

# 24 ROAD SEWER LINE REPLACEMENT PLANS FOR SANITARY SEWER REPLACEMENT NOVEMBER, 1999

- 1 ————— Cover Sheet
- 2 ————— Drafting Standards and Abbreviations
- 3a, 3b, & 3c ————— Summary of Approximate Quantities

~~BID SCHEDULE A~~ ~~(CONVENTIONAL TRENCH)~~  
~~4 11~~ ~~Sanitary Sewer Plan and Profiles~~

~~BID SCHEDULE B~~ ~~(PIPE BURSTING METHOD)~~  
~~12 20~~ ~~Sanitary Sewer Plan and Profiles~~

**BID SCHEDULE C — (COMBINATION CONVENTIONAL TRENCH  
AND PIPE BURSTING METHOD)**  
**21-28 — Sanitary Sewer Plan and Profiles**

**CONTRACT WORK**

**BID SCHEDULE A, B, AND C**  
**Sanitary Sewer Details**

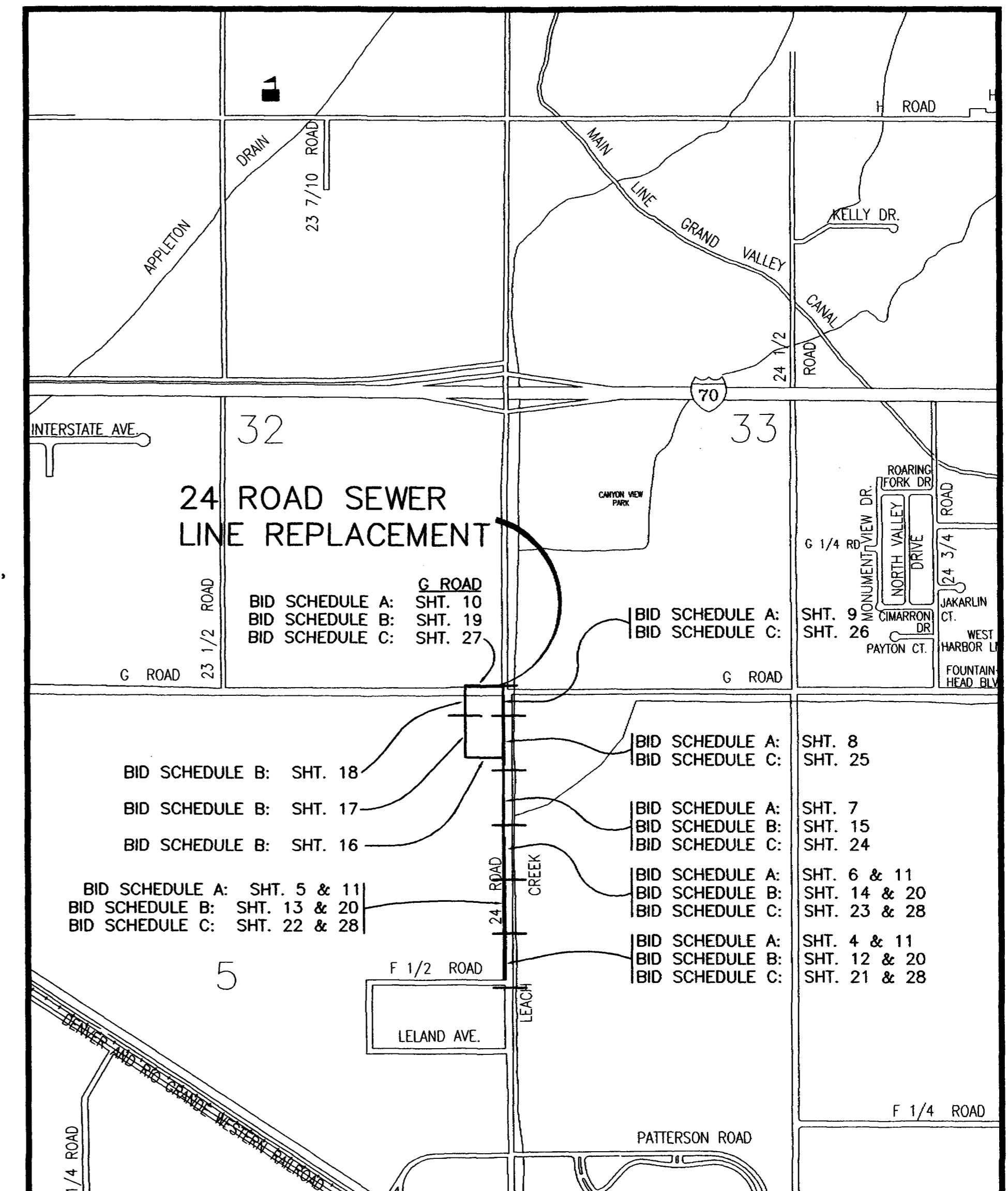
(SEE PROJECT SPECIFICATIONS, APPENDIX "C" FOR  
STANDARD SANITARY SEWER DETAILS)

*City of Grand Junction, Colorado*

*Department of Public Works & Utilities*

*Engineering Division*

VICINITY MAP





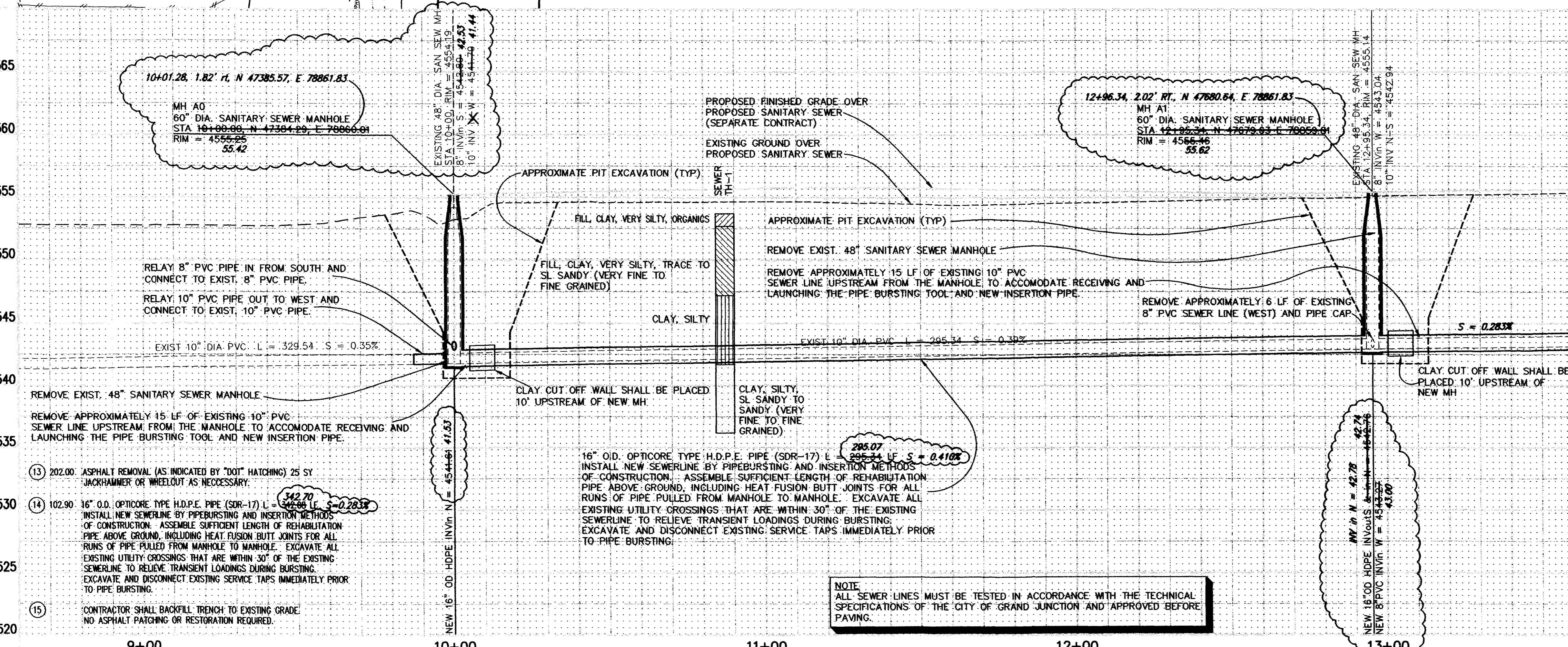
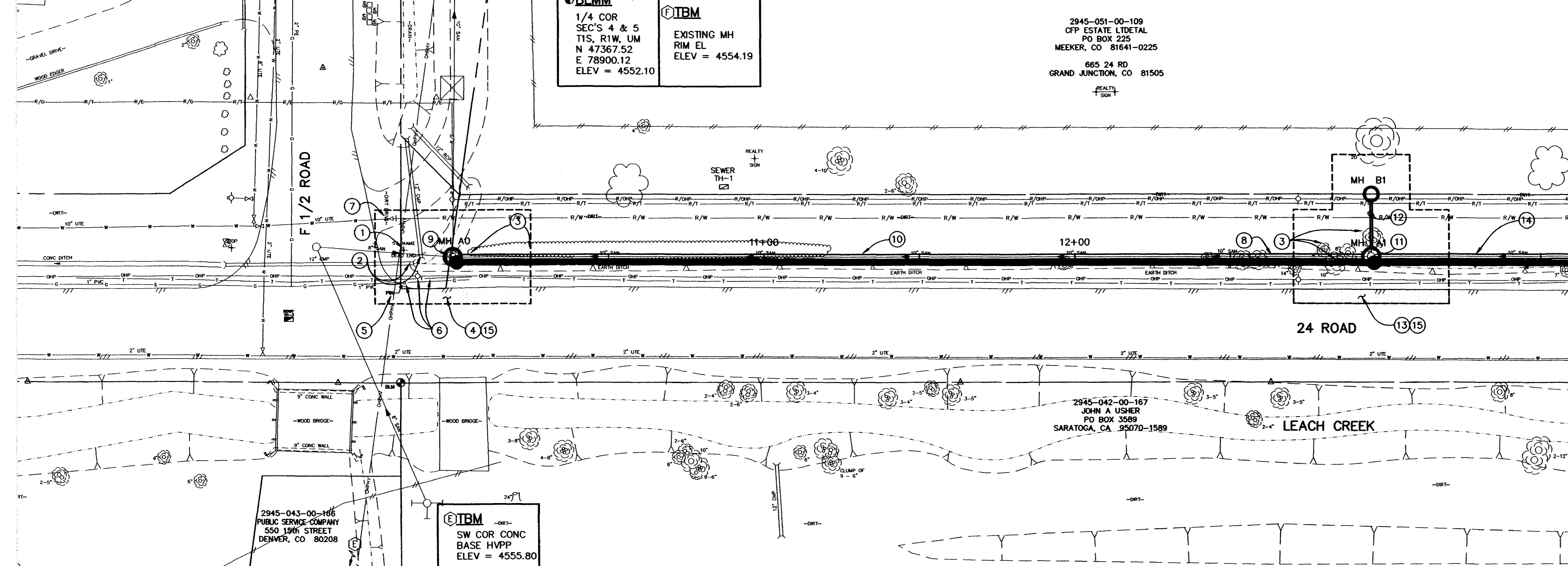
GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.

CONSTRUCTION NOTES

- 1 202.00 GROUND SIGN REMOVAL. SALVAGE AND RETURN TO CITY SHOPS.
- 2 202.00 REMOVE EXISTING PIPE. REMOVE EXISTING PIPE AS NEEDED TO INSTALL NEW SANITARY SEWER.
- 3 202.00 TREE REMOVAL (BY OTHERS)
- 4 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) 35 SY JACKHAMMER OR WHEELCUT AS NECESSARY.
- 5 202.00 PROPERTY PIN REMOVAL. NO REFERENCE OR RESET REQUIRED.
- 6 CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
- 7 210.00 ADJUST VALVE TO GRADE AFTER MANHOLE BACKFILL OPERATIONS ARE COMPLETE.
- 8 CONTRACTOR SHALL CLOSELY COORDINATE CONSTRUCTION WITH STREET CONTRACTOR WHO WILL BE RESPONSIBLE FOR IRRIGATION, STORM SEWER, ROADWAY, AND BRIDGE CONSTRUCTION ALONG 24 ROAD.
- 9 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE) REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
  - 102.11 60" DIA. SANITARY SEWER MANHOLE (1 EA) STA 10+00.00, 1.82' RT. N 47385.57, E 78861.83, RIM = 4556.25, 55.42
  - EXIST 10" PVC INV IN N = 4544.61, 41.53
  - EXIST 8" PVC INV IN S = 4542.00, 42.53
  - NEW 16" OD HDPE INV IN N = 4544.61, 41.53
  - CONSTRUCT NEW MANHOLE AROUND NEW 16" O.D. HDPE SEWERLINE NORTH, EXISTING 10" PVC WEST, AND EXISTING 8" PVC SOUTH. (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)
  - RELAY 10" PVC PIPE OUT TO WEST. (10 LF) CONNECT TO EXIST. 10" PVC PIPE.
  - RELAY 8" PVC PIPE IN FROM SOUTH. (10 LF) CONNECT TO EXIST. 8" PVC PIPE.
  - 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- 10 102.90 16" O.D. OPTICORE TYPE H.D.P.E. PIPE (SDR-17) L = 295.34 LF S = 0.410%  
 202.00 REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
  - 102.11 60" DIA. SANITARY SEWER MANHOLE (1 EA) STA 12+96.34, 2.02' RT. N 47880.84, E 78861.83, RIM = 4556.46, 55.62
  - EXIST 10" PVC INV IN N = 4543.04
  - EXIST 8" PVC INV IN W = 4543.04
  - NEW 16" OD HDPE INV IN N = 4543.04, 42.78
  - NEW 8" PVC INV IN W = 4543.04, 43.00
  - CONSTRUCT NEW MANHOLE AROUND NEW 16" O.D. HDPE SEWERLINE NORTH/SOUTH, AND NEW 8" PVC WEST (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)
  - 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- 11 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE) REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
  - 102.11 60" DIA. SANITARY SEWER MANHOLE (1 EA) STA 12+96.34, 2.02' RT. N 47880.84, E 78861.83, RIM = 4556.46, 55.62
  - EXIST 10" PVC INV IN N = 4542.94
  - EXIST 8" PVC INV IN W = 4543.04
  - NEW 16" OD HDPE INV IN N = 4542.94, 42.78
  - NEW 8" PVC INV IN W = 4543.04, 43.00
  - CONSTRUCT NEW MANHOLE AROUND NEW 16" O.D. HDPE SEWERLINE NORTH/SOUTH, AND NEW 8" PVC WEST (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)
  - 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- 12 SEE SANITARY SEWER CROSSINGS SHEET 28 FOR CONSTRUCTION OF THIS RUN AND DEAD END MANHOLE.



