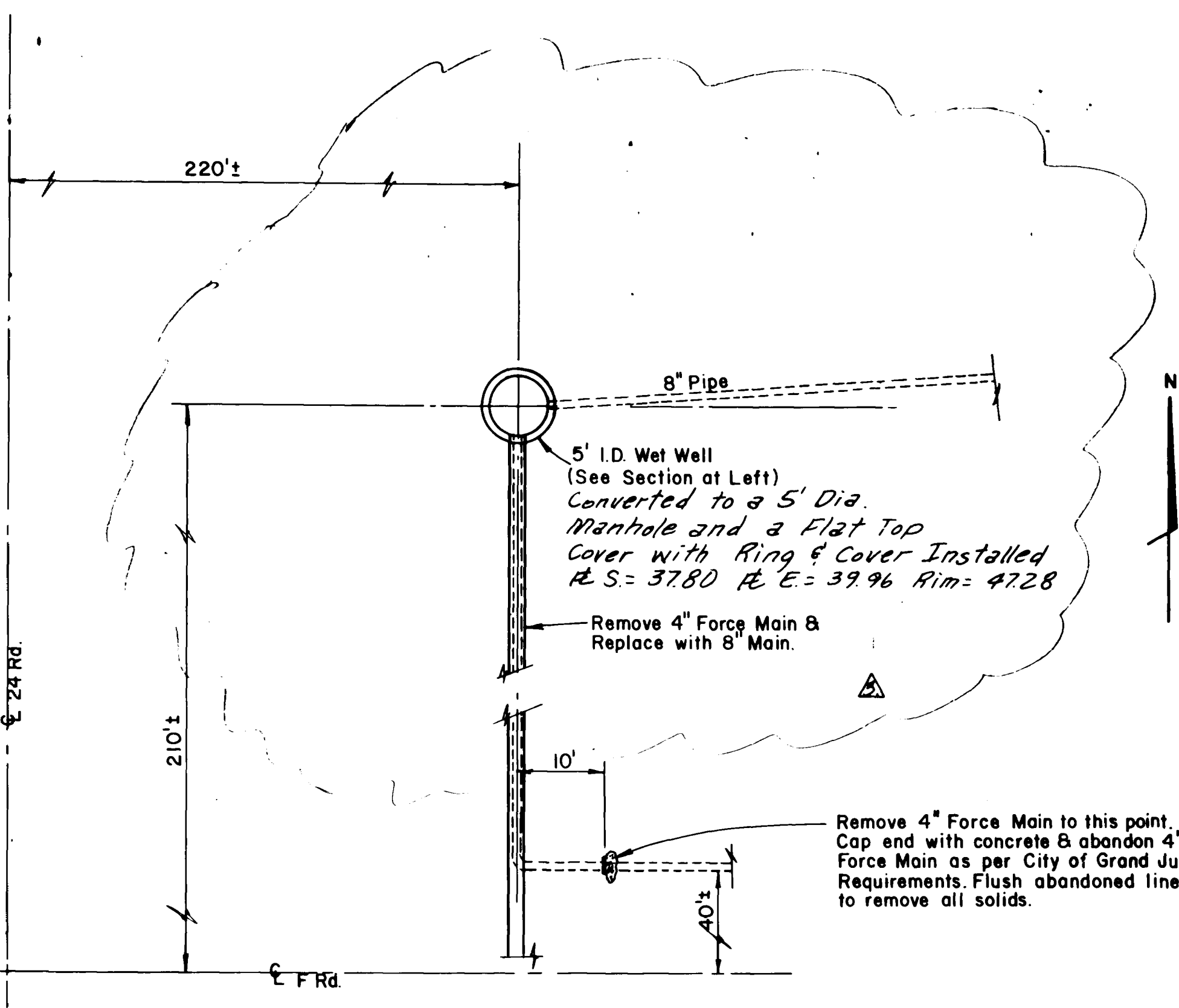
**Appleton Sanitary Sewer
 Local Improvement
 District-84**

Project No: 844432
 Date: 1-23-85
 Revisions:
 Drawn: RCB
 Checked:
 Approved:



CROSS SECTION
EXISTING WET WELL

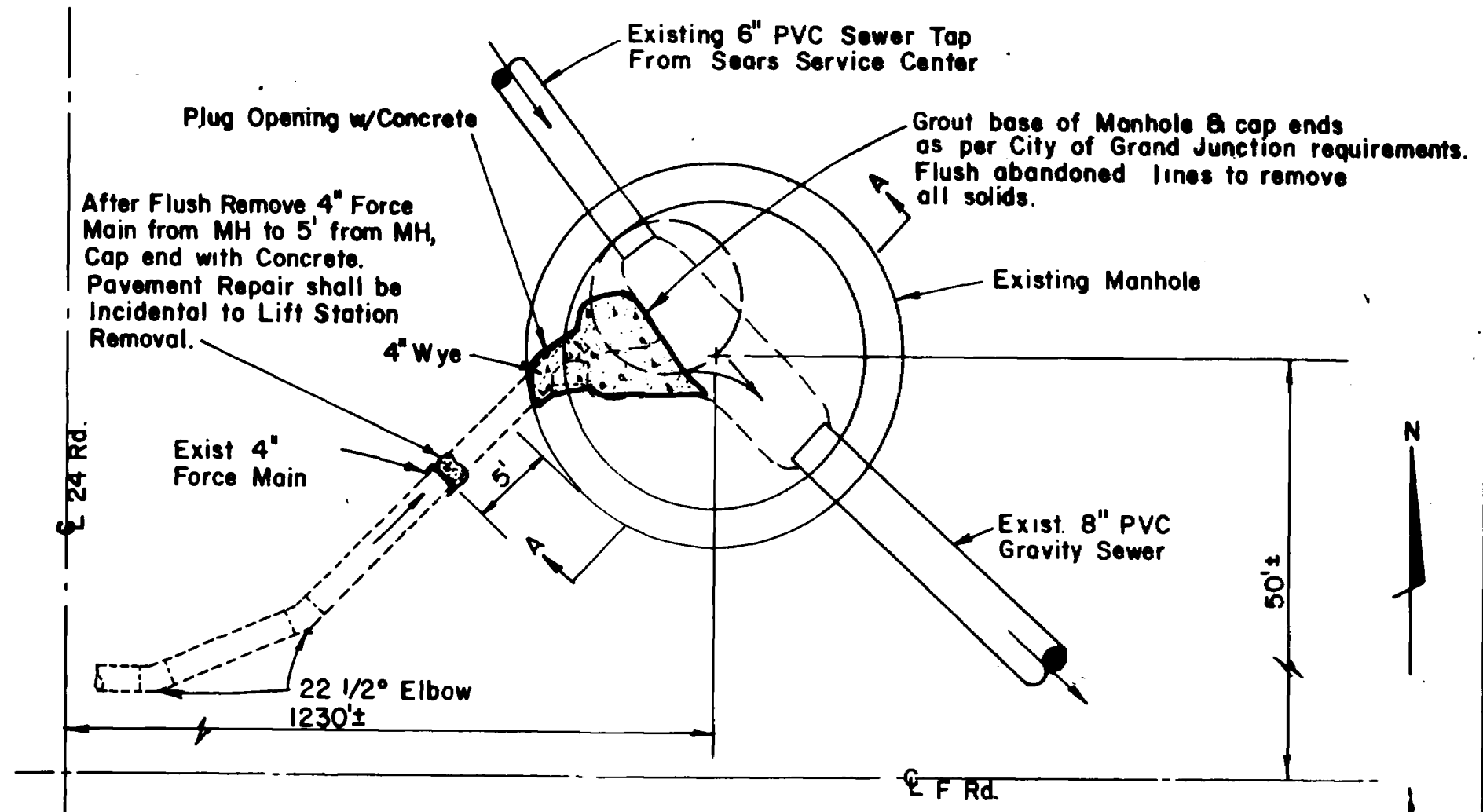
Note: Removal of the Lift Station Shall consist of the Removal of all Equipment and Haul to the Persigo Wash Treatment Plant or as Directed by the City. Disconnect the Electrical Service as per the Electric Code, Removal and Disposal of the Wet Well and Piping, Abandon and Cap Ends of the 4" Force Main, and Embankment and Stabilization Required for the Installation of the 5' Dia. Manhole and Installation of the Pipe. The Installation of the 5' Dia. Manhole is a Separate Item. The Connection to the Existing Lines will be incidental to the Installation of the Pipe.



