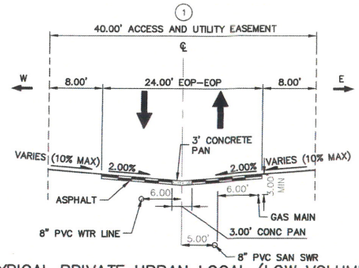
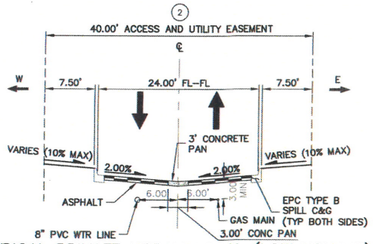


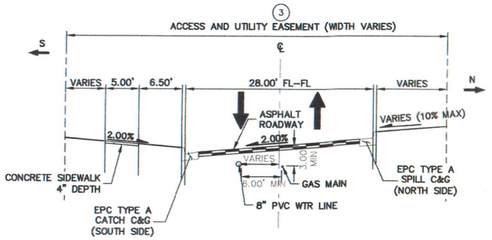
TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 1

POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: WAYFARING TREE HEIGHTS, FOUNTAIN GRASS GROVE, SERVICEBERRY GROVE, VANHOUTTE VIEW, BLUE AVENA VIEW, PURPLE FOUNTAIN POINT



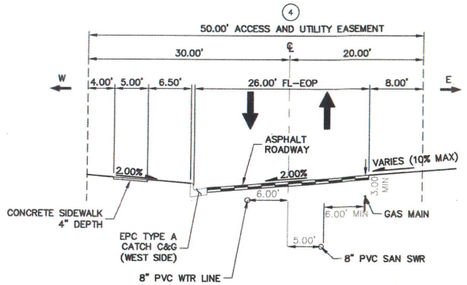
TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 2

POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: VANHOUTTE VIEW (EMERGENCY VEHICLE ACCESS)



TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 3

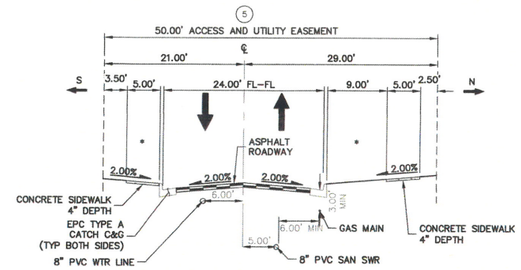
POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: FOUNTAIN GRASS GROVE (ENTRANCE)



TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 4

POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: FOUNTAIN GRASS GROVE (WEST SIDE)

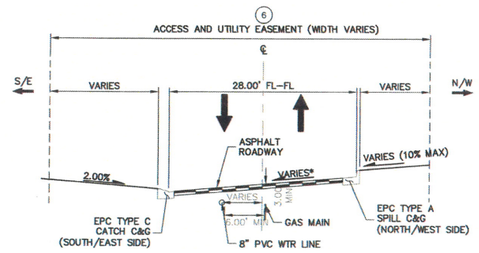
5



*PARKING NOT INCLUDED IN TYPICAL SECTION FOR CLARITY PURPOSES
SEE PLANS FOR LOCATIONS OF HEAD–IN AND PARALLEL PARKING
*SEE FINAL GRADING PLANS FOR MODIFIED CROSS–SLOPE BETWEEN STA. 1+42 AND STA. 2+80 ON WAYFARING TREE HEIGHTS

TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 5

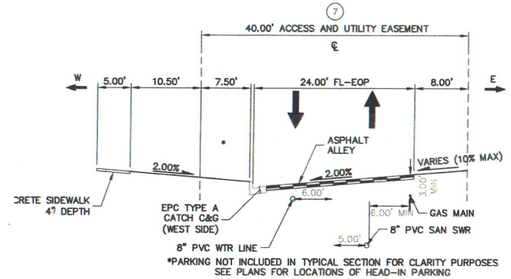
POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: WAYFARING TREE HEIGHTS, BLUE AVENA VIEW



*SLOPE TRANSITIONS FROM 2% SUPERELEVATION TO SOUTH TO INVERTED CROWN OF TYPE 1 SECTION

TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 6

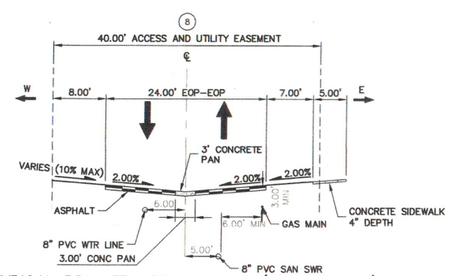
POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: FOUNTAIN GRASS GROVE (WEST SIDE)