NOTE:  
ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS OF THE CITY OF GRAND JUNCTION AND APPROVED BEFORE PAVING.

REVISION	DESCRIPTION	DATE
ASBUILT	PER INSPECTOR'S NOTES	11-00

DRAWN BY	JCS	DATE	
DESIGNED BY	JCS	DATE	
CHECKED BY	MC	DATE	
APPROVED BY		DATE	

SCALE	
PLAN	PROFILE
HORIZ. 1"=20'	HORIZ. 1"=20'
	VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES  
STA 8+60 TO STA 13+60





GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.

CONSTRUCTION NOTES

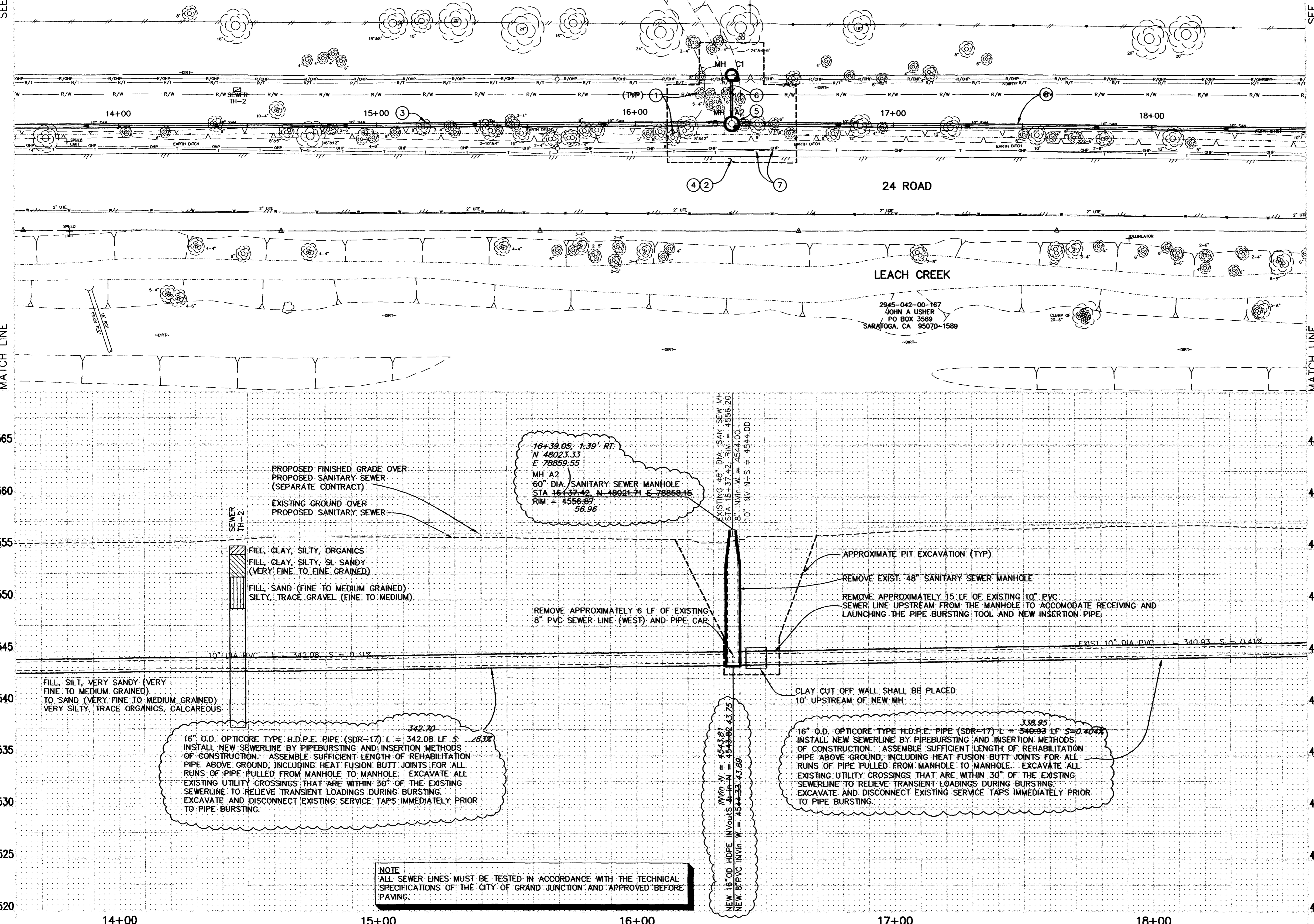
- ① 202.00 TREE REMOVAL (BY OTHERS)
- ② 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) 13 SY JACKHAMMER OR WHEELCUT AS NECESSARY.
- ③ 102.90 16" O.D. OPTICORE TYPE H.D.P.E. PIPE (SDR-17) L = 342.08 LF S = 0.2838  
INSTALL NEW SEWERLINE BY PIPEBURSTING AND INSERTION METHODS OF CONSTRUCTION. ASSEMBLE SUFFICIENT LENGTH OF REHABILITATION PIPE ABOVE GROUND, INCLUDING HEAT FUSION BUTT JOINTS FOR ALL RUNS OF PIPE PULLED FROM MANHOLE TO MANHOLE. EXCAVATE ALL EXISTING UTILITY CROSSINGS THAT ARE WITHIN 30" OF THE EXISTING SEWERLINE TO RELIEVE TRANSIENT LOADINGS DURING BURSTING. EXCAVATE AND DISCONNECT EXISTING SERVICE TAPS IMMEDIATELY PRIOR TO PIPE BURSTING.
- ④ CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.
- ⑤ 202.00 REMOVAL OF STRUCTURE, 1 EA. (48" SANITARY SEWER MANHOLE) REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSIDE MANHOLE. REMOVAL OF PIPE. REMOVE APPROXIMATELY 6 LF OF EXISTING 8" PVC SEWER LINE (WEST) AND PIPE CAP (NO SEPARATE PAY)
- ⑥ 102.11 60" DIA. SANITARY SEWER MANHOLE (1 EA) STA 16+39.05, N 48023.33, E 78859.55, RIM = 4556.87, 56.96  
NEW 16" OD HOPE INVERTS & IN N = 4544.00  
NEW 8" PVC INVERT W = 4544.00  
NEW 16" OD HOPE INVERTS & IN N = 4543.82, 43.81, OUT S = 43.75  
NEW 8" PVC INVERT W = 4544.33, 43.89
- ⑦ 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- ⑧ 102.90 16" O.D. OPTICORE TYPE H.D.P.E. PIPE (SDR-17) L = 340.93 LF S = 0.4048  
INSTALL NEW SEWERLINE BY PIPEBURSTING AND INSERTION METHODS OF CONSTRUCTION. ASSEMBLE SUFFICIENT LENGTH OF REHABILITATION PIPE ABOVE GROUND, INCLUDING HEAT FUSION BUTT JOINTS FOR ALL RUNS OF PIPE PULLED FROM MANHOLE TO MANHOLE. EXCAVATE ALL EXISTING UTILITY CROSSINGS THAT ARE WITHIN 30" OF THE EXISTING SEWERLINE TO RELIEVE TRANSIENT LOADINGS DURING BURSTING. EXCAVATE AND DISCONNECT EXISTING SERVICE TAPS IMMEDIATELY PRIOR TO PIPE BURSTING.

SEE SHEET NO 21

SEE SHEET NO 23

2945-051-00-109  
OFF ESTATE LTD/ETAL  
PO BOX 225  
MEEKER, CO 81641-0225  
665 24 RD  
GRAND JUNCTION, CO 81505

2945-042-00-167  
JOHN A USHER  
PO BOX 3589  
SARATOGA, CA 95070-1589



MATCH LINE

MATCH LINE

4565  
4560  
4555  
4550  
4545  
4540  
4535  
4530  
4525  
4520

4565  
4560  
4555  
4550  
4545  
4540  
4535  
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4520

NOTE  
ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS OF THE CITY OF GRAND JUNCTION AND APPROVED BEFORE PAVING.

ASBUILT

BID SCHEDULE C - (COMBINATION CONVENTIONAL AND PIPE BURSTING METHOD)

REVISION	DESCRIPTION	DATE
REVISION Δ	ASBUILT PER INSPECTOR'S NOTES	11-00
REVISION Δ		
REVISION Δ		
REVISION Δ		

DRAWN BY	JCS	DATE	
DESIGNED BY	JCS	DATE	
CHECKED BY	MC	DATE	
APPROVED BY		DATE	

SCALE	
PLAN	1"=20'
PROFILE	1"=20'
HORIZ.	1"=20'
VERT.	1"=5'

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES  
STA 13+60 TO STA 18+60



SEE SHEET NO 22

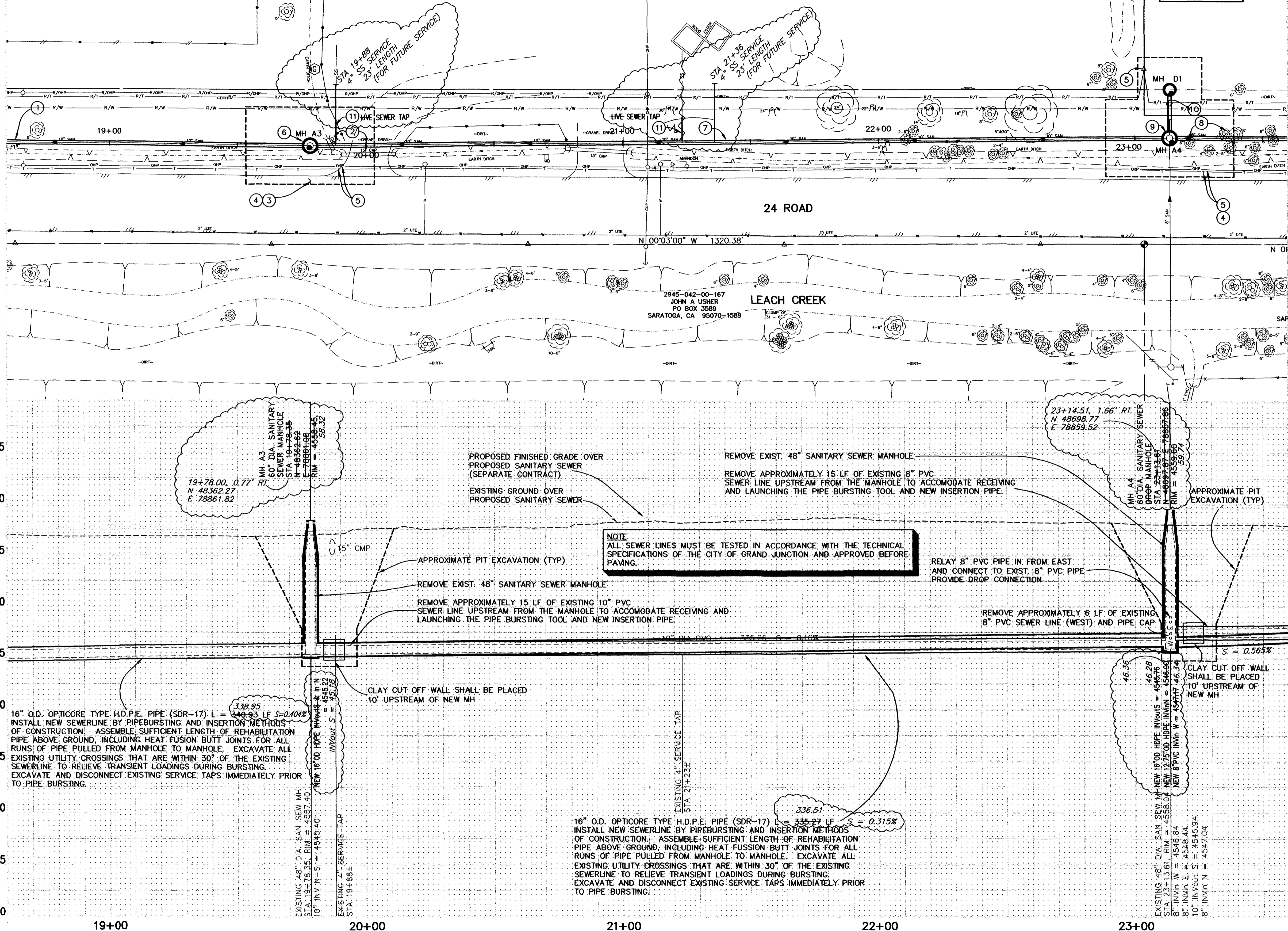
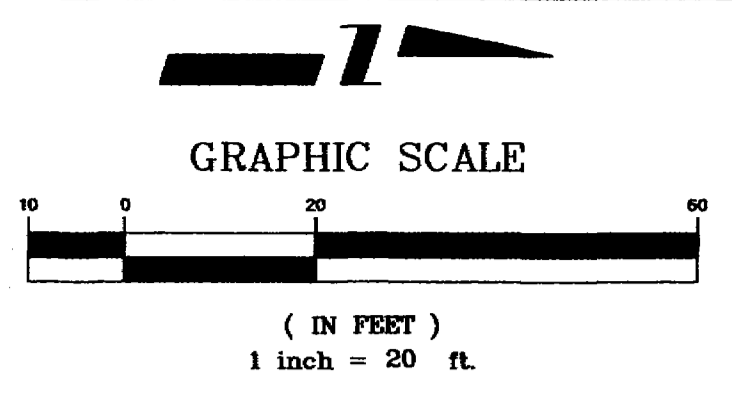
SEE SHEET NO 24