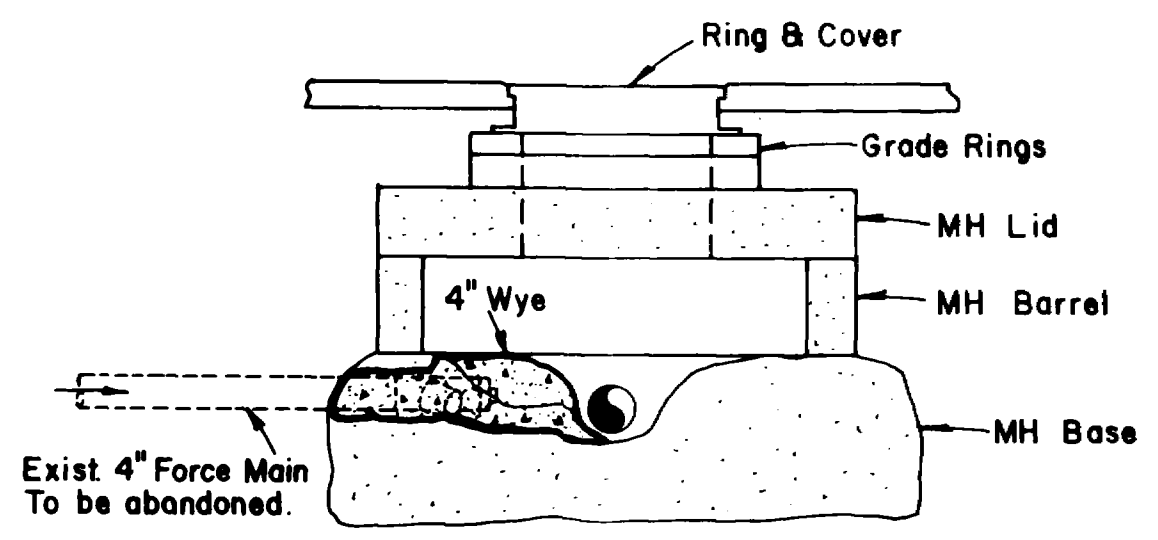
PLAN

MESA VILLAGE LIFT STATION

Note: There is no existing flow from the North and only one building is served from the East. Replacement of the Wet Well, Lift Station & Force Main with a Manhole and gravity flow 8" Sanitary Sewer Main shall be done in such a manner as to not disturb the normal use of the office building to the East