*PARKING NOT INCLUDED IN TYPICAL SECTION FOR CLARITY PURPOSES
SEE PLANS FOR LOCATIONS OF HEAD–IN PARKING

TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 7

POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: FOERSTER GRASS VIEW



TYPICAL PRIVATE URBAN LOCAL (LOW VOLUME) TYPE 8

POSTED/DESIGN SPEED LIMIT = 20 MPH
ROADS: SERVICEBERRY GROVE

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No.	REVISION	BY	DATE

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V-SCALE	N/A
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DRAWN BY	APL
CHECKED BY	

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

GLENN D. ELLIS, P.E.
COLORADO P.E. 38861
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DATE

COLORADO REGISTERED PROFESSIONAL ENGINEER GLENN D. ELLIS 38861

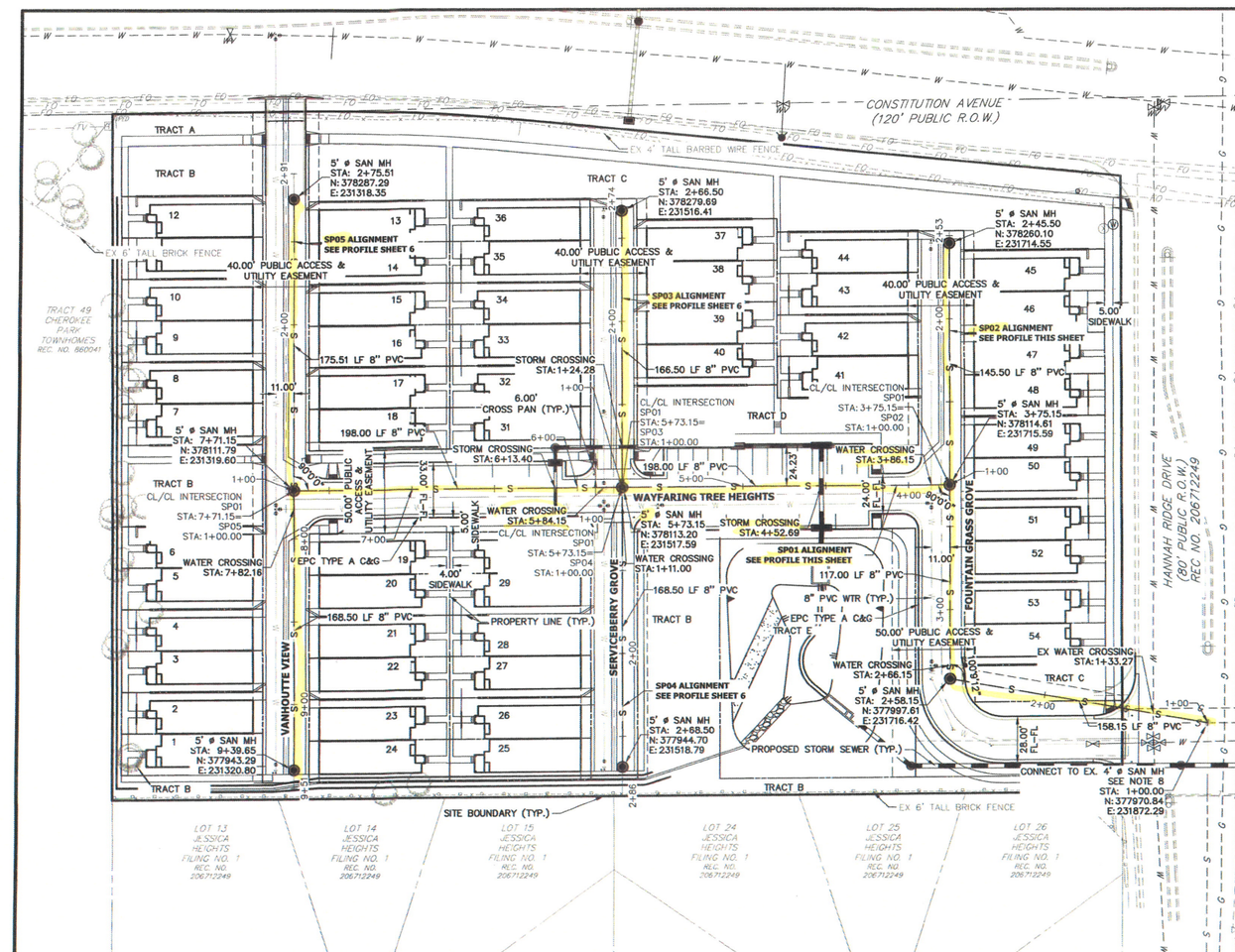
URBAN COLLECTION AT PALMER VILLAGE