©TBM  
SET NO. 4 SOUTH  
OF DWY 665 24 RD  
ELEV = 4556.80

2945-051-00-109  
CFP ESTATE LTD/ETAL  
PO BOX 225  
MEEKER, CO 81641-0225  
  
665 24 RD  
GRAND JUNCTION, CO 81505

MSCM  
N 1/16th COR  
SEC'S 4 & 5  
T1S, R1W, UM  
N 48687.90  
E 78898.97  
ELEV = 4559.41

PROJECT NO. 904-F10104



- CONSTRUCTION NOTES**
- CONTRACTOR SHALL CLOSELY COORDINATE CONSTRUCTION WITH STREET CONTRACTOR WHO WILL BE RESPONSIBLE FOR IRRIGATION, STORM SEWER, ROADWAY, AND BRIDGE CONSTRUCTION ALONG 24 ROAD.
  - 202.00 REMOVE EXISTING PIPE. REMOVE EXISTING PIPE AS NEEDED TO INSTALL NEW SANITARY SEWER.
  - 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) 18 SY JACKHAMMER OR WHEELCUT AS NECESSARY.
  - CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.
  - CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
  - 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE) REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.  
102.11 60" DIA. SANITARY SEWER MANHOLE (L.E.A.) STA 19+78.35, 19+78.00, N 48362.27, E 78861.82  
102.11 60" DIA. SANITARY SEWER MANHOLE (L.E.A.) STA 23+14.51, 23+14.51, N 48698.77, E 78859.52  
102.11 60" DIA. SANITARY SEWER MANHOLE (L.E.A.) STA 23+14.51, 23+14.51, N 48698.77, E 78859.52
  - 102.90 16" O.D. OPTICORE TYPE H.D.P.E. PIPE (SDR-17) L = 336.51 LF S = 0.315%  
102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
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102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
  - 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE) REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.  
102.11 60" DIA. SANITARY SEWER MANHOLE (L.E.A.) STA 23+14.51, 23+14.51, N 48698.77, E 78859.52  
102.11 60" DIA. SANITARY SEWER MANHOLE (L.E.A.) STA 23+14.51, 23+14.51, N 48698.77, E 78859.52
  - 202.00 REMOVAL OF PIPE. REMOVE APPROXIMATELY 6 LF OF EXISTING 8" PVC SEWER LINE (WEST) AND PIPE CAP (NO SEPARATE PAY)  
102.11 60" DIA. SANITARY SEWER MANHOLE (L.E.A.) STA 23+14.51, 23+14.51, N 48698.77, E 78859.52  
102.11 60" DIA. SANITARY SEWER MANHOLE (L.E.A.) STA 23+14.51, 23+14.51, N 48698.77, E 78859.52
  - SEE SANITARY SEWER CROSSINGS SHEET 28 FOR CONSTRUCTION OF THIS RUN AND DEAD END MANHOLE.
  - "POTHOLE THE EXISTING TAP LOCATION AS NECESSARY TO ENSURE THAT THE NEW TAP IS INSTALLED DOWNSTREAM FROM THE EXISTING SERVICE CONNECTION."  
102.90 ALL SERVICE LINE CONNECTIONS TO THE NEW HDPE SEWER MAIN SHALL BE ACCOMPLISHED BY DRILLING THE NEW HDPE MAIN AND USING "INSERTA-TEE" TYPE TEES (OR ENGINEER APPROVED EQUAL), 4" SDR-35 PVC PIPE, AND 45° BENDS. "INSERTA-TEE" TYPE TEES USED MUST BE THE APPROPRIATE MODEL BASED ON SEWER MAIN SIZE/TYPE. INSTALL TEMPORARY CAPPED END FOR AIR TESTING PURPOSES.  
210.00 RECONNECT EXISTING SERVICE LINE TO THE NEW 4" SDR-35 PVC WITH APPROPRIATE COUPLING AFTER THE NEW SECTION OF SEWERLINE IS TESTED AND APPROVED.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE
REVISION Δ	ASBUILT PER INSPECTOR'S NOTES	11-00	JCS		PLAN 1"=20'
REVISION Δ			JCS		PROFILE 1"=20'
REVISION Δ			MC		HORIZ. 1"=20'
REVISION Δ					VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES  
STA 18+60 TO STA 23+60

ASBUILT

BID SCHEDULE C - (COMBINATION CONVENTIONAL AND PIPE BURSTING METHOD)

02099423





GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.

CONSTRUCTION NOTES

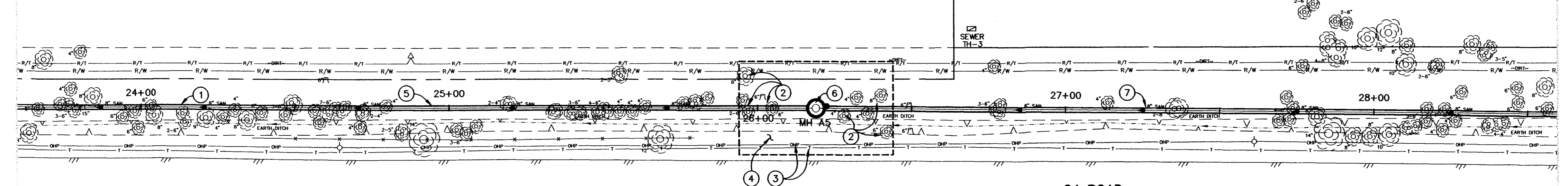
- ① CONTRACTOR SHALL CLOSELY COORDINATE CONSTRUCTION WITH STREET CONTRACTOR WHO WILL BE RESPONSIBLE FOR IRRIGATION, STORM SEWER, ROADWAY, AND BRIDGE CONSTRUCTION ALONG 24 ROAD.
- ② 202.00 TREE REMOVAL (BY OTHERS)
- ③ CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
- ④ CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.
- ⑤ 102.90 12.75" O.D. OPTICORE TYPE H.D.P.E. PIPE (SDR-17)  $L = 307.85$  LF. INSTALL NEW SEWERLINE BY PIPEBURSTING AND INSERTION METHODS OF CONSTRUCTION. ASSEMBLE SUFFICIENT LENGTH OF REHABILITATION PIPE ABOVE GROUND, INCLUDING HEAT FUSION BUTT JOINTS FOR ALL RUNS OF PIPE PULLED FROM MANHOLE TO MANHOLE. EXCAVATE ALL EXISTING UTILITY CROSSINGS THAT ARE WITHIN 30' OF THE EXISTING SEWERLINE TO RELIEVE TRANSIENT LOADINGS DURING BURSTING. EXCAVATE AND DISCONNECT EXISTING SERVICE TAPS IMMEDIATELY PRIOR TO PIPE BURSTING.
- ⑥ 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE) REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
  - 102.11 48" DIA. SANITARY SEWER MANHOLE (T.E.A.) STA 26+18.94,  $26+22.34$ ,  $N 49006.61$  E 78857.52, RIM = 4560.83,  $0.6$  LT.
  - EXIST. 10" PVC INVERTS & IN N = 4547.79,
  - NEW 12.75" OD HDPE INVERTS & IN N = 4547.55,  $48.15$  OUTS = 48.10
  - CONSTRUCT NEW MANHOLE AROUND NEW 12.75" O.D. HDPE SEWERLINE NORTH/SOUTH (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)
  - 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- ⑦ 102.90 12.75" O.D. OPTICORE TYPE H.D.P.E. PIPE (SDR-17)  $L = 352.49$  LF. INSTALL NEW SEWERLINE BY PIPEBURSTING AND INSERTION METHODS OF CONSTRUCTION. ASSEMBLE SUFFICIENT LENGTH OF REHABILITATION PIPE ABOVE GROUND, INCLUDING HEAT FUSION BUTT JOINTS FOR ALL RUNS OF PIPE PULLED FROM MANHOLE TO MANHOLE. EXCAVATE ALL EXISTING UTILITY CROSSINGS THAT ARE WITHIN 30' OF THE EXISTING SEWERLINE TO RELIEVE TRANSIENT LOADINGS DURING BURSTING. EXCAVATE AND DISCONNECT EXISTING SERVICE TAPS IMMEDIATELY PRIOR TO PIPE BURSTING.

SEE SHEET NO 23

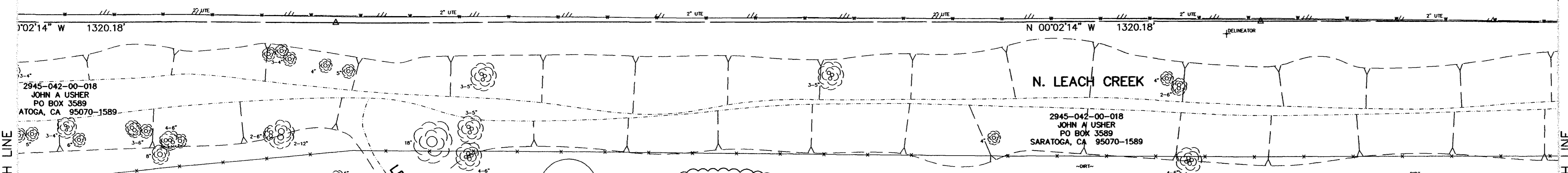
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3873 S HUDSON ST  
DENVER, CO 80237-1050

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3873 S HUDSON ST  
DENVER, CO 80237-1050

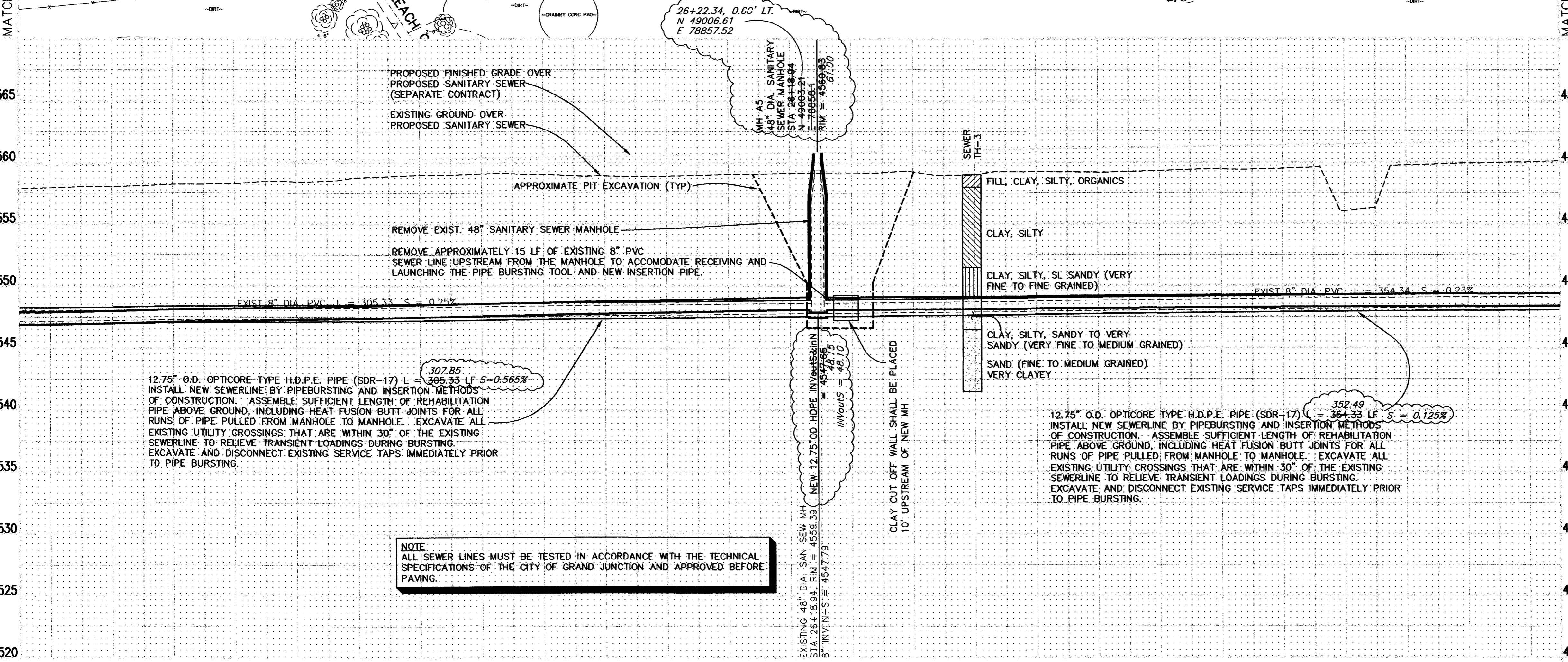
2945-051-00-096  
MICHAEL W ARTHUR  
437 S BRISTOL AVE  
LOS ANGELES, CA 90049-3820



24 ROAD



N. LEACH CREEK



NOTE  
ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS OF THE CITY OF GRAND JUNCTION AND APPROVED BEFORE PAVING.