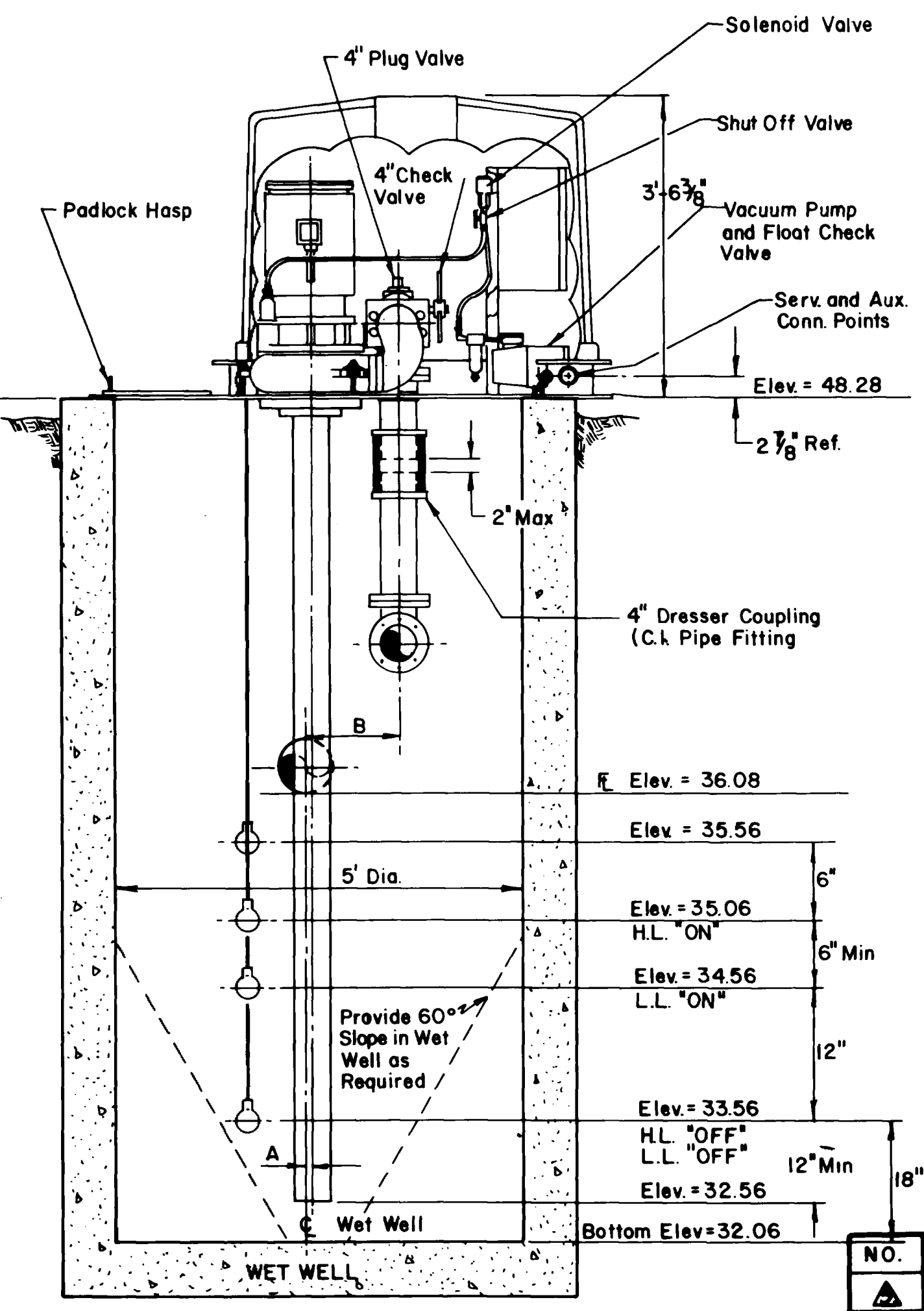


FORCE MAIN CONNECTION TO MANHOLE

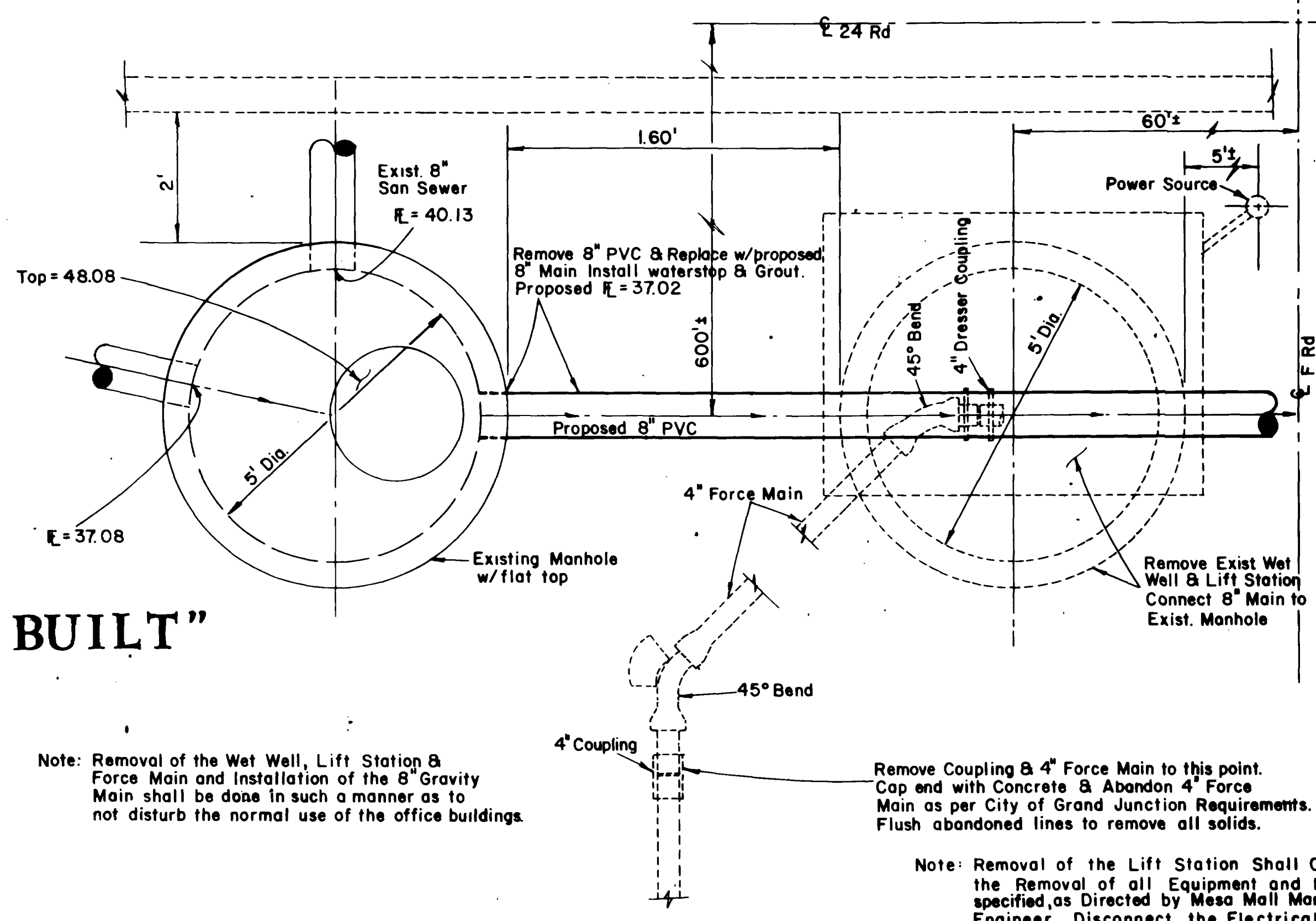


SECTION A-A

MESA MALL MH 4-B
LINE D



CROSS SECTION
EXISTING WET WELL

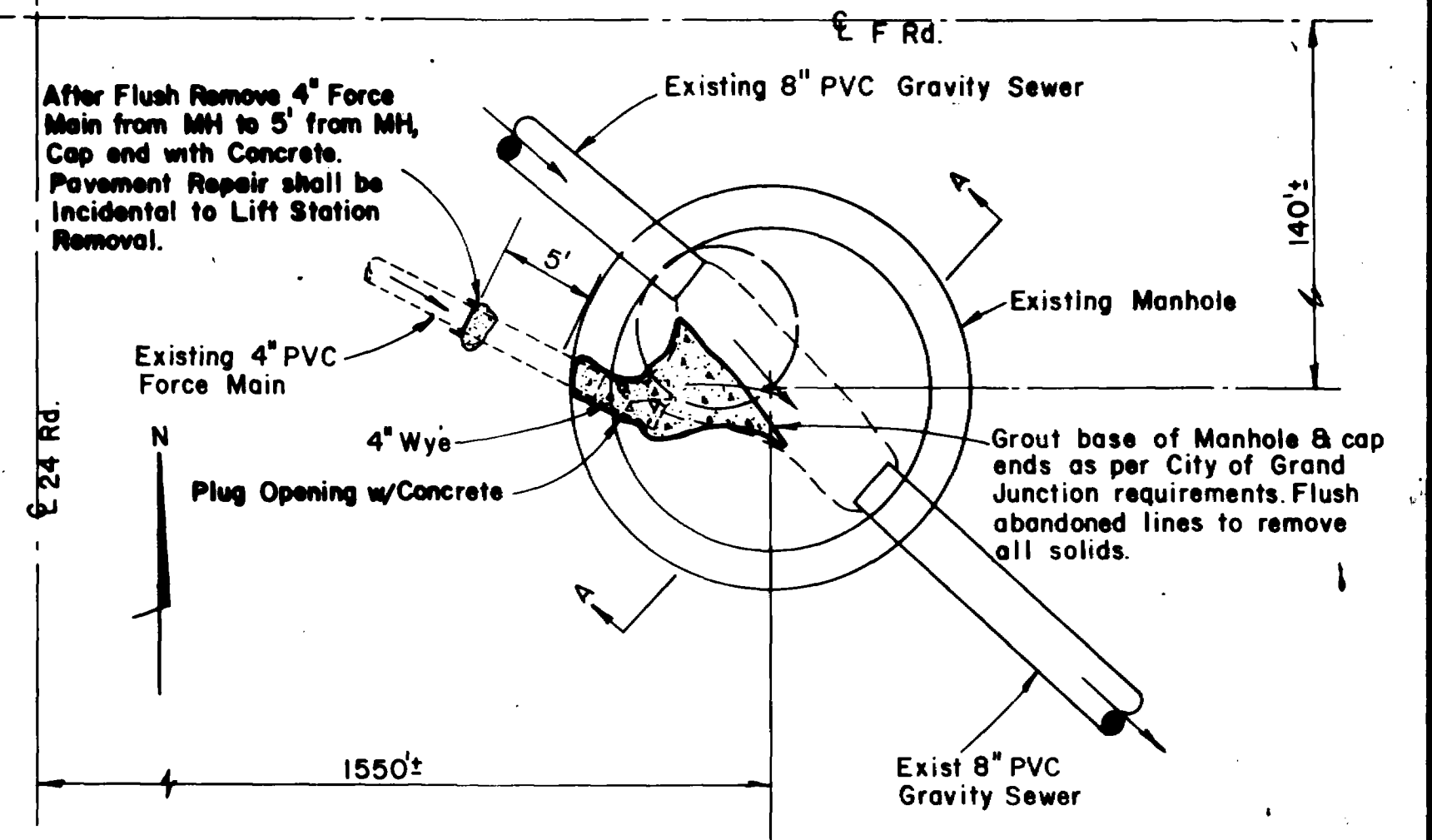


"AS BUILT"

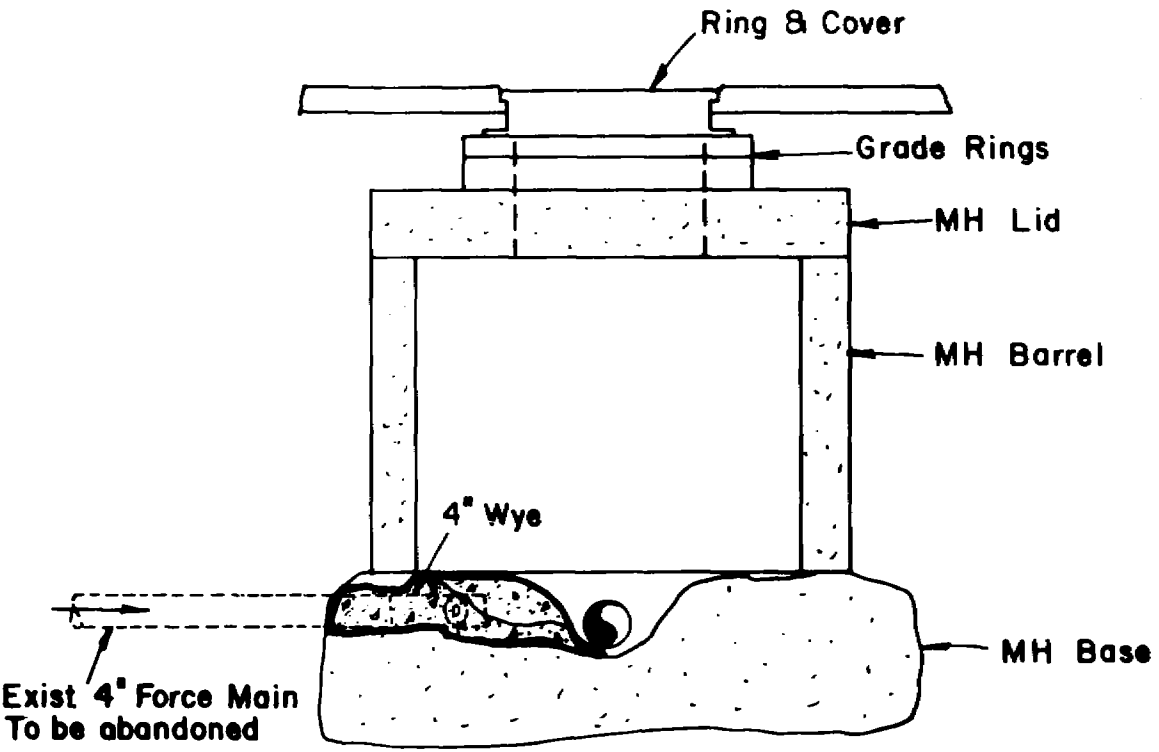
MESA MALL LIFT STATION
NORTHWEST CORNER OF THE MALL

Note: Removal of the Wet Well, Lift Station & Force Main and Installation of the 8" Gravity Main shall be done in such a manner as to not disturb the normal use of the office buildings.

Note: Removal of the Lift Station Shall consist of the Removal of all Equipment and Haul to location specified, as Directed by Mesa Mall Management or the Engineer, Disconnect the Electrical Service as per the Electric Code, Removal and Disposal of the Wet Well and Piping, Abandon and Cap Ends of the 4" Force