

2007 SEWER REPLACEMENTS SEPTEMBER, 2007

- 1 _____ Cover Sheet
- 2 _____ Standard Abbreviations, Legend, and Symbols
- 3 _____ Summary of Approximate Quantities
- 4 _____ Survey Control - Meadows Way
- 5-7 _____ Sanitary Sewer Plan and Profiles - Meadows Way
- 8 _____ Survey Control - 7th St. & Orchard Ave.
- 9 _____ Sanitary Sewer Plan and Profiles - 7th St. & Orchard Ave.
- 10 _____ Survey Control - Manor Ave.
- 11-13 _____ Sanitary Sewer Plan and Profiles - Manor ave

AS-BUILT 08/19/2008

UTILITIES AND AGENCIES

AGENCY	NAME	POSITION	ROLE	MAILING ADDRESS	STREET ADDRESS	CITY, STATE	VOICE-WK	FAX
GRAND JUNCTION, CITY OF	JUSTIN VENSEL	PROJECT ENGINEER	PROJECT ENGINEER	250 N. 5th STREET	250 N. 5th STREET	GRAND JCT., CO 81501	(970) 256-4017	(970) 256-4022
GRAND JUNCTION, CITY OF	BRET GUILLORY	UTILITY ENGINEER	SANITARY SEWER	250 N. 5th STREET	250 N. 5th STREET	GRAND JCT., CO 81501	(970) 244-1590	(970) 256-4022
BRESNAN	CHUCK WEIDMAN	MANAGER	CABLE TV	2502 FORESIGHT CIRCLE	2502 FORESIGHT CIRCLE	GRAND JCT., CO 81504	(970) 245-8750	(970) 245-6803
QWEST	CHRIS JOHNSON	ENGINEER	TELEPHONE	2524 BLICHMANN AVE.	2524 BLICHMANN AVE.	GRAND JCT., CO 81504	(970) 244-4311	(970) 240-4349
UTE WATER	DARYL MOORE	SUPERVISOR	WATER	PO BOX 460		GRAND JCT., CO 81502	(970) 242-7491	(970) 242-9189
XCEL	DAN STEINKIRCHNER	UNIT MANAGER	GAS, ELECTRIC	2538 BLICHMANN AVE.	2538 BLICHMANN AVE.	GRAND JCT., CO 81504	(970) 244-2656	(970) 244-2661

DRAWING STATUS:

- PROGRESS
- FINAL CONSTRUCTION DRAWINGS
- ASBUILT

DESIGNED BY:

JUSTIN VENSEL, PROJECT ENGINEER DATE

REVIEWED BY:

BRET GUILLORY, UTILITY ENGINEER DATE

AUTHORIZED FOR CONSTRUCTION

TRENTON C. PRALL, CITY ENGINEER DATE

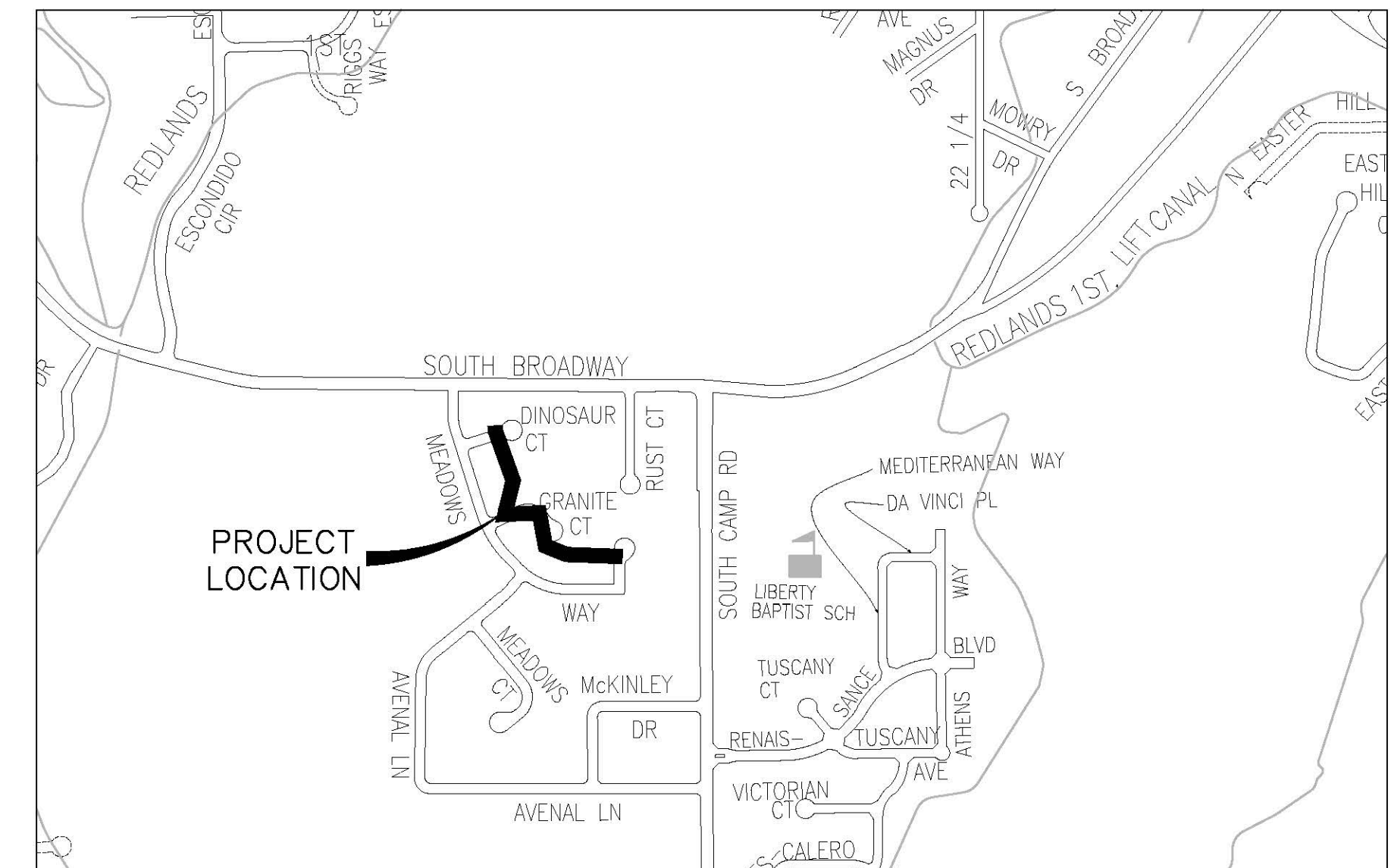
ACCEPTED AS CONSTRUCTED

JUSTIN VENSEL, PROJECT ENGINEER DATE

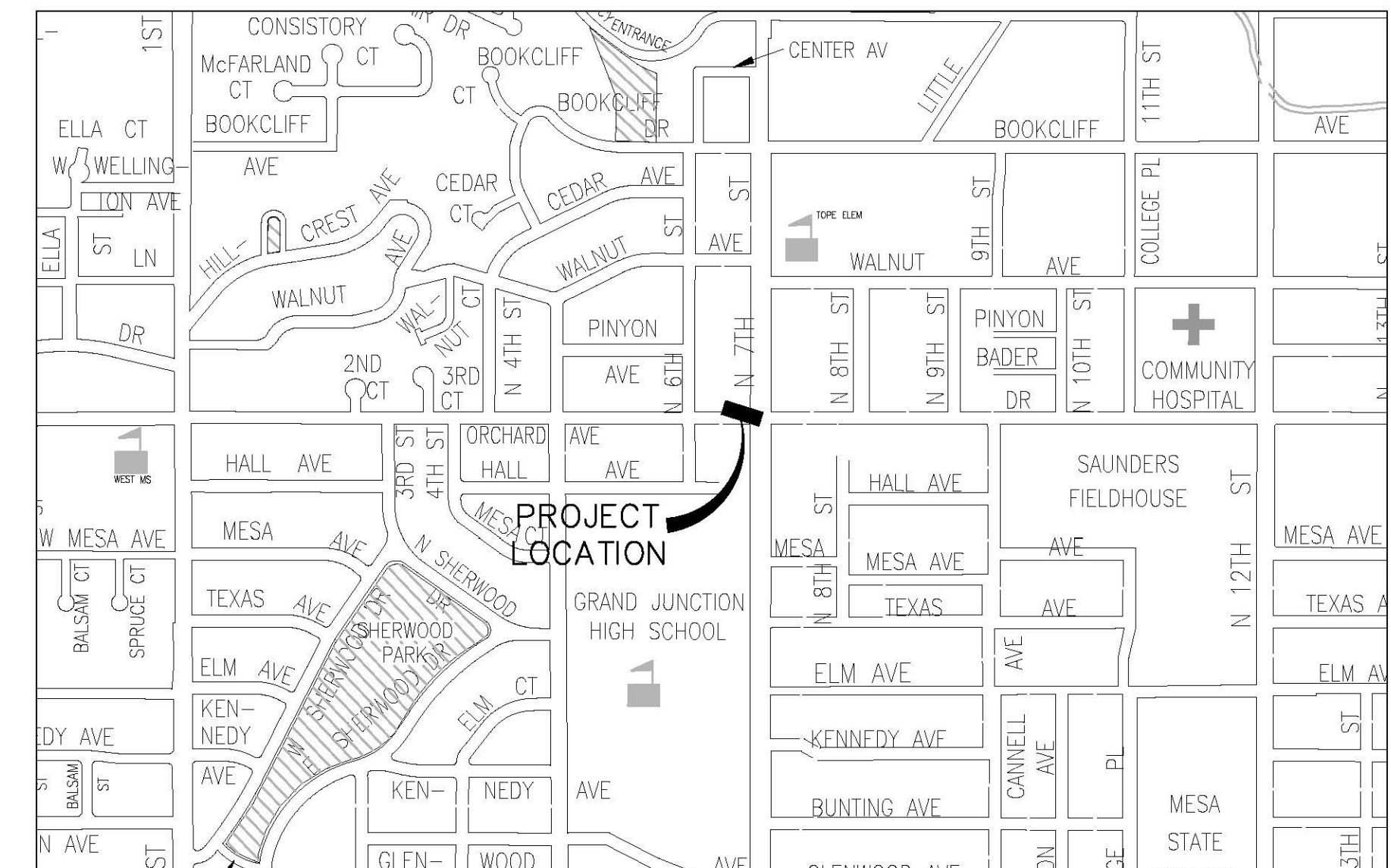
*Public Works & Planning
Engineering Division*

VICINITY MAPS

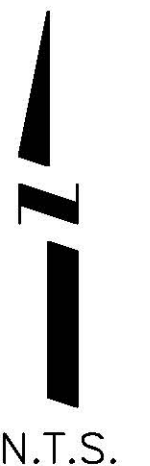
MEADOWS WAY



7th ST. AND ORCHARD AVE.



MANOR AVE.



ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
ABC	AGGREGATE BASE COURSE
AC	ASBESTOS CEMENT
AP	ANGLE POINT
ASB	ANCHORED STRAW BALES
ASP	ALUMINIZED STEEL PIPE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BACK OF CURB
BF	BUTTERFLY VALVE
BOW	BACK OF WALK
BCR	BEGIN CURB RETURN
BOT	BOTTOM
BSWMP	BETTER STORM WATER MANAGEMENT PRACTICES
CH	CHORD
CAP	CORRUGATED ALUMINUM PIPE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CI	CAST IRON
C.G.& SW	CURB, GUTTER & SIDEWALK
C	CENTER LINE
CL	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COMB	COMBINATION (AS IN STORM SEWER AND SANITARY SEWER)
CONC	CONCRETE
CSM	CITY SURVEY MONUMENT
CSP	CORRUGATED STEEL PIPE
CU	COPPER
DI	DUCTILE IRON
DWY	DRIVEWAY
E	ELECTRIC
ECR	END CURB RETURN
EG	EDGE OF GUTTER
EL	ELEVATION
EP	EDGE OF PAVEMENT
EX	EXISTING
FB	FULL BODY
FC	FACE OF CURB
FG	FINISHED GRADE
F	FLOW LINE
FL	FLANGE
FM	FORCE MAIN
FO	FIBER OPTICS
FS	FAR SIDE
FTG	FOOTING
G	GAS
GB	GRADE BREAK
GM	GAS METER
GV	GATE VALVE
HBP	HOT BITUMINOUS PAVEMENT
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
IRR	IRRIGATION
LC	LENGTH OF ARC
LF	LINEAR FEET
LL	LONG ARC
LS	SHORT ARC
LT	LEFT
MB	MAILBOX
MCSM	MESA COUNTY SURVEY MONUMENT
MH	MANHOLE
MJ	MECHANICAL JOINT
MW	MILL WRAP
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOP	NO ONE PERSON
NRPC	NON-REINFORCED CONCRETE PIPE
NS	NEAR SIDE
NTS	NOT TO SCALE
OHP	OVERHEAD POWER
OHT	OVERHEAD TELEPHONE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	POLYETHYLENE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PIP	PLASTIC IRRIGATION PIPE
POC	POINT ON CURVE
POT	POINT ON TANGENT
PR	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RG	RESTRAINED GLANDS
RL	LONG RADIUS
ROW	RIGHT OF WAY
RP	RADIUS POINT
RR	RAIL ROAD
RS	SHORT RADIUS
RT	RIGHT
S	SLOPE
SAN	SANITARY
SC	SHORT CHORD
SCD	STANDARD CONTRACT DOCUMENTS
SCH	SCHEDULE
SF	SILT FENCE
SL	SECTION LINE
SSRB	STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
SSJUU	STANDARD SPECIFICATIONS FOR CONSTRUCTION OF UNDERGROUND UTILITIES
STA	STATION
STL	STEEL
STM	STORM
T	TELEPHONE
TAN	LENGTH OF TANGENT
TC	TOP OF CURB
TH	TEST HOLE
TV	TELEVISION
(TYP)	TYPICAL
UIU	UNDERGROUND UTILITIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VPC	VERTICAL POINT OF CURVATURE
VPCC	VERTICAL POINT OF COMPOUND CURVATURE
VPRC	VERTICAL POINT OF REVERSE CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WATER
Δ	DELTA ANGLE

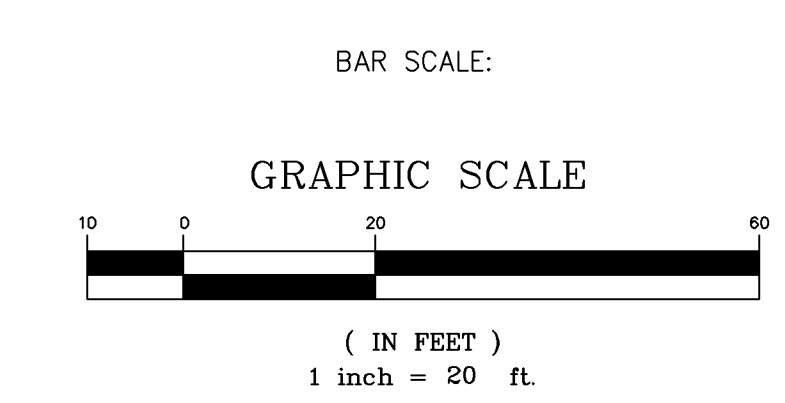
LEGEND

BSWMP DRAINAGE BASIN BOUNDARY	
BSWMP ANCHORED STRAW BALES	ASB ASB ASB ASB ASB ASB ASB ASB
BSWMP SILT FENCE	SF SF SF SF SF SF SF SF
BUILDING	
CONCRETE CURB AND GUTTER	2" CURB AND GUTTER 7" C. G. & SW
CONCRETE CURB, GUTTER, & SIDEWALK	
CONCRETE DITCH	CONCRETE
CONCRETE SIDEWALK	4" SW
CULVERT	18" RCP
EARTH DITCH	EARTH EARTH EARTH
EDGE OF GRAVEL	
EDGE OF PAVEMENT	
FENCE (BARBED WIRE)	
FENCE (CHAIN LINK)	
FENCE (IRON)	
FENCE (PLASTIC)	
FENCE (WOOD)	
FENCE (WOVEN WIRE)	
GUARD RAIL	
HATCHING: INDICATES ASPHALT REMOVAL	
HATCHING: INDICATES CONCRETE REMOVAL	
HATCHING: INDICATES PLANTING/HYDRO-SEEDING (TYPE SPECIFIED ON PLANS)	
HATCHING: INDICATES STAGING AREA	
LINE (CENTER OF IMPROVEMENTS)	CENTERLINE
LINE (CITY LIMITS)	CITY LIMITS
LINE (CONTROL)	CONTROL LINE
LINE (EASEMENT)	
LINE (MONUMENT/SECTION)	MONUMENT/SECTION LINE
LINE (PROPERTY)	
LINE (RIGHT OF WAY)	
MATCH LINE	MATCH LINE SEE SHEET NO ?
PIPE (IRRIGATION)	4" IRR
PIPE (SIPHON)	4" SIPHON

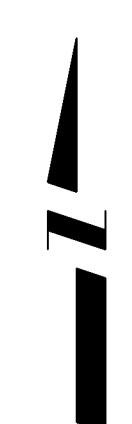
PROPOSED CONCRETE CURB AND GUTTER	
PROPOSED CONCRETE CURB, GUTTER, & SIDEWALK	
PROPOSED CONCRETE SIDEWALK	
PROPOSED "WET" UTILITIES (CONSTRUCTION NOTE WILL INDICATE TYPE, SIZE, AND MATERIAL OF NEW MAIN)	8" PVC SANITARY SEWER
ALL PROPOSED FEATURES NOT SHOWN IN LEGEND WILL BE SHOWN THE SAME AS THEIR EXISTING COUNTERPART, BUT INDICATED BY BOLDER LINETYPE	
RAIL ROAD	
RETAINING WALL	1' RETAINING WALL
STRIPING (CONTINUOUS WHITE)	WHITE
STRIPING (DASHED WHITE)	WHITE
STRIPING (CONTINUOUS YELLOW)	YELLOW
STRIPING (DASHED YELLOW)	YELLOW
TOP OF SLOPE	4570 4580
CONTOUR LINES (SHOWN BETWEEN TOP & TOE)	4570 4570
TOE OF SLOPE	4570 4570
TRAFFIC DETECTOR LOOP	
UTILITY LINE (ABANDON) (THIS CASE A WATER LINE)	W (ABANDONED) 8" W
UTILITY LINE (CABLE TV)	TV TV
UTILITY LINE (ELECTRIC)	E E
UTILITY LINE (FIBER OPTIC)	FO OPTEST FO
UTILITY LINE (GAS)	G 1.3/4" MW G
UTILITY LINE (HIGH VOLTAGE OVERHEAD POWER)	HVHVP
UTILITY LINE (OVERHEAD POWER)	OHP
UTILITY LINE (OVERHEAD TELEPHONE)	OHT
UTILITY LINE (SANITARY SEWER)	8" SAN
UTILITY LINE (SANITARY SEWER FORCE MAIN)	8" FM
UTILITY LINE (SANITARY SEWER SERVICE)	SS
UTILITY LINE (STORM SEWER)	8" STM
UTILITY LINE (STORM SEWER, PERFORATED)	8" PERF
UTILITY LINE (STORM/SANITARY SEWER SEWER COMBINATION)	18" COMB
UTILITY LINE (TELEPHONE)	T T
UTILITY LINE (WATER)	W 8" W

SYMBOLS

BENCH MARK	
CATCH BASIN	
CLEAN OUT	
CURB STOP	
FIRE HYDRANT	
GUY WIRE ANCHOR	
HEADGATE	
IRRIGATION PUMP	
MAILBOX	
MANHOLE (ELECTRIC)	
MANHOLE (GAS)	
MANHOLE (SANITARY/STORM)	
MANHOLE (TELEPHONE)	
MANHOLE (TV)	
MANHOLE (WATER)	
METER (GAS)	
METER (WATER)	
PEDESTAL (TELEPHONE)	
PEDESTAL (TV)	
PROPERTY PIN	
PULL BOX	
REDUCER FITTING	
SIGN OR POST (SIGN TYPE NOTED)	
SPRINKLER HEAD	
STREET LIGHT	
SURVEY MONUMENT (CITY)	
SURVEY MONUMENT (TYPE NOTED)	
TEST HOLE	
TRAFFIC PAINT MARKING	
TRAFFIC SIGNAL POLE AND MAST ARM	
UTILITY POLE	
VALVE (GAS)	
VALVE (IRRIGATION)	
VALVE (WATER)	
VEGETATION (HEDGE OR BUSH)	
VEGETATION (TREE STUMP)	
VEGETATION (TREE) (CALIPER SIZE NOTED)	
WATER HYDRANT	
WEIR	
YARD LIGHT	



NORTH ARROW:



REVISION	DESCRIPTION	DATE

DRAWN BY	JCS	DATE	4-02
DESIGNED BY		DATE	
CHECKED BY		DATE	
APPROVED BY		DATE	



PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

CITY OF GRAND JUNCTION STANDARD ABBREVIATIONS, LEGEND, AND SYMBOLS SHEET

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	108.2	Import Trench Backfill (Including haul and disposal of unsuitable excavated material).	700.	Ton	\$ _____	\$ _____
2	108.2	12" Culvert (CMP)	40.	LF	\$ _____	\$ _____
3	108.2	4" Sewer Service Pipe (SDR-35 PVC) (Include connection to existing line)	490.	LF	\$ _____	\$ _____
4	108.2	6" Gravity Sewer Pipe (SDR-35 PVC)	790.	LF	\$ _____	\$ _____
5	108.2	6" Gravity Sewer Pipe (SDR-21 HDPE)	304.	LF	\$ _____	\$ _____
6	108.2	8" Gravity Sewer Pipe (SDR-35 PVC)	381.	LF	\$ _____	\$ _____
7	108.2	8" Gravity Sewer Pipe (SDR-21 HDPE)	970.	LF	\$ _____	\$ _____
8	108.2	By-Pass Pumping	Lump sum		---	\$ _____
9	108.3	6" x 4" Sewer Service Connection (Full Body Wye w/ Street 45)	24.	EA	\$ _____	\$ _____
10	108.3	6" x 4" Sewer Service Connection (Inserta Tee)	2.	EA	\$ _____	\$ _____
11	108.3	8" x 4" Sewer Service Connection (Full Body Wye w/ Street 45)	1.	EA	\$ _____	\$ _____
12	108.3	8" x 4" Sewer Service Connection (Inserta Tee)	18.	EA	\$ _____	\$ _____
13	108.5	Sanitary Sewer Basic Manhole (48" I.D.) Include connection to existing pipes as required and removal of existing manhole.	13.	EA	\$ _____	\$ _____
14	108.5	Manhole Barrel Section (D>5")(48" ID)	9.	VF	\$ _____	\$ _____
15	108.5	Sanitary Sewer Basic Drop Manhole (48" I.D.) Include connection to existing pipes as required and removal of existing manhole.	1.	EA	\$ _____	\$ _____
16	108.7	Drop Manhole Barrel Section (D>5")(48" ID)	3.5	VF	\$ _____	\$ _____
17	108.7	Granular Stabilization Material (Type B)	152.	TON	\$ _____	\$ _____
18	201	Clearing and Grubbing (Bushes, stumps, trees, vegetation)	Lump sum		---	\$ _____
19	202	Trim Bushes and Shrubs	90.	LF	\$ _____	\$ _____

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
20	202	Removal of Asphalt Mat (Planing)	450.	SY	\$ _____	\$ _____
21	208	Best management Plan to include concrete washout facility and inlet protection	Lump sum		---	\$ _____
22	208	Stabilized Construction Entrance	5.	EA	\$ _____	\$ _____
23	209	Dust Abatement	96.	DAY	\$ _____	\$ _____
24	210	Reset Landscape Appurtenances	1.	EA	\$ _____	\$ _____
25	210	Reset Sprinkler Systems	1.	EA	\$ _____	\$ _____
26	210	Reset Irrigation Structure	1.	EA	\$ _____	\$ _____
27	210	Reset Fence (4' to 6' Chain link)	60.	LF	\$ _____	\$ _____
28	210	Reset Fence (4' to 6' Privcey)	25.	LF	\$ _____	\$ _____
29	210	Reset Fence (Special)(2' Block 3' Chain Link)	12.	LF	\$ _____	\$ _____
30	212	Sod	48.	SY	\$ _____	\$ _____
31	304	Aggregate Base Course (Class 6) (6" Thick)	450.	SY	\$ _____	\$ _____
32	304	Aggregate Base Course (Class 6) (4" Thick)	973.	SY	\$ _____	\$ _____
33	401	Hot Bituminous Pavement (Patching) (6" Thick)	50.	SY	\$ _____	\$ _____
34	401	Hot Bituminous Pavement (Patching) (3" Thick)	400.	SY	\$ _____	\$ _____
35	608	Monolithic Vertical Curb Gutter and Sidewalk	63.	SY	\$ _____	\$ _____
36	608	Concrete Driveway Section (6" Thick)	30.	SY	\$ _____	\$ _____
37	620	Portable Sanitary Facility	Lump sum		---	\$ _____
38	625	Construction Surveying	Lump sum		---	\$ _____
39	626	Mobilization	Lump sum		---	\$ _____
40	629	Survey Monument (Reference and Reset)	1.	EA	\$ _____	\$ _____
41	630	Traffic Control (Complete in Place)	Lump sum		---	\$ _____
42	630	Traffic Control Plan	Lump sum		---	\$ _____
43	630	Flagging	80.	HR	\$ _____	\$ _____
199						
MCR		Minor Contract Revisions	---	---	---	\$ 15,000.00
		Bid Amount:				\$ _____

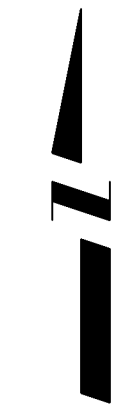
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REVISION Δ	DESCRIPTION _____	DATE _____	CHECKED BY _____	DATE _____
REVISION Δ	DESCRIPTION _____	DATE _____	APPROVED BY _____	DATE _____

SCALE
N.T.S.