REVISION	DESCRIPTION	DATE
REVISION A	ASBUILT PER INSPECTOR'S NOTES	11-00
REVISION B		
REVISION C		
REVISION D		

DRAWN BY	JCS	DATE	
DESIGNED BY	JCS	DATE	
CHECKED BY	MC	DATE	
APPROVED BY		DATE	

SCALE	
PLAN	PROFILE
HORIZ. 1"=20'	HORIZ. 1"=20'
	VERT. 1"=5'

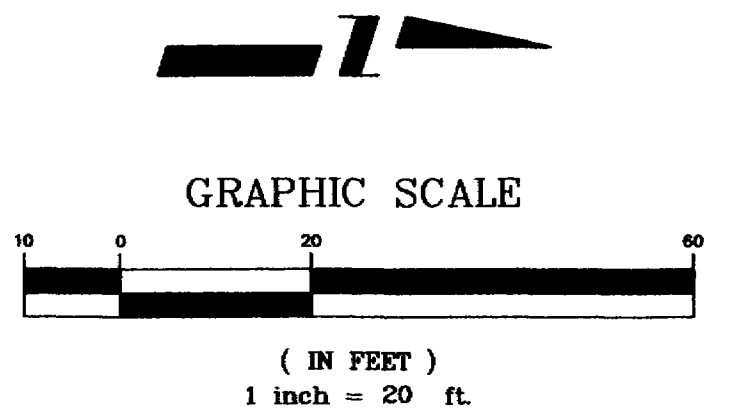
DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES 24  
STA 23+60 TO STA 28+60

ASBUILT

BID SCHEDULE C - (COMBINATION CONVENTIONAL AND PIPE BURSTING METHOD)





CONSTRUCTION NOTES

- ① 202.00 TREE/TREE STUMP REMOVAL (BY OTHERS)
- ② NOT USED
- ③ 202.00 FENCE REMOVAL. REMOVE FENCE AS NEEDED TO CONSTRUCT NEW SEWER. (STREET CONTRACTOR WILL RESET FENCE IN NEW LOCATION)
- ④ 202.00 SIGN REMOVAL FROM UTILITY POLE. SALVAGE SIGN AND RETURN TO CITY SHOPS.
- ⑤ 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) JACKHAMMER OR WHEELCUT AS NECESSARY.
- ⑥ 202.00 GROUND SIGN REMOVAL. SALVAGE AND RETURN TO CITY SHOPS.
- ⑦ 202.00 REMOVE SURVEY MONUMENT. NO RESET/REFERENCE REQUIRED.
- ⑧ CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
- ⑨ CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.
- ⑩ 102.90 12.75" O.D. OPTICORE TYPE H.D.P.E. PIPE (SDR-17) L = 354.33 LF  
INSTALL NEW SEWERLINE BY PIPEBURSTING AND INSERTION METHODS OF CONSTRUCTION. ASSEMBLE SUFFICIENT LENGTH OF REHABILITATION PIPE ABOVE GROUND, INCLUDING HEAT FUSION BUTT JOINTS FOR ALL RUNS OF PIPE PULLED FROM MANHOLE TO MANHOLE. EXCAVATE ALL EXISTING UTILITY CROSSINGS THAT ARE WITHIN 30' OF THE EXISTING SEWERLINE TO RELIEVE TRANSIENT LOADINGS DURING BURSTING. EXCAVATE AND DISCONNECT EXISTING SERVICE TAPS IMMEDIATELY PRIOR TO PIPE BURSTING.
- ⑪ 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE) DURING EXISTING MANHOLE REMOVAL, AND NEW MANHOLE INSTALLATION IT WILL BE NECESSARY TO BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.  
102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 29+73.28, 29+74.83, N 49359.08, E 78866.98, RIM = 4562.21, 62.34  
EXIST 10" PVC IN/OUTS & IN/OUTS = 4548.61, 48.59  
NEW 12" PVC IN/OUTS = 4548.47, 48.59  
NEW 8" PVC IN/OUTS = 4548.61, 48.69  
CONSTRUCT NEW MANHOLE AROUND NEW 12.75" OD HDPE SEWERLINE SOUTH, EXISTING 8" PVC SEWERLINE WEST, AND NEW 12" PVC SEWERLINE NORTH (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)  
202.00 REMOVAL OF PIPE STUB. REMOVE APPROXIMATELY 10 LF OF EXISTING 10" PVC SEWER LINE NORTH OF MH. ALSO REMOVE PIPE PLUG (NO SEPARATE PAY)  
210.00 RELAY 8" PVC PIPE IN FROM THE WEST. (10 LF) CONNECT TO EXIST. 8" PVC PIPE.  
102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- ⑫ 102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 32+96.26, N 49676.30, E 78868.32, RIM = 4563.42, 63.57  
12" PVC IN/OUTS & IN/OUTS = 4549.16, 49.12  
12" PVC IN/OUTS & IN/OUTS = 4549.16, 49.12  
102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- ⑬ 102.90 12" PVC PIPE, SDR-35, L = 388.96 LF, S = 0.213%, BACKFILL TRENCH WITH PIT RUN MATERIALS MEETING CITY SPECIFICATION 103.16
- ⑭ 102.90 12" PVC PIPE, SDR-35, L = 388.96 LF, S = 0.213%, BACKFILL TRENCH WITH PIT RUN MATERIALS MEETING CITY SPECIFICATION 103.16

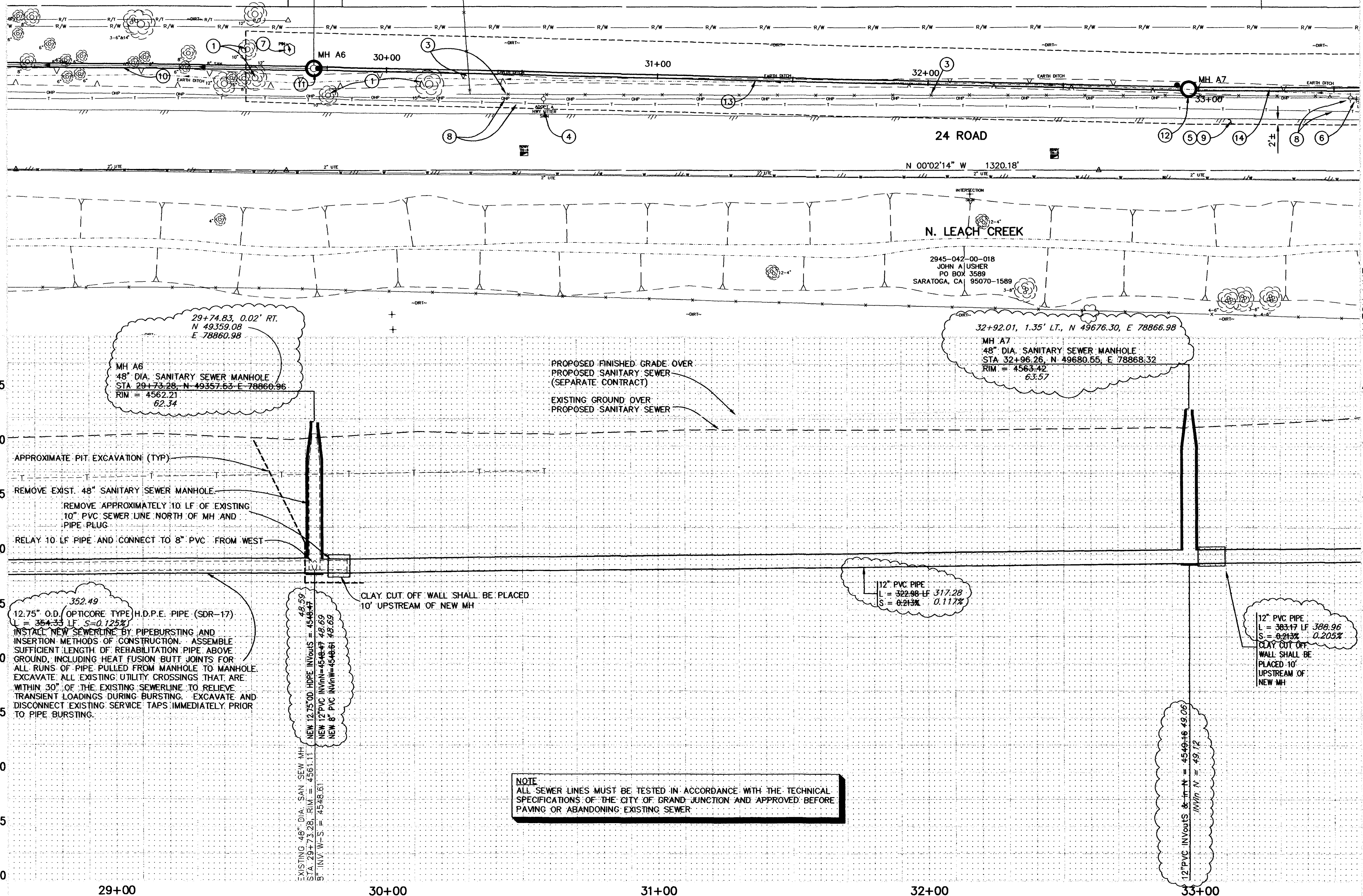
2945-051-00-075  
WDM CORPORATION  
2525 N 8TH ST  
GRAND JUNCTION, CO 81501-8845

2397 G RD  
GRAND JUNCTION, CO 81505

①TBM  
FOUND NO. 4  
REBAR  
ELEV = 4561.42

SEE SHEET NO 24

SEE SHEET NO 26



**NOTE**  
ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS OF THE CITY OF GRAND JUNCTION AND APPROVED BEFORE PAVING OR ABANDONING EXISTING SEWER.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION Δ	ASBUILT PER INSPECTOR'S NOTES	11-00	JCS	
REVISION Δ			JCS	
REVISION Δ			MC	
REVISION Δ				

SCALE	
PLAN	1"=20'
PROFILE	1"=20'
VERT.	1"=5'

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

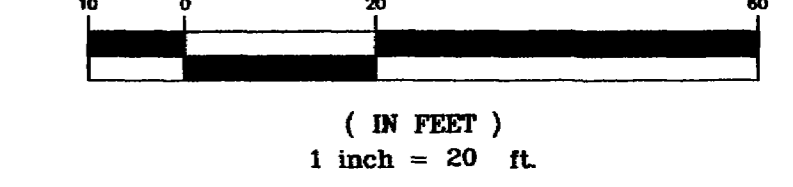
24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES  
STA 28+60 TO STA 33+60

ASBUILT





GRAPHIC SCALE



CONSTRUCTION NOTES

- 1) 202.00 TREE/TREE STUMP REMOVAL (BY OTHERS)
- 2) 202.00 REMOVE EXISTING PIPE.
- 3) 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) JACKHAMMER OR WHEELCUT AS NECESSARY.
- 4) CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
- 5) NOTIFY UTE WATER 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE THE WATER LINE.
- 6) 102.90 12" PVC PIPE, SDR-35, L =  $\frac{388.96}{0.205\%}$  LF, S = 0.213% BACKFILL TRENCH WITH MATERIALS MEETING CITY SPECIFICATION 103.16
- 7) 102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 36+79.43,  $\frac{36+79.84}{N 50065.26 E 78867.64}$ , N 50065.26 E 78867.64, RIM = 4566.72, 66.77 1.55' RT,  $\frac{12" PVC INVERTS = 4549.97}{12" PVC INV. E. & W. = 4550.07}$  49.92  
(ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)  
CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM (EAST & WEST) OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- 8) NOTIFY U.S. WEST COMMUNICATIONS 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE THE TELEPHONE LINE.
- 9) NOTIFY PUBLIC SERVICE COMPANY 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE THE GAS LINES.
- 10) NEW INTERCEPTOR SEWER LINE TO BE TESTED, APPROVED, AND IN PLACE SOUTH OF NEW MANHOLE @ STA 36+79.43 PRIOR TO BYPASS PUMPING SEWAGE FROM EAST TO DOWNSTREAM MANHOLE ON THE NEW INTERCEPTOR LINE SOUTH. INVERT GRADES AT MANHOLE STA 36+79.43 MUST ALSO BE VERIFIED AGAINST EXISTING MANHOLE INVERT GRADES AT STA 40+35.11 WEST AND STA 0+73.49 EAST TO ENSURE POSITIVE FLOWS INTO NEW INTERCEPTOR LINE PRIOR TO ANY BYPASS PUMPING OR DEMOLITION/CONSTRUCTION OF EAST/WEST LINE.
- 11) CONTRACTOR SHALL CLOSELY COORDINATE WORK WITH STREET CONTRACTOR AS TO AVOID SCHEDULE CONFLICTS WITH RESPECT TO IRRIGATION, STORM SEWER, ROAD, AND BRIDGE CONSTRUCTION.
- 12) CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.