Main, and Embankment and Stabilization Required for the Installation of Pipe. The Connection to the Existing Manhole will be incidental to the Installation of the Pipe.



FORCE MAIN CONNECTION TO MANHOLE



SECTION A-A

MESA MALL MH 4-A
LINE D

NO.	REVISION DESCRIPTION	DATE	BY
1	"As Built"	10/22/85	PLH

ARMSTRONG & ASSOCIATES, INC.
871 Reed Avenue
Grand Junction, Colorado 81501
(970) 245-3001

Engineers
Planners
Surveyors
Soil Testing
Material Testing
Professional Engineers

**Appleton Sanitary Sewer
Local Improvement
District-84**

Project No: 844432
Date: 1-23-85
Revision:

Drawn: RB
Checked:
Approved:

**LIFT STATION
DETAILS**

Sheet: 5 of 12

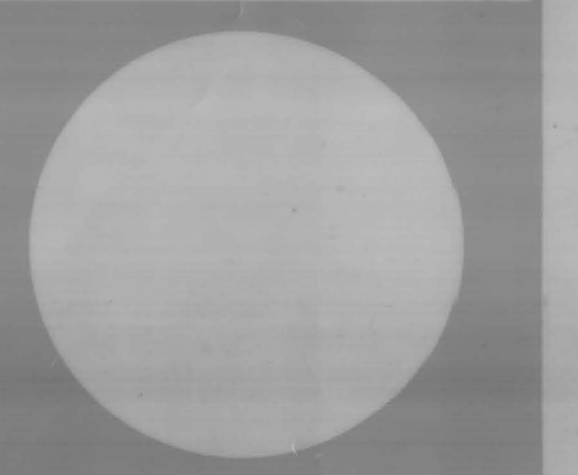


Sheet 6 of 12
 23 3/4" (US HWY 6.8.50 TO F 1/2 RD)
 Drawn: PCB
 Checked:
 Approved:
 Project No: 844432
 Date: 1-23-85
 Revision: 2-19-85 AM