**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

**2007 SEWER REPLACEMENTS
SUMMARY OF APPROXIMATE QUANTITIES**



POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP-1	37751.583	67365.856	4713.45	CP PK
CP-2	37513.407	67397.264	4713.238	CP PK
CP-3	37500.983	67427.902	4712.917	CP PK
CP-4	37341.461	67418.465	4717.371	CP SPIKE
CP-5	37112.767	67435.705	4721.332	CP PK
CP-6	37150.563	67549.777	4719.837	CP PK
CP-7	37066.737	67700.838	4720.632	CP PK
CP-8	36942.96	67729.742	4723.733	CP SPIKE
CP-9	36900.956	67810.092	4724.312	CP SPIKE
CP-10	36938.556	67834.677	4723.466	CP PK
CP-11	36874.367	67893.741	4725.174	CP SPIKE
CP-12	36954.546	67908.46	4722.742	CP MARK ON CNC
CP-13	36911.105	68035.62	4722.377	CP PK

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
△			JAH	9/2007
△				
△				
△				

DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE



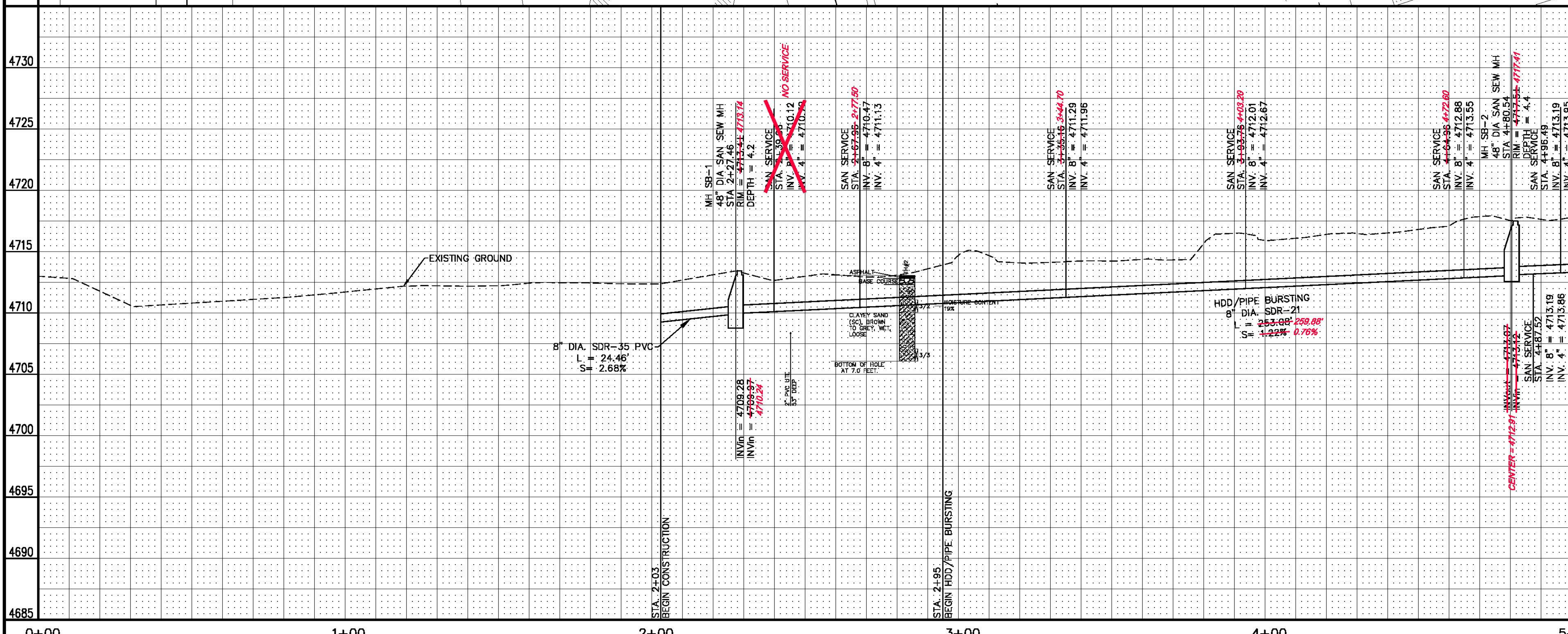
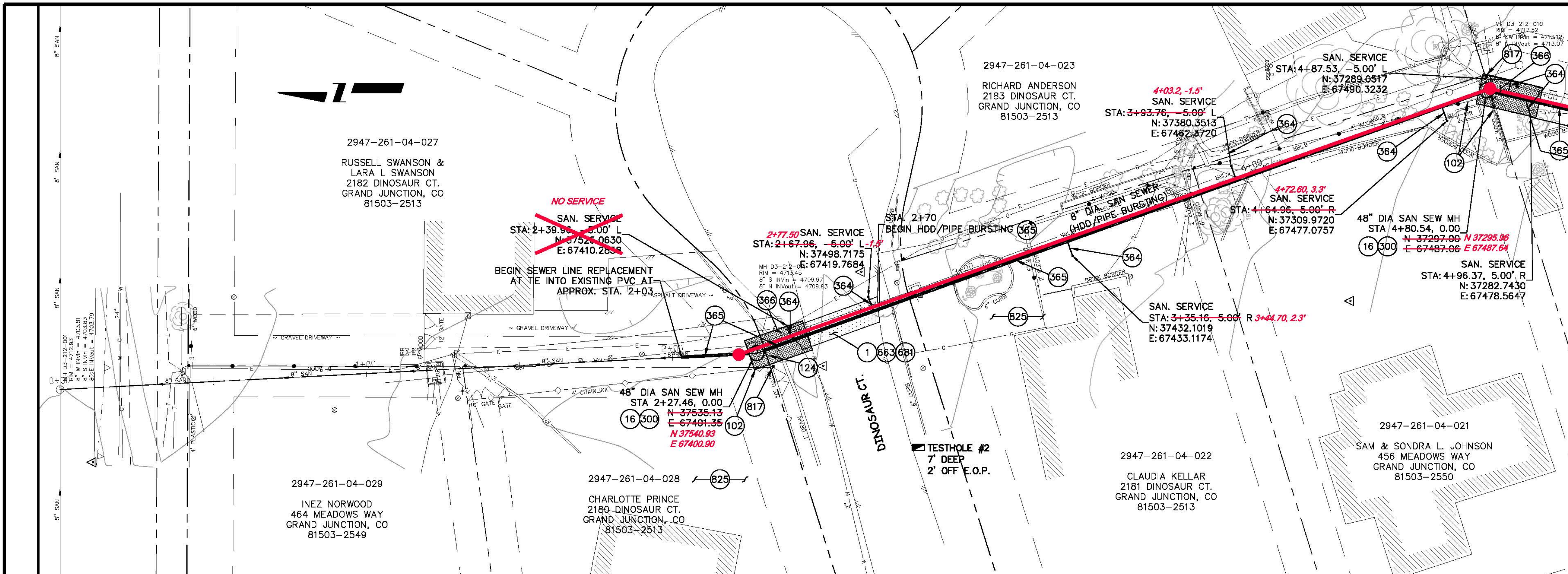
PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

2007 SEWER REPLACEMENTS
PROJECT CONTROL MAP

- ① 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- ①⑥ 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- ①②② RESET FENCE. (HEIGHT AND MATERIAL AS SHOWN ON PLAN)
- ①②④ RESET IRRIGATION STRUCTURE.
- ⑤①① 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- ⑤⑥④ 102.9 - INSTALL NEW 4" (INSERT-A-TEE) SEWER SERVICE TAP AND 4" GRAVITY SEWER PIPE (SDR-35 PVC) TO 5' OFF OF MAIN LINE AND CONNECT TO EXISTING SERVICE W/ MISSION COUPLER OR ENGINEER APPROVED EQUIVALENT.
- ⑤⑥⑤ 102.9B - INSTALL NEW 8" HIGH DENSITY POLYETHYLENE (HDPE) SDR-17 SEWER PIPE FOR PIPE BURSTING.
- ⑤⑥⑥ EXCAVATE LAUNCHING/RECEIVING PIT FOR HDD. IMPACTOR DEVICE, HDPE ADAPTER AND HDPE PIPE. BACK FILL TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACK FILL MATERIAL.
- ⑥⑥③ 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- ⑥⑧① 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 1/2" LIFTS)
- ⑥①⑦ PROTECT OR REFERENCE AND RESET PROPERTY PIN. COST IS INCIDENTAL TO COST OF CONSTRUCTION.
- ⑥②⑤ CONTRACTOR IS RESPONSIBLE FOR REPAIR COSTS ASSOCIATED WITH ANY/ALL DAMAGE TO PRIVATE PROPERTY BEHIND ROW LINE OR EASEMENT LIMITS.

SEE SHEET 6

SEE SHEET 6



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION			JAH	2/2007
REVISION			DD	2/2007
REVISION				
REVISION				

SCALES:
PLAN: 1" = 30'
PROFILE: HORIZONTAL 1" = 30', VERTICAL 1" = 2'