SEE SHEET NO 25

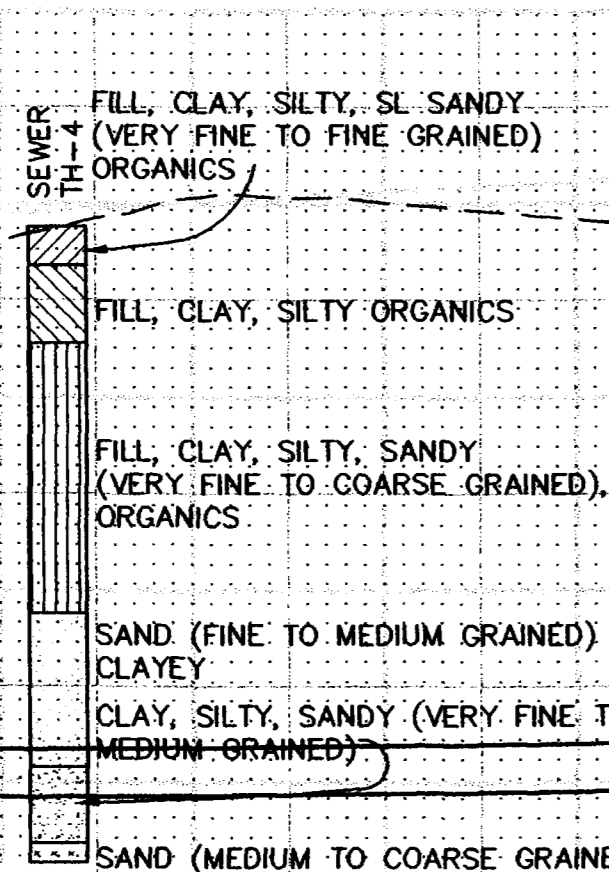
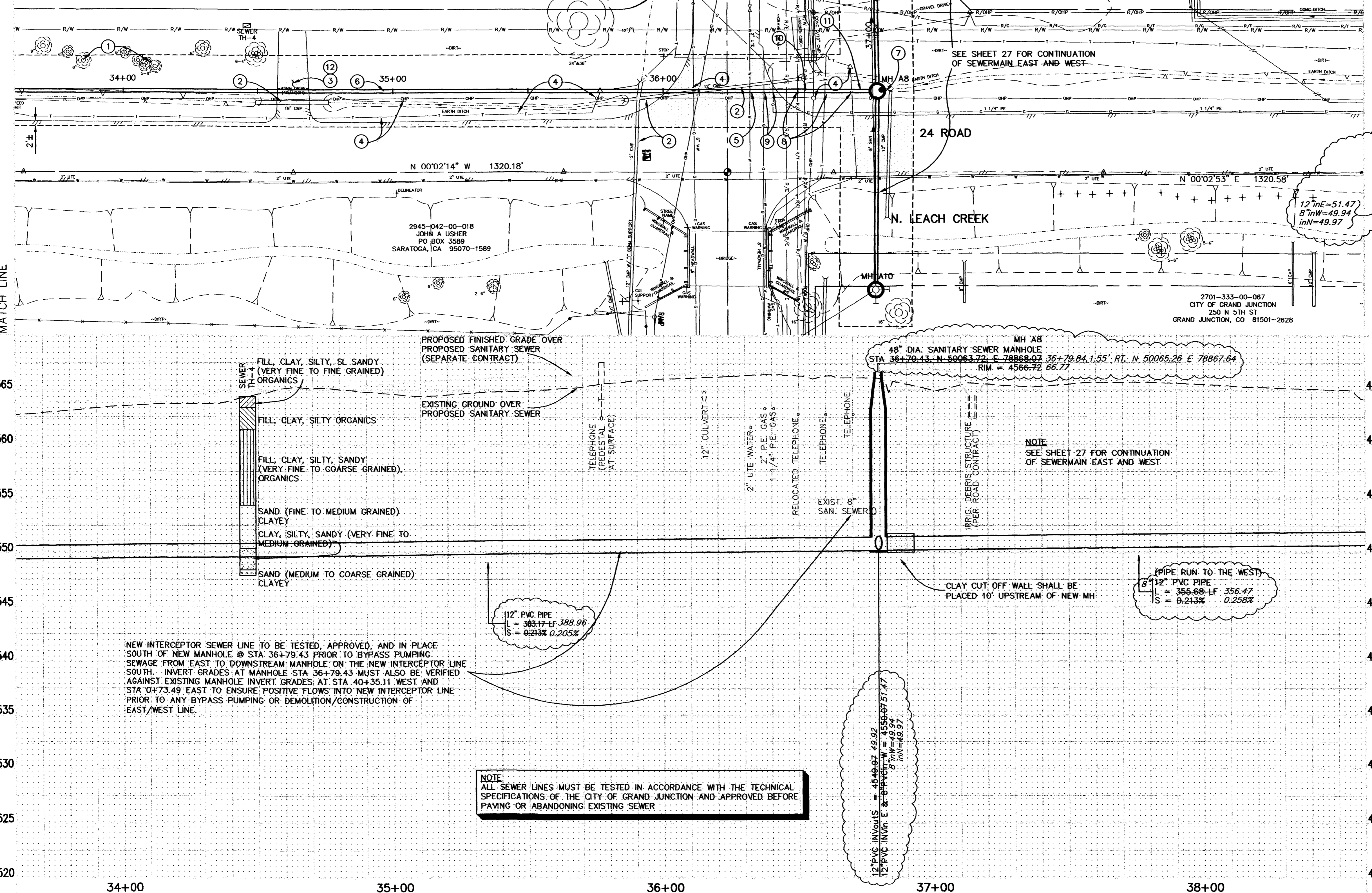
NE CORNER SECTION 5 T1S, R1W, UM N 50008.08 E 78898.11 ELEV = 4566.43

2945-051-00-075 WDM CORPORATION 2525 N 8TH ST GRAND JUNCTION, CO 81501-8845  
2397 G RD GRAND JUNCTION, CO 81505

2701-324-00-093 JOHN A USHER PO BOX 3589 SARATOGA, CA 95070-1589

2945-042-00-018 JOHN A USHER PO BOX 3589 SARATOGA, CA 95070-1589

2701-333-00-067 CITY OF GRAND JUNCTION 250 N 5TH ST GRAND JUNCTION, CO 81501-2628



PROPOSED FINISHED GRADE OVER PROPOSED SANITARY SEWER (SEPARATE CONTRACT)

EXISTING GROUND OVER PROPOSED SANITARY SEWER

MH A8  
48" DIA. SANITARY SEWER MANHOLE  
STA 36+79.43, N 50065.26 E 78867.64, RIM = 4566.72, 66.77

12" PVC INVERTS = 4549.97 49.92  
12" PVC INV. E. & W. = 4550.07 50.07  
12" PVC INV. E. & W. = 4549.97 49.92  
12" PVC INV. E. & W. = 4549.97 49.92

(PIPE RUN TO THE WEST)  
8" 12" PVC PIPE  
L = 356.68 LF 356.47  
S = 0.213% 0.258%

CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH.

NOTE  
ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS OF THE CITY OF GRAND JUNCTION AND APPROVED BEFORE PAVING OR ABANDONING EXISTING SEWER

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
ASBUILT	ASBUILT PER INSPECTOR'S NOTES	11-00	JCS	
			JCS	
			MC	

SCALE	PLAN	PROFILE
HORIZ. 1"=20'	HORIZ. 1"=20'	VERT. 1"=5'

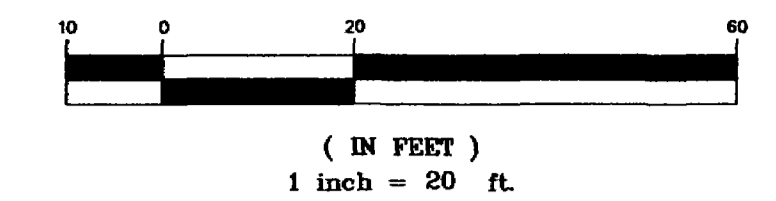
DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES  
STA 33+60 TO STA 36+79.43

ASBUILT

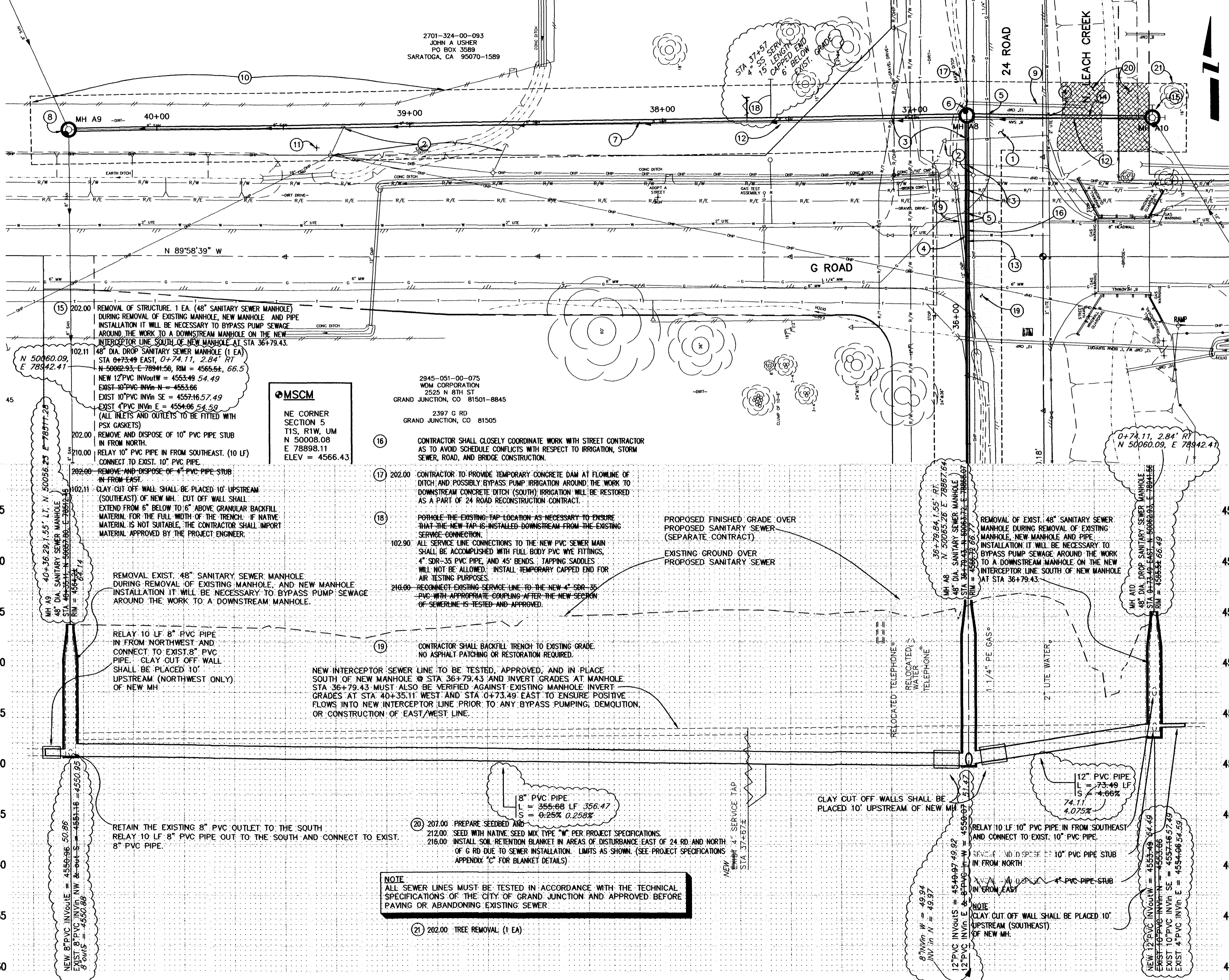
BID SCHEDULE C - (COMBINATION CONVENTIONAL AND PIPE BURSTING METHOD)