**Appleton Sanitary Sewer
 Local Improvement
 District-84**

Engineers
 Planners
 Surveyors
 Soil Testing
 Material Testing
 U.S. Mineral Surveyors
 Geotechnical Engineers

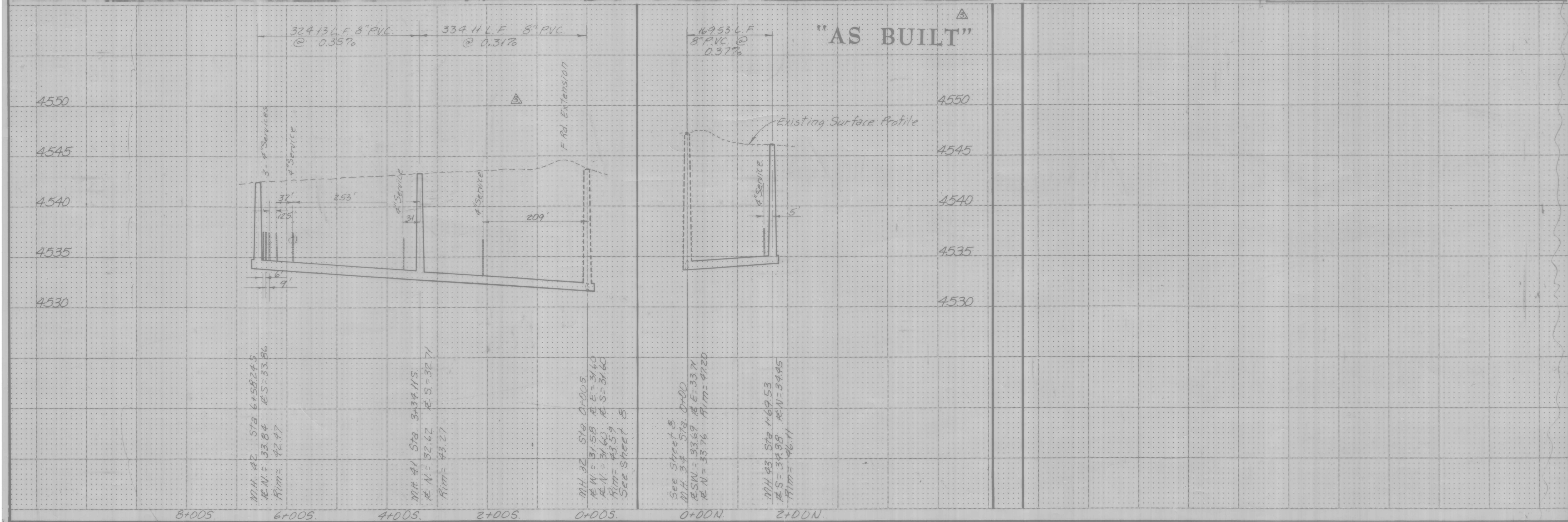
ARMSTRONG & ASSOCIATES, INC.
 861 Road Avenue
 Grand Junction, Colorado 81501
 (303) 245-3861



02039306.tif



REVISION	DESCRIPTION	DATE	BY
1	"As Built"	4/23/85	AL



8+00S 6+00S 4+00S 2+00S 0+00S 2+00N

ARMSTRONG & ASSOCIATES, INC.
 881 Road Avenue
 Grand Junction, Colorado 81501
 (303) 245-3881

Engineers
 Planners
 Surveyors
 Soil Testing
 Material Testing
 U.S. Mineral Surveyors
 Geotechnical Engineers

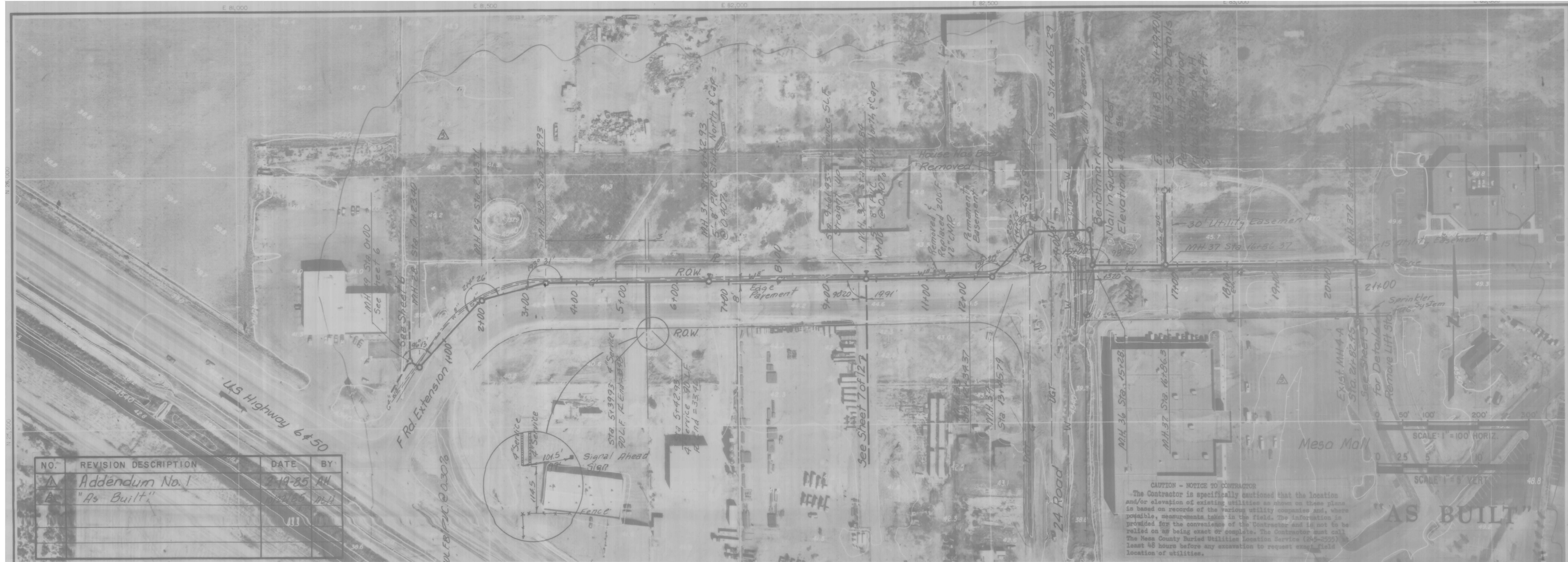
**Appleton Sanitary Sewer
 Local Improvement
 District-84**