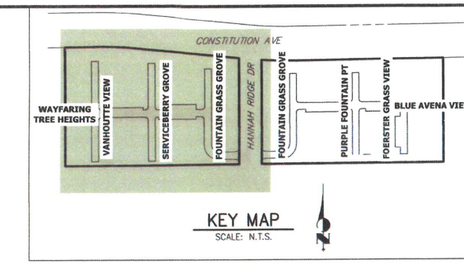
TYPICAL SECTIONS

WASTEWATER CONSTRUCTION PLAN

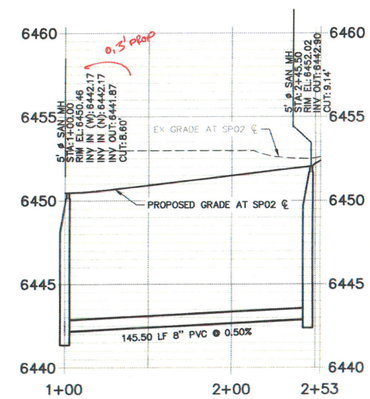
SHEET 3 OF 8

JOB NO. 25149.01





SP02 PROFILE
STA 1+00.00 TO 2+53.00



NOTES:

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2. SEE PROFILE VIEW FOR PIPE SLOPES AND GRADE.
3. SEE PROFILE VIEW FOR MANHOLE RIM ELEVATIONS AND INVERT ELEVATIONS.
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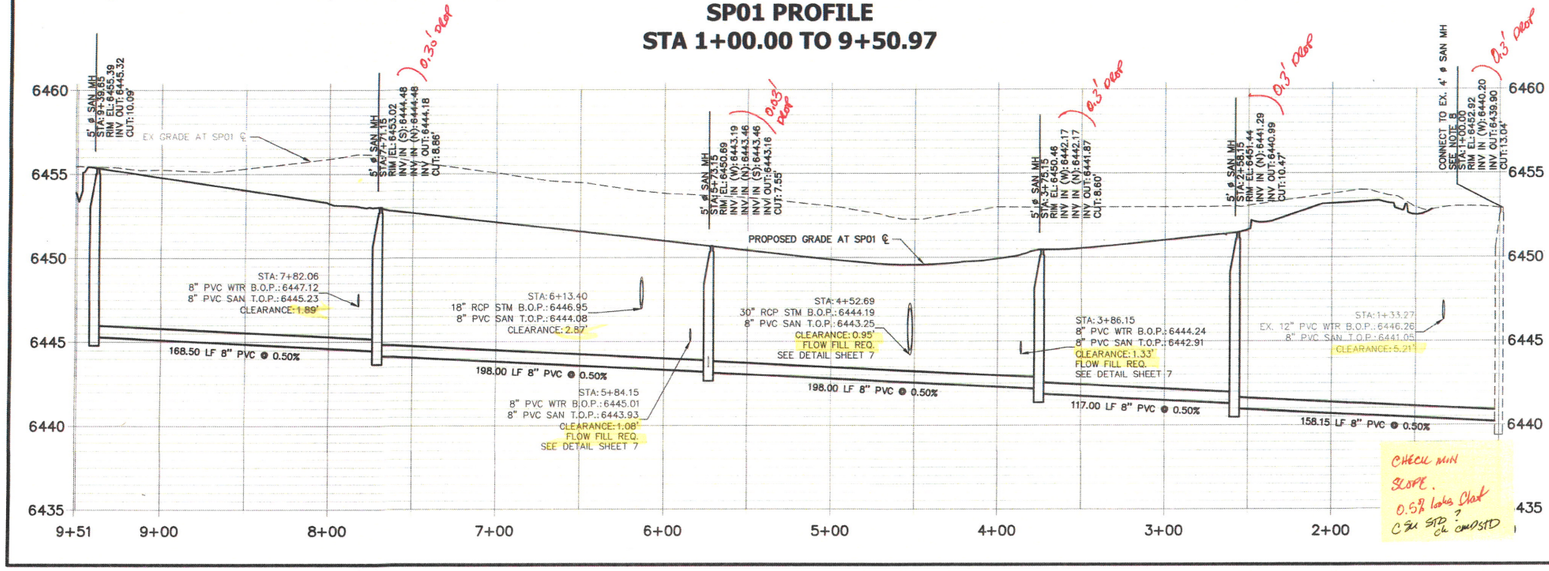
5. SEE JR UTILITY SERVICE PLANS FOR WATER AND SANITARY SEWER SERVICE CONNECTIONS
6. SEE JR STREET, STORM, AND GESC PLANS FOR SURFACE IMPROVEMENTS, GRADING, AND STORM WATER SYSTEM DESIGNS.
7. ALL PIPES SHALL BE SDR-35.
8. CONTRACTOR TO REMOVE THE EXISTING SECTION OF 8" SANITARY SEWER THAT IS STUBBED ONTO THE SITE(WEST SIDE).
9. INSTALL TRACER WIRE PER CSU STD S.

PUT NOTE ON ALL PROFILE SHEETS

JKM/CMD 12-12-2020

SP01 PROFILE
STA 1+00.00 TO 9+50.97



CHECK MIN SLOPE. 0.5% looks flat CSU STD ? CSU STD for CMD/STD

40 20 0 40
HORIZONTAL ORIGINAL SCALE: 1" = 40'
VERTICAL ORIGINAL SCALE: 1" = 4'

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COLORADO P.E. 38861
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DATE

38861

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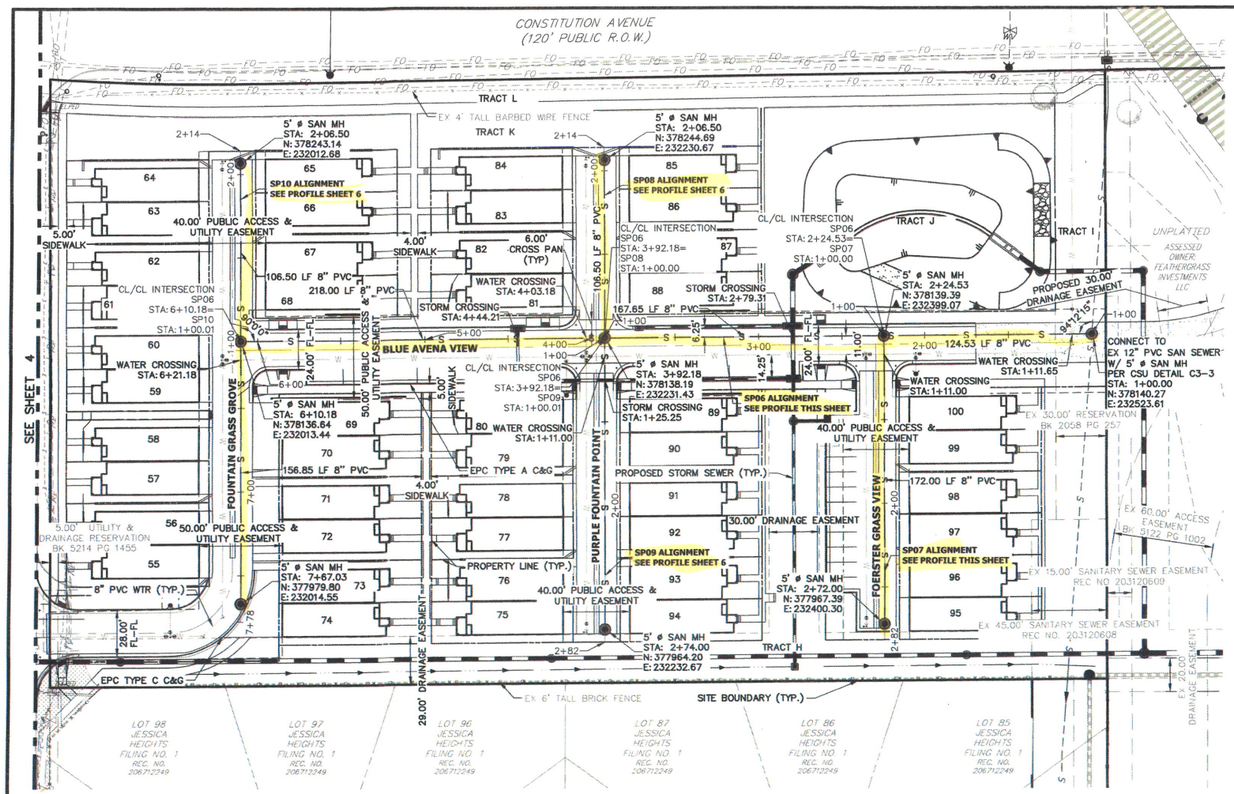
URBAN COLLECTION AT PALMER VILLAGE

SANITARY SEWER PLAN & PROFILE

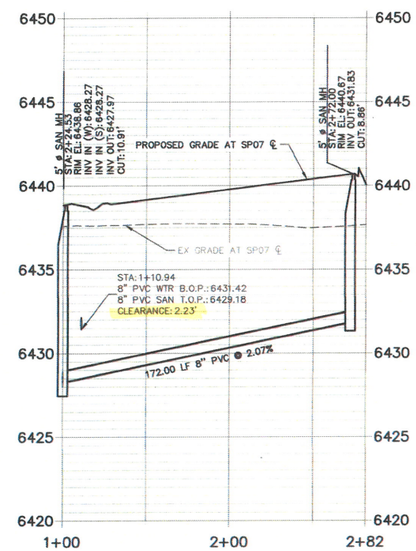
WASTEWATER CONSTRUCTION PLAN

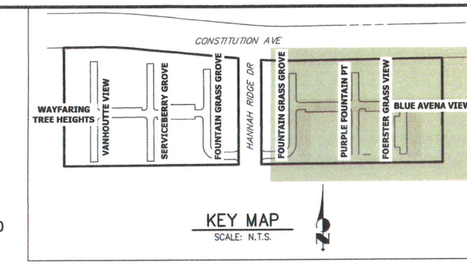
SHEET 4 OF 8

JOB NO. 25149.01

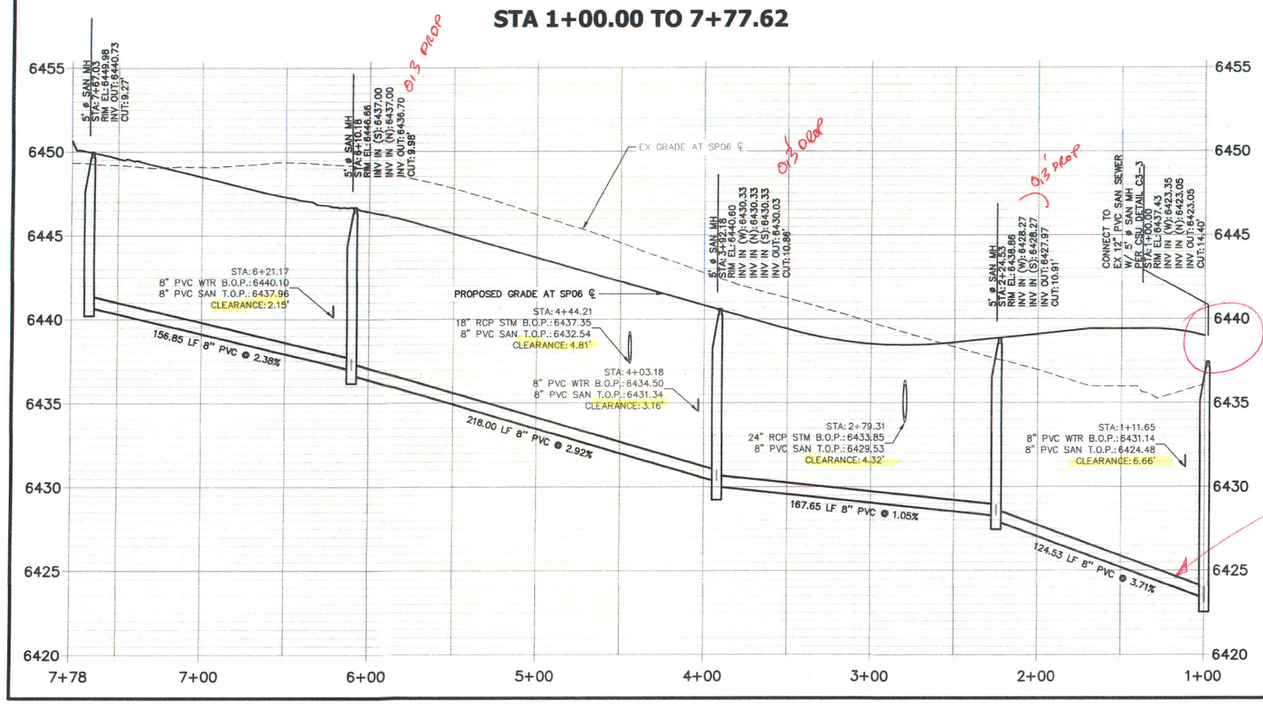


SP07 PROFILE
STA 1+00.00 TO 2+81.50





SP06 PROFILE
STA 1+00.00 TO 7+77.62



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7. ALL PIPES SHALL BE ~~SDR-35.~~ EXCEPT AS NOTED
8. CONTRACTOR TO REMOVE THE EXISTING SECTION OF 8" SANITARY SEWER THAT IS STUBBED ONTO THE SITE(WEST SIDE).

JKM/CMD

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38861

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DRAWN BY	APL		
CHECKED BY			

URBAN COLLECTION AT PALMER VILLAGE

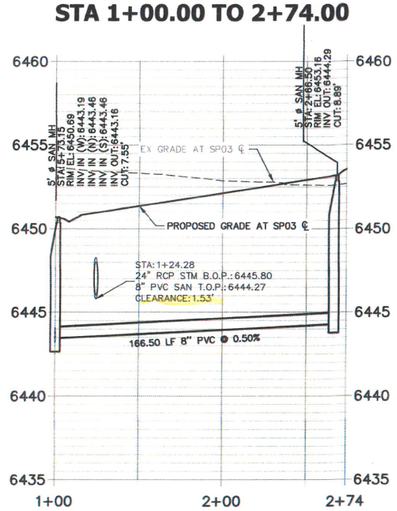
SANITARY SEWER PLAN & PROFILE

WASTEWATER CONSTRUCTION PLAN

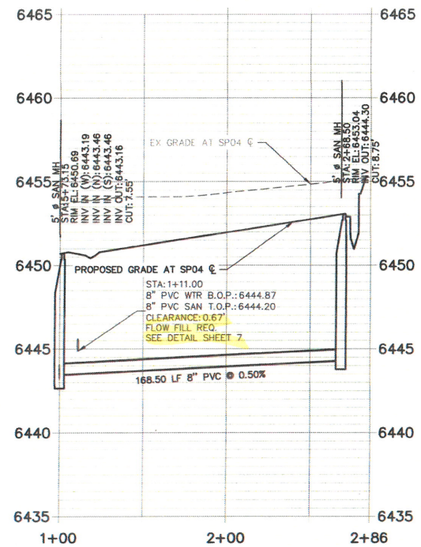
SHEET 5 OF 8

JOB NO. 25149.01

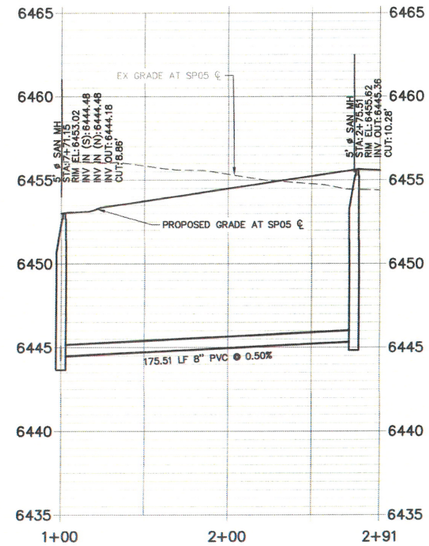
SP03 PROFILE SEE SHEET 4
STA 1+00.00 TO 2+74.00

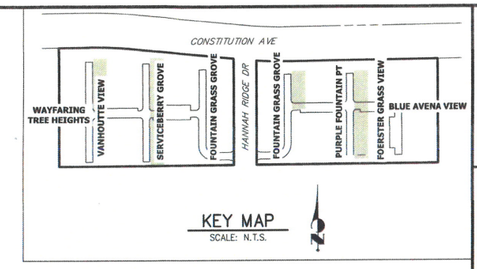


SP04 PROFILE SEE SHEET 4
STA 1+00.00 TO 2+86.01

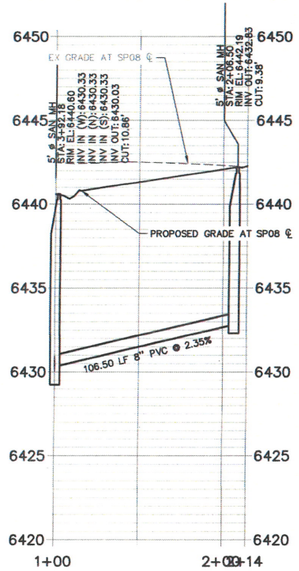


SP05 PROFILE SEE SHEET 4
STA 1+00.00 TO 2+91.09

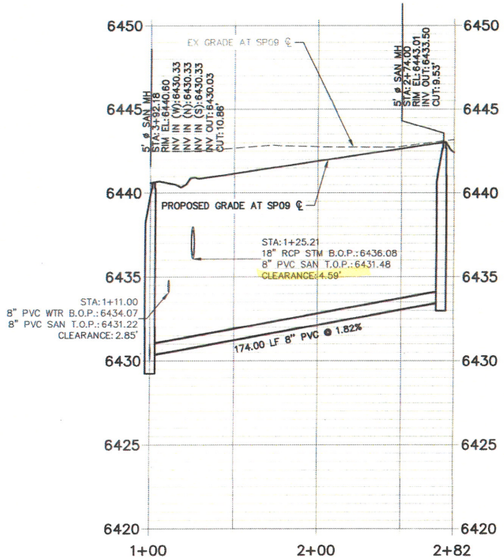




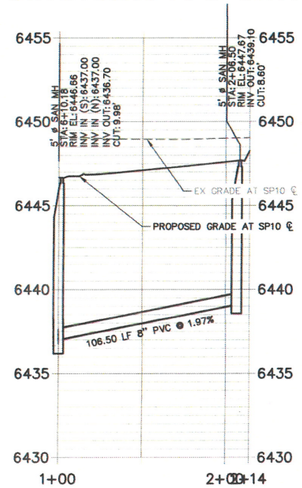
SP08 PROFILE SEE SHEET 5
STA 1+00.00 TO 2+14.00



SP09 PROFILE SEE SHEET 5
STA 1+00.00 TO 2+81.50



SP10 PROFILE SEE SHEET 5
STA 1+00.00 TO 2+14.00



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GLENN D. ELLIS, P.E. DATE
COLORADO P.E. 38861
FOR AND ON BEHALF OF JR ENGINEERING, LLC

COLORADO REGISTERED PROFESSIONAL ENGINEER 38861 GLENN D. ELLIS

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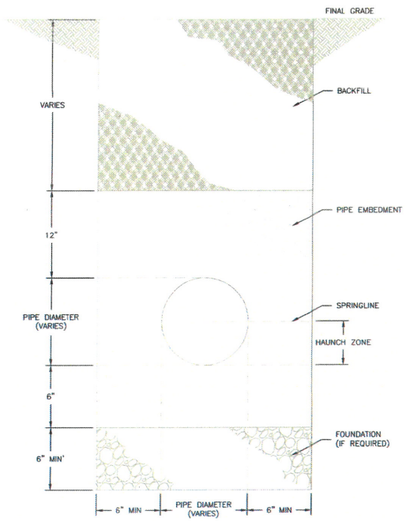
URBAN COLLECTION AT PALMER VILLAGE

SANITARY SEWER PLAN & PROFILE

WASTEWATER CONSTRUCTION PLAN

SHEET 6 OF 8

JOB NO. 25149.01



NOTE:

1. TRENCH BACKFILL SHALL CONFORM TO THE SPECIFICATIONS OF THE AUTHORITY HAVING JURISDICTION AND ASTM D2321.

Colorado Springs Utilities — It's how we're all connected

TYPICAL TRENCH SECTION — C2-1

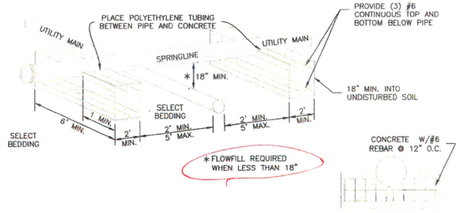
PIPE SIZE AND MATERIAL	ALLOWABLE DEFLECTION	PIPE LENGTH AND CORRESPONDING RADIUS								
		20'	18'	16'	14'	12'	10'	8'	6'	4'
4" - 12" DIP	4°00'	286'	258'	229'	200'	172'	143'	115'	100'	100'
14" - 16" DIP	3°12'	358'	322'	287'	251'	215'	179'	143'	107'	100'
18" - 36" DIP	2°24'	477'	430'	382'	334'	286'	239'	191'	143'	100'
4" - 36" SDR 35 PVC	3°00'	382'	344'	306'	267'	230'	191'	153'	115'	100'

NOTES:

1. COLORADO SPRINGS UTILITIES USES A 1.25 SAFETY FACTOR FOR DIP SLIP JOINT DEFLECTION FROM THE MANUFACTURER'S ALLOWABLE DEFLECTION.
2. SDR 35 PVC SHALL NOT BE DEFLECTED WITHOUT THE USE OF FABRICATED 3° BENDS.
3. MINIMUM RADIUS FOR DIP AND SDR 35 PVC SHALL BE 100'.

Colorado Springs Utilities — It's how we're all connected

MINIMUM RADIUS FOR DIP AND PVC PIPE — C2-2

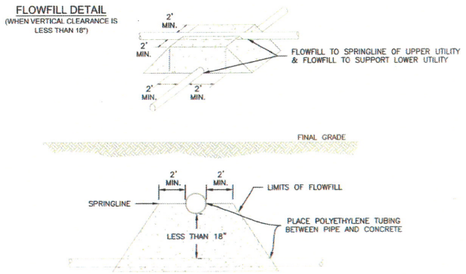


ELEVATION

NOTES:

1. NO JOINTS OF UTILITY MAIN SHALL BE ALLOWED BETWEEN CONCRETE BRIDGING BLOCKS.
2. CONCRETE AND REINFORCEMENT MATERIALS SHALL BE IN ACCORDANCE WITH CHAPTER 4.

FLOWFILL DETAIL
(WHEN VERTICAL CLEARANCE IS LESS THAN 18")

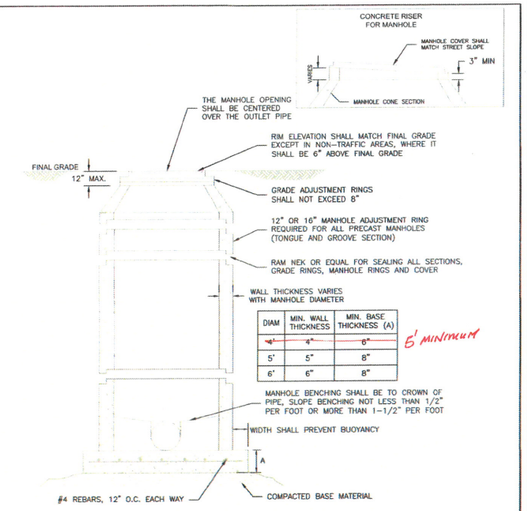


NOTES:

1. ALL FLOWABLE-FILL SHALL BE IN CONFORMANCE WITH CHAPTER 4.
2. SEE SECTION 2.5.F.3 FOR UTILITY CROSSING REQUIREMENTS.

Colorado Springs Utilities — It's how we're all connected

PIPE BRIDGING DETAIL W/CONCRETE CRADLES — C2-7



DIAM	MIN. WALL THICKNESS	MIN. BASE THICKNESS (A)
4'	4"	6"
5'	5"	8"
6'	6"	8"

5' MINIMUM

NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI @ 28 DAYS AND DESIGNED FOR HS-20 LOADING CONDITIONS.
2. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.
3. FOR CAST IN PLACE MANHOLES, DO NOT DROP CONCRETE A DISTANCE OF MORE THAN 5' UNLESS APPROVED BY COLORADO SPRINGS UTILITIES.
4. 3/4" CRUSHED ROCK REQUIRED UNDER BASE TO A DEPTH OF 6" UP TO SPRINGLINE OF PIPE, 2'-3' RADIUS AROUND BASE.
5. ALL STEPS SHALL BE REMOVED FOLLOWING CONSTRUCTION.
6. STRUCTURAL REINFORCEMENT SHALL COMPLY TO ASTM C-478. ASTM C-478 SHALL BE STAMPED ON THE OUTSIDE OF THE MANHOLE.

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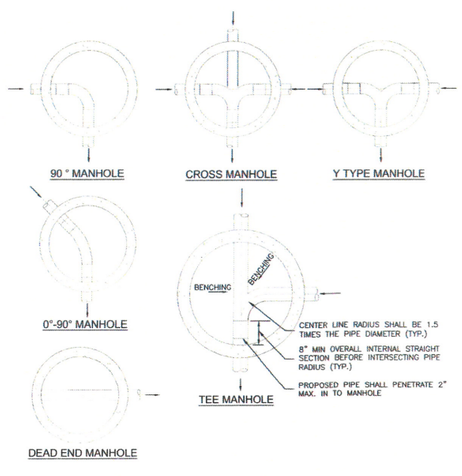
STANDARD CONCRETE MANHOLE — C3-1

TYPICAL INTERSECTING PIPE MANHOLE LAYOUTS



NOTES:

1. SEE DETAIL DRAWING C3-1 FOR MANHOLE REQUIREMENTS.
2. LAYOUTS SHOWN ARE FOR 8"-12" PIPES; LAYOUTS FOR LARGER DIAMETER PIPELINES AND MANHOLES SHALL BE DESIGNED BY THE DESIGN ENGINEER AND APPROVED BY COLORADO SPRINGS UTILITIES.
3. TO BE READ IN CONJUNCTION WITH CHAPTER 2, MANHOLE SIZES.

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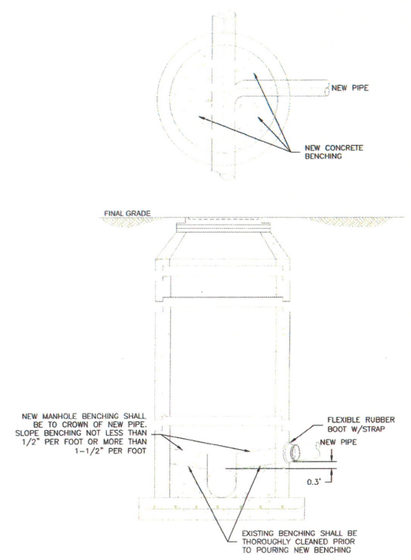
TYPICAL MANHOLE LAYOUTS AND INTERSECTIONS — C3-2



NOTES:

1. SEE DETAIL DRAWING C3-1 FOR MANHOLE REQUIREMENTS.

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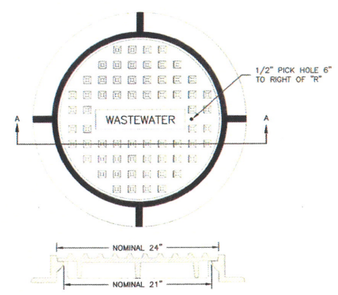
CORE DRILLING INTO AN EXISTING MANHOLE — C3-3



SECTION A-A
COVER SECTION

NOTES:

1. SEE CHAPTER 4 FOR ADDITIONAL INFORMATION AND SPECIFIC DIMENSIONS.

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STANDARD MANHOLE RING AND COVER IN TRAFFIC AREAS — C3-9

Know what's below. Call before you dig.

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

GLENN D. ELLIS, P.E.
COLORADO P.E. 38861
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING ASSUMES NO RESPONSIBILITY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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No.	REVISION	BY	DATE

H-SCALE	N/A
V-SCALE	N/A
DATE	10-30-20
DESIGNED BY	APL
DRAWN BY	APL
CHECKED BY	

URBAN COLLECTION AT PALMER VILLAGE

DETAILS

WASTEWATER CONSTRUCTION PLAN

SHEET 7 OF 8

JOB NO. 25149.01