CONSTRUCTION NOTES

- 1 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) JACKHAMMER OR WHEELCUT AS NECESSARY.
- 2 CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
- 3 NOTIFY U.S. WEST COMMUNICATIONS 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE THE TELEPHONE LINE.
- 4 NOTIFY UTE WATER 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE THE WATER LINE.
- 5 NOTIFY PUBLIC SERVICE COMPANY 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE THE GAS LINES.
- 6 102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 36+79.43, 36+79.84, N=50063.72, E=78868.07, RIM = 4566.72; 66.77, 1.55' RT  
12" PVC INVOUTS = 4549.97 49.92      INVIN N = 4549.97  
12" PVC INV IN E & 8" PVC INV IN W = 4550.97 51.47, 8" IN W 49.94  
(ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)  
102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM (EAST & WEST) OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- 7 102.90 8" PVC PIPE, SDR-35, L = 356.66 LF, S = 0.25% BACKFILL TRENCH WITH PIT RUN MATERIALS MEETING CITY SPECIFICATION 103.16  
207.00 PREPARE SEEDBED AND  
212.00 SEED WITH NATIVE SEED MIX TYPE "NW" IN AREAS OF DISTURBANCE WEST OF 24 ROAD ROW AND NORTH OF G RD ROW DUE TO SEWER INSTALLATION. LIMITS AS SHOWN. (SEED MIXTURE PER PROJECT SPECIFICATIONS)
- 8 202.00 REMOVAL OF STRUCTURE, 1 EA. (48" SANITARY SEWER MANHOLE) DURING REMOVAL OF EXISTING MANHOLE, AND NEW MANHOLE INSTALLATION IT WILL BE NECESSARY TO BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.  
102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 40+36.44, 40+36.29, 1.55' LT  
N 50056.23 N=50857.86, E=78512.45, RIM = 4564.22; 64.14  
NEW 8" PVC INVOUTE = 4560.96 50.86  
EXIST 8" PVC INV IN NW @ out S = 4561.16 50.95, 8" OUTS = 50.88  
(ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)  
210.00 RELAY 8" PVC PIPE IN FROM NORTHWEST. (10 LF) CONNECT TO EXIST. 8" PVC PIPE  
210.00 RELAY 8" PVC PIPE TO SOUTH. (10 LF) CONNECT TO EXIST. 8" PVC PIPE  
102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM (NORTHWEST ONLY) OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- 9 202.00 REMOVE EXISTING PIPE.
- 10 210.00 FENCE RESET. RESET FENCE AS NEEDED TO INSTALL/REMOVE SANITARY SEWER LINE. 165± LF (4' HT. WOVEN WIRE)
- 11 202.00 POST REMOVAL (WD. 4X4-6"HT) (1 EA.)
- 12 202.00 PIPE REMOVAL (EXIST. 8" PVC SAN. SEWER) (430 LF) DURING REMOVAL OF EXISTING MANHOLE (EAST), EXISTING PIPE REMOVAL AND NEW MANHOLE INSTALLATION @ STA 36+79.43 IT WILL BE NECESSARY TO BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
- 13 NEW INTERCEPTOR SEWER LINE TO BE TESTED, APPROVED, AND IN PLACE SOUTH OF NEW MANHOLE @ STA 36+79.43 PRIOR TO BYPASS PUMPING AND INVERT GRADES AT MANHOLE STA 36+79.43 MUST ALSO BE VERIFIED AGAINST EXISTING MANHOLE INVERT GRADES AT STA 40+35.11 WEST AND STA 0+73.49 EAST TO ENSURE POSITIVE FLOWS INTO NEW INTERCEPTOR LINE PRIOR TO ANY BYPASS PUMPING OR DEMOLITION/CONSTRUCTION OF EAST/WEST LINE.
- 14 102.90 12" PVC PIPE, SDR-35, L = 73.49 LF, S = 4.66% BACKFILL TRENCH WITH MATERIALS MEETING CITY SPECIFICATION 103.16



2701-324-00-093  
JOHN A USHER  
PO BOX 3589  
SARATOGA, CA 95070-1589

2945-051-00-075  
WDM CORPORATION  
2525 N 8TH ST  
GRAND JUNCTION, CO 81501-8845  
2397 G RD  
GRAND JUNCTION, CO 81505

**MSCM**  
NE CORNER  
SECTION 5  
T1S, R1W, UM  
N 50008.08  
E 78898.11  
ELEV = 4566.43

- 16 CONTRACTOR SHALL CLOSELY COORDINATE WORK WITH STREET CONTRACTOR AS TO AVOID SCHEDULE CONFLICTS WITH RESPECT TO IRRIGATION, STORM SEWER, ROAD, AND BRIDGE CONSTRUCTION.
- 17 202.00 CONTRACTOR TO PROVIDE TEMPORARY CONCRETE DAM AT FLOWLINE OF DITCH AND POSSIBLY BYPASS PUMP IRRIGATION AROUND THE WORK TO DOWNSTREAM CONCRETE DITCH (SOUTH); IRRIGATION WILL BE RESTORED AS A PART OF 24 ROAD RECONSTRUCTION CONTRACT.
- 18 POTHOLE THE EXISTING TAP LOCATION AS NECESSARY TO ENSURE THAT THE NEW TAP IS INSTALLED DOWNSTREAM FROM THE EXISTING SERVICE CONNECTION.  
102.90 ALL SERVICE LINE CONNECTIONS TO THE NEW PVC SEWER MAIN SHALL BE ACCOMPLISHED WITH FULL BODY PVC WYE FITTINGS, 4" SDR-35 PVC PIPE, AND 45° BENDS. TAPPING SADDLES WILL NOT BE ALLOWED. INSTALL TEMPORARY CAPPED END FOR AIR TESTING PURPOSES.  
210.00 RECONNECT EXISTING SERVICE LINE TO THE NEW 4" SDR-35 PVC WITH APPROPRIATE COUPLING AFTER THE NEW SECTION OF SEWERLINE IS TESTED AND APPROVED.

PROPOSED FINISHED GRADE OVER PROPOSED SANITARY SEWER (SEPARATE CONTRACT)  
EXISTING GROUND OVER PROPOSED SANITARY SEWER

19 CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.  
NEW INTERCEPTOR SEWER LINE TO BE TESTED, APPROVED, AND IN PLACE SOUTH OF NEW MANHOLE @ STA 36+79.43 AND INVERT GRADES AT MANHOLE STA 36+79.43 MUST ALSO BE VERIFIED AGAINST EXISTING MANHOLE INVERT GRADES AT STA 40+35.11 WEST AND STA 0+73.49 EAST TO ENSURE POSITIVE FLOWS INTO NEW INTERCEPTOR LINE PRIOR TO ANY BYPASS PUMPING, DEMOLITION, OR CONSTRUCTION OF EAST/WEST LINE.

20 207.00 PREPARE SEEDBED AND  
212.00 SEED WITH NATIVE SEED MIX TYPE "W" PER PROJECT SPECIFICATIONS.  
216.00 INSTALL SOIL RETENTION BLANKET IN AREAS OF DISTURBANCE EAST OF 24 RD. AND NORTH OF G RD DUE TO SEWER INSTALLATION. LIMITS AS SHOWN. (SEE PROJECT SPECIFICATIONS APPENDIX "C" FOR BLANKET DETAILS)

**NOTE**  
ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS OF THE CITY OF GRAND JUNCTION AND APPROVED BEFORE PAVING OR ABANDONING EXISTING SEWER.

21 202.00 TREE REMOVAL (1 EA)

REVISION	DESCRIPTION	DATE
REVISION A	ASBUILT PER INSPECTOR'S NOTES	11-00
REVISION B		
REVISION C		
REVISION D		

DRAWN BY	DATE
JCS	
DESIGNED BY	DATE
JCS	
CHECKED BY	DATE
MC	
APPROVED BY	DATE

SCALE	
PLAN	1"=20'
PROFILE	1"=5'
HORIZ.	1"=20'
VERT.	1"=5'

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES 27  
STA 36+79.43 TO STA 40+35.11 & 0+79.43 EAST

ASBUILT



- 1 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) 25 SY JACKHAMMER OR WHEELCUT AS NECESSARY.
- 2 CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.
- 3 CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
- 4 202.00 TREE REMOVAL. (BY OTHERS)
- 5 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE)
- 202.00 REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
- 202.00 REMOVAL OF PIPE. REMOVE APPROXIMATELY 6 LF OF EXISTING 8" PVC SEWER LINE (WEST) AND PIPE CAP (NO SEPARATE PAY) 12+96.34, 2.02' RT, N 47680.64 E 78861.83
- 102.11 60" DIA. SANITARY SEWER MANHOLE (1 EA) STA 12+95.34, N 47679.63 E 78859.01, RIM = 4558.46 55.62 42.78  
EXIST 10" PVC INVERTS & IN N = 4542.94, EXIST 8" PVC INVERT W = 4543.04, NEW 16" O.D. HDPE INVERTS & IN N = 4542.76, 4543.00 = NEW 8" PVC INVERT W = 4543.27, CONSTRUCT NEW MANHOLE AROUND NEW 16" O.D. HDPE SEWERLINE NORTH/SOUTH, AND NEW 8" PVC WEST (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)
- 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
- 6 102.90 8" PVC PIPE, SDR-35, L = 29.66 LF, S = 0.56% BACKFILL TRENCH WITH PIT RUN MATERIALS MEETING CITY SPECIFICATION 103.16
- 7 102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 04+20.00, N 47679.63 E 78839.85, RIM=4555.28, 8" PVC INVERT E=4543.37  
MANHOLE SHALL HAVE A PRECAST BASE WITH OUT AN INVERT. THE OUTLET OF THE MANHOLE SHALL BE FITTED WITH A PSX GASKET. DO NOT GROUT AROUND PIPE.  
INVERT W=4543.63