Project No: 844432
 Date: 1-23-85
 Revisions:

Drawn: RCB
 Checked:
 Approved:

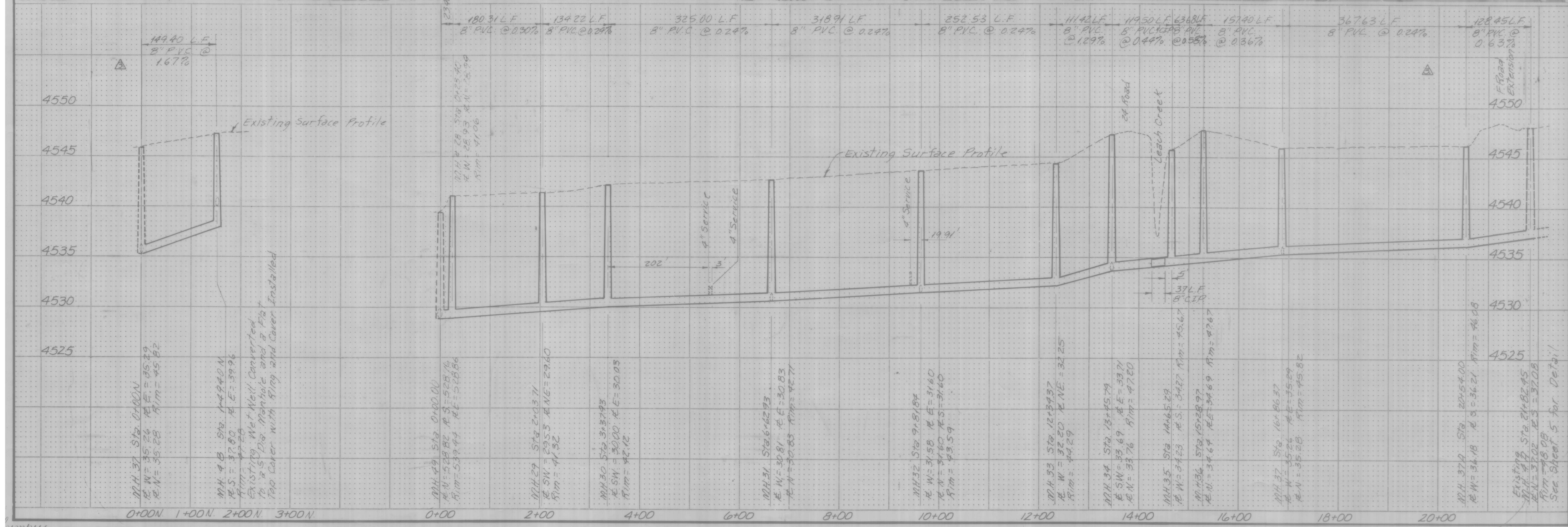
N 1/2: G RD &
 TECH CNTR DR
 S 1/2: F RD EXT.
 HIMES-MACK P

Sheet: 7 of 12



NO.	REVISION DESCRIPTION	DATE	BY
1	Addendum No. 1	2-19-85	AM
2	"As Built"	11/15/85	AM

CAUTION - NOTICE TO CONTRACTOR
 The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where available, measurements taken in the field. The information is provided for the convenience of the Contractor and is not to be relied on as being exact or complete. The Contractor must call the local County Buried Utilities Location Service (343-2525) at least 48 hours before any excavation to request exact field location of utilities.



ARMSTRONG & ASSOCIATES, INC.
 881 Road Avenue
 Grand Junction, Colorado 81501
 (303) 245-3801

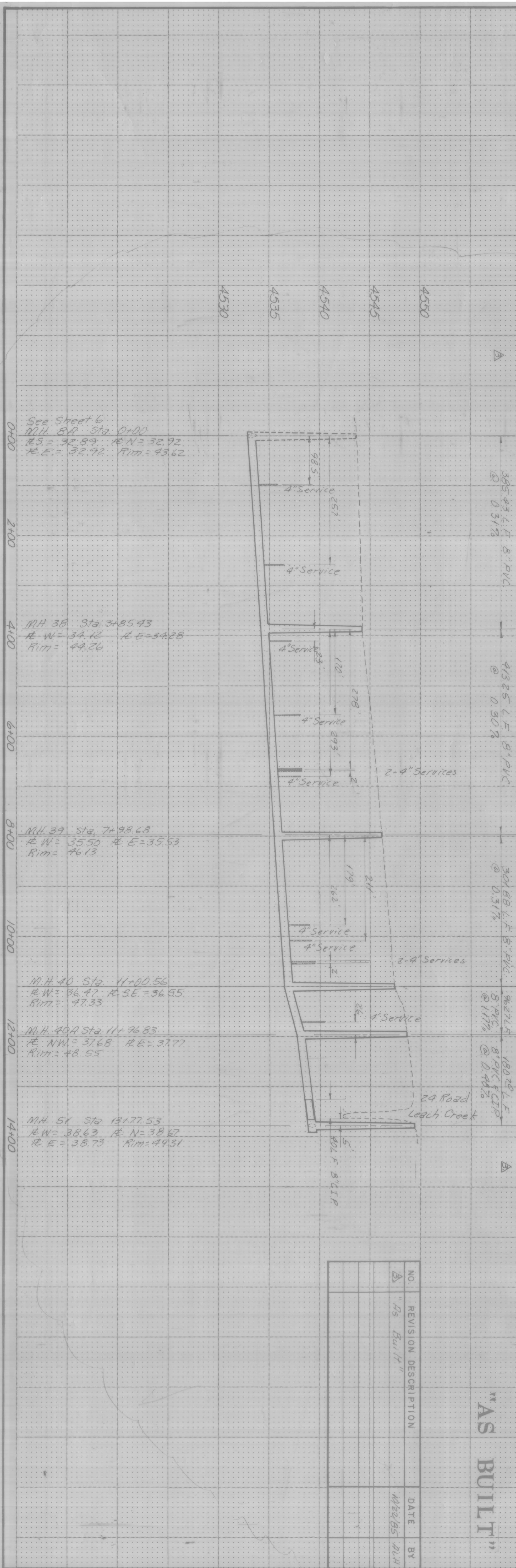
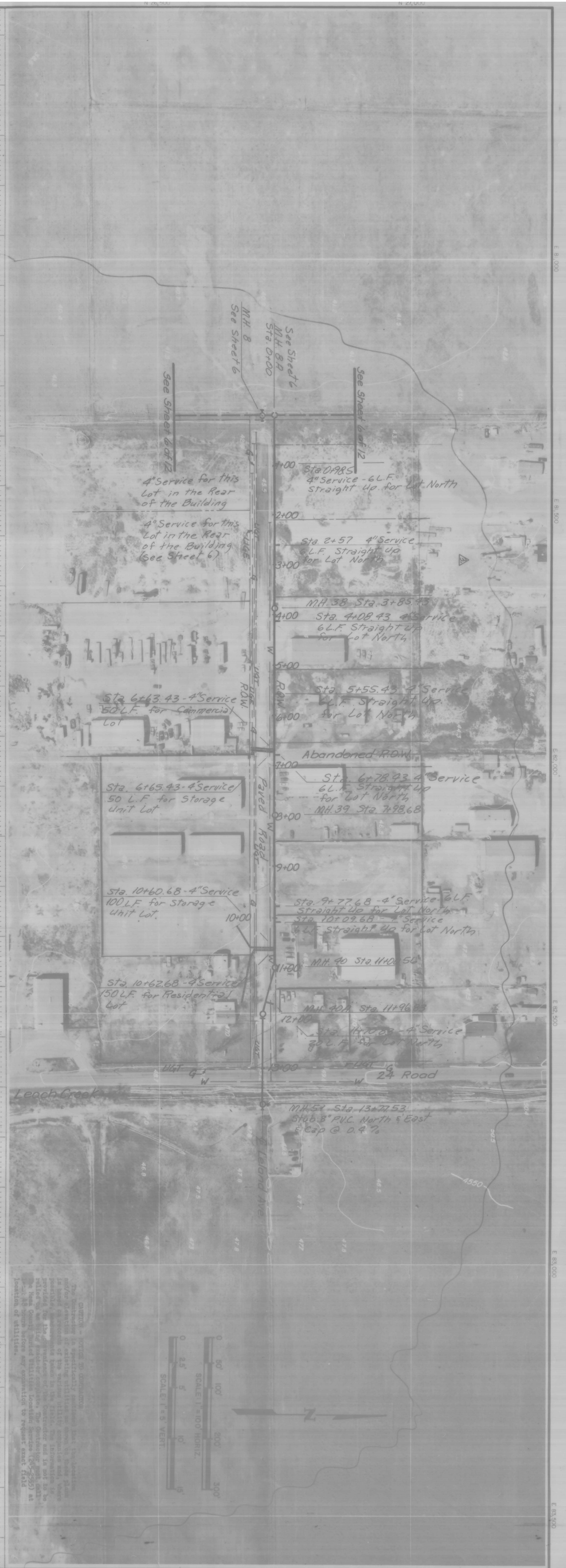
- Engineers
- Planners
- Surveyors
- Soil Testing
- Material Testing
- Mineral Surveyors
- Geotechnical Engineers