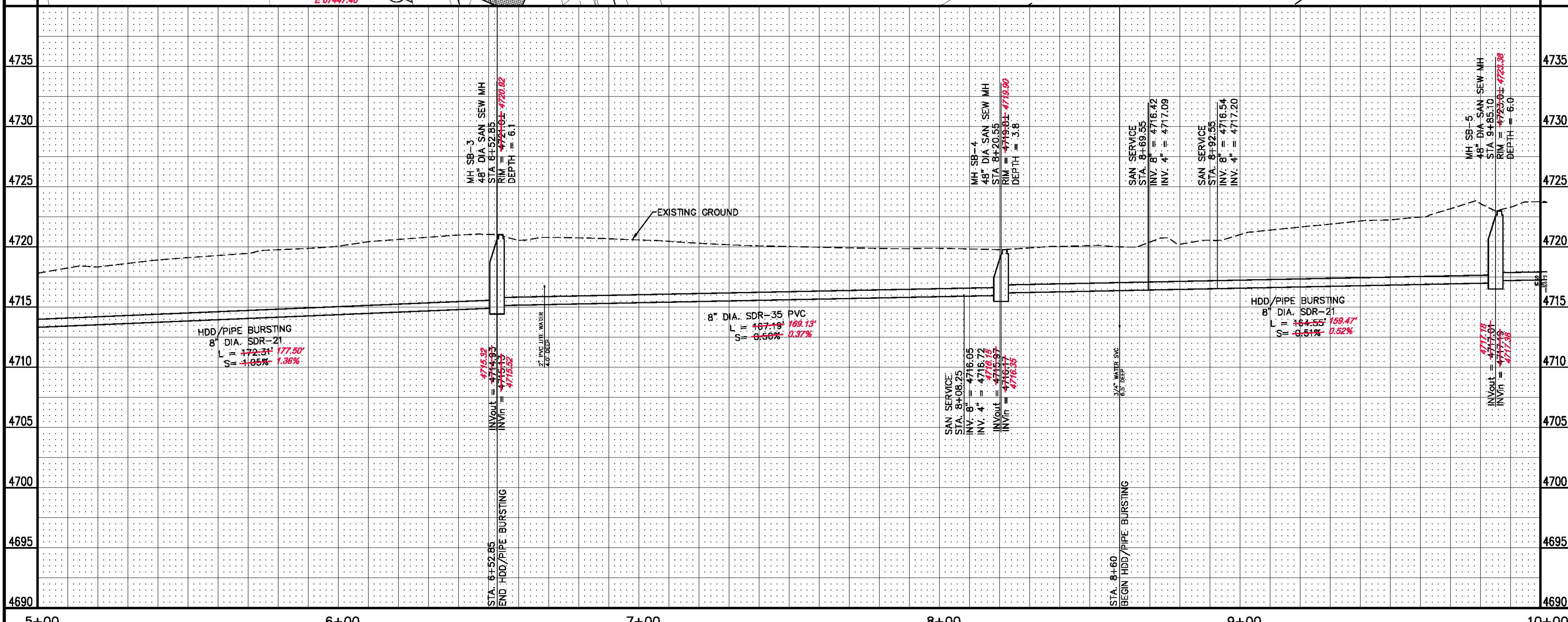
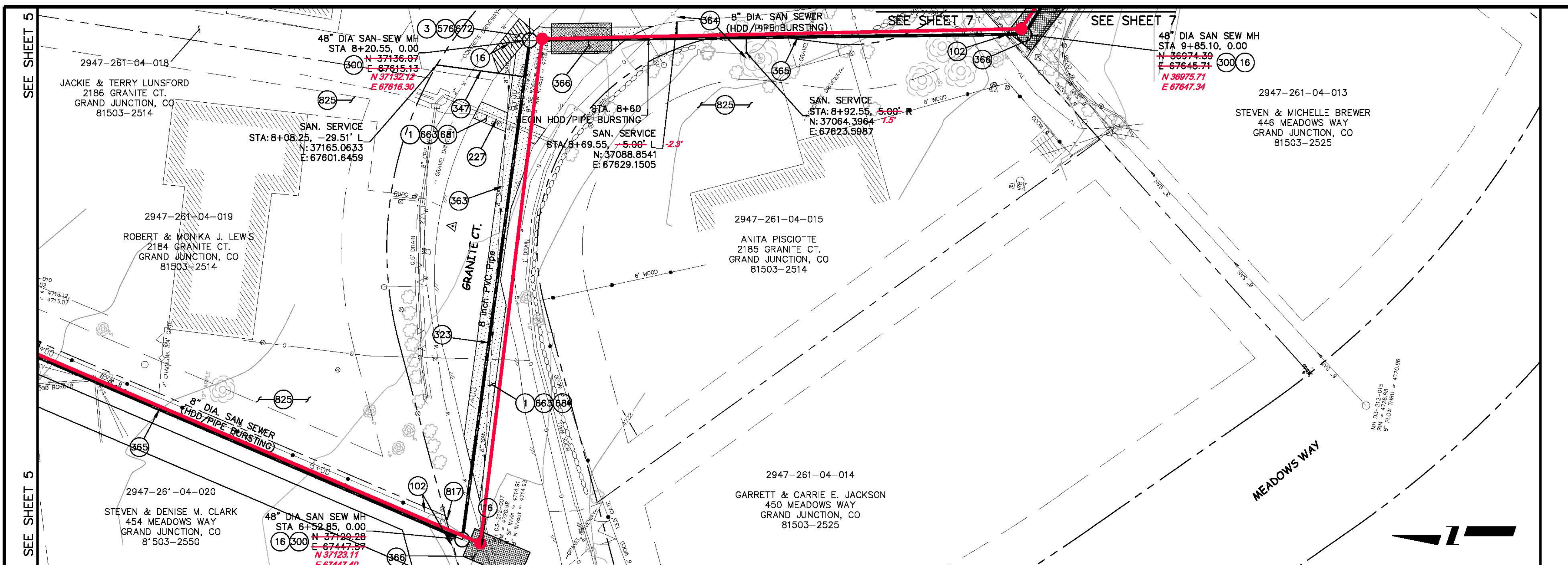


PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

**2007 SANITARY SEWER REPLACEMENTS
SANITARY SEWER PLAN AND PROFILES
STA 2+03 TO STA 5+00**

CONSTRUCTION NOTES

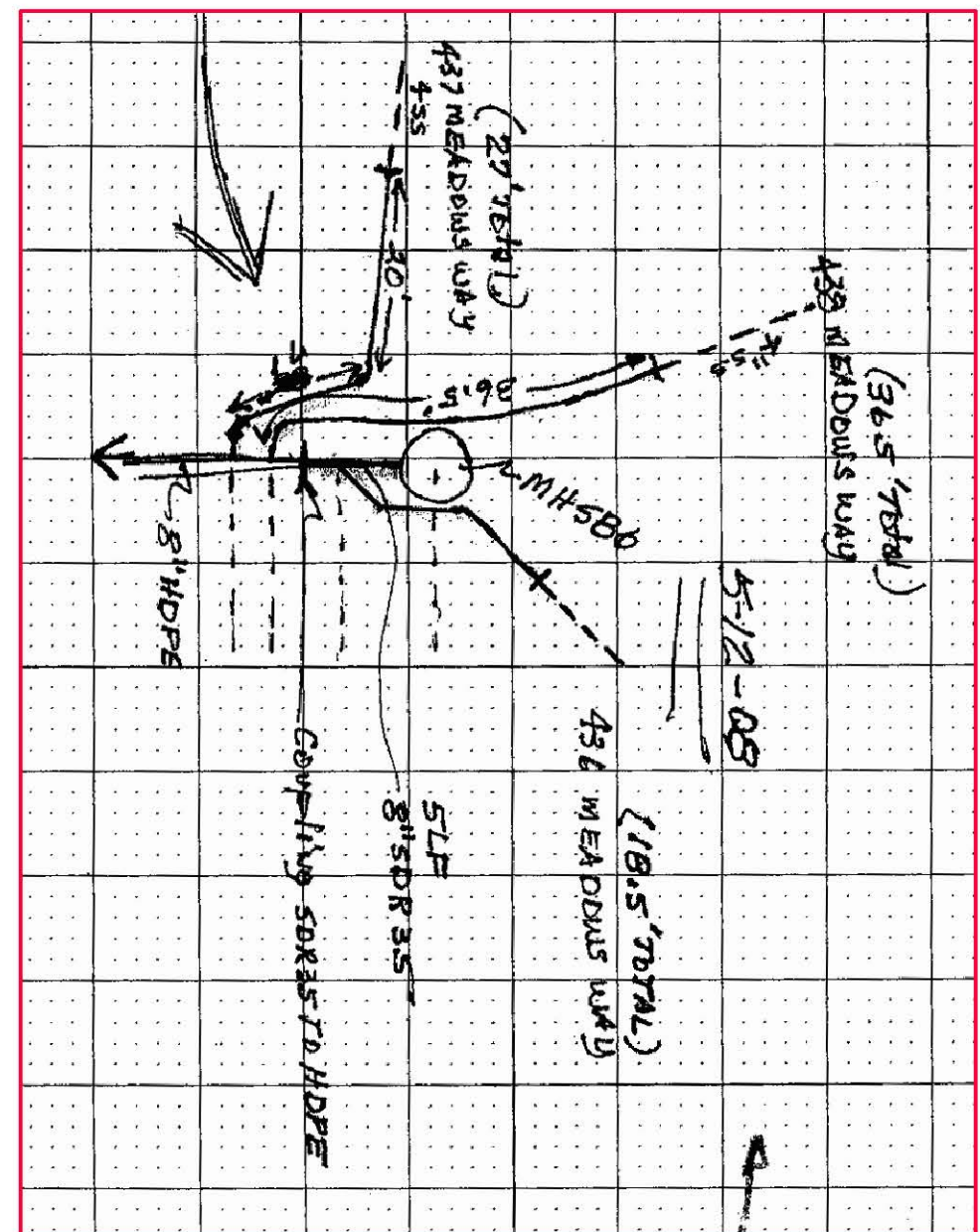
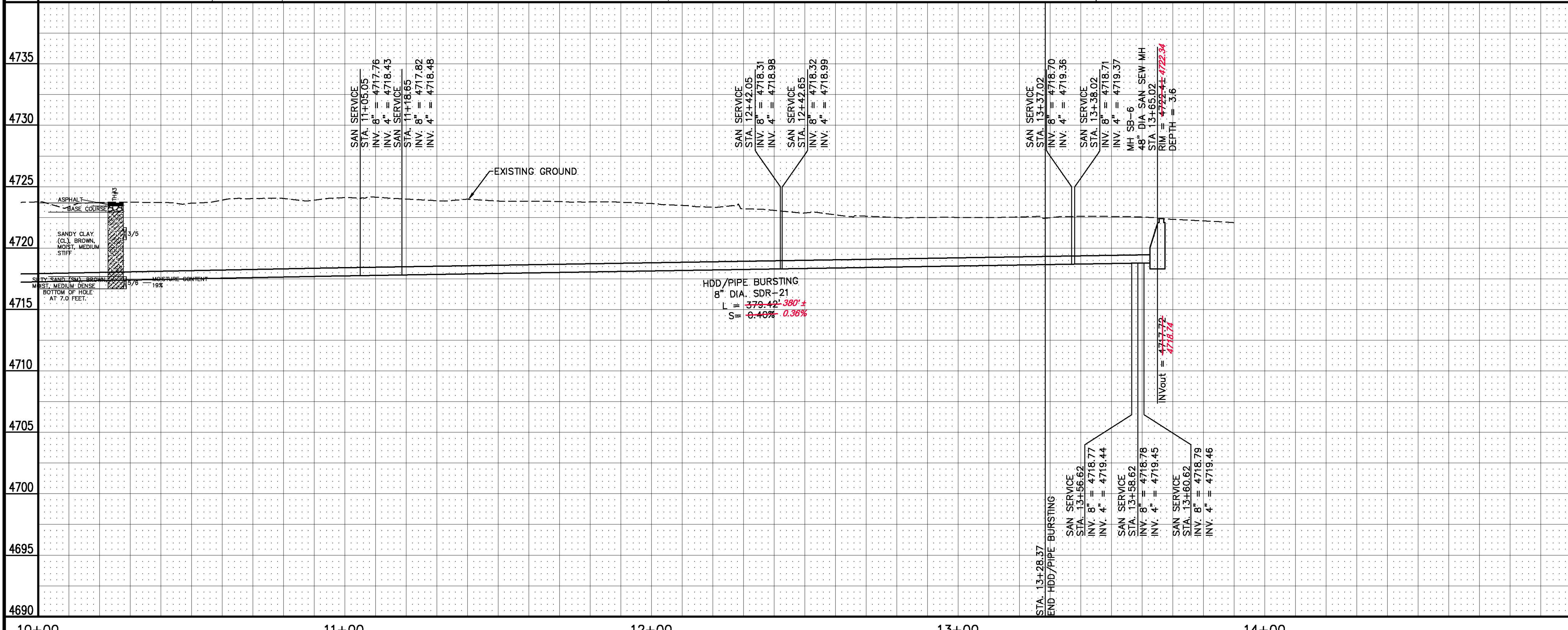
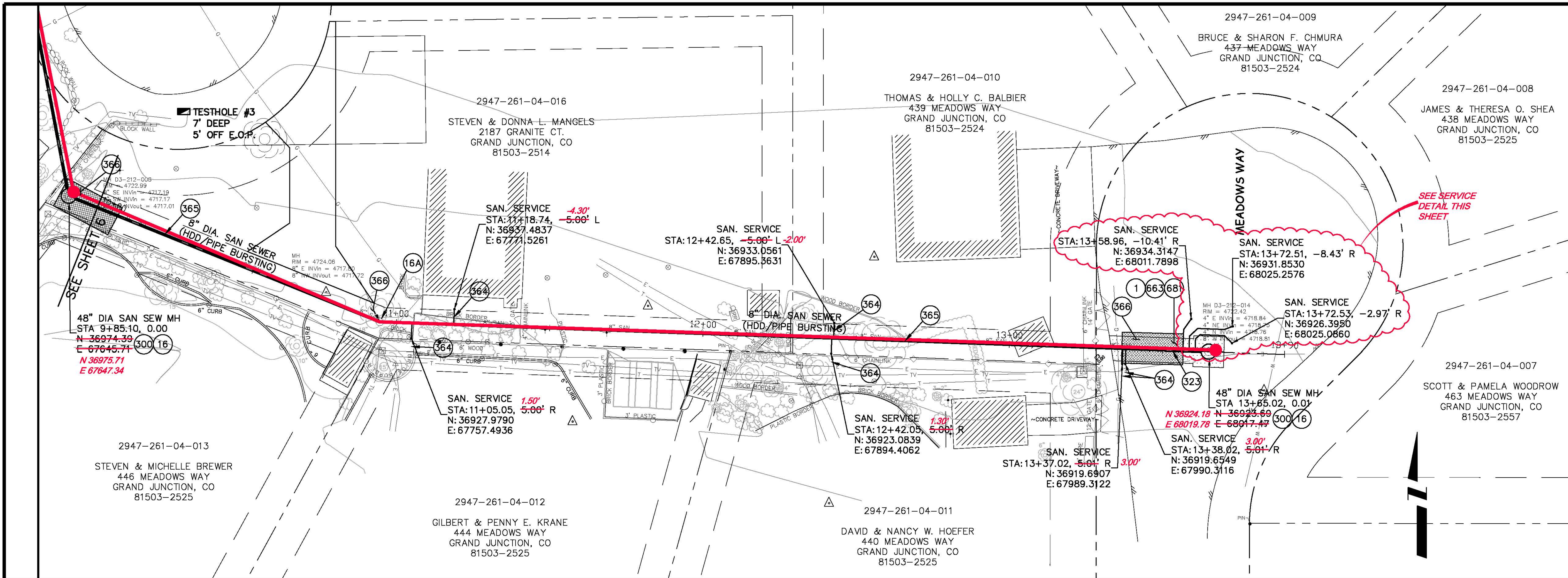
- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- 3 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, CUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.
- 16 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- 102 210 - RESET FENCE. (HEIGHT AND MATERIAL AS SHOWN ON PLAN)
- 227 REPLACE CMP W/ NEW 12" CMP. FL ELEVATION IS 10" ABOVE DRAW TO THE NORTH.
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 323 102.9/108.2 - 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 347 102.9/108.3 - 8" x 4" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06).
- 363 BYPASS PUMPING WILL BE REQUIRED FOR CONSTRUCTION.
- 364 102.9 INSTALL NEW 4" (INSERT-A-TEE) SEWER SERVICE TAP AND 4" GRAVITY SEWER PIPE (SDR-35 PVC) TO EASEMENT LINE AND CONNECT TO EXISTING SERVICE W/ MISSION COUPLER OR ENGINEER APPROVED EQUIVALENT.
- 365 102.9B - INSTALL NEW 8" HIGH DENSITY POLYETHYLENE (HDPE) SDR-17 SEWER PIPE FOR PIPE BURSTING.
- 366 EXCAVATE LAUNCHING/RECEIVING PIT FOR HDD, IMPACTOR DEVICE, HDPE ADAPTER AND HDPE PIPE. BACK FILL TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACK FILL MATERIAL.
- 576 608.06 - CONCRETE DRIVEWAY SECTION (6" THICK) (RESIDENTIAL)
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK)
- 681 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 1 1/2" LIFTS)
- 617 PROTECT OR REFERENCE AND RESET PROPERTY PIN. COST IS INCIDENTAL TO COST OF CONSTRUCTION.
- 825 CONTRACTOR IS RESPONSIBLE FOR REPAIR COSTS ASSOCIATED WITH ANY/ALL DAMAGE TO PRIVATE PROPERTY BEHIND ROW LINE OR EASEMENT LIMITS.



REVISION Δ _____ REVISION Δ _____ REVISION Δ _____ REVISION Δ _____	DESCRIPTION _____ DATE _____ DATE _____ DATE _____ DATE _____	DRAWN BY JAH DATE 2/2007 DESIGNED BY DD DATE 2/2007 CHECKED BY _____ DATE _____ APPROVED BY _____ DATE _____	SCALES: PLAN HORIZONTAL 1" = 10' PROFILE HORIZONTAL 1" = 10' VERTICAL 1" = 2'		PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION	2007 SANITARY SEWER REPLACEMENTS SANITARY SEWER PLAN AND PROFILES STA 5+00 TO STA 10+00
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CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- 16 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- 16A JACK HAMMER EXISTING MANHOLE INVERT. ABANDON AND LEAVE IN PLACE EXISTING MANHOLE STRUCTURE.
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 323 102.9/108.2 - 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 347 102.9/108.3 - 8" x 4" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06).
- 364 102.9 INSTALL NEW 4" (INSERT-A-TEE) SEWER SERVICE TAP AND 4" GRAVITY SEWER PIPE (SDR-35 PVC) TO EASEMENT LINE AND CONNECT TO EXISTING SERVICE W/ MISSION COUPLER OR ENGINEER APPROVED EQUIVALENT.
- 365 102.9B - INSTALL NEW 8" HIGH DENSITY POLYETHYLENE (HDPE) SDR-17 SEWER PIPE FOR PIPE BURSTING.
- 366 EXCAVATE LAUNCHING/RECEIVING PIT FOR HDD, IMPACTOR DEVICE, HDPE ADAPTER AND HDPE PIPE. BACK FILL TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACK FILL MATERIAL.
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 681 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 1 1/2" LIFTS)



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
1			JAH	2/2007
2			DD	2/2007
3				
4				

SCALES:
PLAN: 1" = 20'
PROFILE: HORIZONTAL 1" = 20', VERTICAL 1" = 5'



PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

**2007 SANITARY SEWER REPLACEMENTS
SANITARY SEWER PLAN AND PROFILES
STA 10+00 TO STA 14+00**

7th STREET

ORCHARD AVE.

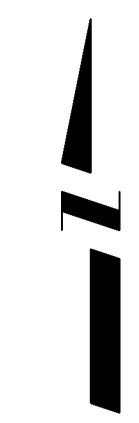
ORCHARD AVE.

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP-1	42095.2	92080.83	4625.99	CSM C4 S11 ORCD W@7TH
CP-2	42095.39	92234.08	4626.69	CK CSM 7TH/ORCHARD GIS LOC
CP-3	42062.1	92291.93	4627.33	CP PK SE COR ORCD-7TH

CP-1

CP-2

CP-3



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE
REVISION			JAH	9/2007	N.T.S.
REVISION					
REVISION					
REVISION					

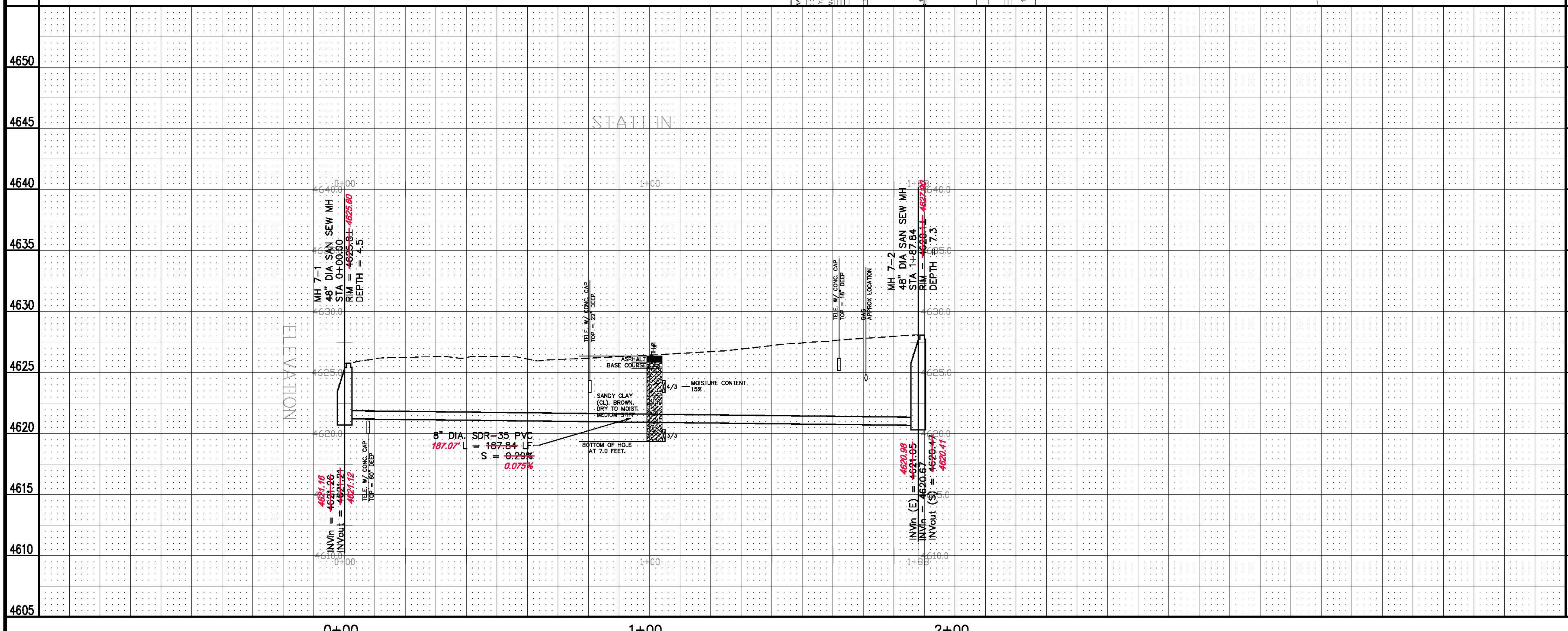
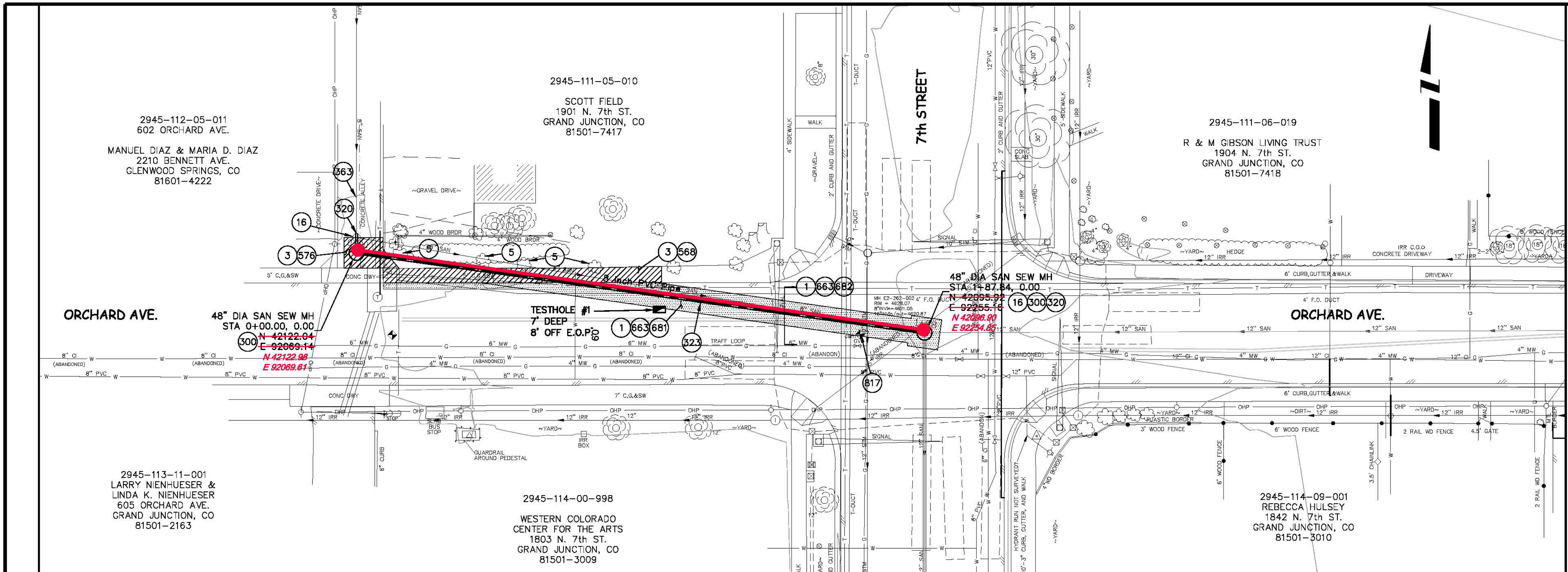


PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION

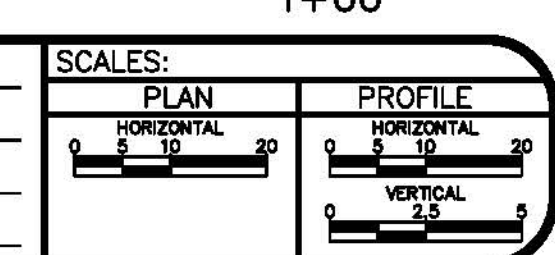
2007 SEWER REPLACEMENTS
PROJECT CONTROL MAP

CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- 3 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.
- 5 TRIM SHRUBS TO FACILITATE CONSTRUCTION OF SANITARY SEWER MAIN
- 16 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 320 102.11 - CONNECT MANHOLE TO EXISTING SANITARY SEWER (8" & 12" PIPE).
- 323 102.9/108.2 - 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 363 BYPASS PUMPING WILL BE REQUIRED FOR CONSTRUCTION.
- 576 608.06 - CONCRETE DRIVEWAY SECTION (6" THICK) (RESIDENTIAL)
- 568 608.06 - MONOLITHIC VERTICAL CURB, GUTTER AND SIDEWALK (5' WIDE)
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 681 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 1 1/2" LIFTS)
- 682 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (6" THICK) (GRADING SX, BINDER GRADE PG 64-22) (THREE 2" LIFTS)
- 817 629 - REFERENCE AND RESET SURVEY MONUMENT.



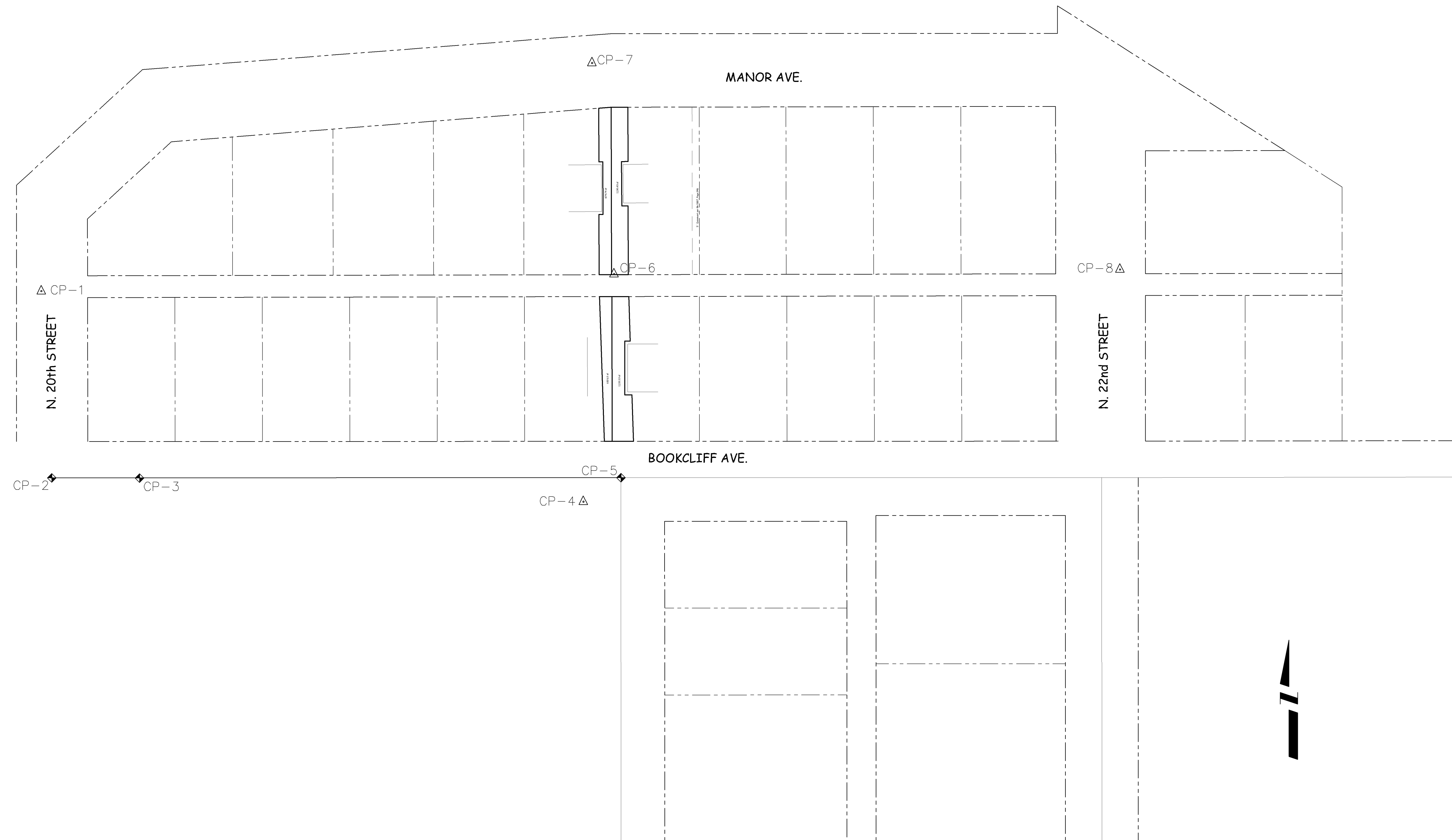
REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
1			JAH	3/2007
2			DD	3/2007
3				
4				



**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

**2007 SEWER REPLACEMENTS
SANITARY SEWER PLAN AND PROFILE
STA 0+00 TO STA 2+00**

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP-1	43532.18	97441.46	4651.15	CP PK
CP-2	43403.98	97448.62	4644.73	CSM MANOR/BOOKCLIFF #5 REBAR
CP-3	43403.83	97508.88	4644.49	CSM 20TH/BOOKCLIFF PIN & WASHER
CP-4	43387.64	97813.58	4642.44	CP PK @21ST/BOOKCLIFF
CP-5	43404.13	97839.35	4642.11	CSM 21ST/BOOKCLIFF PIN & WASHER
CP-6	43543.92	97834.67	4647.15	CP SPIKE
CP-7	43688.73	97819.54	4651.45	CP PK
CP-8	43547.01	98181.93	4646.31	CP PK



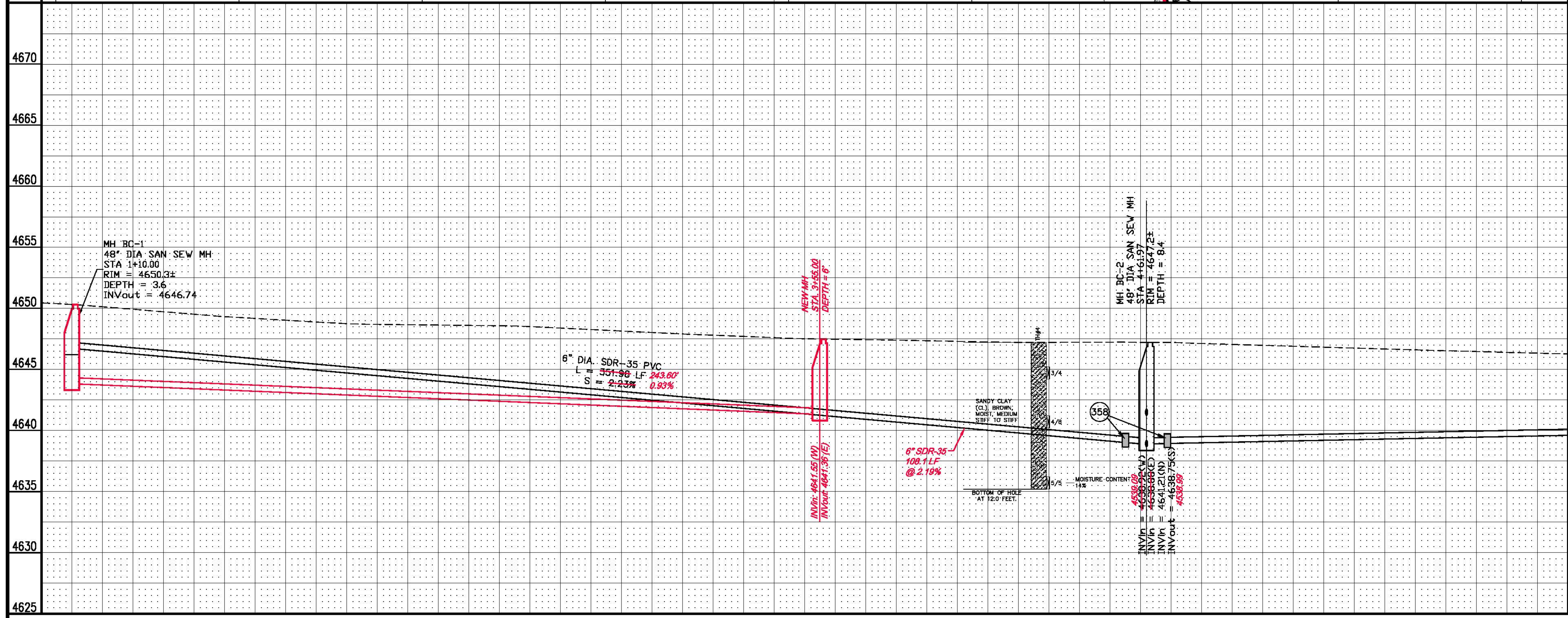
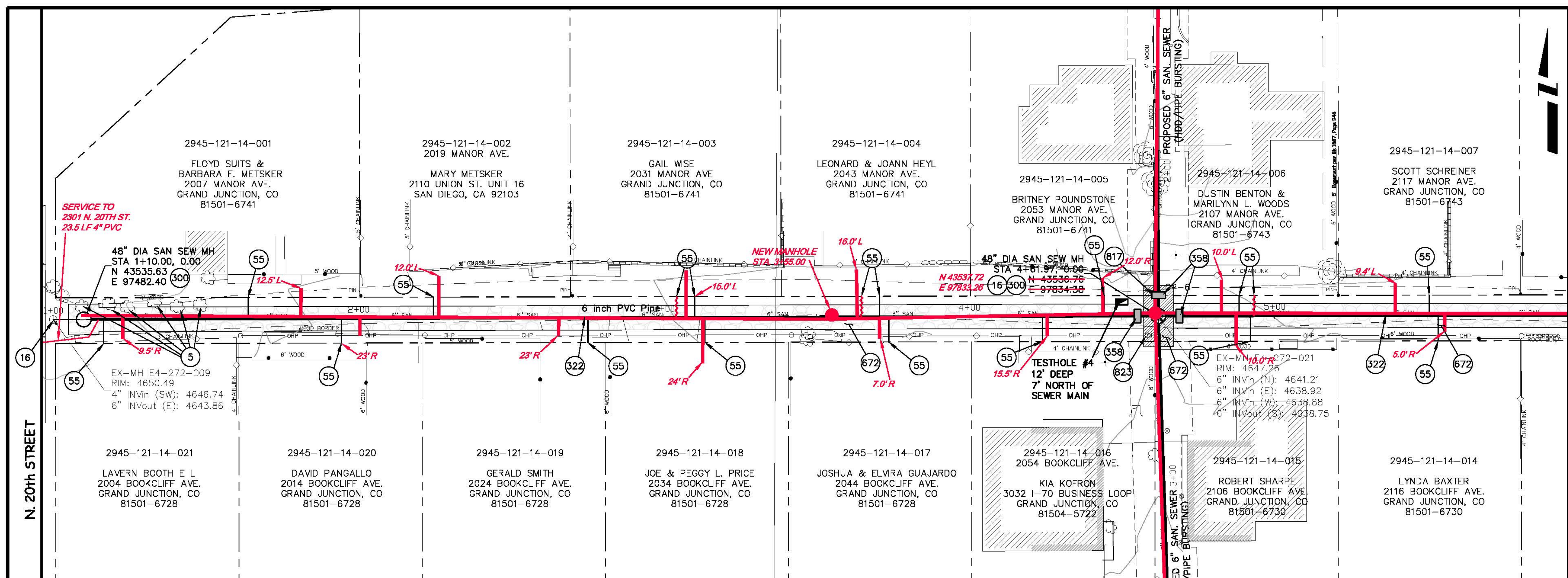
REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE
△			JAH	9/2007	N.T.S.
△					
△					
△					



**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

**2007 SEWER REPLACEMENTS
PROJECT CONTROL MAP**

- 5 202 - REMOVAL OF BUSH
- 16 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- 55 102/103/104 - CONTRACTOR SHALL FIELD VERIFY EXISTING SEWER SERVICE LOCATIONS AND INSTALL NEW 4" SEWER SERVICE TAP AND NEW 4" SDR-35 PVC PIPE, INCLUDING ALL BENDS AND FITTINGS, TO ROW LINE AND CONNECT TO EXISTING SERVICE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL "TYPICAL SERVICE "Y" CONNECTION" SS-06).
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 322 102.9/108.2 - 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INTALLATION PAY ITEM)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK
- 817 PROTECT OR REFERENCE AND RESET PROPERTY PIN. COST IS INCIDENTAL TO COST OF CONSTRUCTION.
- 823 PROTECT UTILITY POLE. CONTRACTOR SHALL COORDINATE W/ XCEL TO STABILIZE POLE DURING CONSTRUCTION.



REVISION	DESCRIPTION	DATE	DRAWN BY JAH	DATE 3/2007	SCALES: PLAN: 1" = 20' PROFILE: 1" = 20' (VERTICAL)
REVISION			DESIGNED BY DD	DATE 3/2007	
REVISION			CHECKED BY	DATE	
REVISION			APPROVED BY	DATE	

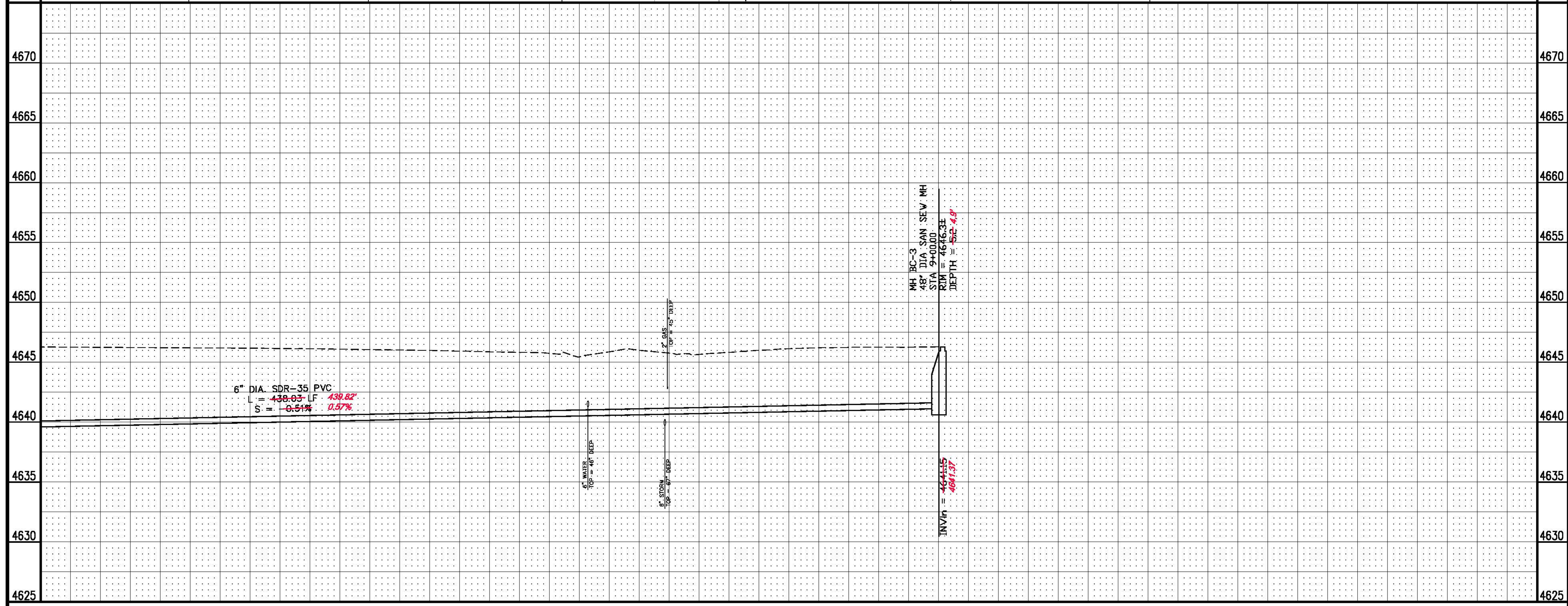
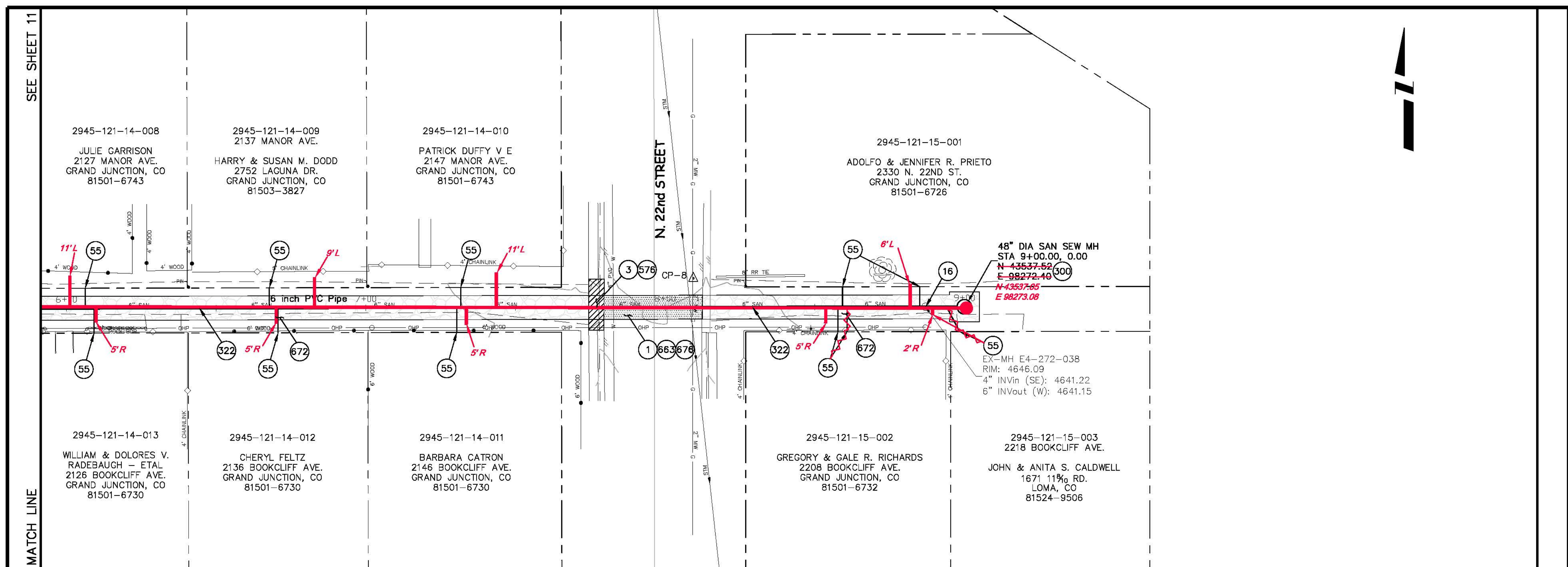
Grand Junction
COLORADO

**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

**2007 SEWER REPLACEMENTS
SANITARY SEWER PLAN AND PROFILE
STA 1+00 TO STA 6+00**

CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- 3 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.
- 16 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- 55 102/103/104 - CONTRACTOR SHALL FIELD VERIFY EXISTING SEWER SERVICE LOCATIONS AND INSTALL NEW 4" SEWER SERVICE TAP AND NEW 4" SDR-35 PVC PIPE, INCLUDING ALL BENDS AND FITTINGS, TO ROW LINE AND CONNECT TO EXISTING SERVICE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL "TYPICAL SERVICE "Y" CONNECTION" SS-06).
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 322 102.9/108.2 - 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 576 608.06 - CONCRETE DRIVEWAY SECTION (6" THICK) (RESIDENTIAL)
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 676 401.08 - HOT BITUMINOUS PAVEMENT (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 1 1/2" LIFTS)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK)



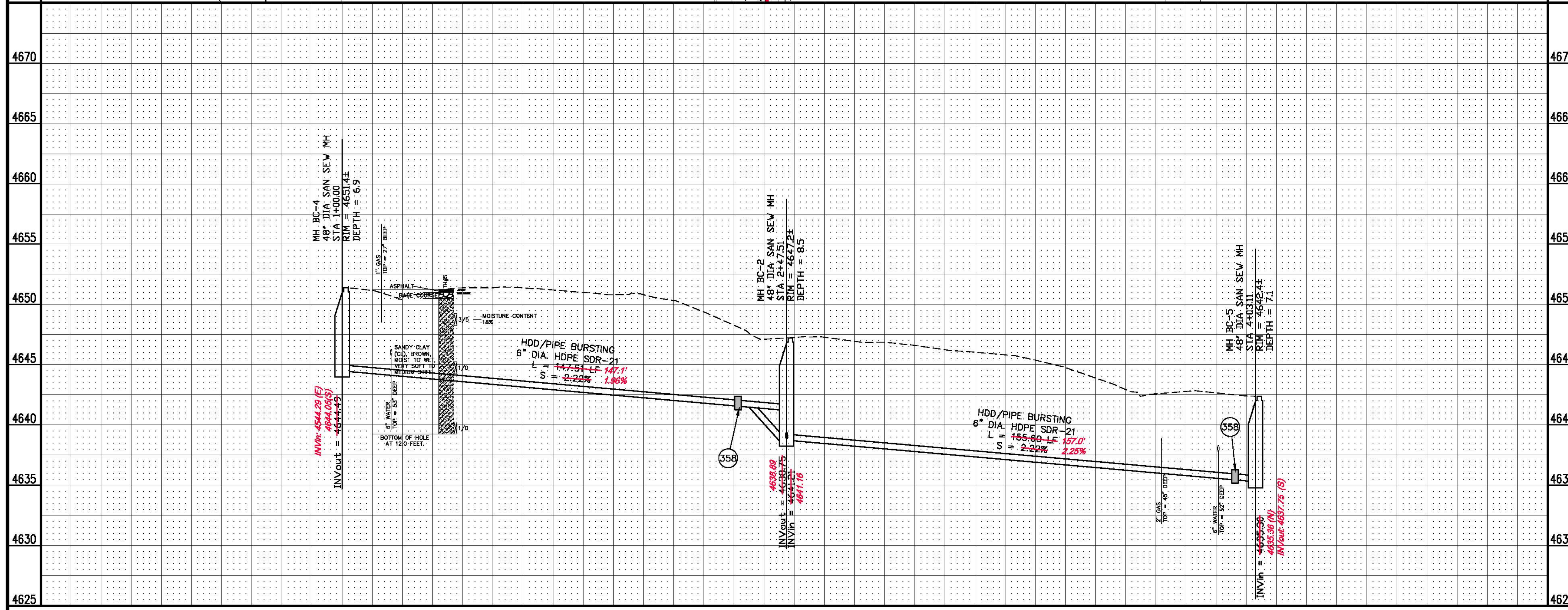
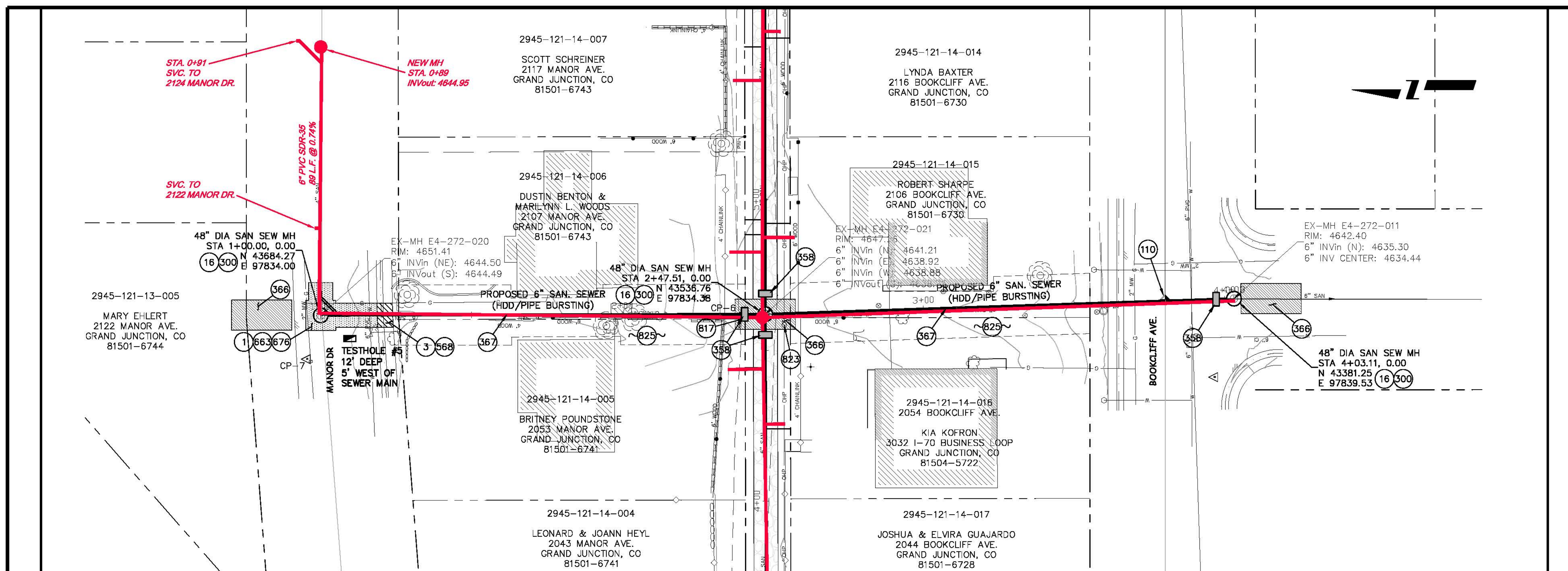
REVISION	DESCRIPTION	DATE	DRAWN BY JAH	DATE 3/2007	SCALES: PLAN: HORIZONTAL 1" = 20' PROFILE: HORIZONTAL 1" = 20', VERTICAL 1" = 5'
REVISION			DESIGNED BY DD	DATE 3/2007	
REVISION			CHECKED BY	DATE	
REVISION			APPROVED BY	DATE	

PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

**2007 SEWER REPLACEMENTS
SANITARY SEWER PLAN AND PROFILE
STA 6+00 TO STA 8+87**

CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- 3 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.
- 16 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- 110 629 - REFERENCE AND RESET SURVEY MONUMENT.
- 306 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 356 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 366 EXCAVATE LAUNCHING/RECEIVING PIT FOR HDD, IMPACTOR DEVICE, HDPE ADAPTER AND HDPE PIPE. BACK FILL TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACK FILL MATERIAL.
- 367 102.9B - INSTALL NEW 6" HIGH DENSITY POLYETHYLENE (HDPE) SDR-17 SEWER PIPE FOR PIPE BURSTING.
- 668 608.06 - MONOLITHIC VERTICAL CURB, GUTTER AND SIDEWALK (MATCH EXISTING WIDTH)
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 676 401.08 - HOT BITUMINOUS PAVEMENT (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 1 1/2" LIFTS)
- 817 PROTECT OR REFERENCE AND RESET PROPERTY PIN. COST IS INCIDENTAL TO COST OF CONSTRUCTION.
- 823 PROTECT UTILITY POLE. CONTRACTOR SHALL COORDINATE W/ XCEL TO STABILIZE POLE DURING CONSTRUCTION.
- 825 CONTRACTOR IS RESPONSIBLE FOR REPAIR COSTS ASSOCIATED WITH ANY/ALL DAMAGE TO PRIVATE PROPERTY BEHIND ROW LINE OR EASEMENT LIMITS.



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION			JAH	3/2007
REVISION			DD	3/2007
REVISION				
REVISION				

DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
DD	3/2007				

SCALES:

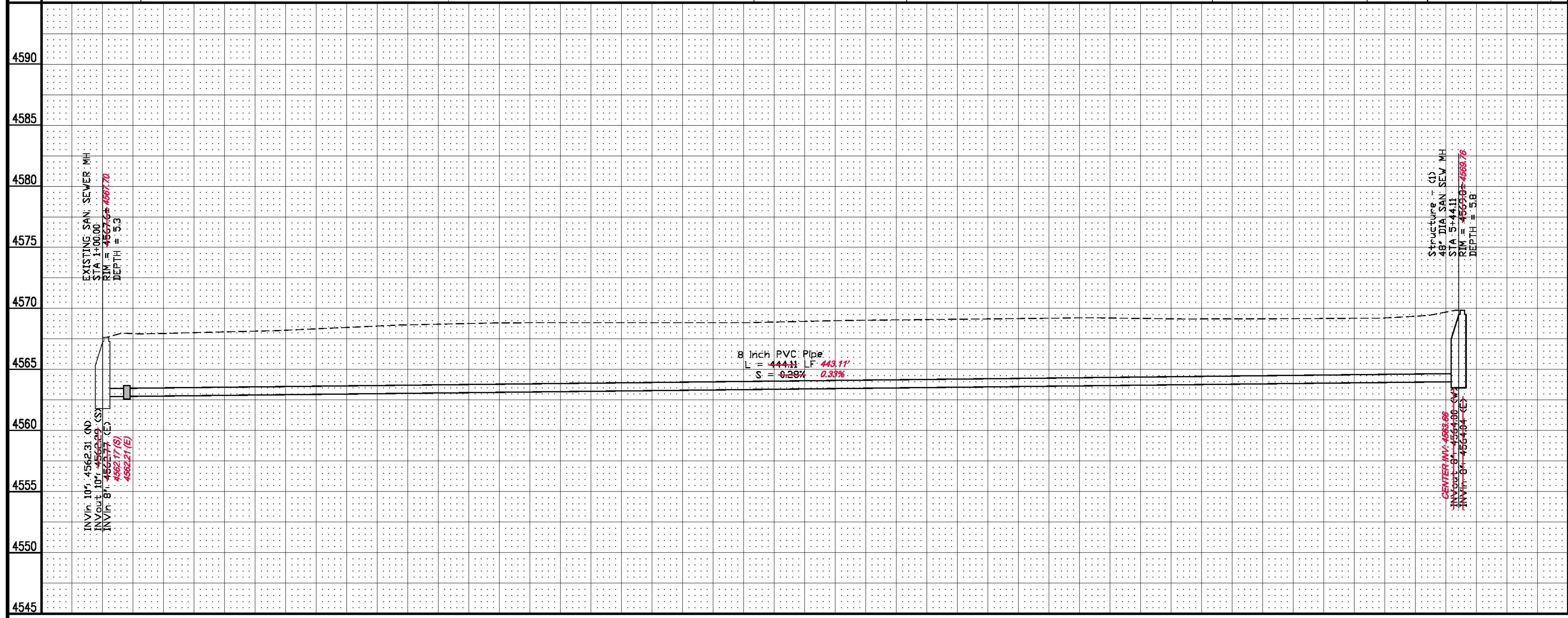
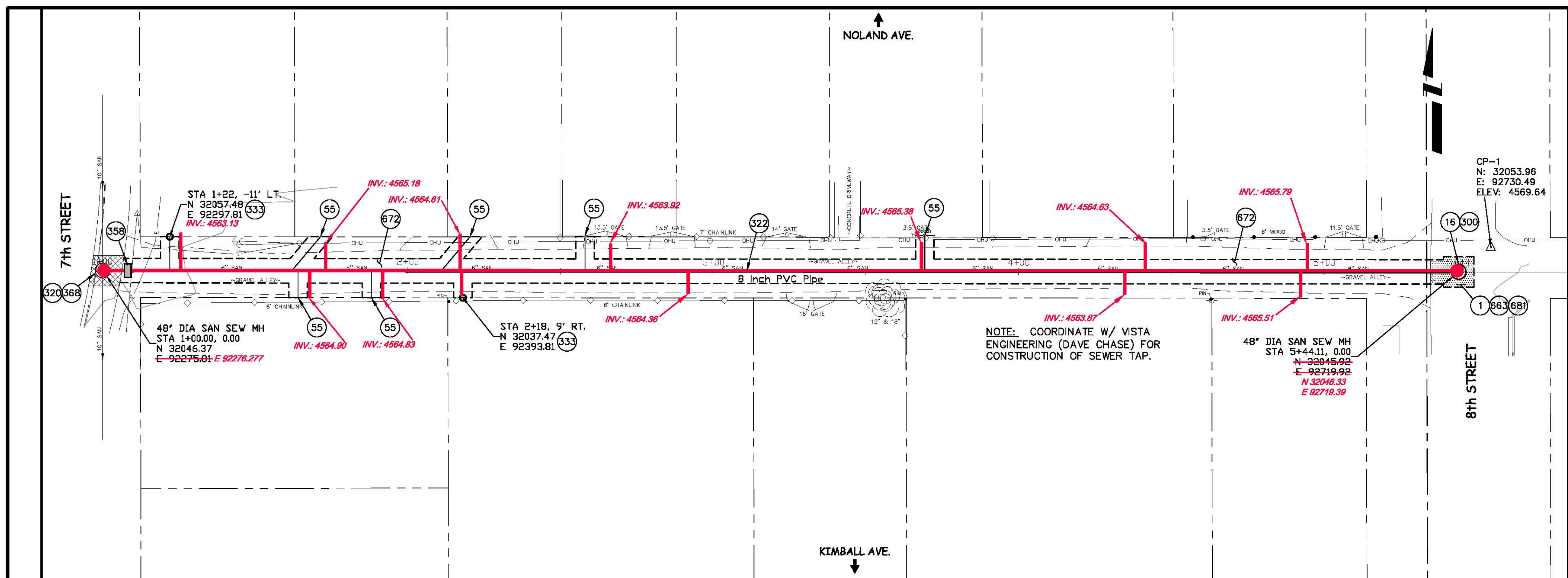
PLAN	1" = 40'
PROFILE	1" = 10'

PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

2007 SEWER REPLACEMENTS SANITARY SEWER PLAN AND PROFILE STA 1+00 TO STA 4+03

CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- 16 202 - REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS.
- 55 102/103/104 - CONTRACTOR SHALL FIELD VERIFY EXISTING SEWER SERVICE LOCATIONS AND INSTALL NEW 4" SEWER SERVICE TAP AND NEW 4" SDR-35 PVC PIPE, INCLUDING ALL BENDS AND FITTINGS, TO ROW LINE, CONNECT TO EXISTING SERVICE, CLEAN OUT, CAST IRON COVER AND LOOPED TRACER WIRE (SEE CITY OF GRAND JUNCTION STANDARD DETAIL "TYPICAL SERVICE "Y" CONNECTION" SS-06). DUE TO EXISTING CONDITION OF SEWER MAIN NOT ALL SERVICES WERE ABLE TO BE LOCATED. IN THE EVENT THAT NO TAP IS FOUND AT A VACANT LOT, INSTALL SANITARY SERVICE LINE TO EDGE OF PROPERTY AT 2% GRADE.
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 323 102.9/108.2 - 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 333 102.9/108.2 - 4" SEWER SERVICE PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL, BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL, AND END-OF-SERVICE CAP.
- 356 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INTALLATION PAY ITEM)
- 366 SPECIAL - UNDERMINE SIDEWALK TO TIE INTO EXISTING MANHOLE W/ NEW 8" PVC PIPE. CONTRACTOR SHALL INSTALL FLOW FILL TO FILL VOID AREA CREATED BY NEW SEWER MAIN INSTALLATION
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 681 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 1 1/2" LIFTS)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK IN TRENCH ONLY)



<p>REVISION AS-BUILT</p> <p>REVISION _____</p> <p>REVISION _____</p> <p>REVISION _____</p>	<p>DESCRIPTION _____</p> <p>DATE 8/14/2008</p>	<p>DRAWN BY JAH DATE 4/2008</p> <p>DESIGNED BY _____ DATE _____</p> <p>CHECKED BY _____ DATE _____</p> <p>APPROVED BY _____ DATE _____</p>	<p>SCALES:</p> <p>PLAN HORIZONTAL 1" = 20'</p> <p>PROFILE HORIZONTAL 1" = 20'</p> <p>VERTICAL 1" = 5'</p>		<p>PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION</p>	<p>2007 SEWER REPLACEMENTS SANITARY SEWER PLAN AND PROFILE STA 1+00 TO STA 5+44.11</p>
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