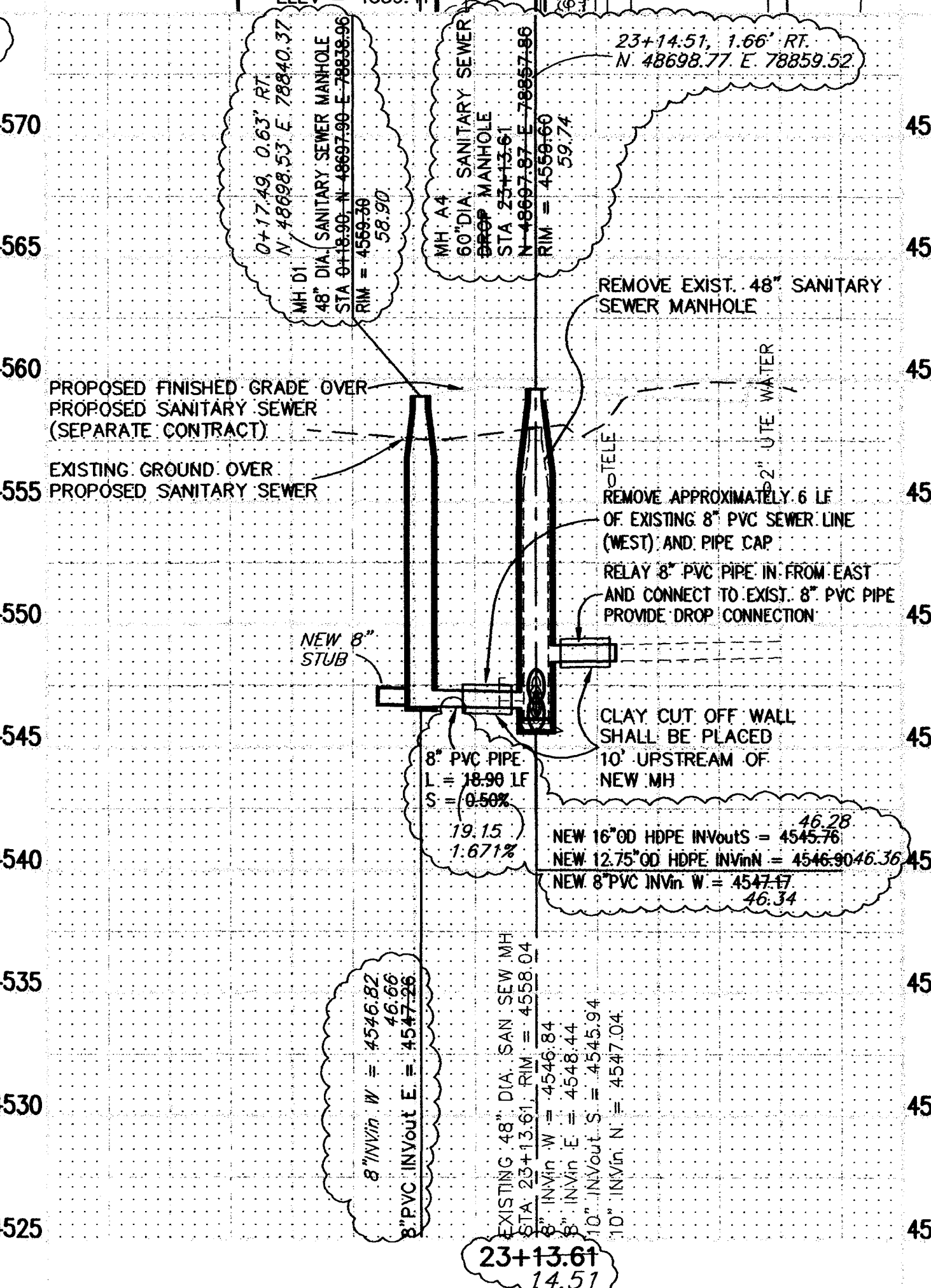
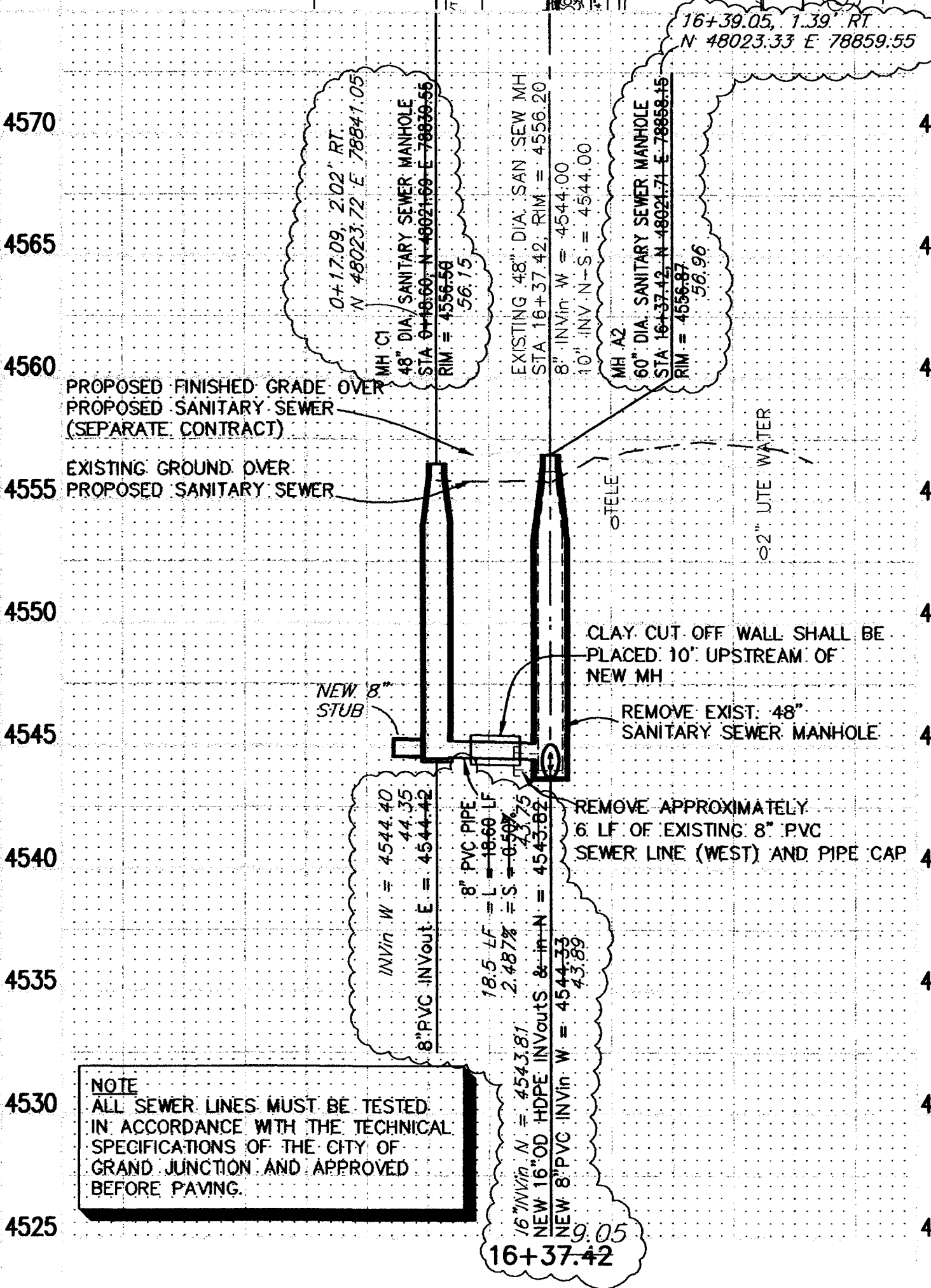
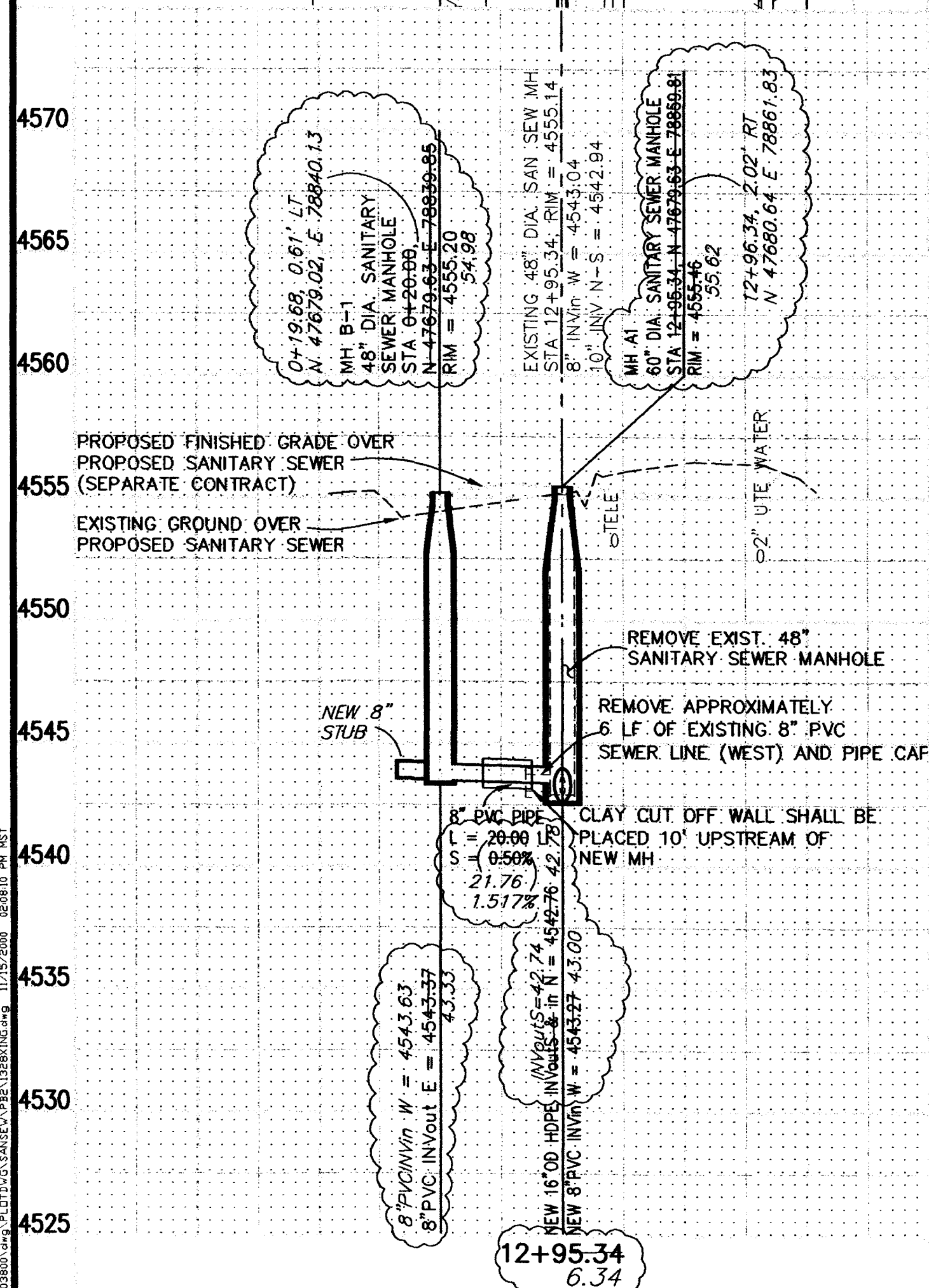
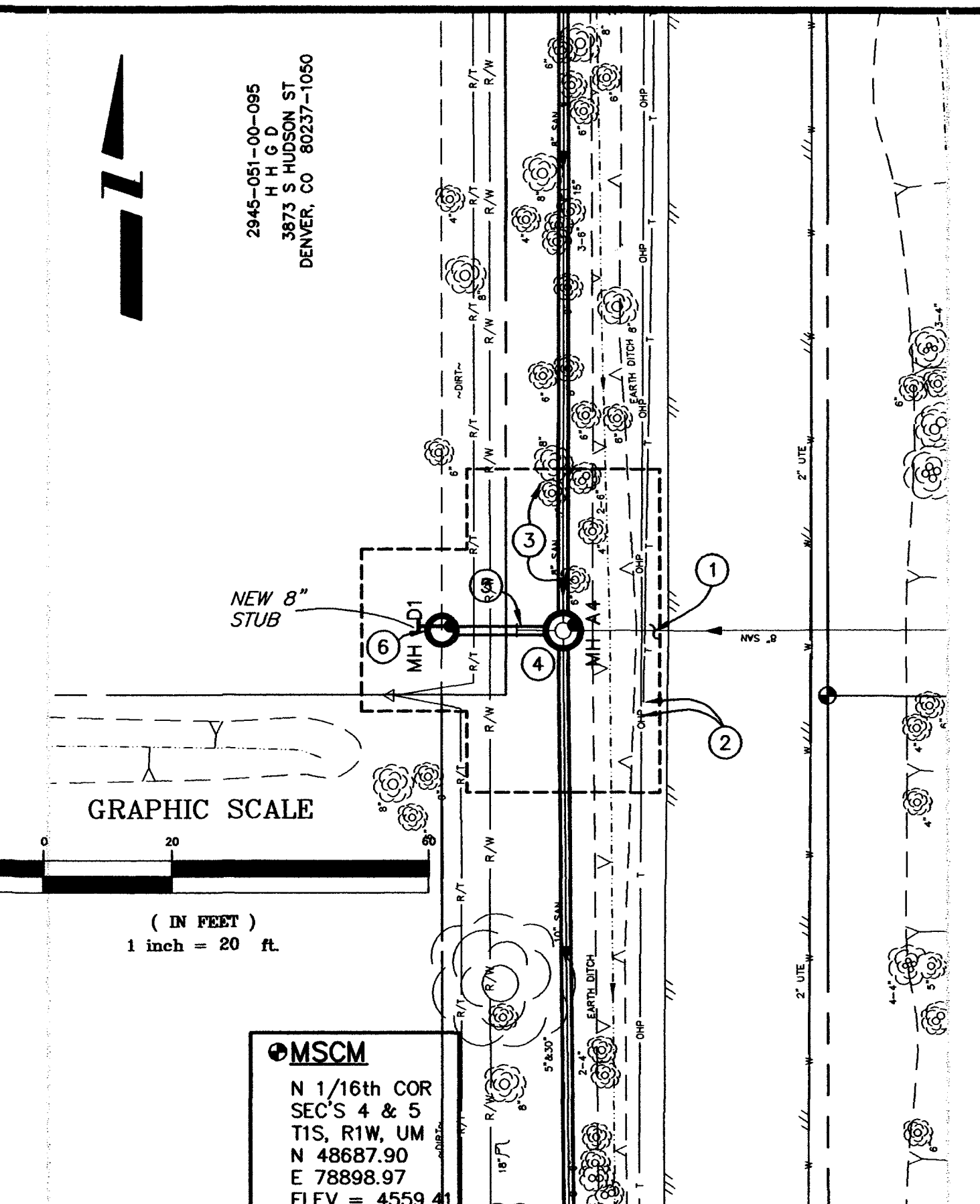
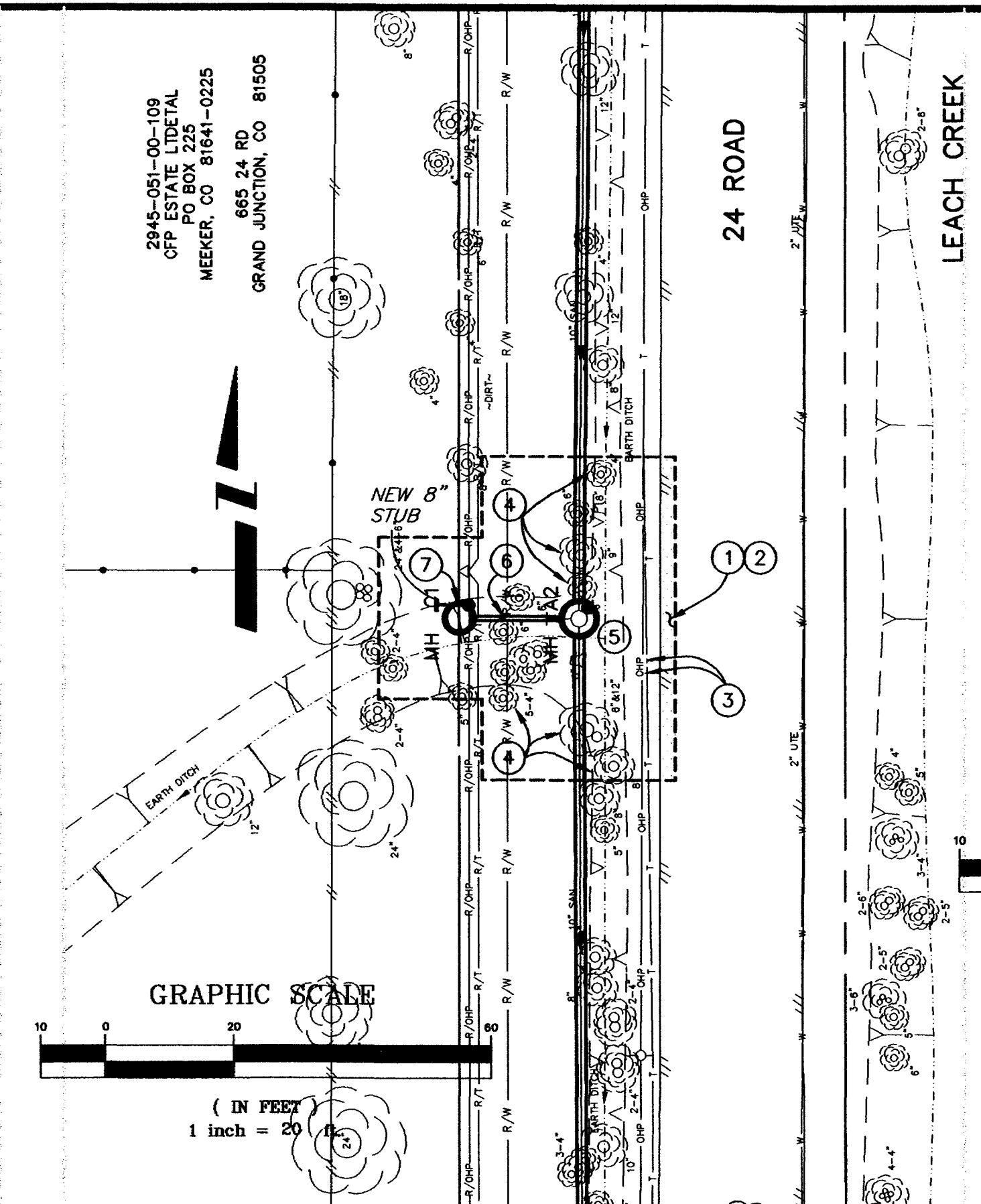
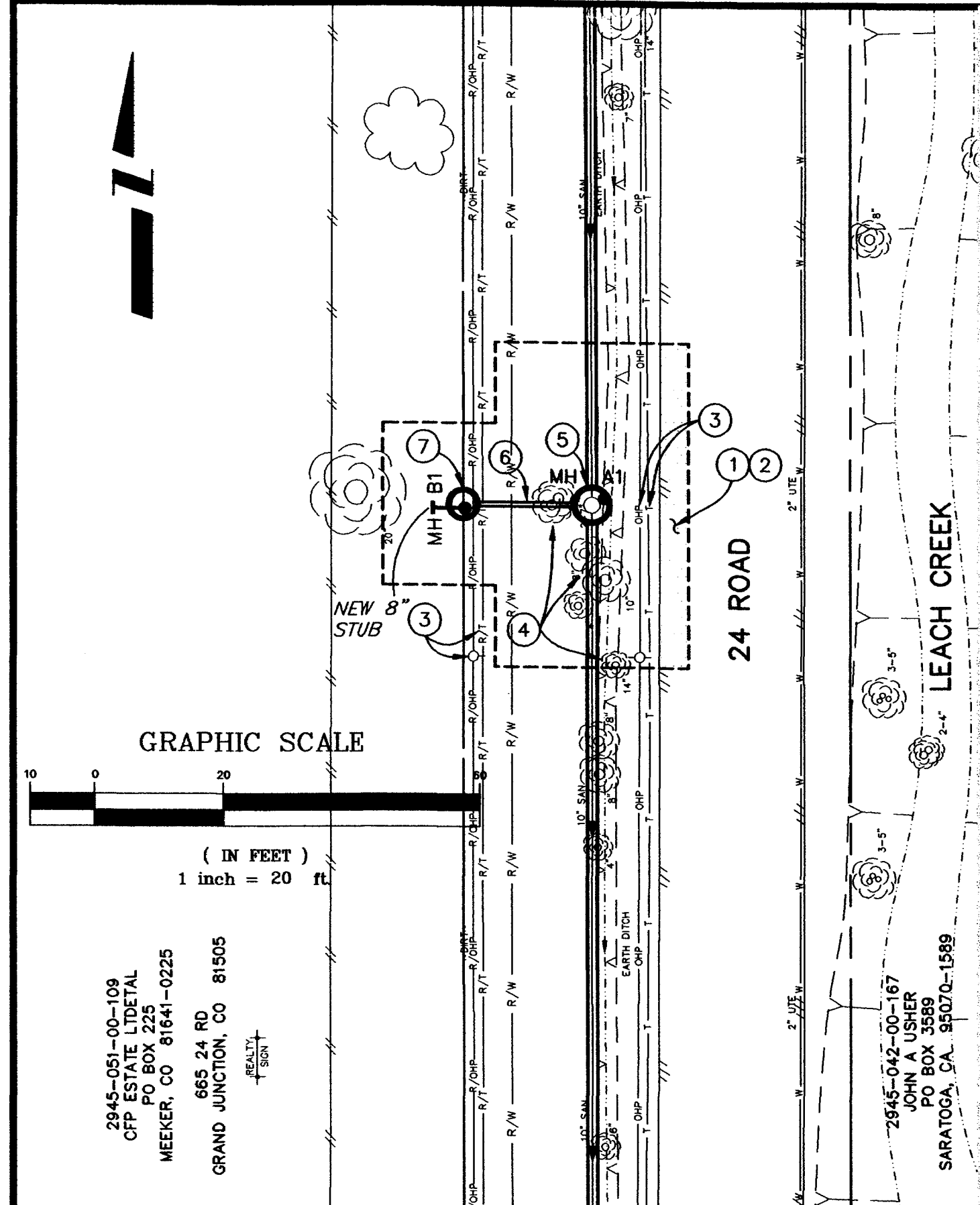
- 9.05
- CONSTRUCTION NOTES (16+37.42 CROSSING)
- 1 202.00 ASPHALT REMOVAL (AS INDICATED BY "DOT" HATCHING) 25 SY JACKHAMMER OR WHEELCUT AS NECESSARY.
  - 2 CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.
  - 3 CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
  - 4 202.00 TREE REMOVAL. (BY OTHERS)
  - 5 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE)
  - 202.00 REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
  - 202.00 REMOVAL OF PIPE. REMOVE APPROXIMATELY 6 LF OF EXISTING 8" PVC SEWER LINE (WEST) AND PIPE CAP (NO SEPARATE PAY) 16+39.05, 1.39' RT, N 48023.33 E 78859.55 56.96 INVERT W=4543.61
  - 102.11 60" DIA. SANITARY SEWER MANHOLE (1 EA) STA 16+37.42, N 48024.71 E 78856.15, RIM = 4556.07, 43.75  
EXIST 10" PVC INVERTS & IN N = 4544.00, EXIST 8" PVC INVERT W = 4544.00, NEW 16" O.D. HDPE INVERTS & IN N = 4543.02, 4543.89 = NEW 8" PVC INVERT W = 4544.33, CONSTRUCT NEW MANHOLE AROUND NEW 16" O.D. HDPE SEWERLINE NORTH/SOUTH, AND NEW 8" PVC WEST (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS)
  - 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
  - 6 102.90 8" PVC PIPE, SDR-35, L = 18.66 LF, S = 0.56% BACKFILL TRENCH WITH PIT RUN MATERIALS MEETING CITY SPECIFICATION 103.16
  - 7 102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 04+18.60, N 48024.71 E 78839.85, RIM=4556.07, 8" PVC INVERT E=4544.42  
MANHOLE SHALL HAVE A PRECAST BASE WITH OUT AN INVERT. THE OUTLET OF THE MANHOLE SHALL BE FITTED WITH A PSX GASKET. DO NOT GROUT AROUND PIPE.  
INVERT W=44.40