**Appleton Sanitary Sewer
 Local Improvement
 District-84**

Project No: 844432
 Date: 1-23-85
 Revisions: 2-19-85 AM

Drawn: RCB
 Checked:
 Approved:

F RD EXT -
 (US HWY 6 & 50
 TO MESA MALL)



"AS BUILT"

NO.	REVISION DESCRIPTION	DATE	BY
1	"As Built"		MW/BOS

NOTICE - OWNER'S RESPONSIBILITY

The responsibility for obtaining all necessary permits, licenses, and approvals for this project rests with the owner. The contractor is responsible for providing the necessary information to the owner to obtain these permits, licenses, and approvals. The contractor is also responsible for obtaining all necessary permits, licenses, and approvals for the construction of the project. The contractor is also responsible for obtaining all necessary permits, licenses, and approvals for the construction of the project.

Project No. 044432
Date 1-23-85
Revision:

**Appleton Sanitary Sewer
Local Improvement
District-84**

Engineers
Planners
Surveyors
Soil Testing
Material Testing
U.S. Mineral Surveyors
Geotechnical Engineers

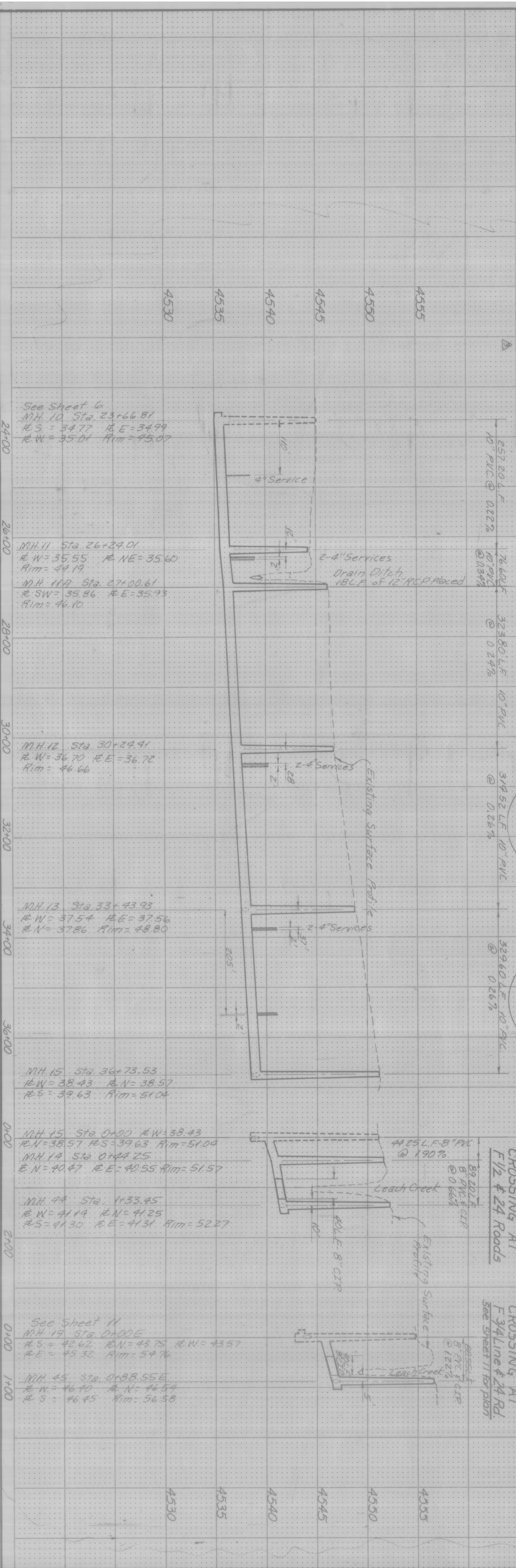
**ARMSTRONG &
ASSOCIATES, INC.**

801 Road Avenue
Grand Junction, Colorado 81501
(303) 245-3861

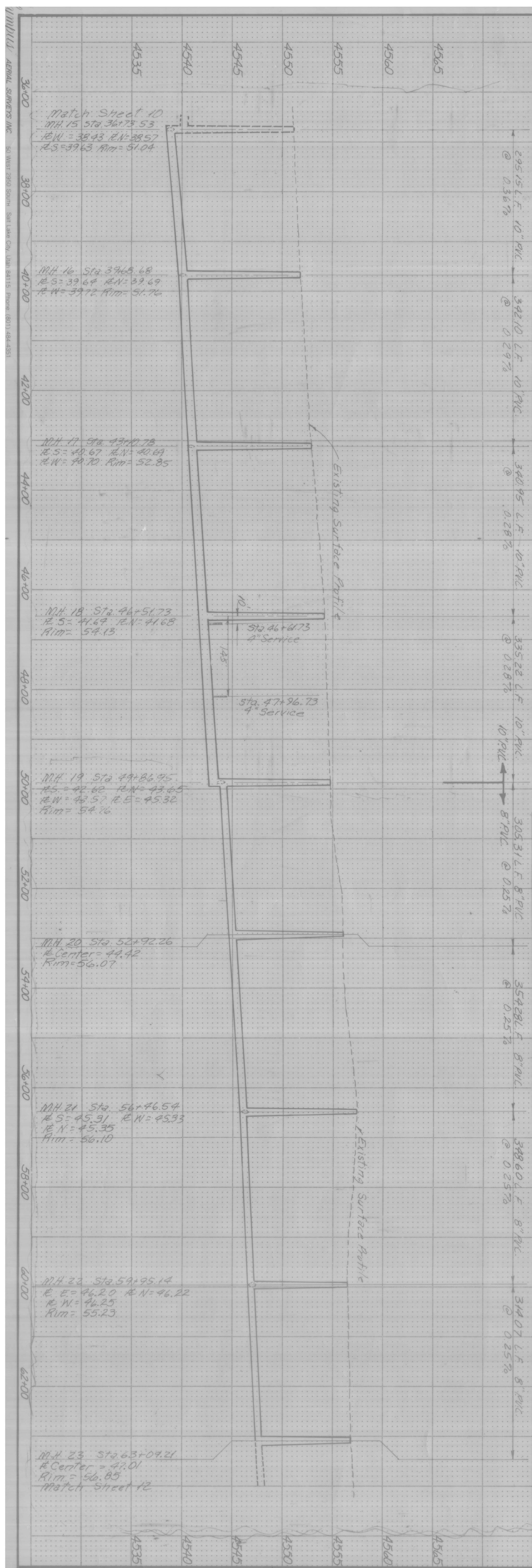
Drawn: RCB
Checked:
Approved:

LELAND AVE-
(23 3/4 TO
24 RD)

Sheet 9 of 12

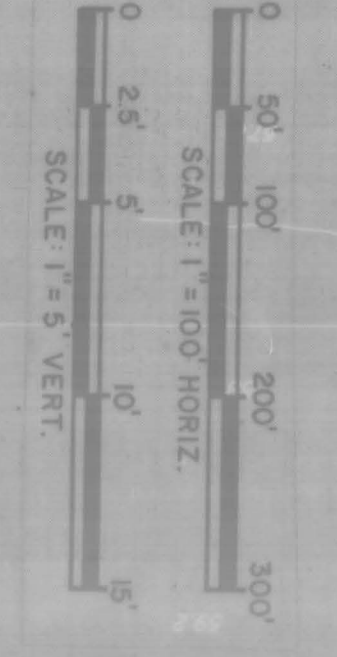


Project No: 84-432 Date: 1-23-85	Appleton Sanitary Sewer Local Improvement District-84	Engineers Planners Surveyors Soil Testing Material Testing U.S. Mineral Surveyors Geotechnical Engineers	ARMSTRONG & ASSOCIATES, INC. 881 Road Avenue Grand Junction, Colorado 81501 (303) 245-3861
Sheet: 10 of 12	F 1/2 RD - (23 3/4 TO 24 RD)	Drawn: PCB Checked: Approved:	



NO.	REVISION DESCRIPTION	DATE	BY
1	Revised Location of 8" PVC	8/27/05	RJK
2	"As Built"	10/22/05	RJK

"AS BUILT"



Benchmark:
M.C. BC. Elev = 4563.27'

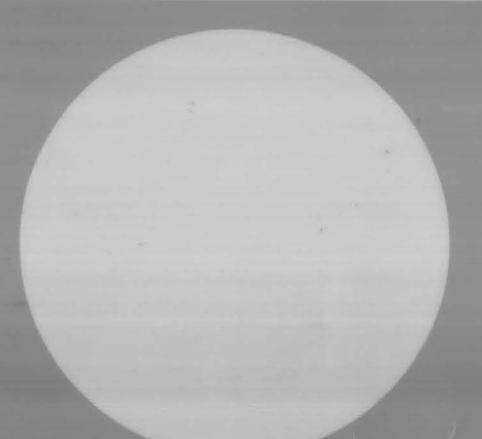
02039311.dwg

Sheet: 11 of 12
24 RD (F/I/2 RD TO G RD)
Drawn: TCB
Checked/Approved:
Project No: 944432
Date: 1/23/05
Revisions:

Appleton Sanitary Sewer Local Improvement District-84

Engineers
Planners
Surveyors
Soil Testing
Material Testing
U.S. Mineral Surveyors
Geotechnical Engineers

ARMSTRONG & ASSOCIATES, INC.
861 Road Avenue
Grand Junction, Colorado 81501
(303) 245-3861





Match Sheet W
 MH 23 Sta 63+09.21
 E. Center = 47.01
 Rim = 56.85

M.H. 24 Sta 64+93.88
 R.S. = 47.97 R.M. = 47.99
 R.E. = 49.49
 Rim = 60.85

M.H. 25 Sta 65+29.88
 R.S. = 47.97 R.M. = 47.99
 R.E. = 49.49
 Rim = 60.85

M.H. 26 Sta 66+23.23 W
 R.E. = 48.97 R.W. = 48.98
 R.N. = 49.08 Rim = 56.24

M.H. 27 Sta 67+18.19 W
 R.E. = 49.72 R.S. = 49.75
 R.W. = 49.80 Rim = 53.84
 R.N. = 49.80

M.H. 28 Sta 68+26.84 W
 R.E. = 50.12 Center = 50.14
 R.M. = 55.19

M.H. 29 Sta 69+20.00 = 66+93.88
 R.S. = 47.97 R.M. = 47.99
 R.E. = 49.49
 Rim = 60.85

M.H. 30 Sta 70+30.60 E
 R.W. = 51.32 R.E. = 51.57
 R.N. = 51.36
 Rim = 63.02

Project No. 044432
 Date 1-23-85
 Revision:
 Drawn: PCB
 Checked:
 Approved:
 G RD -
 (23 3/4 TO
 24 RD)
 Sheet 12 of 12

**Appleton Sanitary Sewer
 Local Improvement
 District-84**

Engineers
 Planners
 Surveyors
 Soil Testing
 Material Testing
 U.S. Mineral Surveyors
 Geotechnical Engineers

**ARMSTRONG &
 ASSOCIATES, INC.**
 861 Road Avenue
 Grand Junction, Colorado 81501
 (303) 245-3861



NO.	REVISION DESCRIPTION	DATE	BY
1	Revised Location of Grates	01/23/85	RA
2	"As Built"	11/22/85	RA

"AS BUILT"