- 14.51
- CONSTRUCTION NOTES (23+13.61 CROSSING)
- 1 CONTRACTOR SHALL BACKFILL TRENCH TO EXISTING GRADE. NO ASPHALT PATCHING OR RESTORATION REQUIRED.
  - 2 CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING UTILITIES WITH UTILITY COMPANIES.
  - 3 202.00 TREE REMOVAL. (BY OTHERS)
  - 4 202.00 REMOVAL OF STRUCTURE. 1 EA. (48" SANITARY SEWER MANHOLE)
  - 202.00 REMOVAL OF PIPE. REMOVE APPROXIMATELY 15 LF OF EXISTING 10" PVC SEWER LINE UPSTREAM FROM THE MANHOLE TO ACCOMMODATE RECEIVING AND LAUNCHING THE PIPE BURSTING TOOL AND NEW INSERTION PIPE. DURING CONSTRUCTION OF NEW SEWER MAIN BYPASS PUMP SEWAGE AROUND THE WORK TO A DOWNSTREAM MANHOLE.
  - 202.00 REMOVAL OF PIPE. REMOVE APPROXIMATELY 6 LF OF EXISTING 8" PVC SEWER LINE (WEST) AND PIPE CAP (NO SEPARATE PAY) 23+14.51, 1.66' RT, N 48698.77 E 78859.52 59.74 4546.34
  - 102.11 60" DIA. SANITARY SEWER MANHOLE (1 EA) STA 23+13.61, N 48697.87 E 78857.86, RIM = 4556.68, 4546.44  
EXIST 10" PVC INVERTS & IN N = 4545.94, EXIST 8" PVC INVERT W = 4546.04, EXIST 8" PVC INVERT E = 4546.44  
NEW 16" O.D. HDPE INVERTS & IN N = 4545.76, NEW 12.75" O.D. HDPE INVERT W = 4547.43, CONSTRUCT NEW DROP MANHOLE AROUND NEW 12.75" O.D. HDPE SEWERLINE (NORTH/SOUTH) NEW 8" PVC WEST, AND EXISTING 8" PVC EAST (ALL INLETS AND OUTLETS TO BE FITTED WITH PSX GASKETS) 4546.36
  - 210.00 RELAY 8" PVC PIPE IN FROM EAST. (10 LF) CONNECT TO EXIST. 8" PVC PIPE. ALSO PROVIDE DROP CONNECTION (NO SEPARATE PAY)
  - 102.11 CLAY CUT OFF WALL SHALL BE PLACED 10' UPSTREAM OF NEW MH. CUT OFF WALL SHALL EXTEND FROM 6" BELOW TO 6" ABOVE GRANULAR BACKFILL MATERIAL FOR THE FULL WIDTH OF THE TRENCH. IF NATIVE MATERIAL IS NOT SUITABLE, THE CONTRACTOR SHALL IMPORT MATERIAL APPROVED BY THE PROJECT ENGINEER.
  - 5 102.90 8" PVC PIPE, SDR-35, L = 18.90 LF, S = 0.56% BACKFILL TRENCH WITH PIT RUN MATERIALS MEETING CITY SPECIFICATION 103.16
  - 6 102.11 48" DIA. SANITARY SEWER MANHOLE (1 EA) STA 04+18.60, N 48697.87 E 78839.85, RIM=4556.30, 8" PVC INVERT E=4546.36  
MANHOLE SHALL HAVE A PRECAST BASE WITH OUT AN INVERT. THE OUTLET OF THE MANHOLE SHALL BE FITTED WITH A PSX GASKET. DO NOT GROUT AROUND PIPE.  
INVERT W = 4546.82

ASBUILT

BID SCHEDULE C - (COMBINATION CONVENTIONAL AND PIPE BURSTING METHOD)

24 ROAD SEWER REPLACEMENT  
SANITARY SEWER PLAN AND PROFILES  
12+95.34, 16+37.42, & 23+13.61 CROSSINGS



NOTE  
ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS OF THE CITY OF GRAND JUNCTION AND APPROVED BEFORE PAVING.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
1	ASBUILT PER INSPECTOR'S NOTES	11-00	JCS	
2			JCS	
3			MC	
4				

SCALE	
PLAN	1"=20'
PROFILE	1"=5'
HORIZ.	1"=20'
VERT.	1"=5'

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO