

# LAS COLONIAS BUSINESS PARK PHASE 1 IMPROVEMENTS

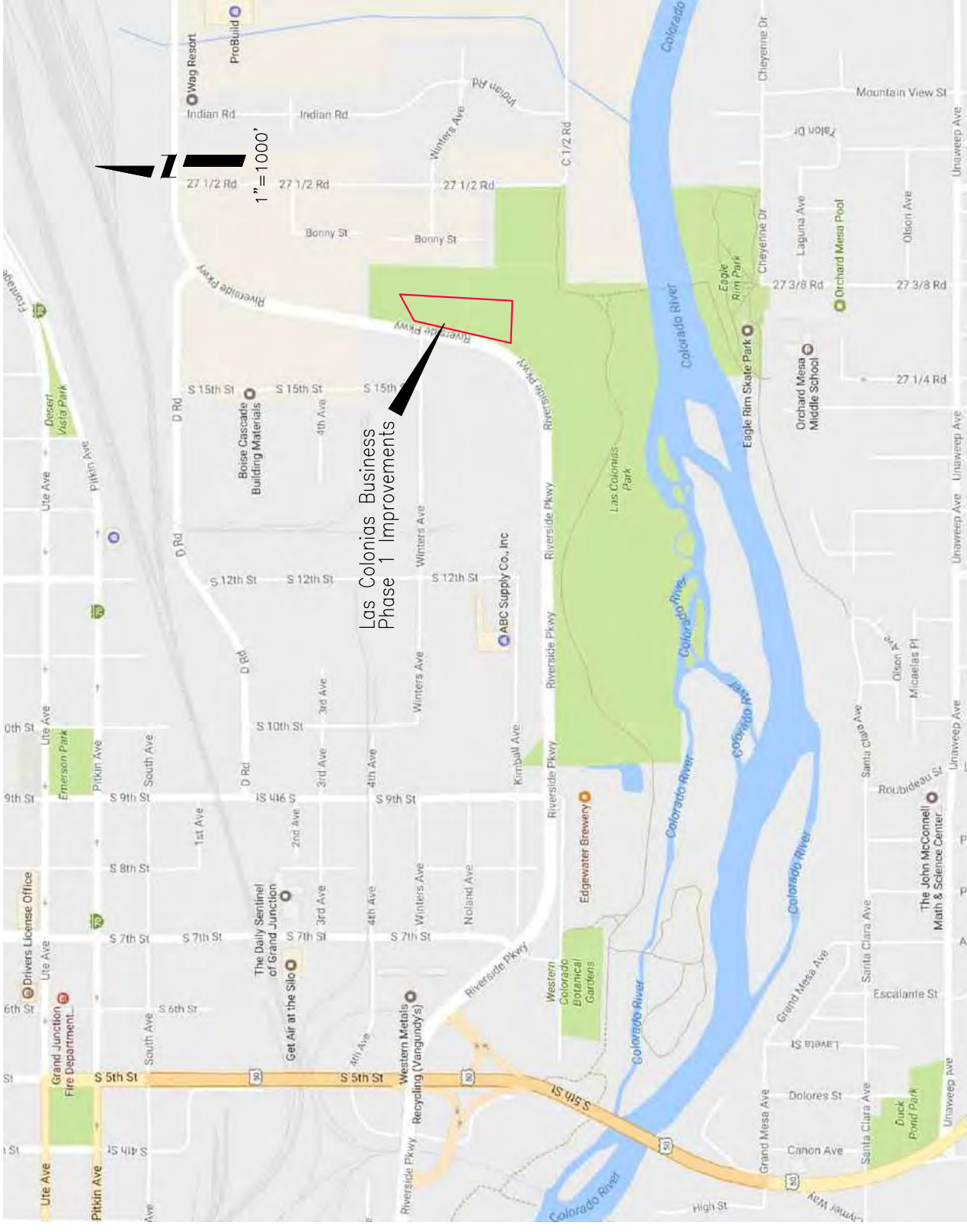
## FEBRUARY, 2018

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Know what's below.  
Call before you dig.

NOTE: NOTIFY AFFECTED UTILITY VENDOR 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE UTILITY LINES. THE UTILITY PLAN WILL HAVE A LISTING OF UTILITY VENDORS AND TELEPHONE NUMBERS.

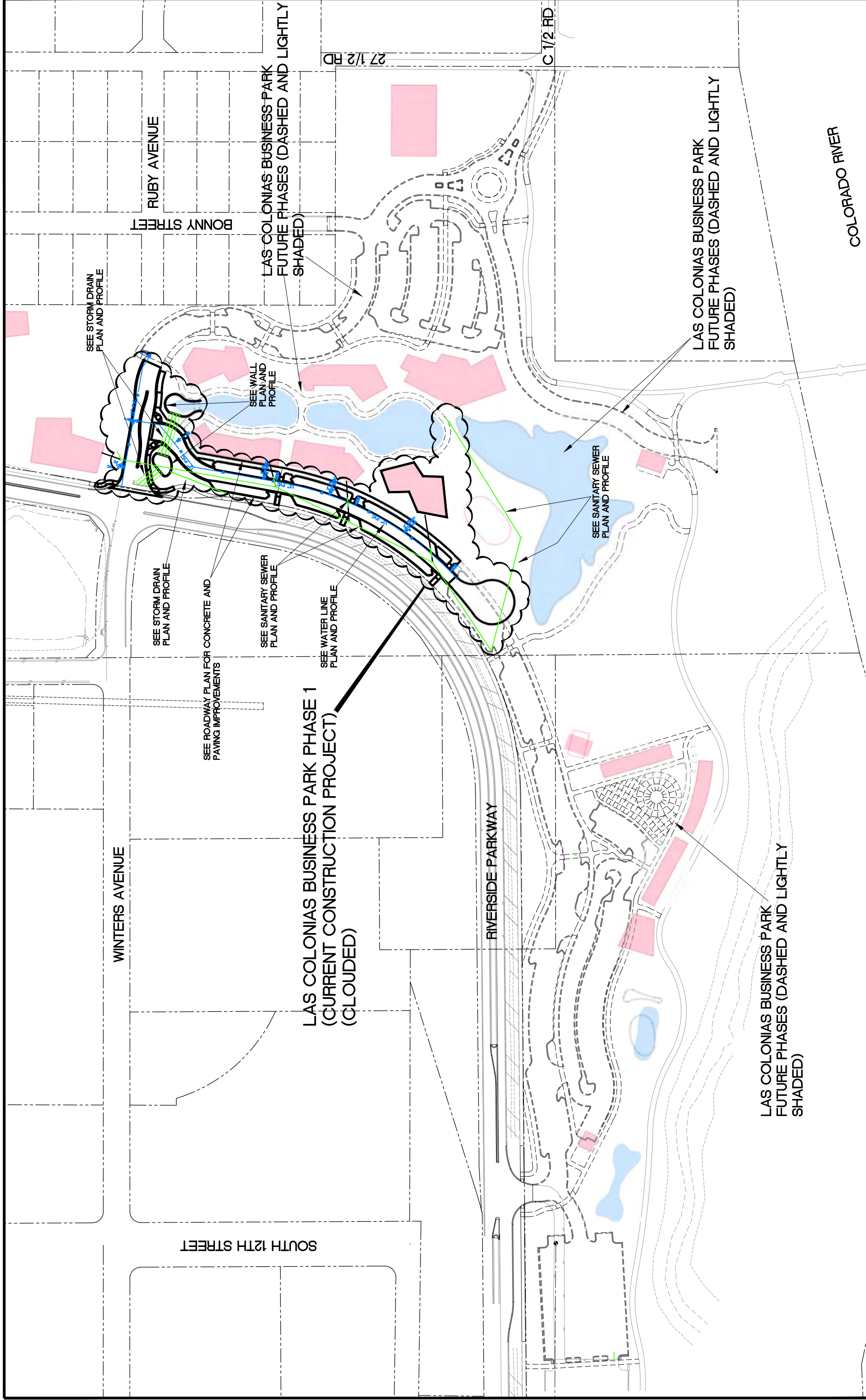


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COVER SHEET



SEE STORM DRAIN  
PLAN AND PROFILE

SEE STORM DRAIN  
PLAN AND PROFILE

SEE ROADWAY PLAN FOR CONCRETE AND  
PAVING IMPROVEMENTS

SEE SANITARY SEWER  
PLAN AND PROFILE

SEE WATER LINE  
PLAN AND PROFILE

LAS COLONIAS BUSINESS PARK PHASE 1  
(CURRENT CONSTRUCTION PROJECT)  
(CLOUDED)

LAS COLONIAS BUSINESS PARK  
FUTURE PHASES (DASHED AND LIGHTLY  
SHADED)

LAS COLONIAS BUSINESS PARK  
FUTURE PHASES (DASHED AND LIGHTLY  
SHADED)

LAS COLONIAS BUSINESS PARK  
FUTURE PHASES (DASHED AND LIGHTLY  
SHADED)

WINTERS AVENUE

RUBY AVENUE  
BONNY STREET

SOUTH 12TH STREET

RIVERSIDE PARKWAY

27 1/2 RD

C 1/2 RD

COLORADO RIVER

REVISION	DESCRIPTION	DATE
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DRAWN BY	JCS	DATE	2018
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CHECKED BY	TOP	DATE	2018
APPROVED BY	TOP	DATE	2018

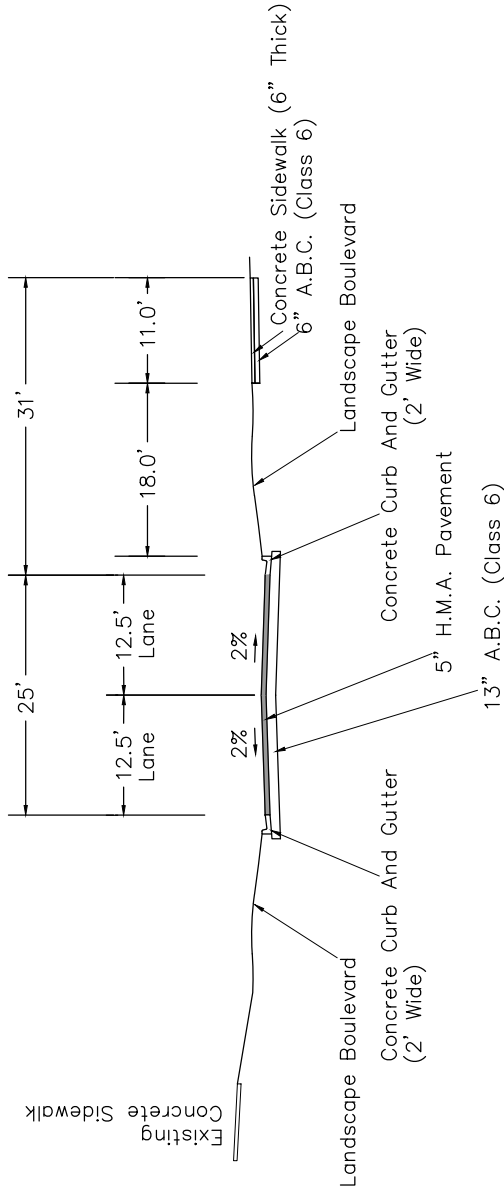
SCALES:	
PLAN & PROFILE	1" = 100'
HORIZONTAL	1" = 50'
VERTICAL	1" = 10'



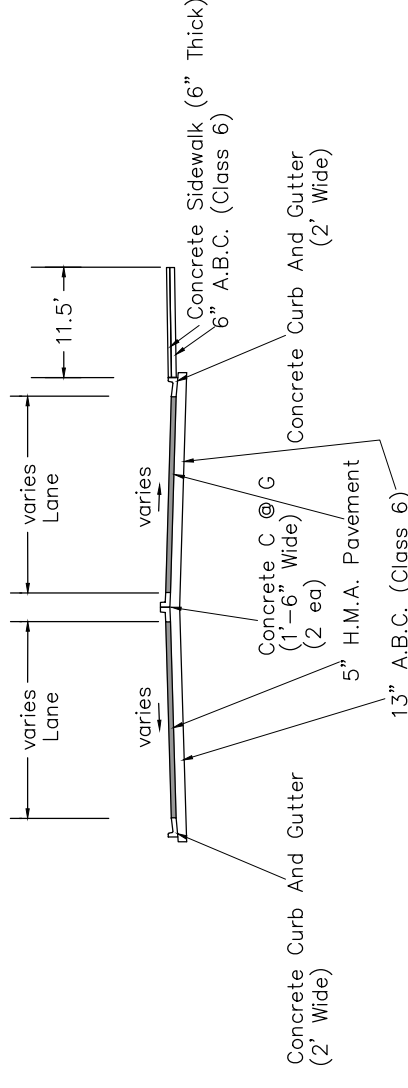
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PROJECT OVERVIEW

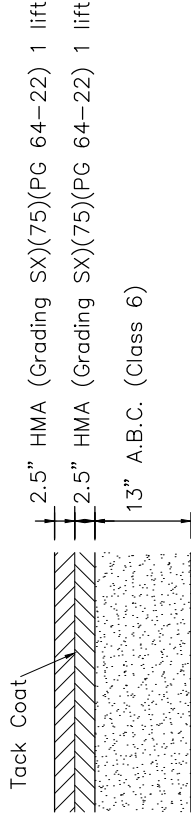
MEDIAN PLACEMENT AND LANES VARY SO AS TO ACCOMMODATE TRUCK TURN MOVEMENTS BETWEEN MAIN AND SECONDARY ROAD AND TO PROVIDE FOR A LEFT TURN FROM THE SECONDARY ROAD TO RIVERSIDE PARKWAY SEE PLANS FOR ADDITIONAL INFORMATION



**Main Road**  
Landscape Section

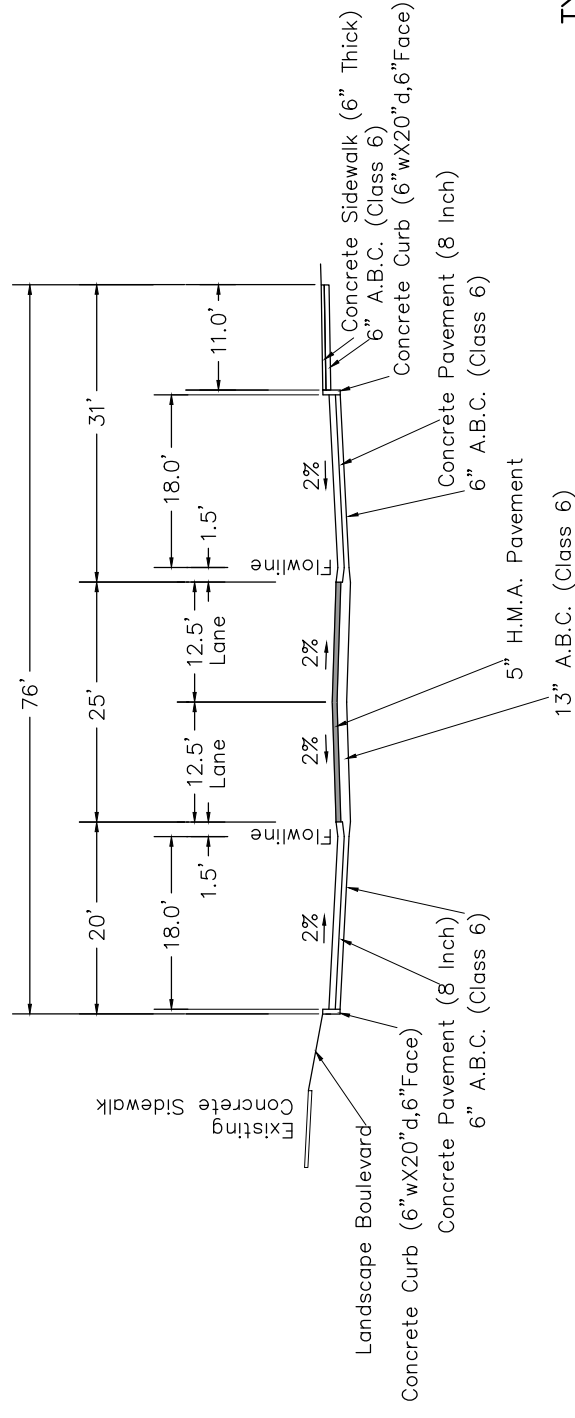


**Secondary Road**

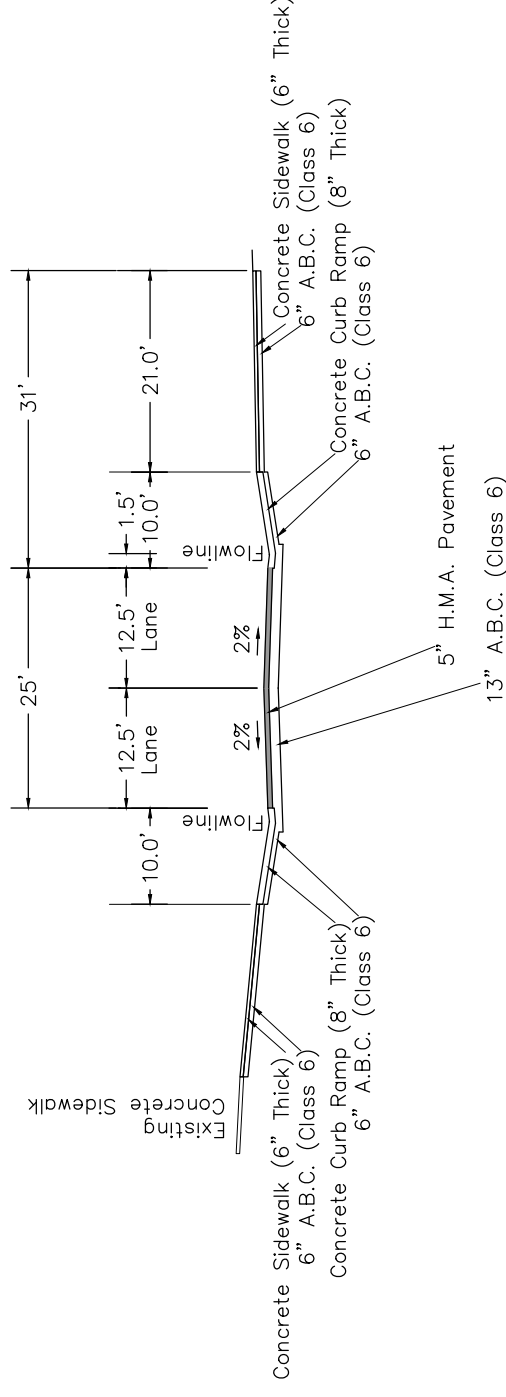


**ROADWAY ASPHALT PAVEMENT DETAIL**

- Notes:**
- Extend Full Pavement Base Section 6" Beyond Back Of Curbs (Typical)
  - See Landscape Plans For Work Between Sidewalk and Back of Curb (Landscape Boulevard) and Medians



**Main Road**  
On Street Parking Section



**Main Road**  
Curb Ramp Section

**TYPICAL SECTION NOTES**

- P.C.C.P. ~ Portland Cement Concrete Pavement
- H.M.A. ~ Hot Mix Asphalt
- A.B.C. ~ Aggregate Base Course

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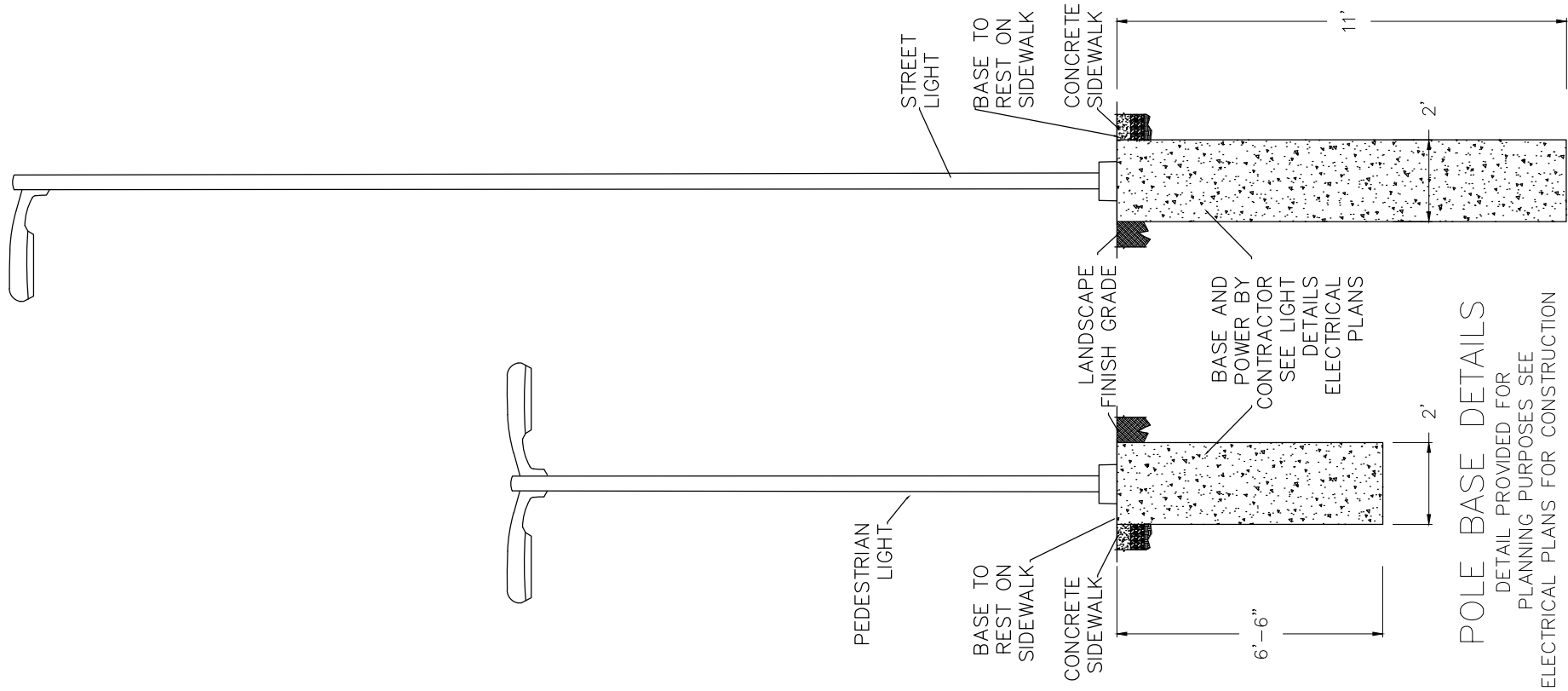
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CHECKED BY	TOP	DATE	2017
APPROVED BY	TOP	DATE	2017

SCALE:	PLAN & PROFILE
0	5 HORIZONTAL
0	1 VERTICAL
0	1/4" = 1'



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**Las Colonias Business Park**  
Typical Cross Sections



**POLE BASE DETAILS**  
 DETAIL PROVIDED FOR  
 PLANNING PURPOSES SEE  
 ELECTRICAL PLANS FOR CONSTRUCTION

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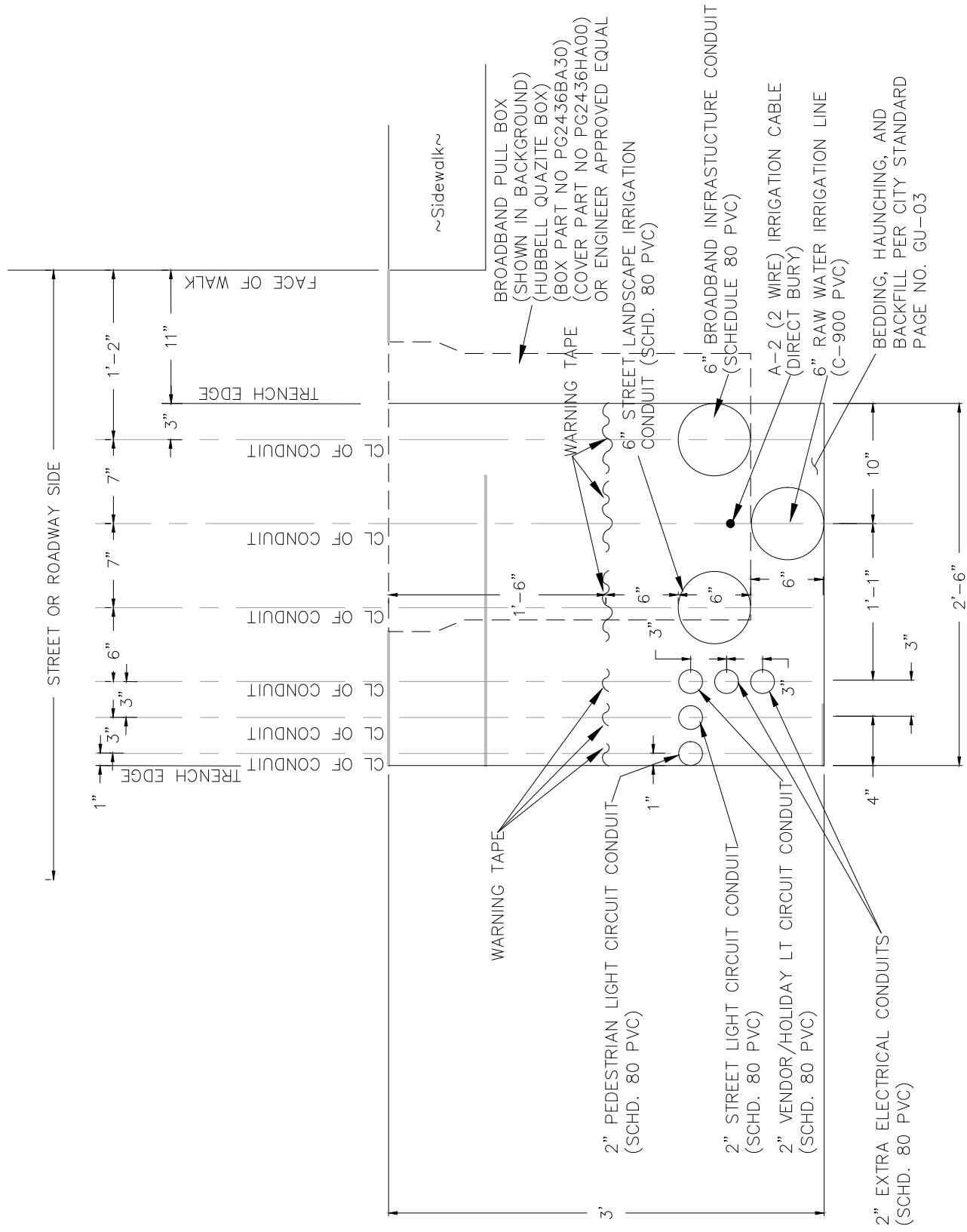
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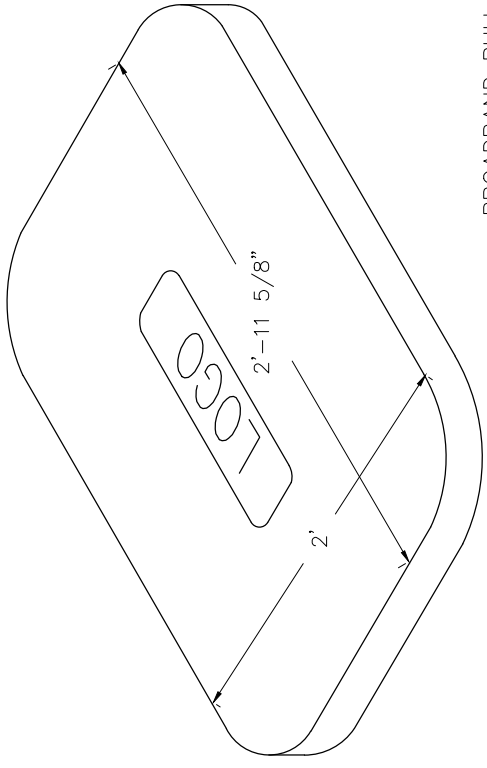
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**LAS COLONIAS BUSINESS PARK**  
 UTILITY DETAILS



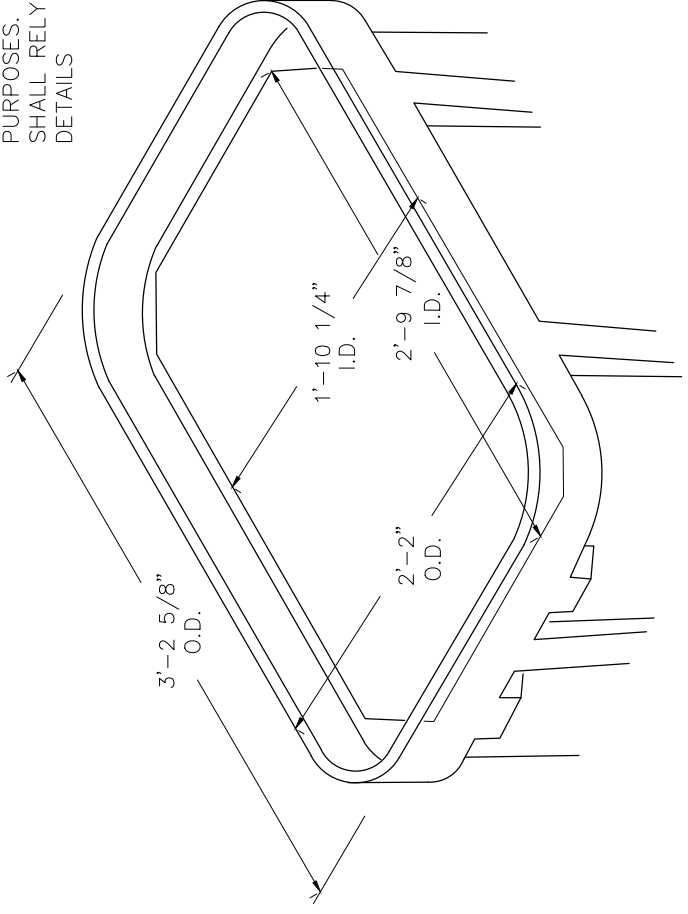
**TYPICAL CONDUIT JOINT TRENCH DETAIL**  
 STREET SIDE

BEDDING, HAUNCHING, AND  
 BACKFILL PER CITY STANDARD  
 PAGE NO. GU-03



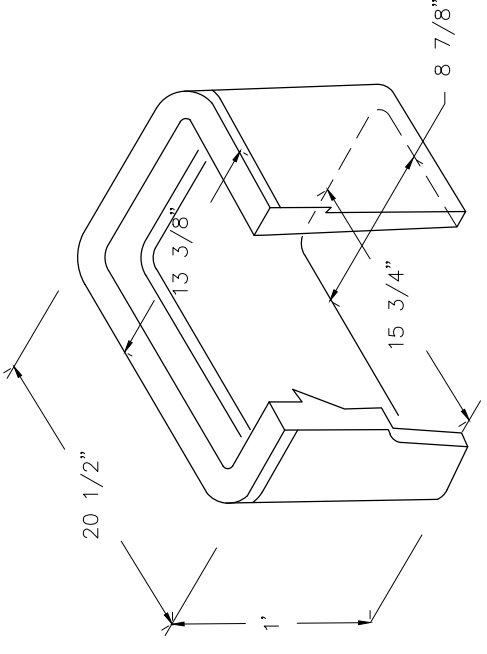
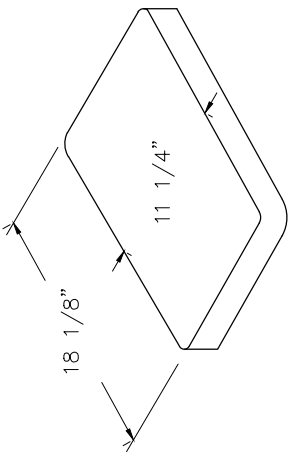
COVER

BROADBAND PULL BOX  
(HUBBELL QUAZITE BOX) (BOX  
PART NO PG2436BA30) (COVER  
PART NO PG2436HA00) OR  
ENGINEER APPROVED EQUAL  
DIMENSIONS SHOWN HERE FOR  
LAYOUT AND PLANNING  
PURPOSES. CONTRACTOR  
SHALL RELY ON MANUFACTURE  
DETAILS



BOX

BROADBAND PULL BOX  
DIMENSIONS SHOWN HERE FOR  
LAYOUT AND PLANNING  
PURPOSES. CONTRACTOR  
SHALL RELY ON MANUFACTURE  
DETAILS



STREET LIGHT AND PED LIGHT  
PULL BOX

DIMENSIONS SHOWN HERE FOR  
LAYOUT AND PLANNING  
PURPOSES. CONTRACTOR  
SHALL RELY ON MANUFACTURE  
DETAILS

NOTES

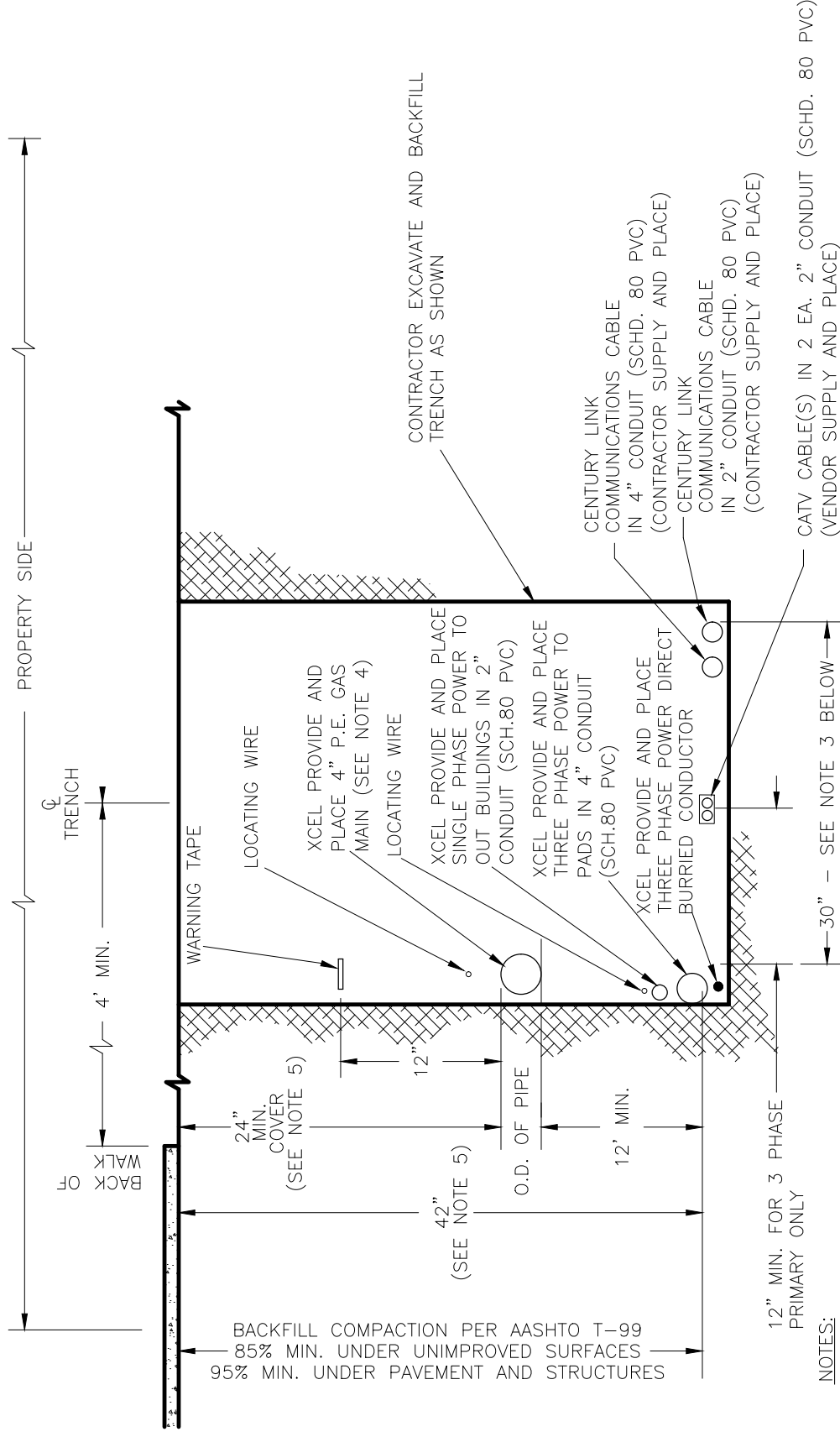
1. PULL BOXES, PULL BOX COVERS AND EXTENSIONS SHALL BE MADE OF FIBERGLASS REINFORCED POLYMER CONCRETE. PULL BOXES SHALL BE VERIFIED BY 3RD PARTY NATIONALLY RECOGNIZED INDEPENDENT TESTING LABORATORY AS MEETING ALL TEST PROVISIONS OF THE LATEST ANSI/SCTE 77 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY, TIER 22 RATING. CERTIFICATION DOCUMENTS SHALL BE SUBMITTED WITH MATERIALS SUBMITTALS. THE PULL BOX SHALL HAVE A DETACHABLE COVER WITH A SKID RESISTANT SURFACE AND HAVE THE WORDS ELECTRICAL CAST INTO THE SURFACE. FAINTING THE WORDS SHALL NOT BE ACCEPTED. MARKINGS SHOWING THE TIER 22 RATING MUST BE LABELED OR STENCILED ON THE INSIDE AND OUTSIDE OF THE BOX AND THE ON THE UNDER SIDE OF THE COVER. THE COVER SHALL BE ATTACHED TO THE PULL BOX BODY BY MEANS OF A MINIMUM 3/8- 7 UNIFIED NATIONAL COURSE (UNC) STAINLESS STEEL PENTA HEAD BOLTS AND SHALL HAVE TWO LIFT SLOTS TO AID IN THE REMOVAL OF THE LID.
2. PULL SLOTS SHALL BE RATED FOR A MINIMUM PULL OUT OF 3,000 POUNDS. MAGNESIUM CHLORIDE TESTS SHOULD BE PERFORMED IN ACCORDANCE WITH THE LATEST ANSI/SCTE 77 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY, TIER 22 RATING.

REVISION	DESCRIPTION	DATE	DRAWN BY	JCS	DATE	2017	SCALES:	PLAN & PROFILE
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REVISION			CHECKED BY	TOP	DATE	2017	0	VERTICAL
REVISION			APPROVED BY	TOP	DATE	2017		



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LAS COLONIAS BUSINESS PARK  
UTILITY DETAILS



**NOTES:**

1. FOR EASE OF CONSTRUCTION AND MAINTENANCE, PRIMARY CABLE SHOULD BE 12" TO 24" FROM COMMUNICATION CABLES. HOWEVER, NESC REQUIREMENTS PERMIT "SUPPLY AND COMMUNICATION SEE CABLES TO BE BURIED TOGETHER AT THE SAME DEPTH WITH NO DELIBERATE SEPARATION BETWEEN FACILITIES PROVIDED ALL PARTIES ARE IN AGREEMENT."
2. ONLY SINGLE PHASE SUPPLY CABLES CAN BE BURIED AT THE SAME DEPTH WITH NO DELIBERATE SEPARATION WITH COMMUNICATION CABLES. THREE PHASE CABLES MUST BE SEPARATED BY A MINIMUM OF 1 FOOT (REFERENCE NESC 354.D.3A).
3. 30" TRENCH WIDTH SHOULD BE USED WHEN ALL FOUR UTILITIES ARE INCLUDED.
4. STEEL GAS PIPE OR STEEL DUCT IS NOT ALLOWED FOR JOINT TRENCH CONSTRUCTION.
5. WHERE UNDERGROUND UTILITIES CROSS OR ENCR OACH INTO CITY STREETS THEY SHALL BE INSTALLED TO A DEPTH PROVIDING 3' MINIMUM COVER BELOW FINISHED GRADE.

TYPICAL COMMON TRENCH DETAIL  
PROPERTY SIDE

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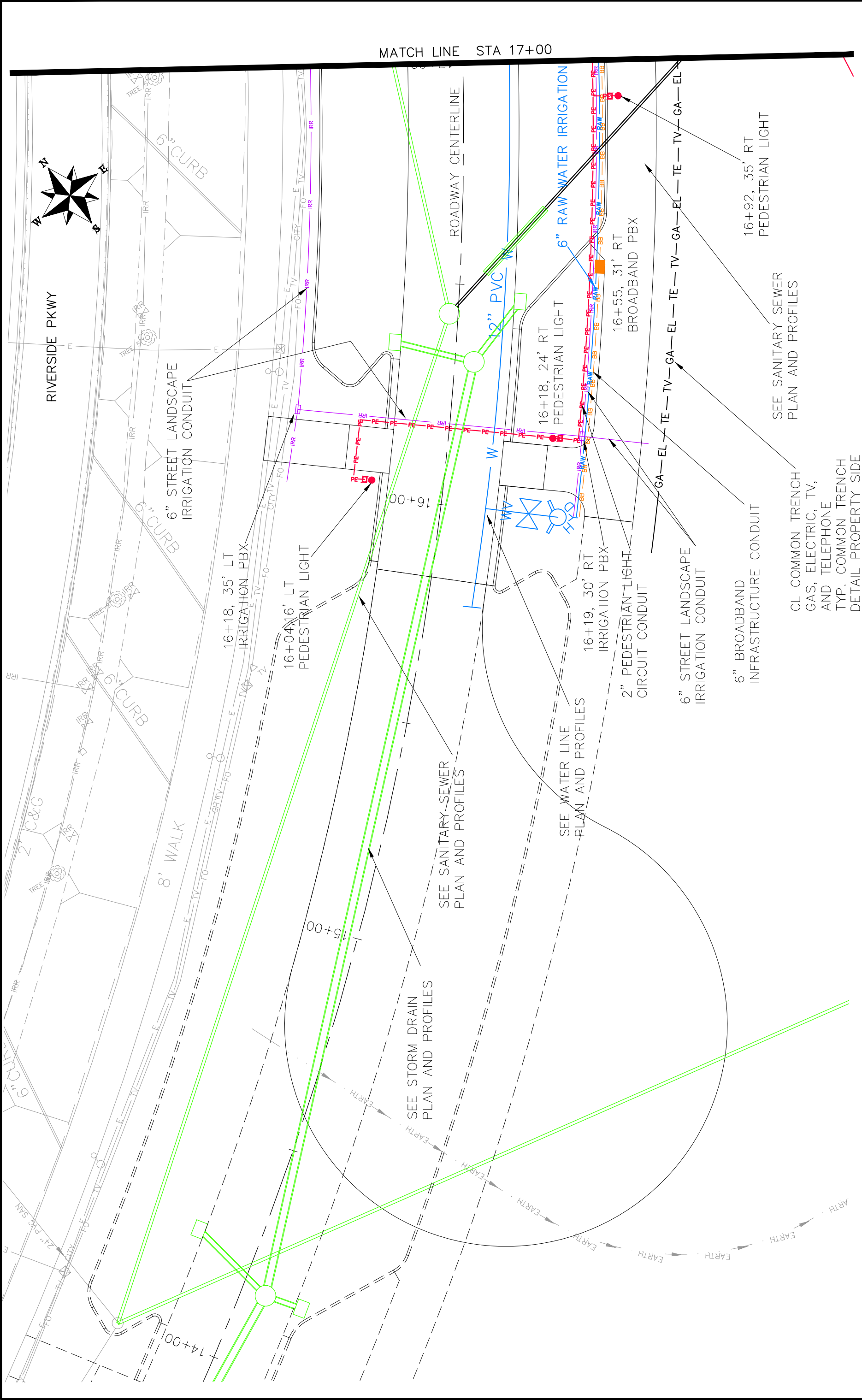
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DESIGNED BY	JCS	DATE	2017
CHECKED BY	TOP	DATE	2017
APPROVED BY	TOP	DATE	2017

SCALE:	PLAN & PROFILE
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0	VERTICAL



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LAS COLONIAS BUSINESS PARK  
UTILITY DETAILS



REVISION	DATE	DESCRIPTION

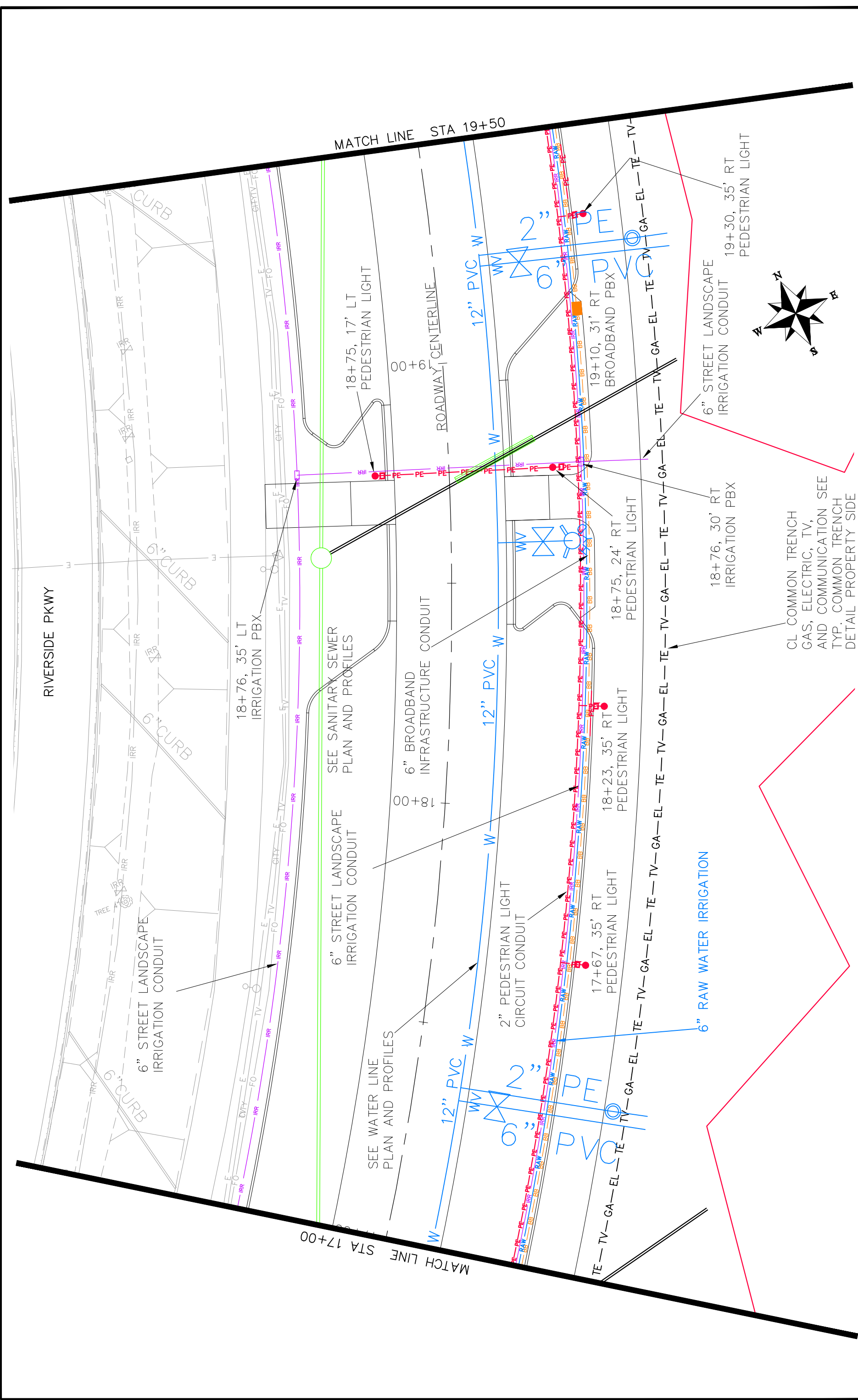
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JCS	2017	2017

PLAN & PROFILE	SCALE
HORIZONTAL	1" = 30'
VERTICAL	1" = 10'



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**LAS COLONIAS BUSINESS PARK COMPOSITE UTILITY PLAN**



REVISION	DATE	DESCRIPTION

DRAWN BY	JCS	DATE	2017
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APPROVED BY	TOP	DATE	2017

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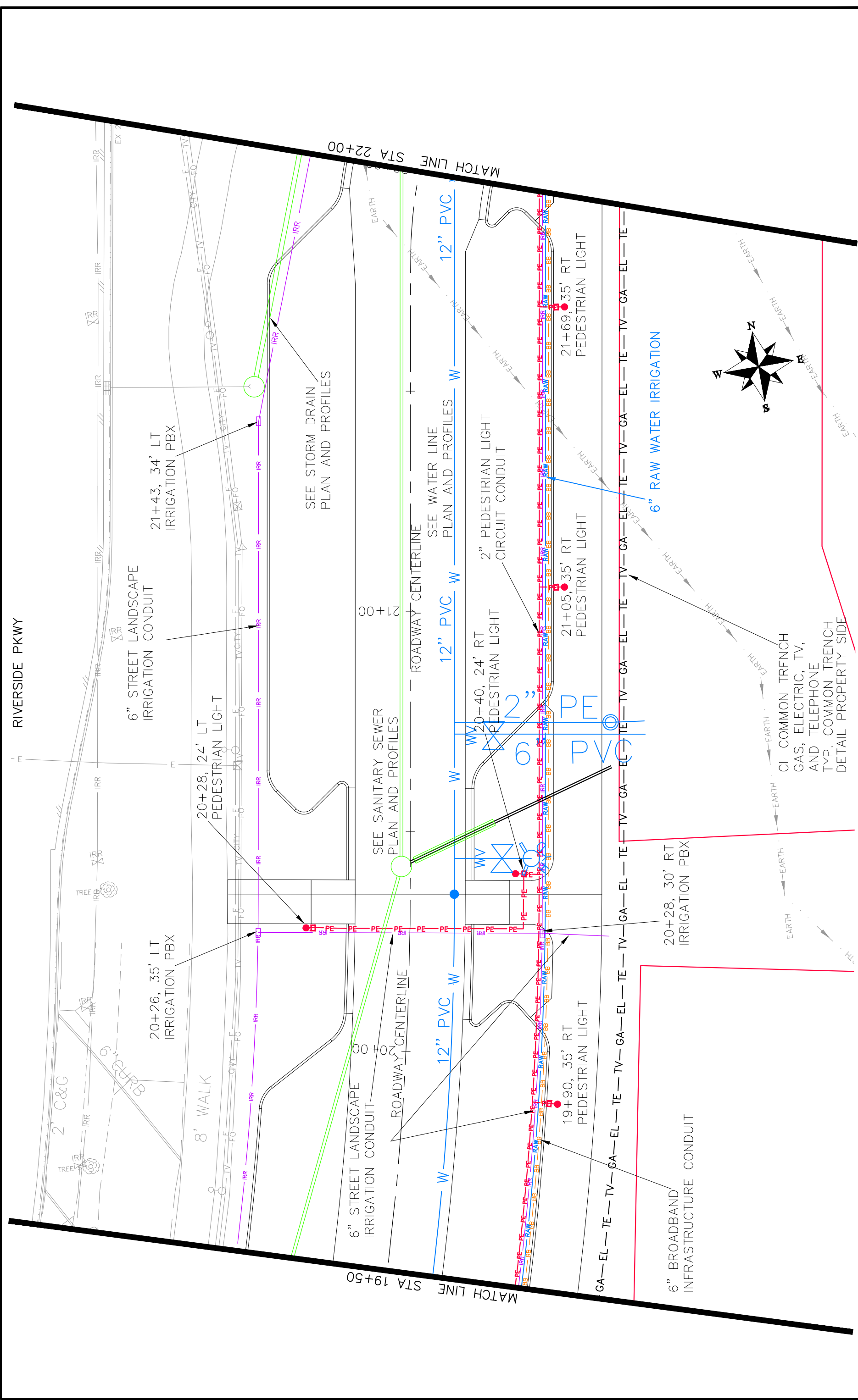


**Grand Junction**  
COLORADO

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**LAS COLONIAS BUSINESS PARK**  
COMPOSITE UTILITY PLAN





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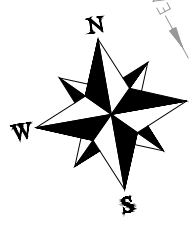
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CHECKED BY TOP	DATE 2017
APPROVED BY TOP	DATE 2017

SCALES:	PLAN & PROFILE
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0	10
0	20
0	NA
0	NA



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ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
COMPOSITE UTILITY PLAN



GA-EL-TV-GA-EL-TE-TV-GA-EL-TE-TV-GA-EL-TE-TV-GA-EL-TE-TV-GA-EL-TE

6" BROADBAND INFRASTRUCTURE CONDUIT

20+28, 30' RT IRRIGATION PBX

CL COMMON TRENCH GAS, ELECTRIC, TV, AND TELEPHONE TYP. COMMON TRENCH DETAIL PROPERTY SIDE

21+69, 35' RT PEDESTRIAN LIGHT

6" RAW WATER IRRIGATION

21+05, 35' RT PEDESTRIAN LIGHT

2" PEDESTRIAN LIGHT CIRCUIT CONDUIT

12" PVC W

SEE WATER LINE PLAN AND PROFILES

SEE SANITARY SEWER PLAN AND PROFILES

SEE STORM DRAIN PLAN AND PROFILES

20+26, 35' LT IRRIGATION PBX

20+28, 24' LT PEDESTRIAN LIGHT

6" STREET LANDSCAPE IRRIGATION CONDUIT

21+43, 34' LT IRRIGATION PBX

6" STREET LANDSCAPE IRRIGATION CONDUIT

ROADWAY CENTERLINE

ROADWAY CENTERLINE

ROADWAY CENTERLINE

ROADWAY CENTERLINE

ROADWAY CENTERLINE

ROADWAY CENTERLINE

ROADWAY CENTERLINE

ROADWAY CENTERLINE

MATCH LINE STA 19+50

MATCH LINE STA 22+00

RIVERSIDE PKWY

8' WALK

6" CURB

2' C&G

IRRIGATION

IRRIGATION

IRRIGATION

IRRIGATION

IRRIGATION

IRRIGATION

IRRIGATION

IRRIGATION

EX 2

EX 2

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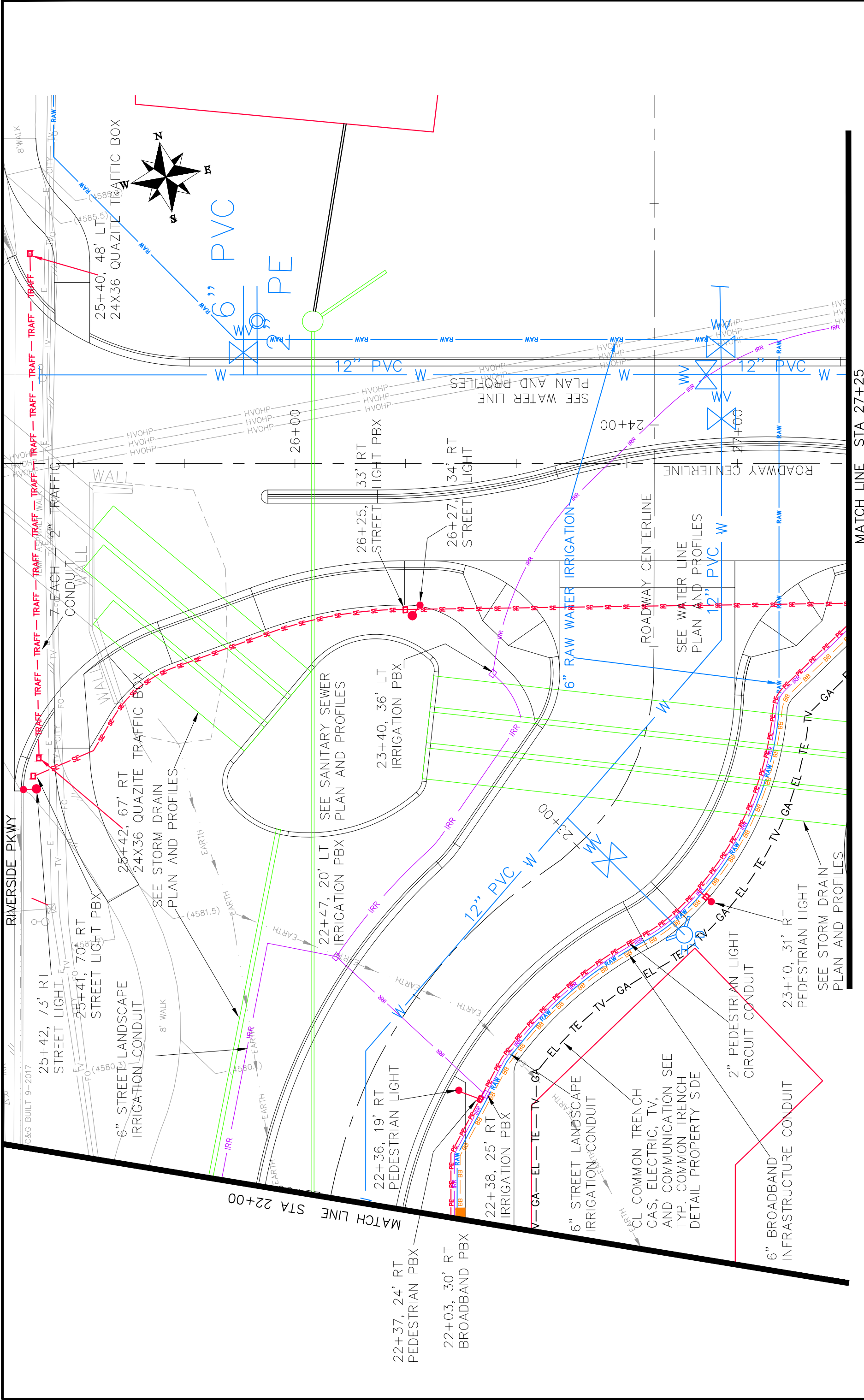
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DESCRIPTION

SCALE: PLAN & PROFILE 1" = 40' HORIZONTAL 1" = 4' VERTICAL

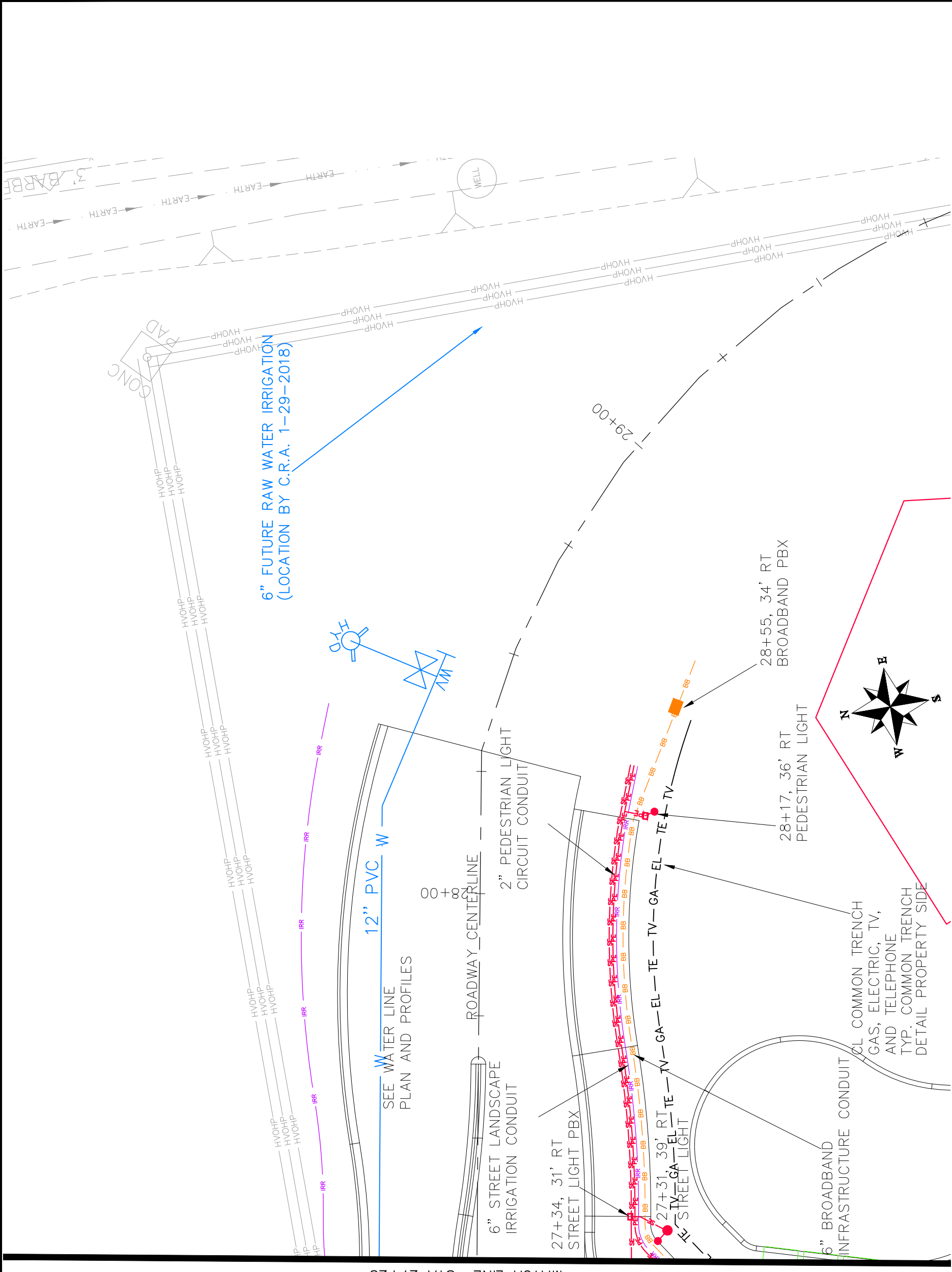
MATCH LINE STA 22+00

MATCH LINE STA 27+25

CITY OF **Grand Junction** COLORADO

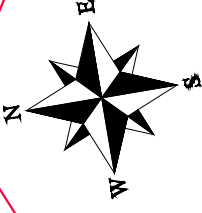
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LAS COLONIAS BUSINESS PARK COMPOSITE UTILITY PLAN



MATCH LINE STA 27+25

6" FUTURE RAW WATER IRRIGATION  
(LOCATION BY C.R.A. 1-29-2018)



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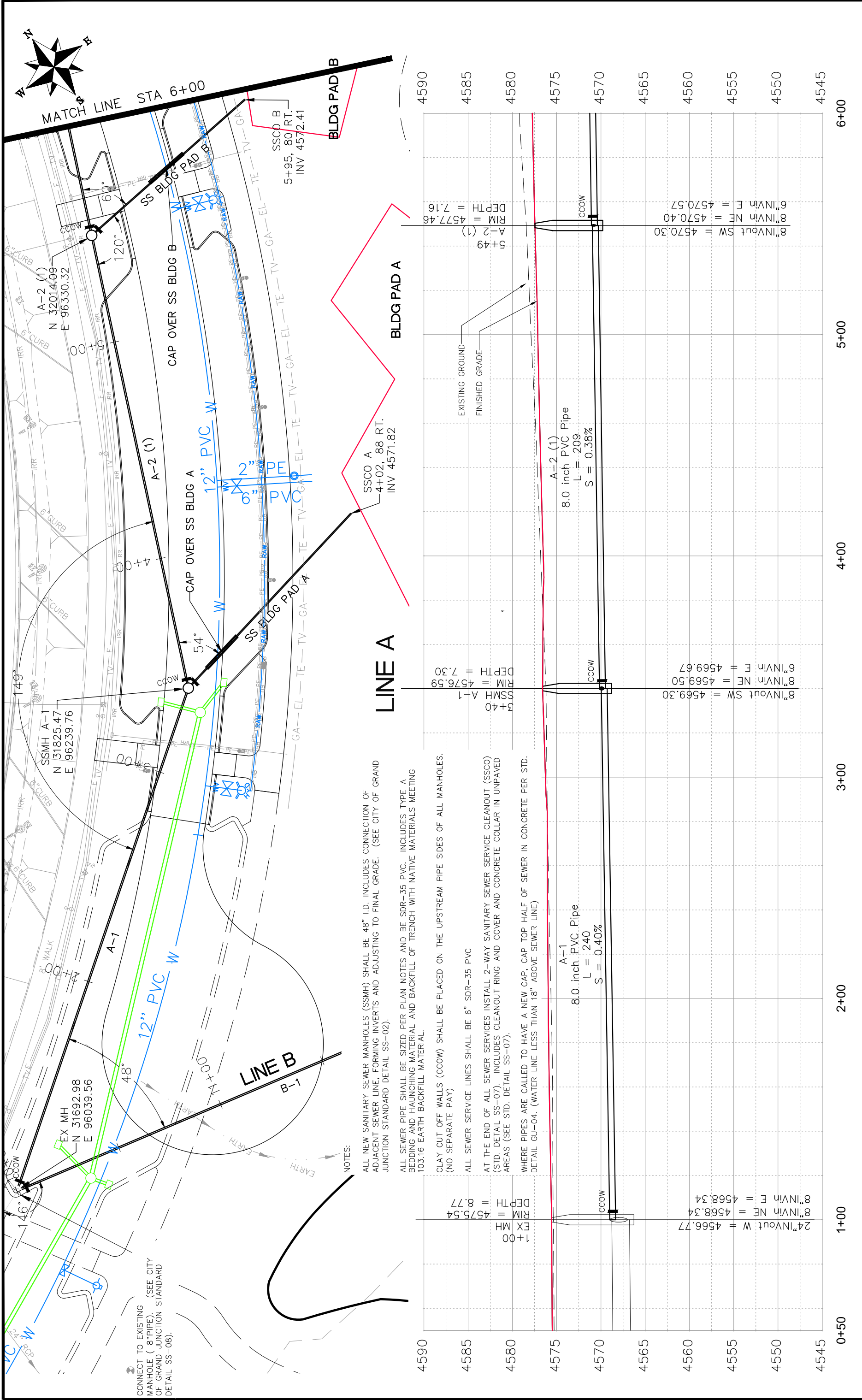
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APPROVED BY	TOP	DATE	2017

SCALE:	PLAN & PROFILE
0	5' HORIZONTAL
0	1" VERTICAL



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LAS COLONIAS BUSINESS PARK  
COMPOSITE UTILITY PLAN



REVISION	DATE	DESCRIPTION

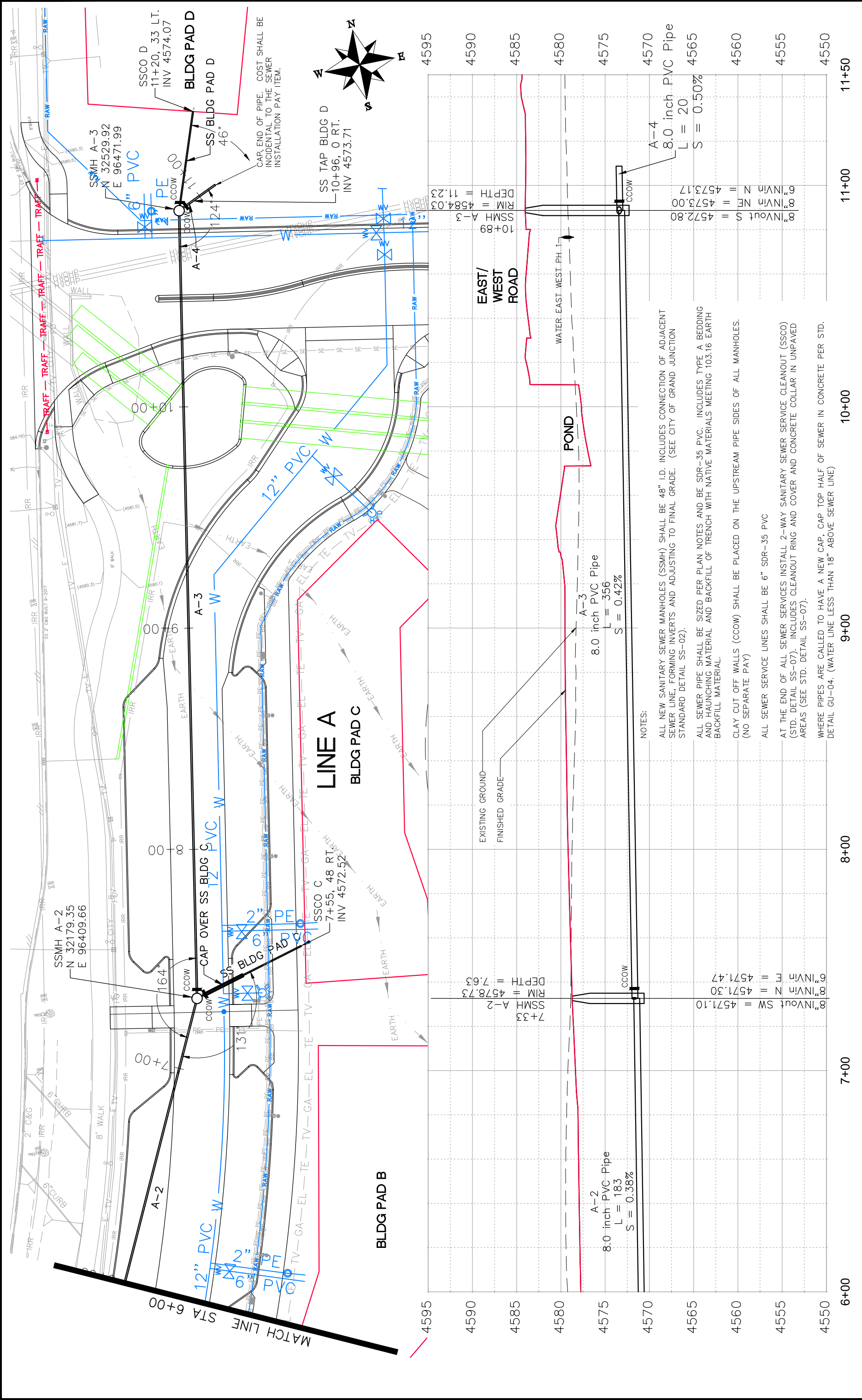
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DESIGNED BY	JCS	DATE	2018
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SCALES:	PLAN & PROFILE

**Grand Junction**  
CITY OF GRAND JUNCTION, COLORADO

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**LAS COLONIAS BUSINESS PARK**  
SANITARY SEWER PLAN AND PROFILE



NOTES:

- ALL NEW SANITARY SEWER MANHOLES (SSMH) SHALL BE 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).
- ALL SEWER PIPE SHALL BE SIZED PER PLAN NOTES AND BE SDR-35 PVC. INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- CLAY CUT OFF WALLS (CCOW) SHALL BE PLACED ON THE UPSTREAM PIPE SIDES OF ALL MANHOLES. (NO SEPARATE PAY)
- ALL SEWER SERVICE LINES SHALL BE 6" SDR-35 PVC
- AT THE END OF ALL SEWER SERVICES INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (SSCO) (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).
- WHERE PIPES ARE CALLED TO HAVE A NEW CAP, CAP TOP HALF OF SEWER IN CONCRETE PER STD. DETAIL GU-04. (WATER LINE LESS THAN 18" ABOVE SEWER LINE)

REVISION	DATE	DESCRIPTION

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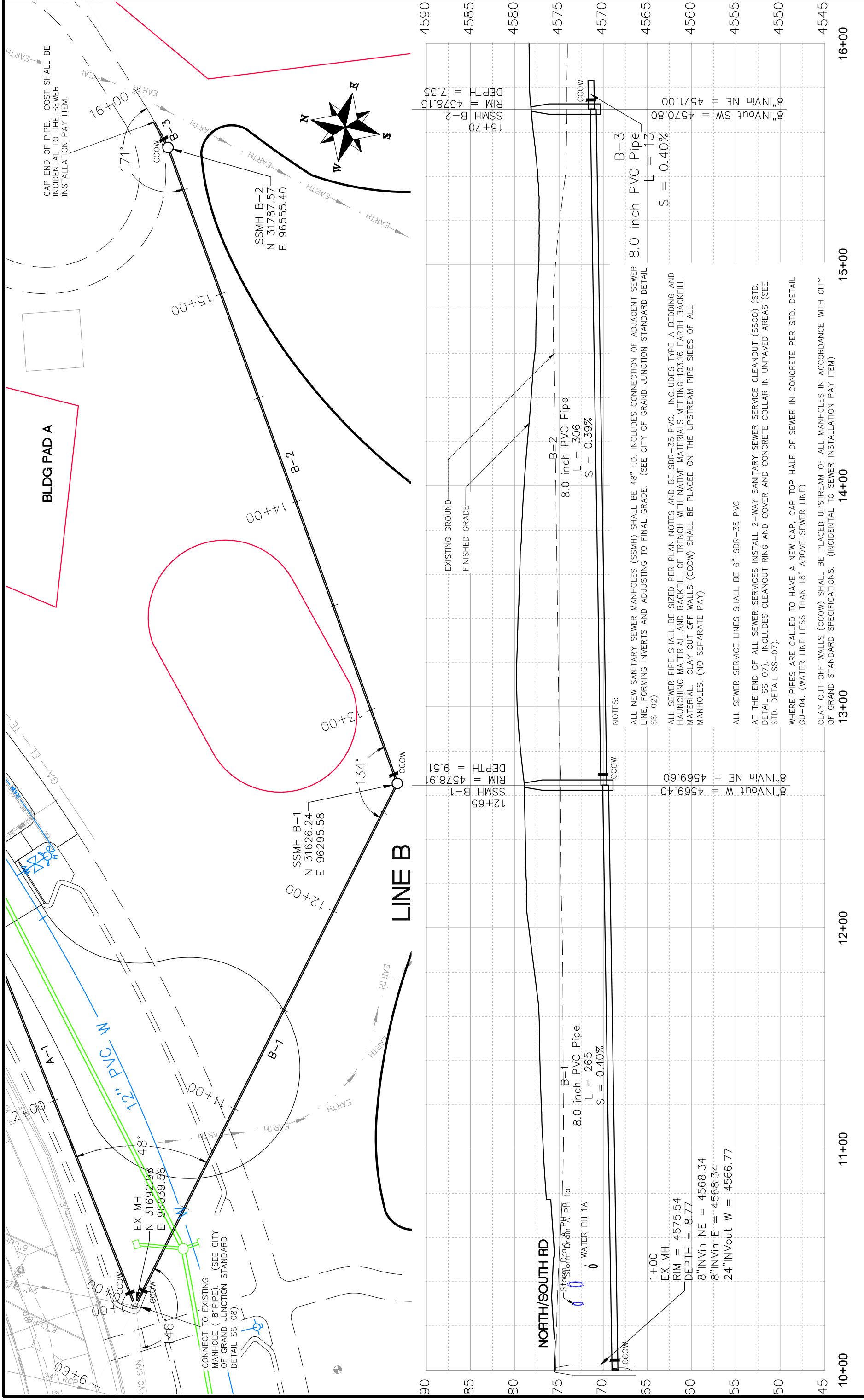
SCALE:	PLAN & PROFILE
0	1" = 20'
10	1" = 10'
25	1" = 4'
10	1" = 1'



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LAS COLONIAS BUSINESS PARK  
SANITARY SEWER PLAN AND PROFILE

DATE	DESCRIPTION



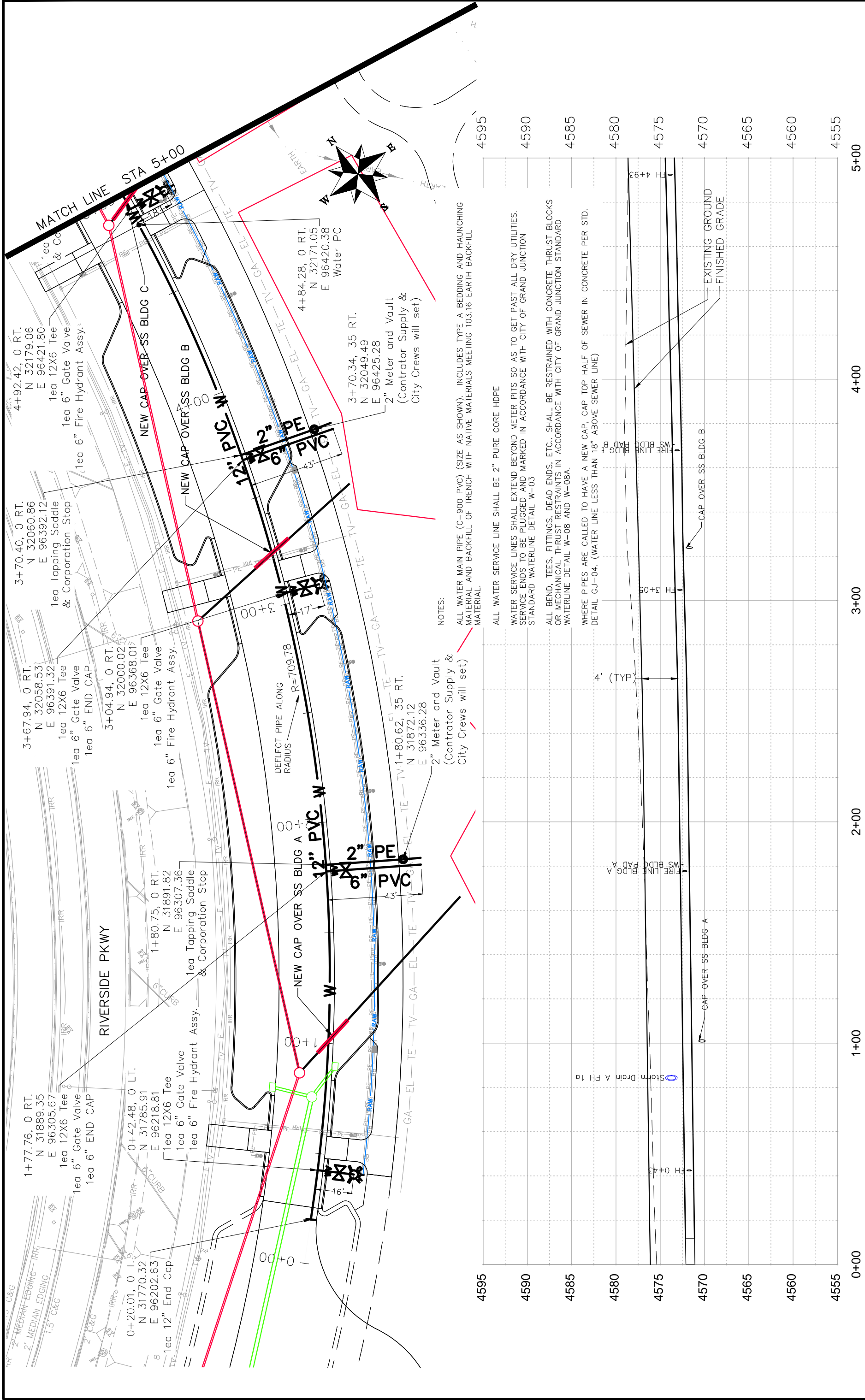
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**LAS COLONIAS BUSINESS PARK**  
 SANITARY SEWER PLAN AND PROFILE

SCALE:	PLAN & PROFILE
0	10
0	20
0	30
0	40
0	50
0	60
0	70
0	80
0	90
0	100
0	110
0	120
0	130
0	140
0	150
0	160



NOTES:

- ALL WATER MAIN PIPE (C-900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- ALL WATER SERVICE LINE SHALL BE 2" PURE CORE HDPE
- WATER SERVICE LINES SHALL EXTEND BEYOND METER PITS SO AS TO GET PAST ALL DRY UTILITIES. SERVICE ENDS TO BE PLUGGED AND MARKED IN ACCORDANCE WITH CITY OF GRAND JUNCTION STANDARD WATERLINE DETAIL W-05
- ALL BEND, TEES, FITTINGS, DEAD ENDS, ETC.. SHALL BE RESTRAINED WITH CONCRETE THRUST BLOCKS OR MECHANICAL THRUST RESTRAINTS IN ACCORDANCE WITH CITY OF GRAND JUNCTION STANDARD WATERLINE DETAIL W-08 AND W-08A.
- WHERE PIPES ARE CALLED TO HAVE A NEW CAP, CAP TOP HALF OF SEWER IN CONCRETE PER STD. DETAIL GU-04. (WATER LINE LESS THAN 18" ABOVE SEWER LINE)

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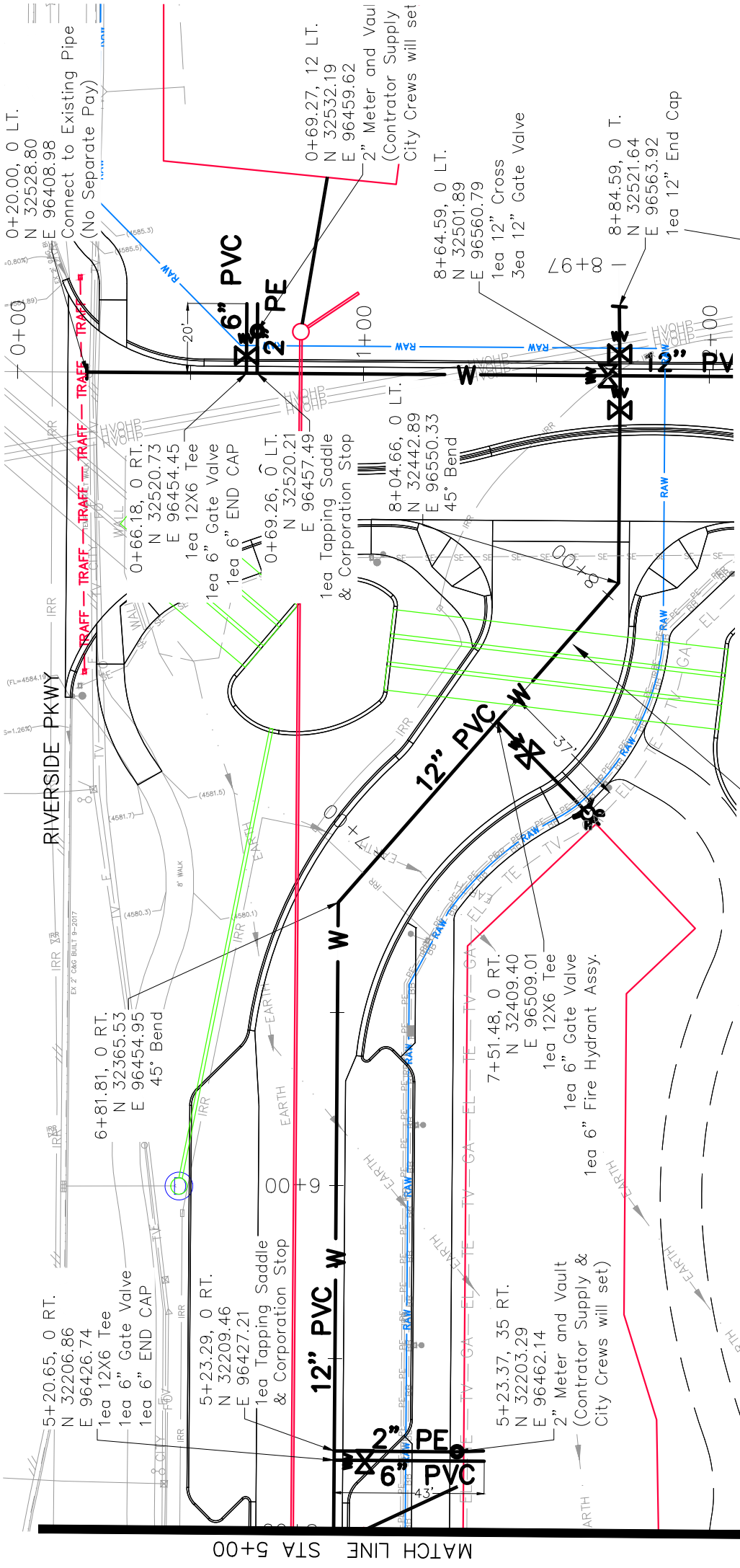
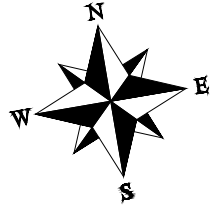
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 COLORADO

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**LAS COLONIAS BUSINESS PARK**  
**WATERLINE PLAN AND PROFILE**



**NOTES:**

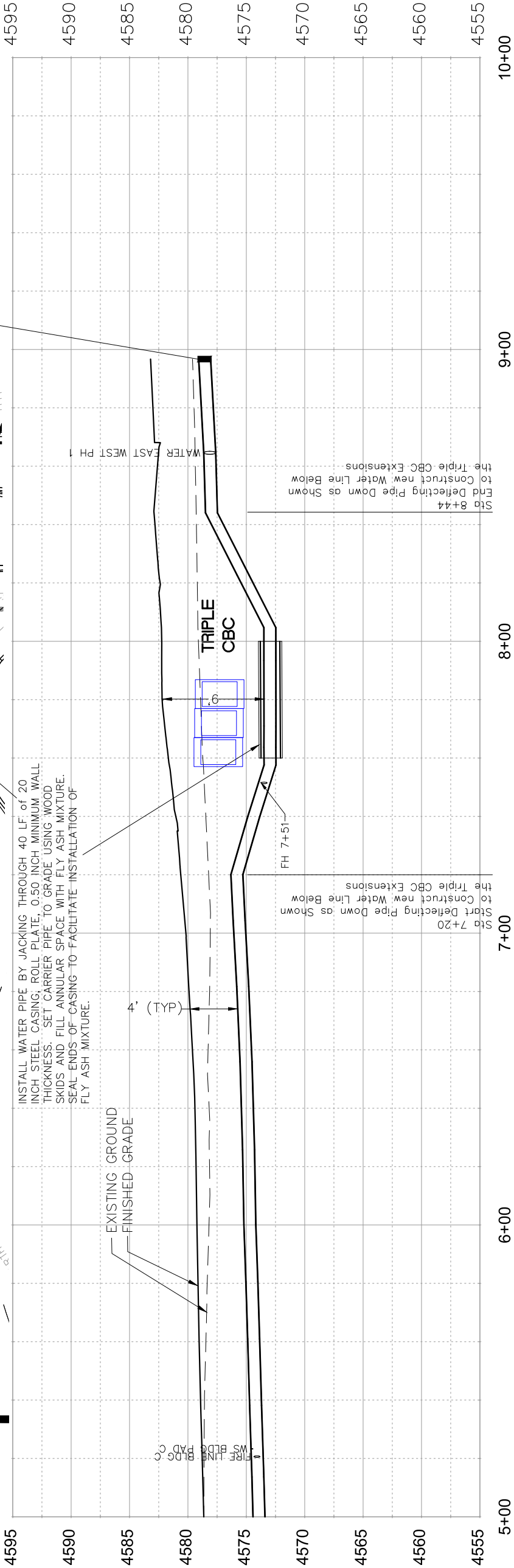
ALL WATER MAIN PIPE (C-900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

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WATER SERVICE LINES SHALL EXTEND BEYOND METER PITS SO AS TO GET PAST ALL DRY UTILITIES. SERVICE ENDS TO BE PLUGGED AND MARKED IN ACCORDANCE WITH CITY OF GRAND JUNCTION STANDARD WATERLINE DETAIL W-03

ALL BEND, TEES, FITTINGS, DEAD ENDS, ETC.. SHALL BE RESTRAINED WITH CONCRETE THURST BLOCKS OR MECHANICAL THURST RESTRAINTS IN ACCORDANCE WITH CITY OF GRAND JUNCTION STANDARD WATERLINE DETAIL W-08 AND W-08A.

WHERE PIPES ARE CALLED TO HAVE A NEW CAP, CAP TOP HALF OF SEWER IN CONCRETE PER STD. DETAIL GU-04. (WATER LINE LESS THAN 18" ABOVE SEWER LINE)



INSTALL WATER PIPE BY JACKING THROUGH 40 LF. of 20 INCH STEEL CASING; ROLL PLATE, 0.50 INCH MINIMUM WALL THICKNESS. SET CARRIER PIPE TO GRADE USING WOOD SKIDS AND FILL ANNULAR SPACE WITH FLY ASH MIXTURE. SEAL ENDS OF CASING TO FACILITATE INSTALLATION OF FLY ASH MIXTURE.

EXISTING GROUND  
FINISHED GRADE

4" (TYP)

TRIPLE CBC

Start Deflecting Pipe Down as Shown to Triple CBC Extensions

End Deflecting Pipe Down as Shown to Construct new Water Line Below the Triple CBC Extensions

REVISION	DATE	BY	DATE

SCALE	DATE	BY	DATE
PLAN & PROFILE	2017	JCS	2017
HORIZONTAL	2017	JCS	2017
VERTICAL	2017	JCS	2017

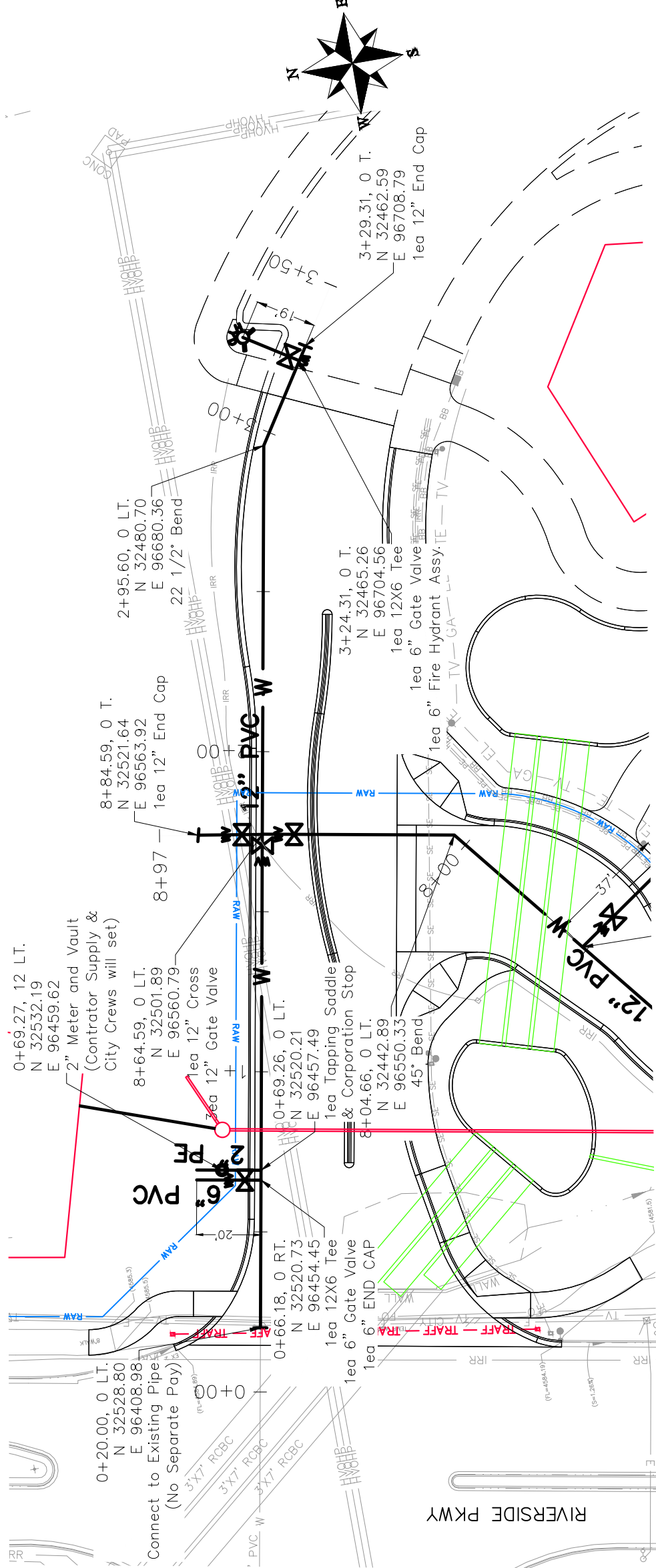
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**Grand Junction**  
CITY OF COLORADO

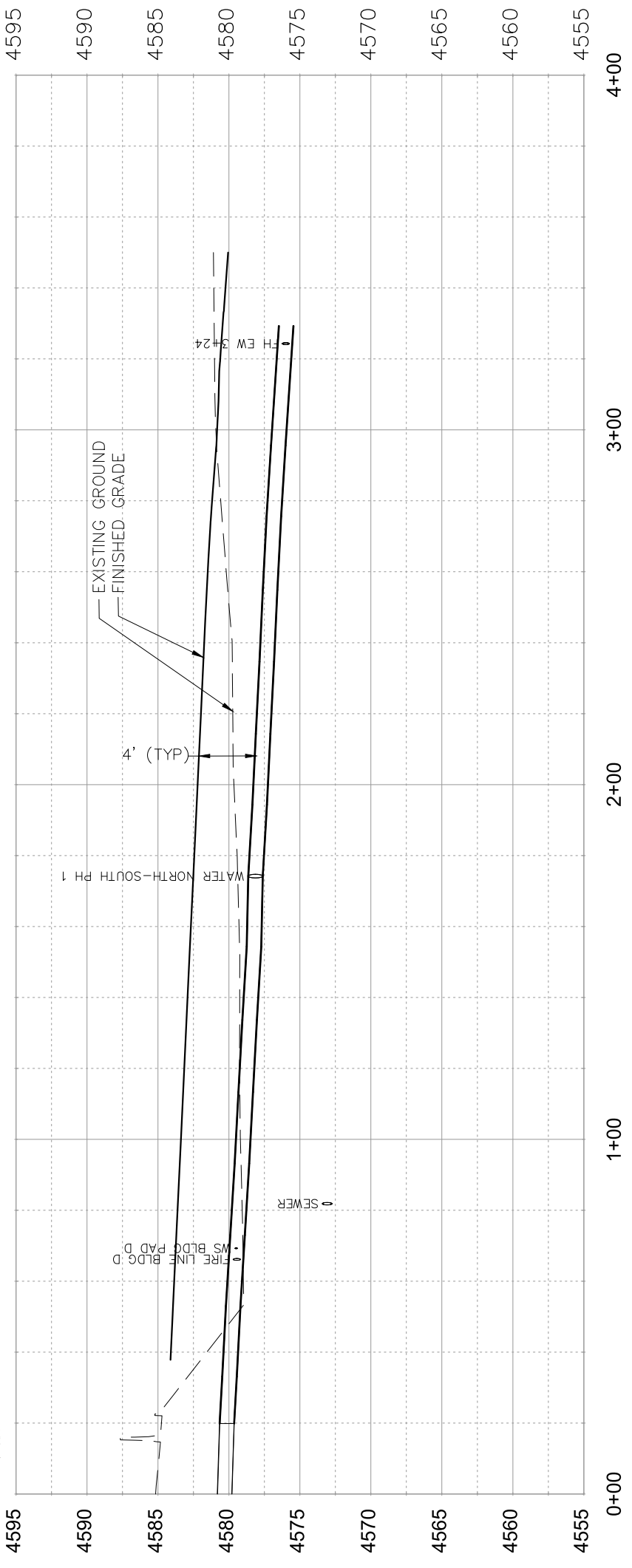
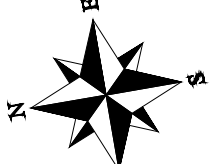
PUBLIC WORKS  
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
WATERLINE PLAN AND PROFILE





NOTES:  
 ALL WATER MAIN PIPE (C-900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.  
 ALL WATER SERVICE LINE SHALL BE 2" PURE CORE HDPE  
 WATER SERVICE LINES SHALL EXTEND BEYOND METER PITS SO AS TO GET PAST ALL DRY UTILITIES. SERVICE ENDS TO BE PLUGGED AND MARKED IN ACCORDANCE WITH CITY OF GRAND JUNCTION STANDARD WATERLINE DETAIL W-03  
 ALL BEND, TEES, FITTINGS, DEAD ENDS, ETC., SHALL BE RESTRAINED WITH CONCRETE THRUST BLOCKS OR MECHANICAL THRUST RESTRAINTS IN ACCORDANCE WITH CITY OF GRAND JUNCTION STANDARD WATERLINE DETAIL W-08 AND W-08A.  
 WHERE PIPES ARE CALLED TO HAVE A NEW CAP, CAP TOP HALF OF SEWER IN CONCRETE PER STD. DETAIL GU-04. (WATER LINE LESS THAN 18" ABOVE SEWER LINE)



REVISION	DESCRIPTION	DATE

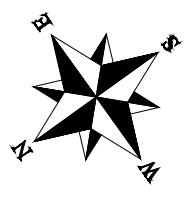
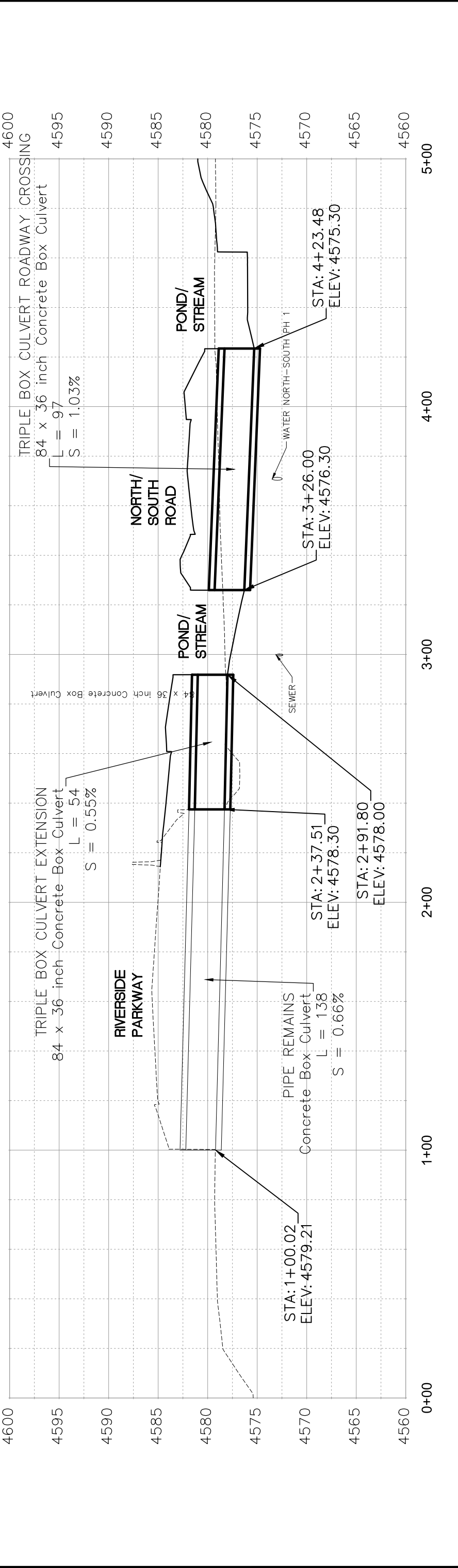
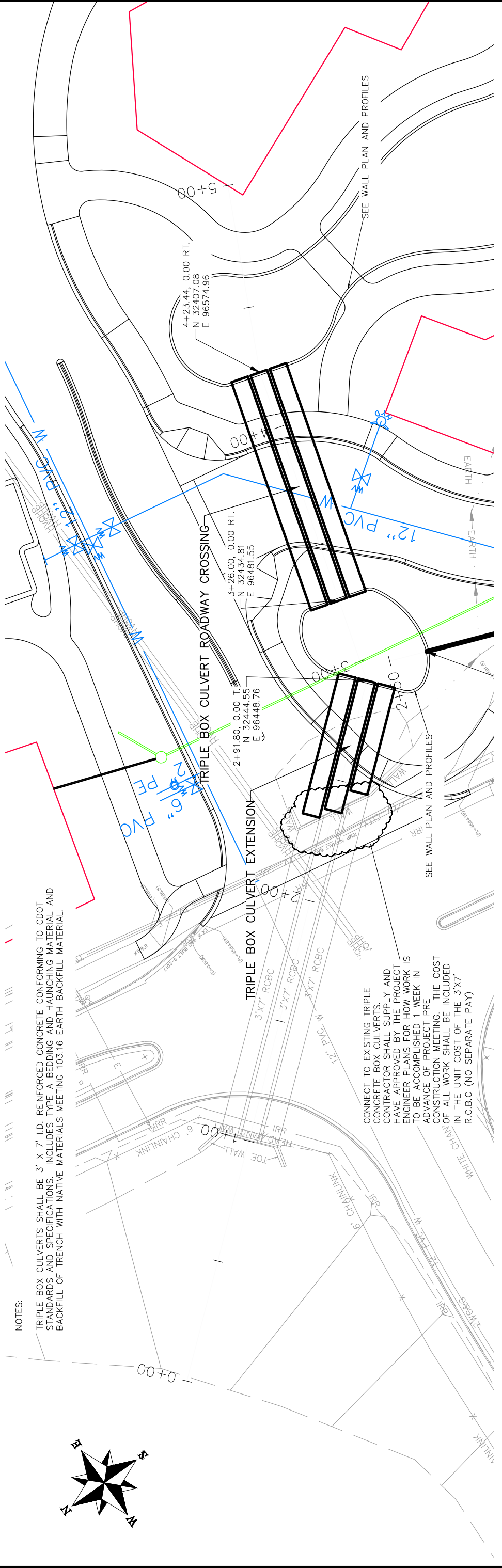
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SCALES:	
PLAN & PROFILE	1" = 40'
HORIZONTAL	1" = 20'
VERTICAL	1" = 2.5'



PUBLIC WORKS  
 ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
 WATERLINE PLAN AND PROFILE



REVISION	DESCRIPTION	DATE

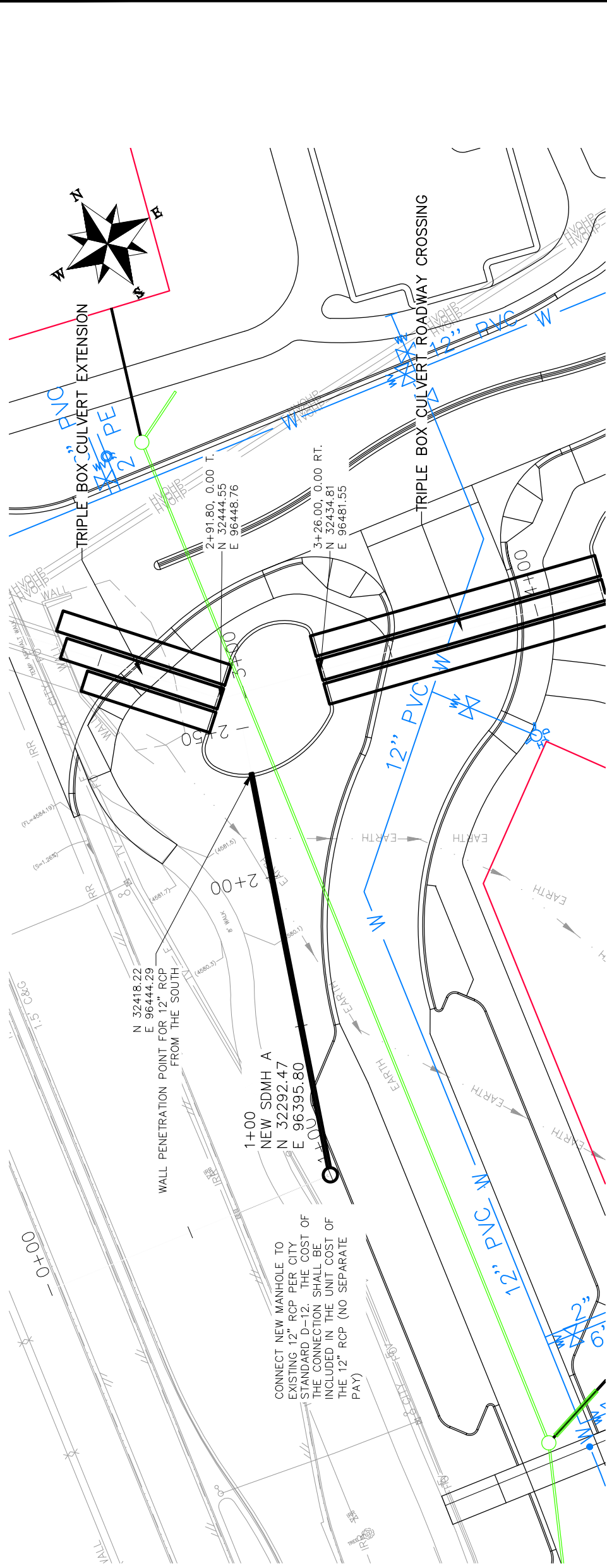
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SCALES:	
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PROFILE	1" = 10'
VERTICAL	
	1" = 2.5'
	1" = 10'



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ENGINEERING DIVISION**

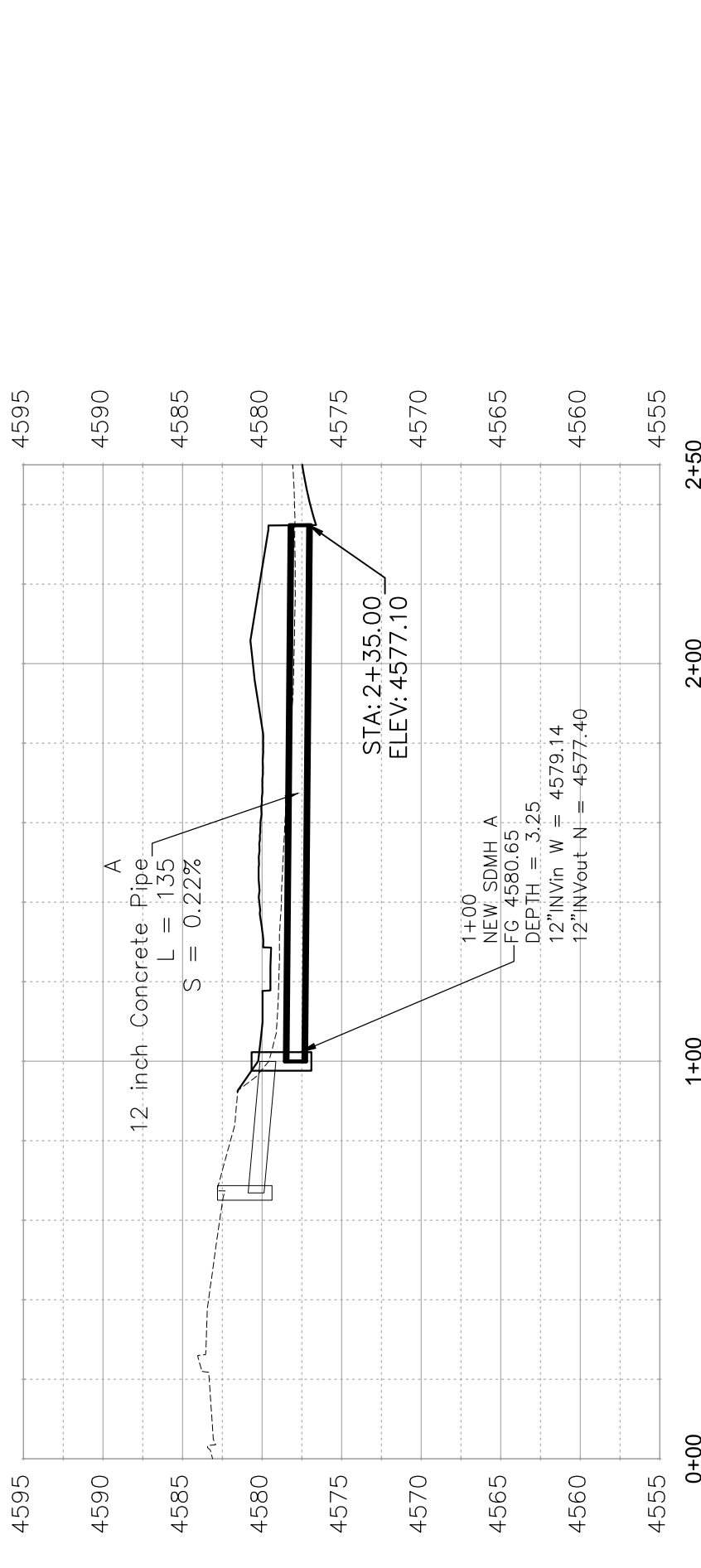
**LAS COLONIAS BUSINESS PARK  
STORM DRAIN PLAN AND PROFILE**



**NOTES:**

PIPE A SHALL BE 12" RCP PIPE. INCLUDES TYPE A BEDDING, AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

SDMHA SHALL BE A 30" IRRIGATION MANHOLE WITH A PRECAST BASE PER CITY STANDARD DETAIL D-15. INCLUDES CONNECTION OF ADJACENT STORM SEWER LINES, FORMING INVERTS AND ADJUSTING TO FINAL GRADE.



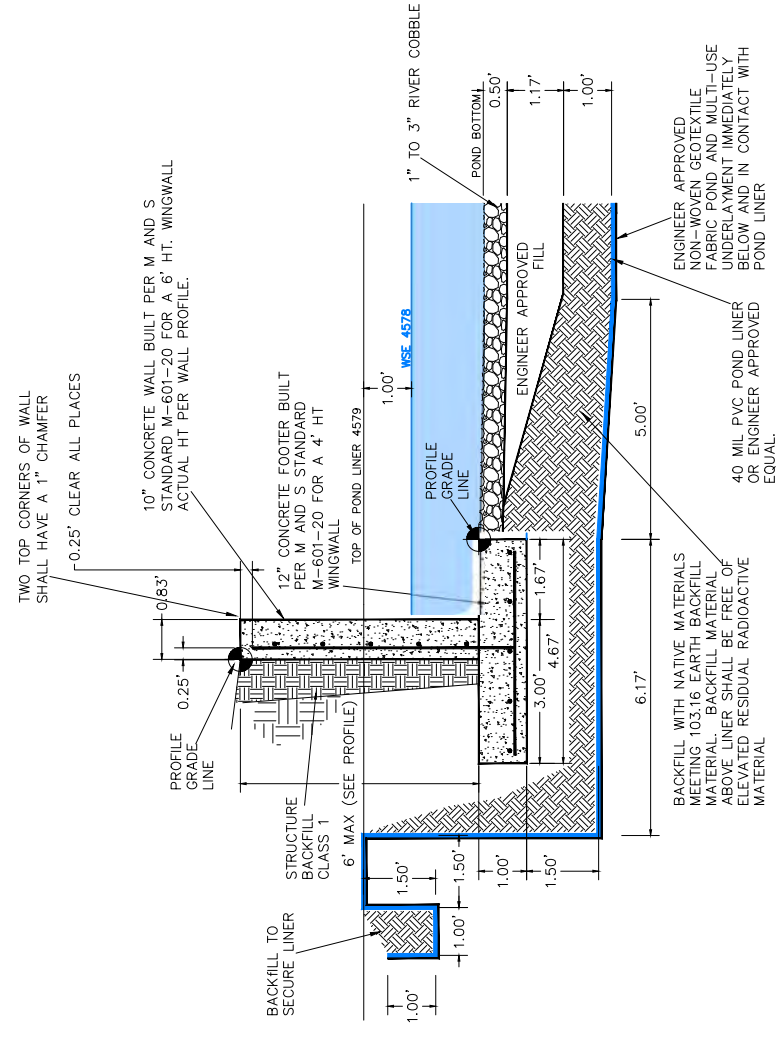
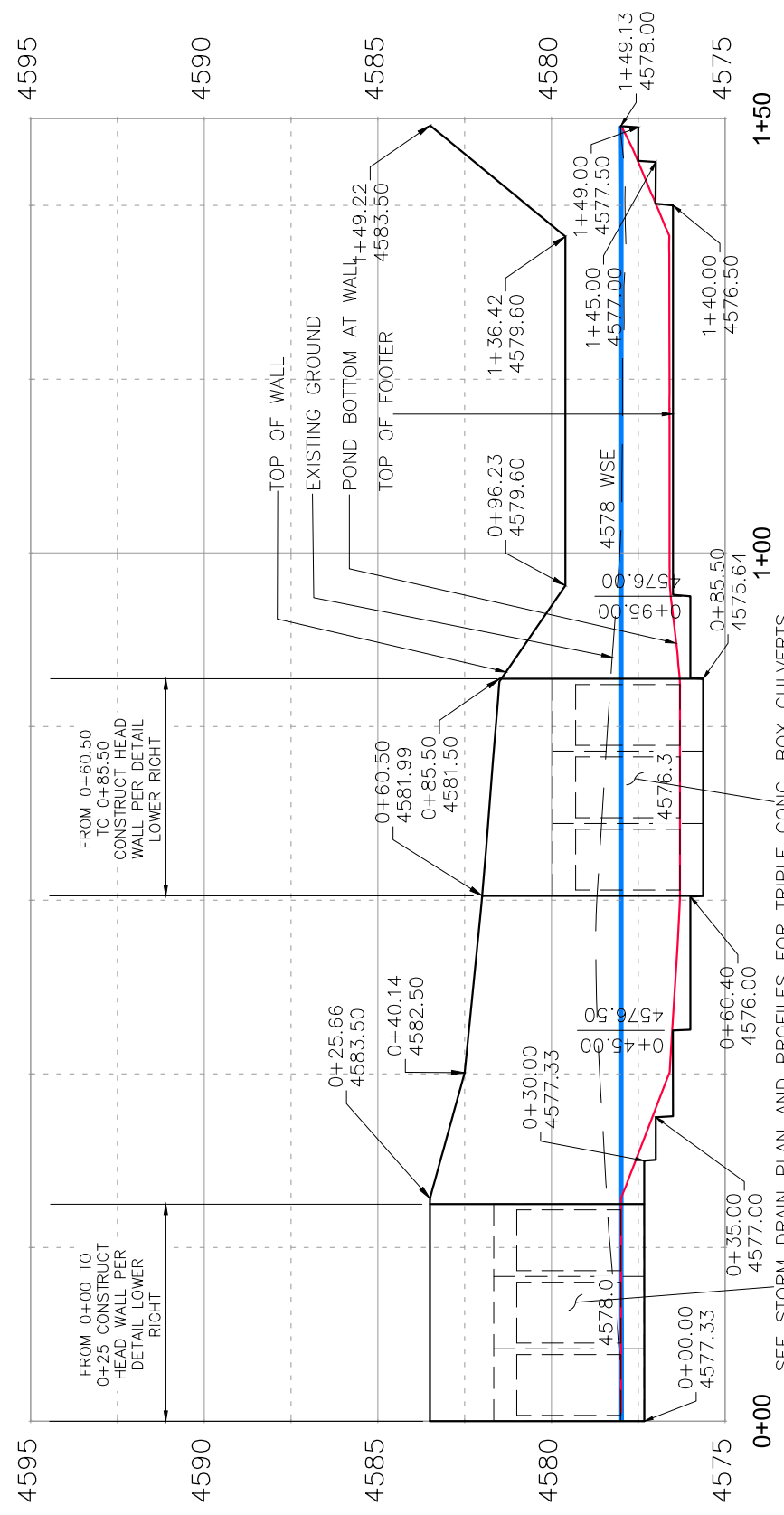
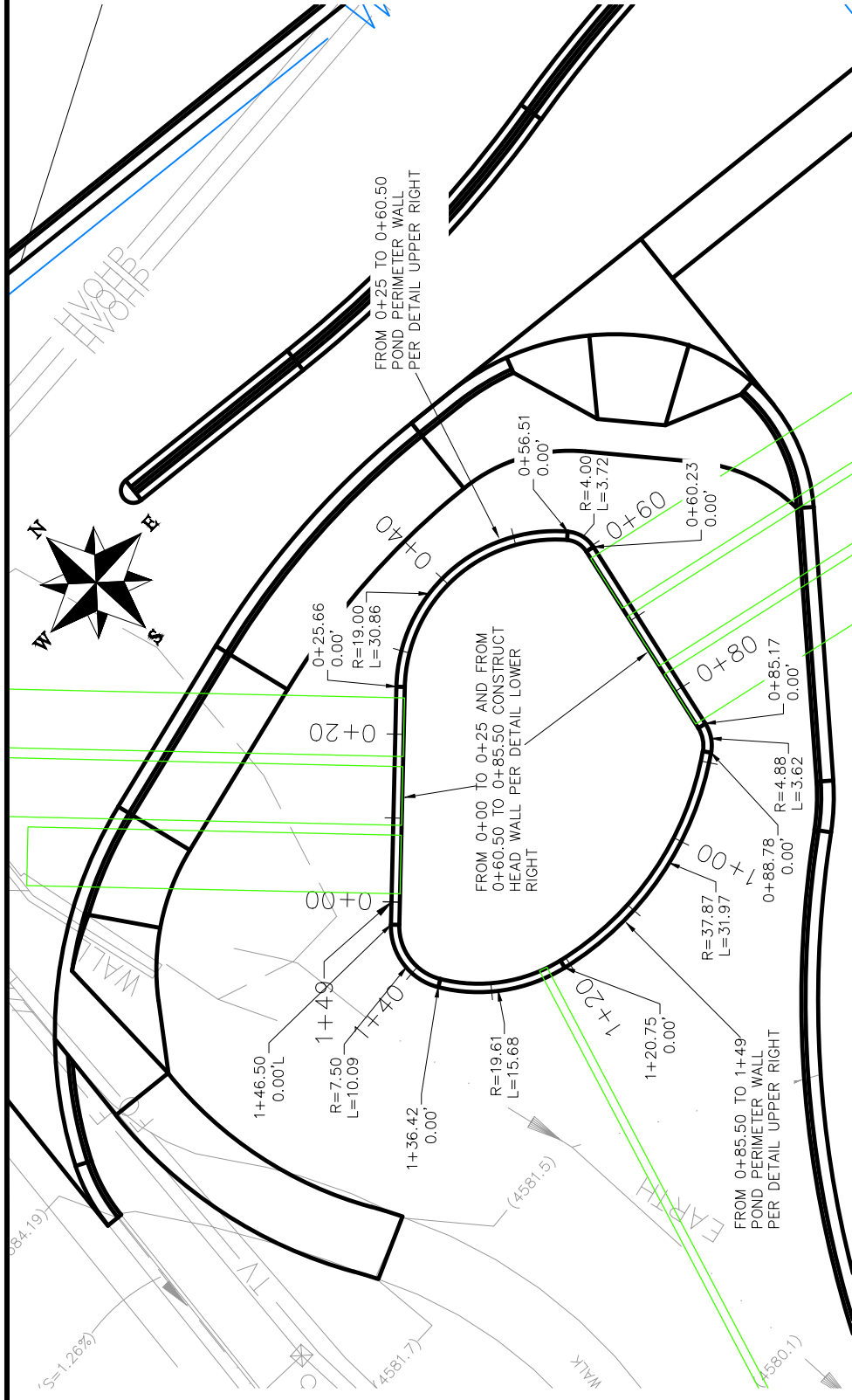
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REVISION $\Delta$			DESIGNED BY JCS	DATE 2017
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SCALES:  
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 HORIZONTAL: 1" = 40'  
 VERTICAL: 1" = 10'

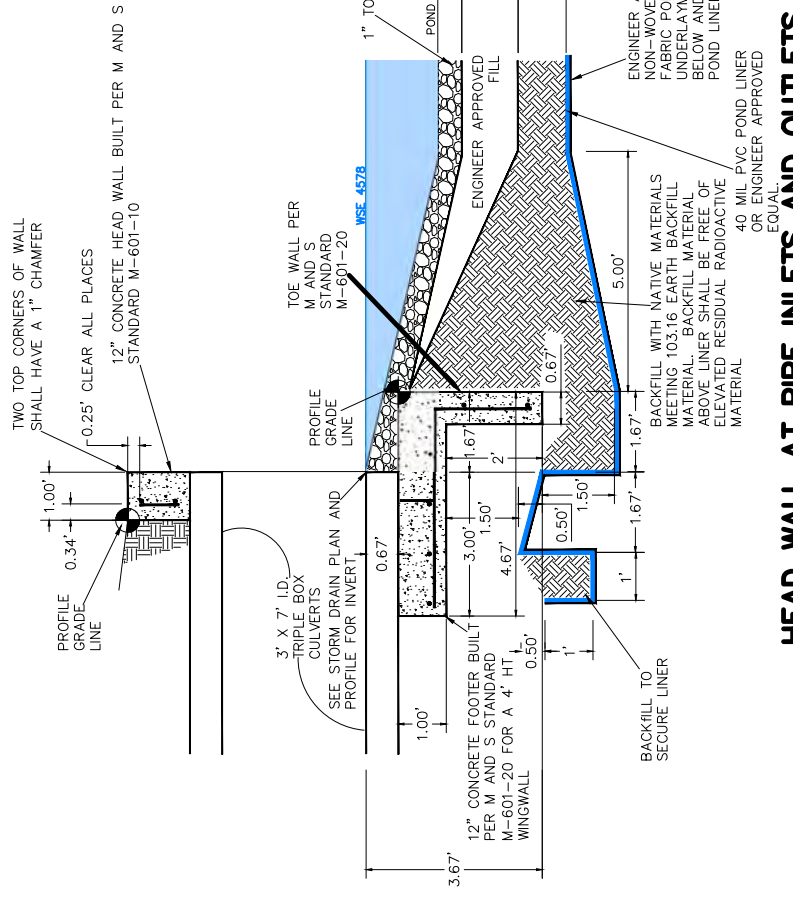
CITY OF  
**Grand Junction**  
 COLORADO

PUBLIC WORKS  
 ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
 STORM DRAIN PLAN AND PROFILE



**POND PERIMETER WALL AND POND LINER**



**HEAD WALL AT PIPE INLETS AND OUTLETS**

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2	2017	JCS	2017
3	2017	JCS	2017
4	2017	JCS	2017

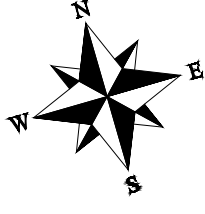
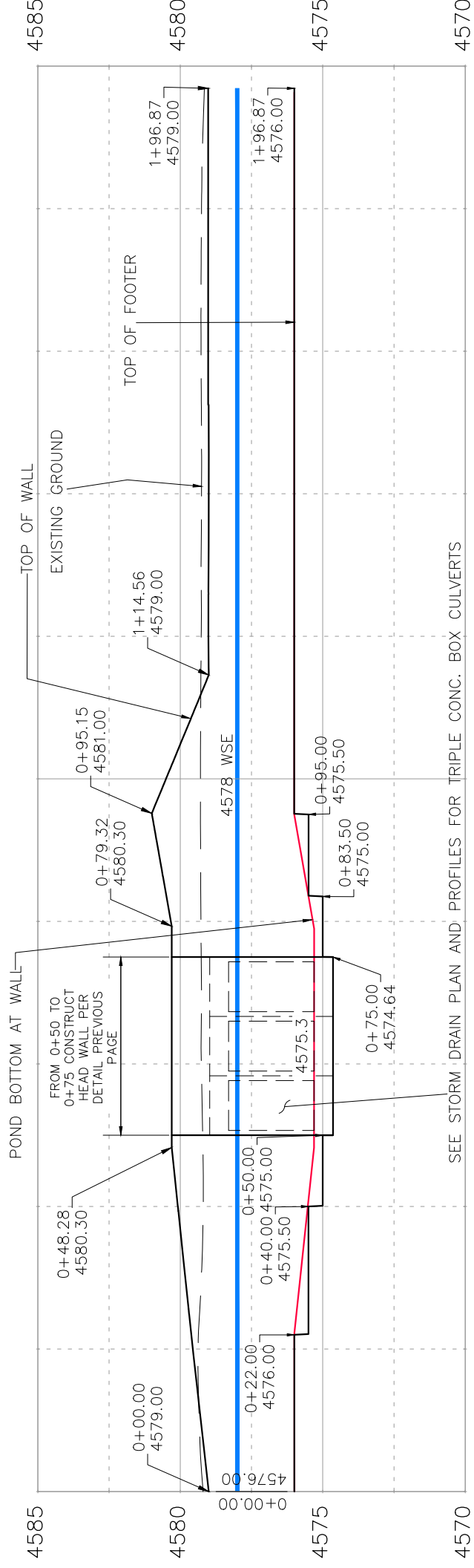
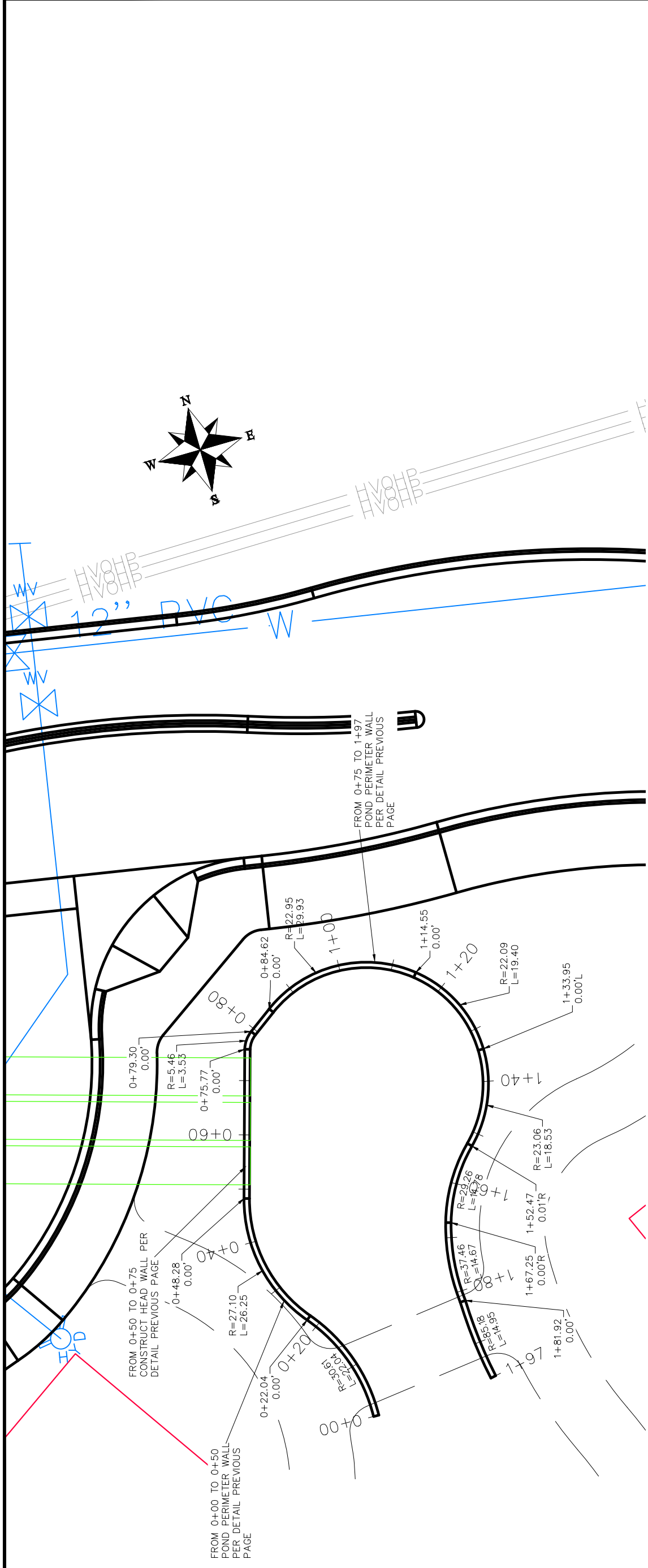
CITY OF  
**Grand Junction**  
 COLORADO

**PUBLIC WORKS**  
**ENGINEERING DIVISION**

**LAS COLONIAS BUSINESS PARK**  
**WALL PLAN AND PROFILE**

SEE STORM DRAIN PLAN AND PROFILES FOR TRIPLE CONC. BOX CULVERTS

SCALES: PLAN & PROFILE 1"=20'  
 PROFILE 1"=4'  
 DATE: \_\_\_\_\_  
 DRAWN BY: JCS  
 DESIGNED BY: JCS  
 CHECKED BY: JCS  
 APPROVED BY: JCS



REVISION	DATE	DESCRIPTION
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2	2017	REVISED
3	2017	REVISED
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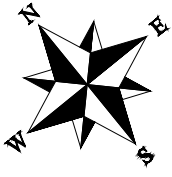
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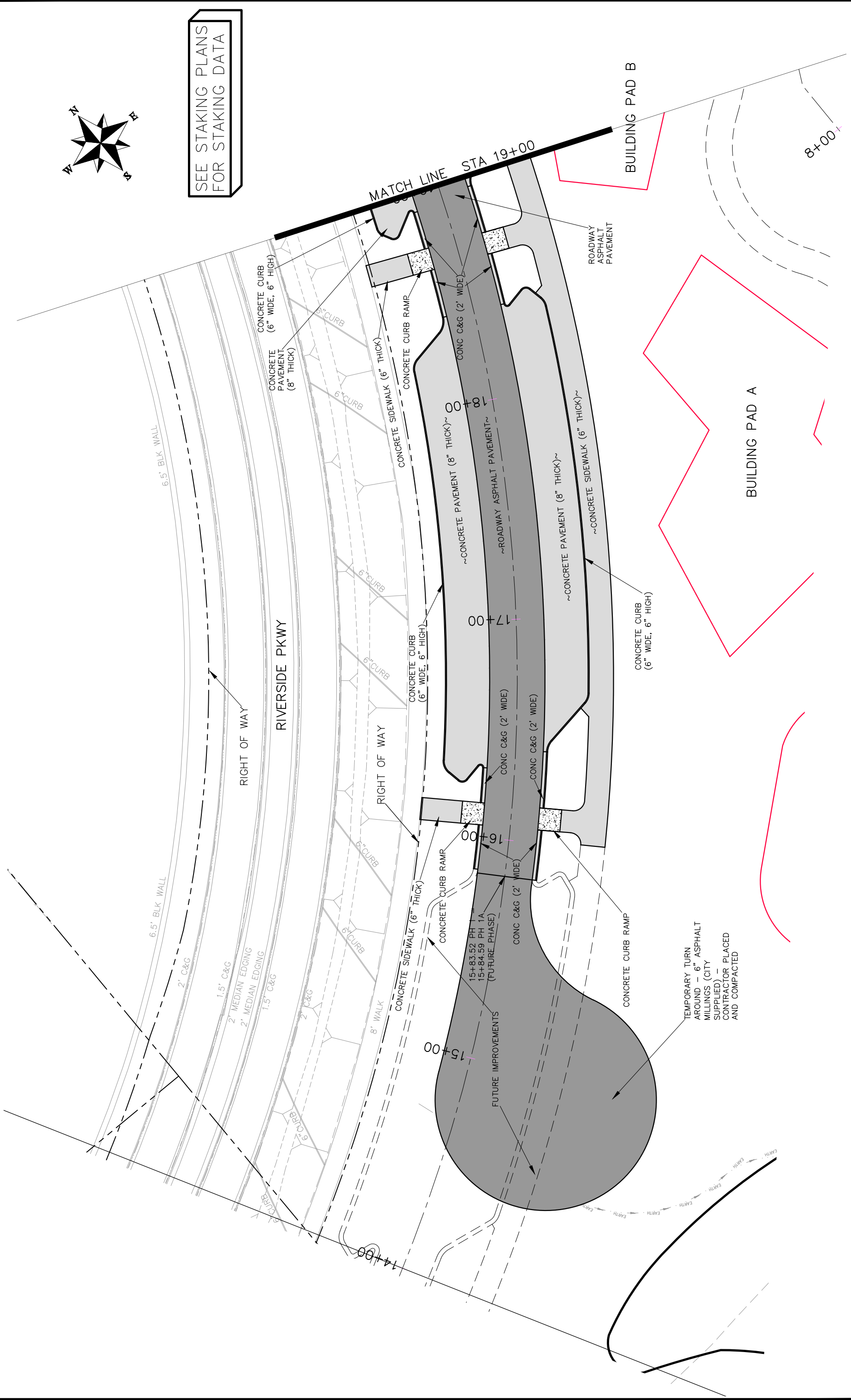
PUBLIC WORKS  
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
WALL PLAN AND PROFILE

0+00 1+00 2+00



SEE STAKING PLANS FOR STAKING DATA



REVISION $\Delta$	DATE	DRAWN BY	JCS	DATE	2017
REVISION $\Delta$		DESIGNED BY	JCS	DATE	2017
REVISION $\Delta$		CHECKED BY	TCP	DATE	2017
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PLAN & PROFILE	SCALE
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VERTICAL	1" = 10'

DESCRIPTION

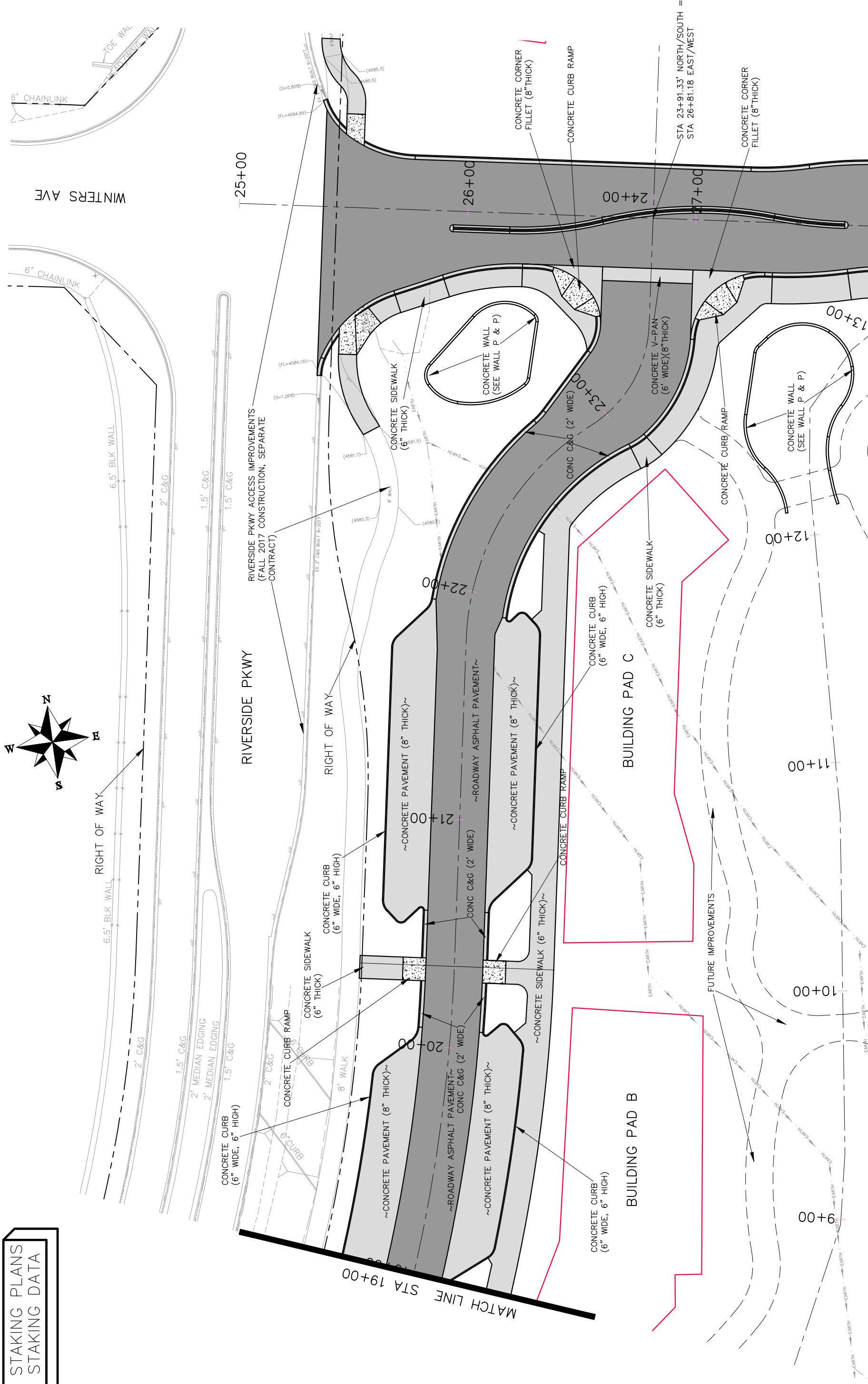
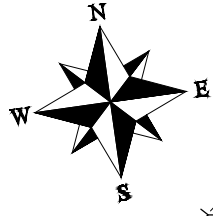
  

CITY OF  
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Las Colonias Business Park Phase I  
Roadway Plan

SEE STAKING PLANS  
FOR STAKING DATA



REVISION	DATE	DESCRIPTION
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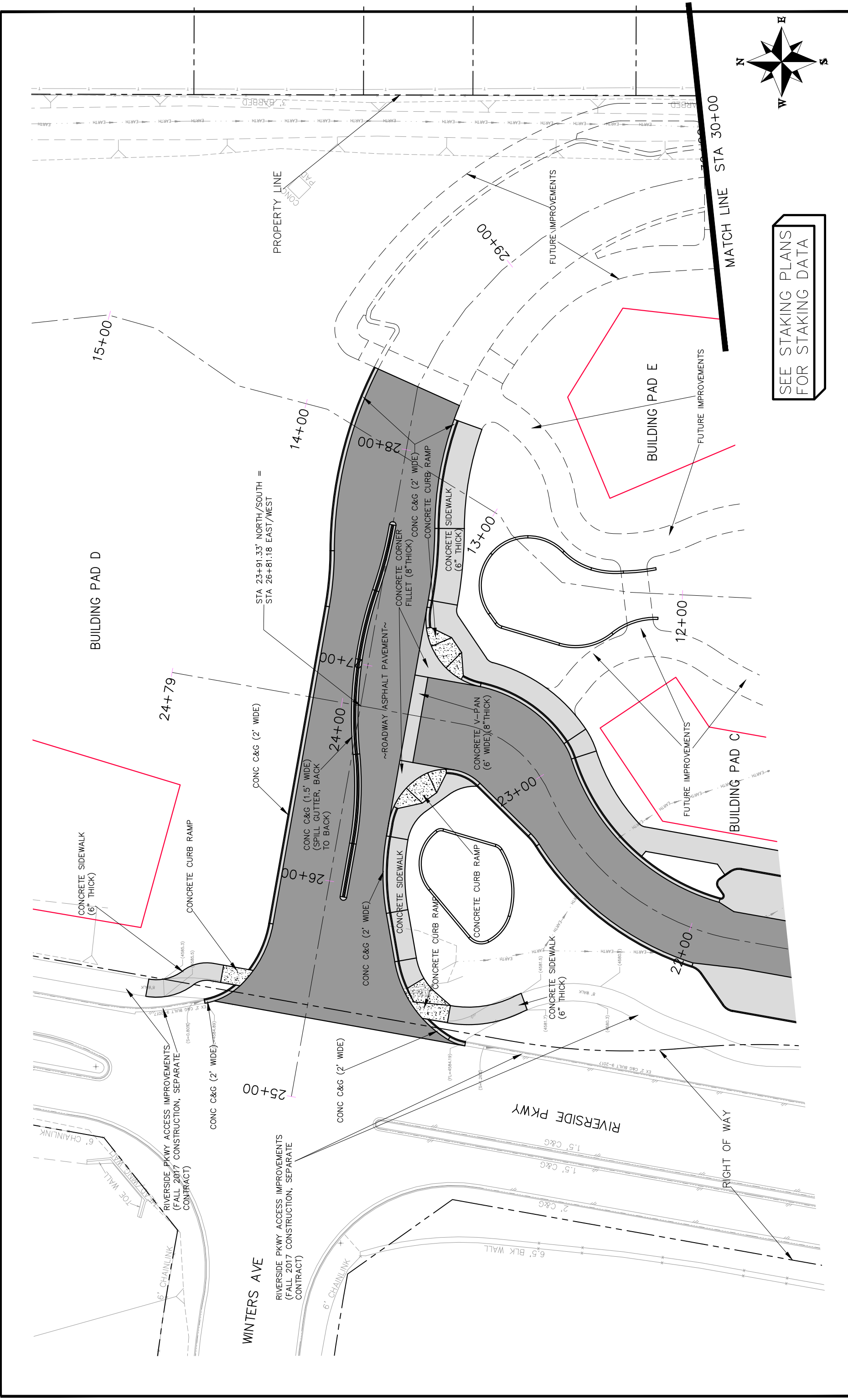
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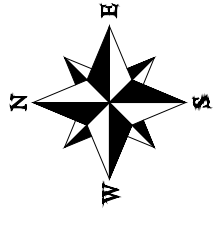


PUBLIC WORKS  
ENGINEERING DIVISION

Las Colonias Business Park Phase I  
Roadway Plan



SEE STAKING PLANS  
FOR STAKING DATA



REVISION	DESCRIPTION	DATE

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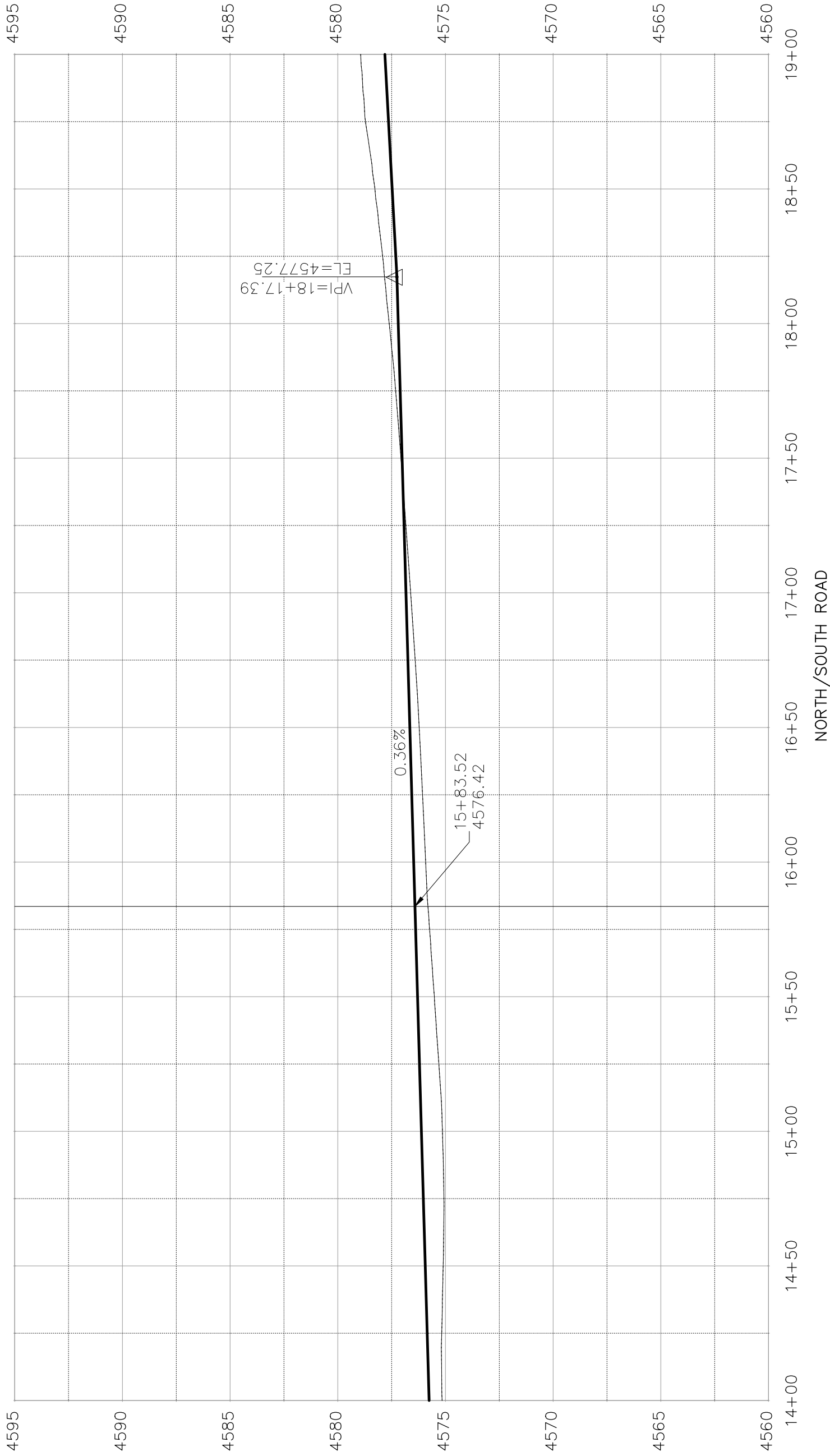


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ENGINEERING DIVISION

Las Colonias Business Park Phase I  
Roadway Plan



SEE STAKING PLANS  
FOR STAKING DATA



REVISION	DATE
REVISION	
REVISION	
REVISION	

DESCRIPTION	DATE

DRAWN BY	DATE
JCS	2018
JCS	2018
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PLAN & PROFILE	SCALE
PLAN	1" = 20'
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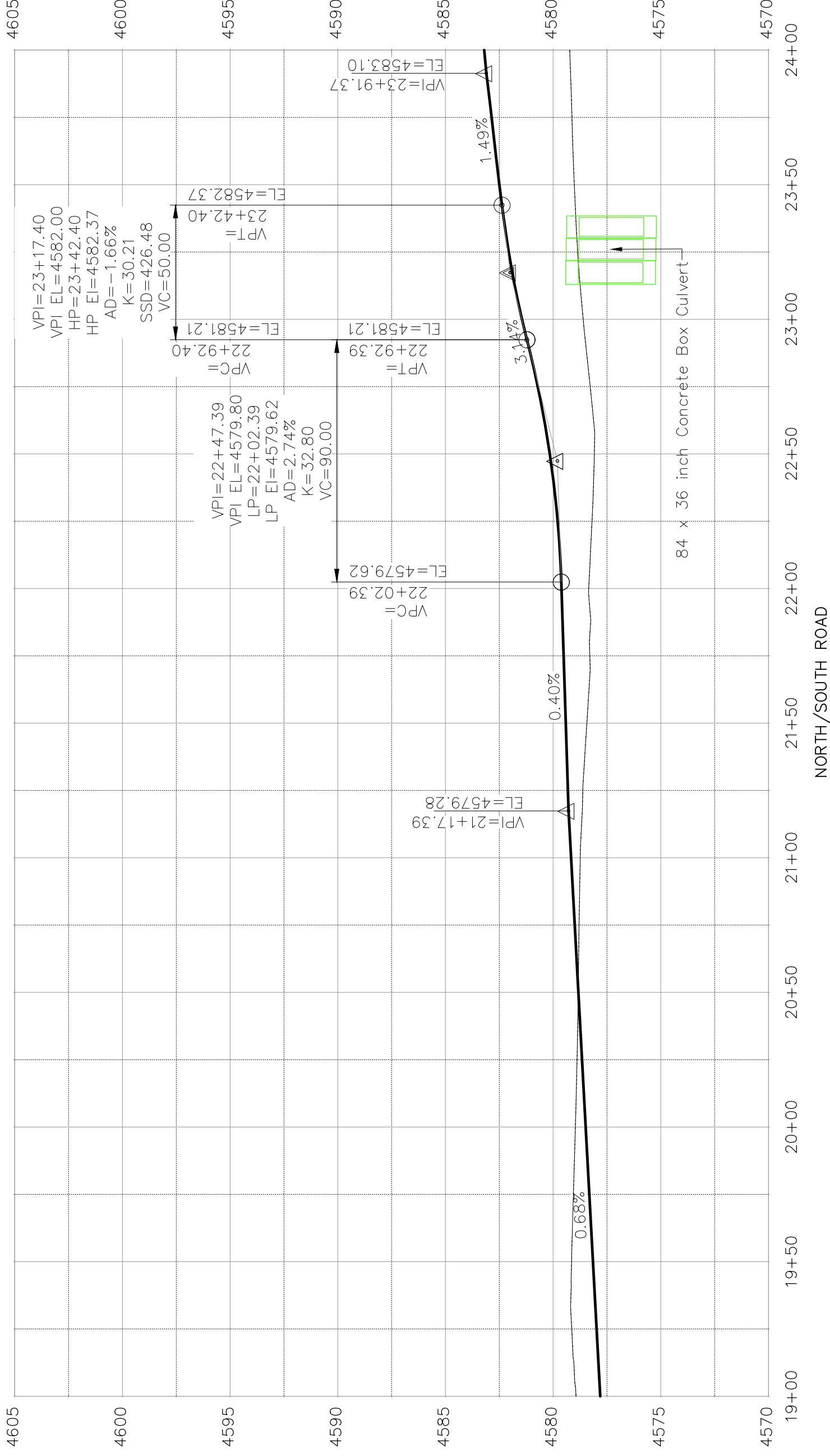
SCALES	PLAN & PROFILE
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PROFILE	1" = 10'

CITY OF  
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COLORADO

PUBLIC WORKS  
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1  
ROADWAY PROFILE

SEE STAKING PLANS  
FOR STAKING DATA



REVISION	DESCRIPTION	DATE

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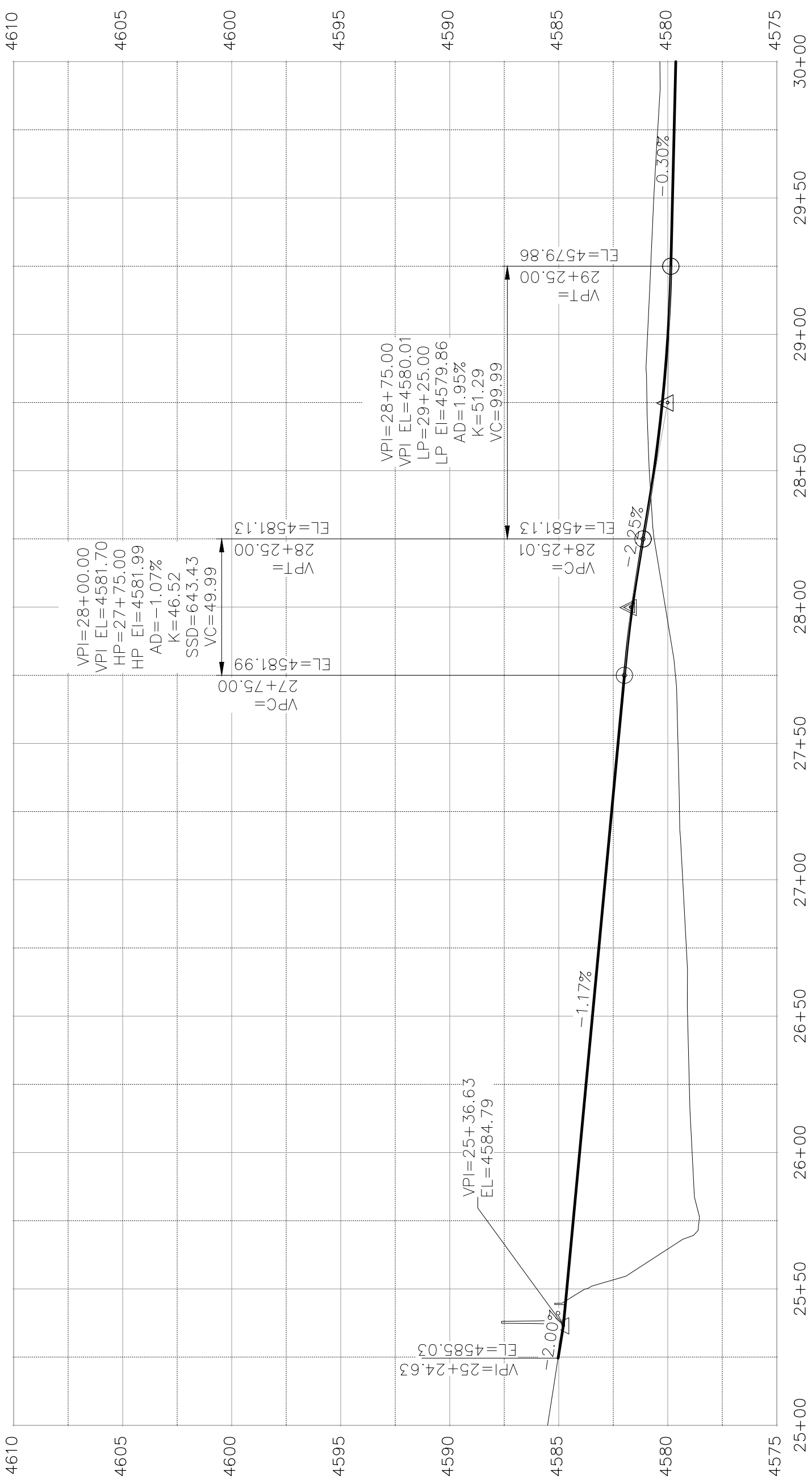
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0 1.25 2.5	VERTICAL



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ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1  
ROADWAY PROFILE

SEE STAKING PLANS  
FOR STAKING DATA



EAST/WEST ROAD

REVISION	DESCRIPTION	DATE

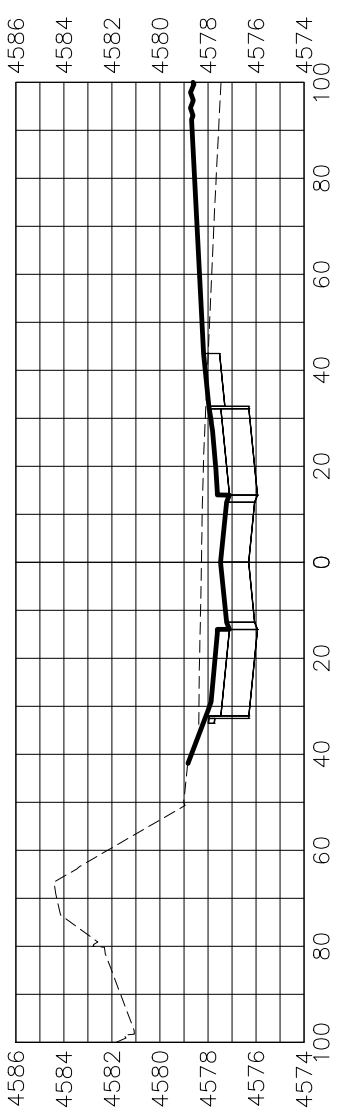
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1.25	1.25
5	5

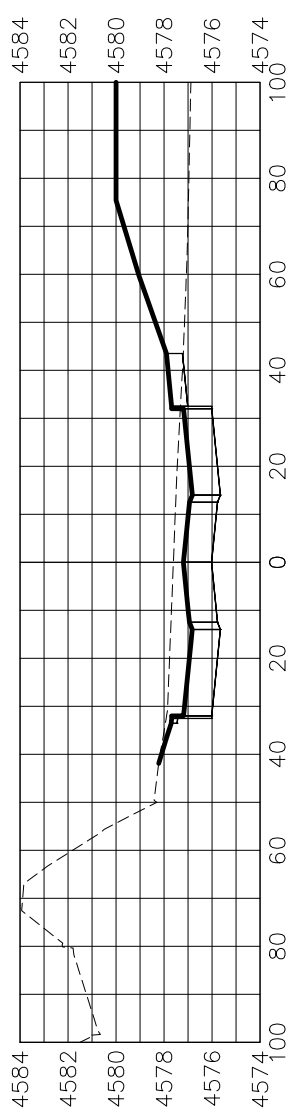


PUBLIC WORKS  
ENGINEERING DIVISION

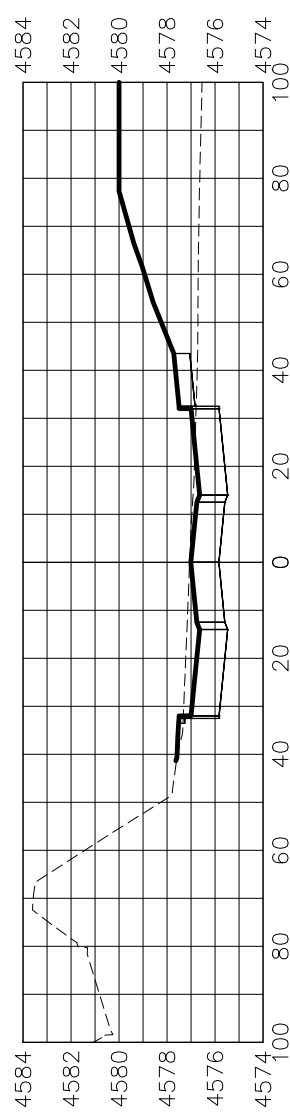
LAS COLONIAS BUSINESS PARK PHASE 1  
ROADWAY PROFILE



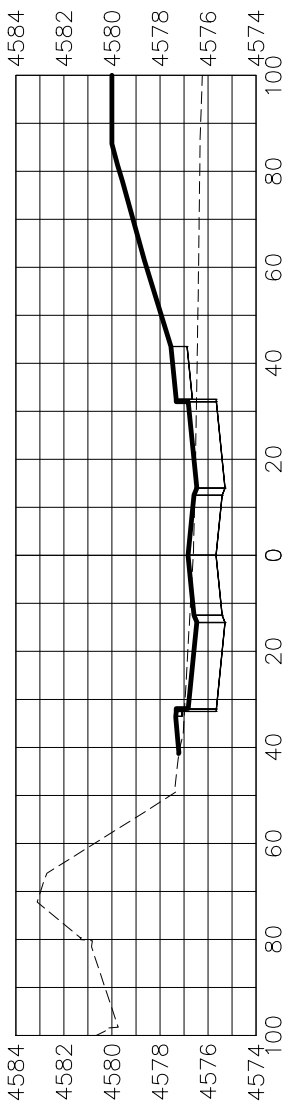
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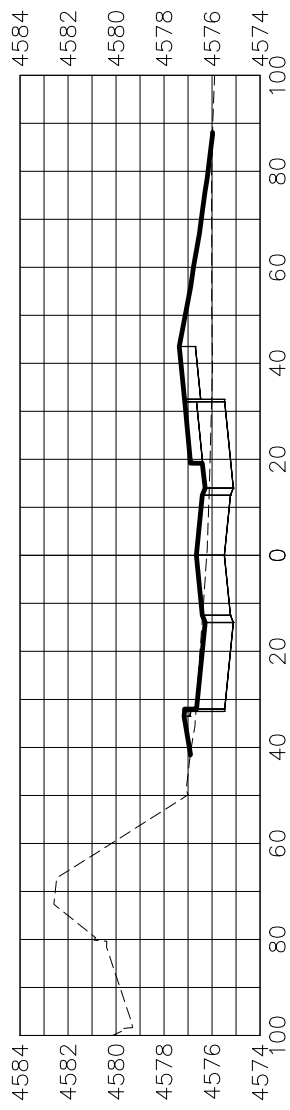
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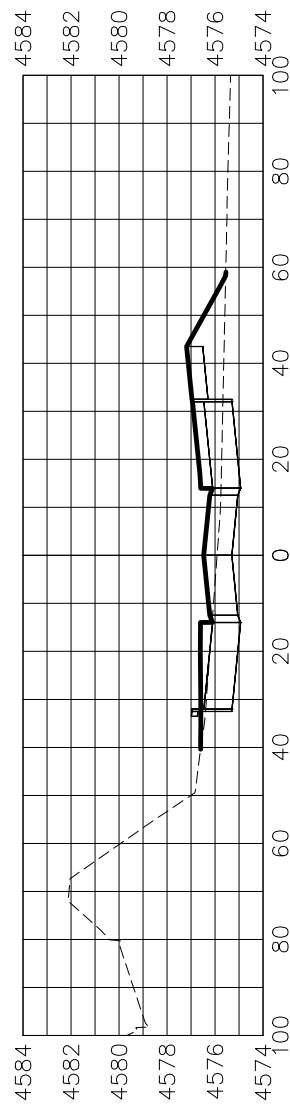
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17+00.00



16+50.00



16+00.00

REVISION	DESCRIPTION	DATE

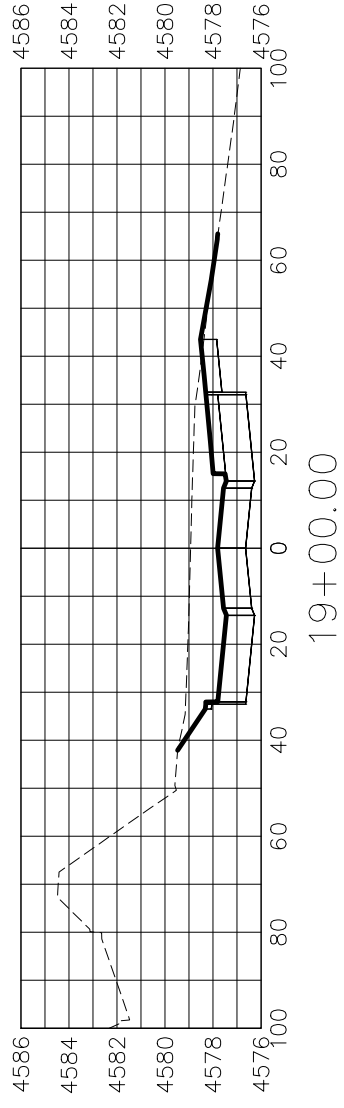
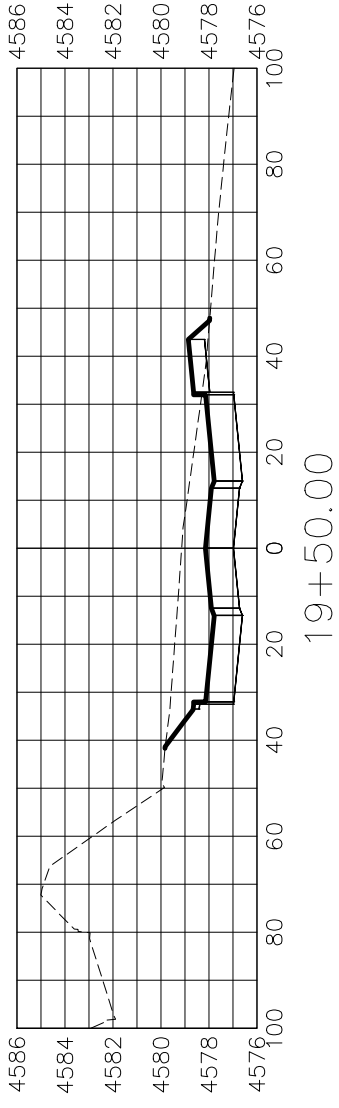
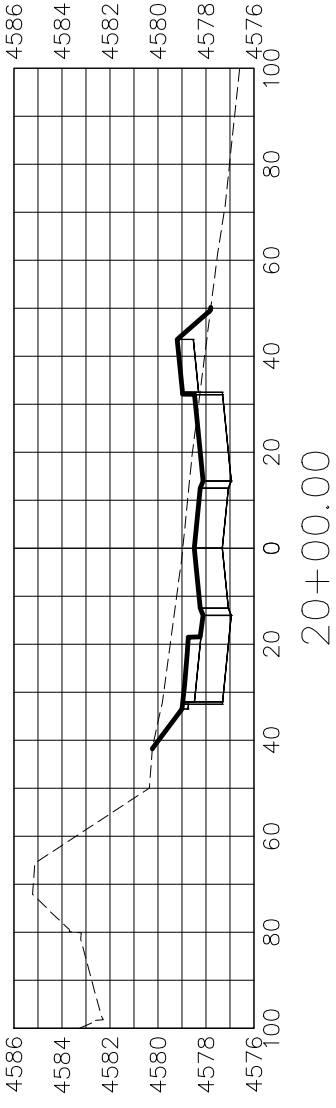
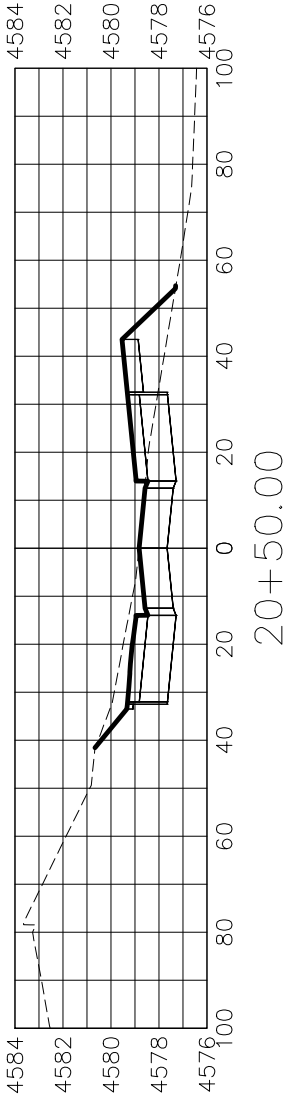
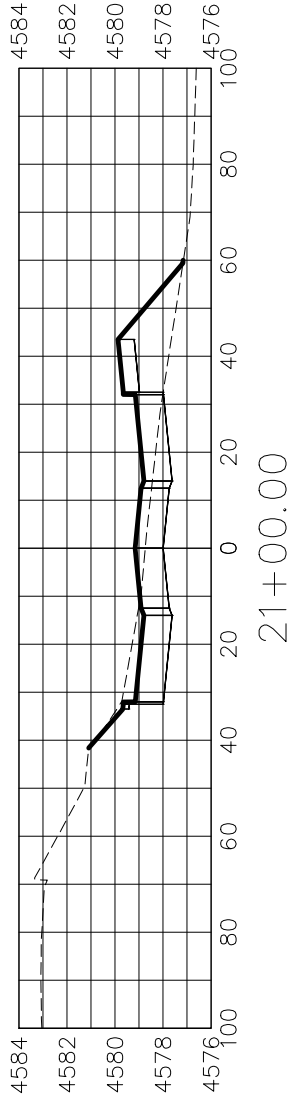
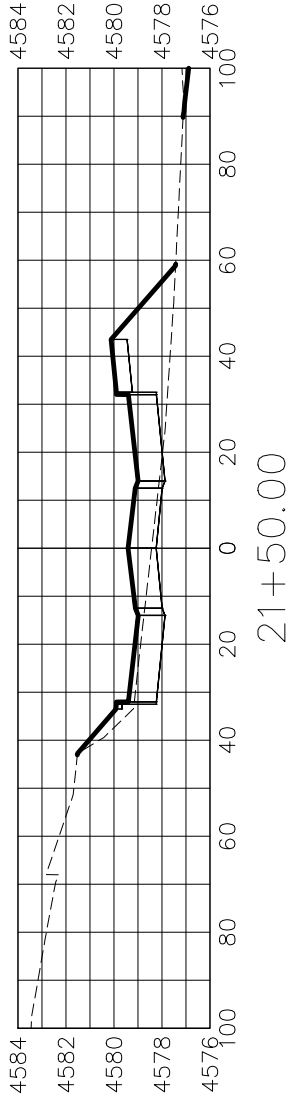
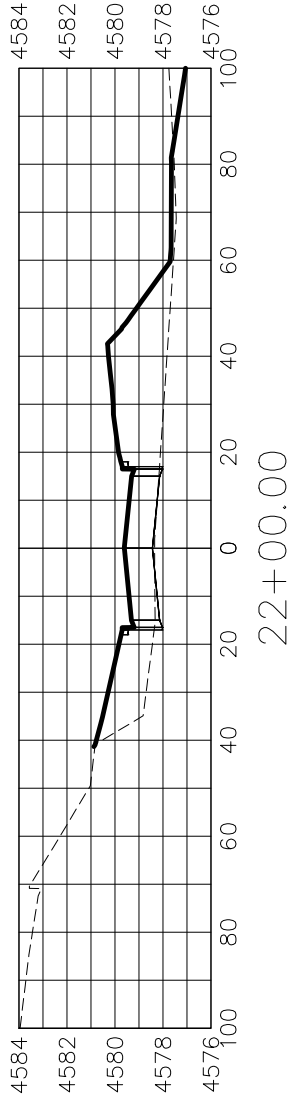
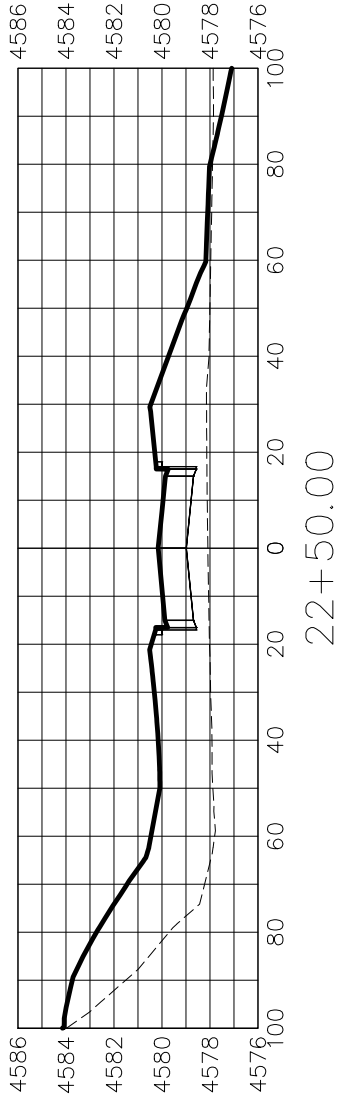
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SCALES:	PLAN & PROFILE
	HORIZONTAL
	VERTICAL



PUBLIC WORKS  
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
ROADWAY CROSS SECTIONS



REVISION	DATE
1	
2	
3	
4	

DESCRIPTION	DATE

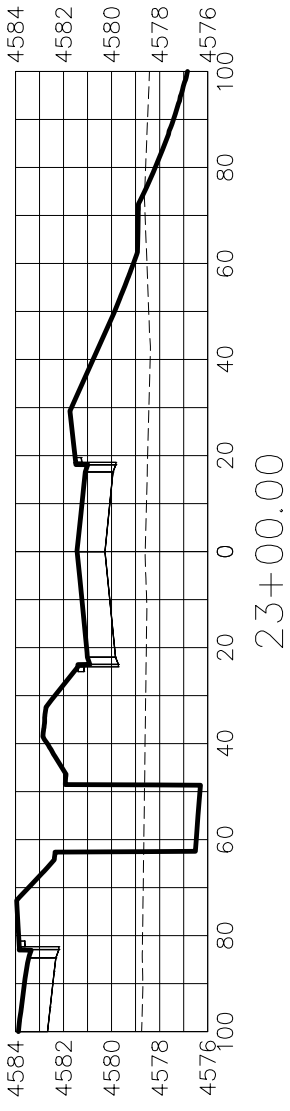
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PUBLIC WORKS  
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
ROADWAY CROSS SECTIONS



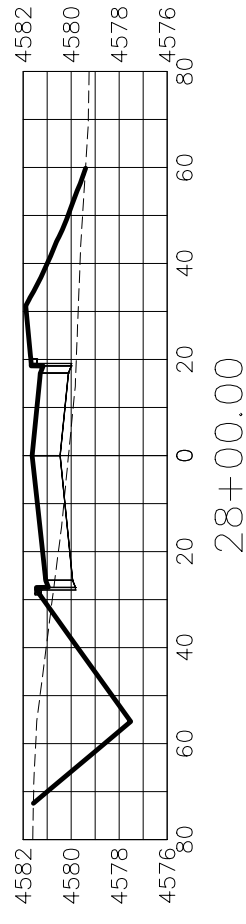
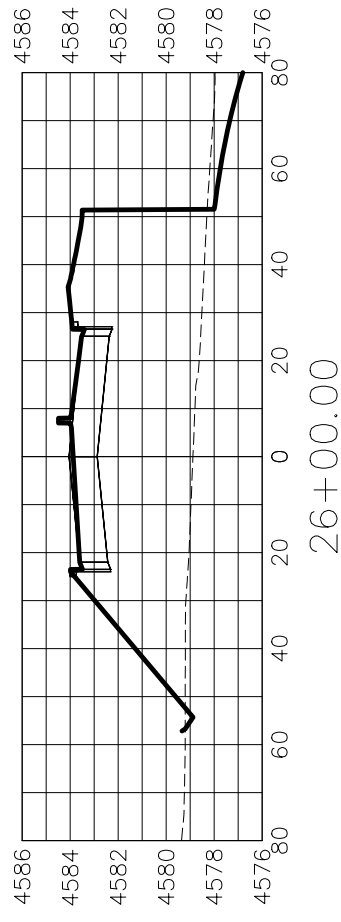
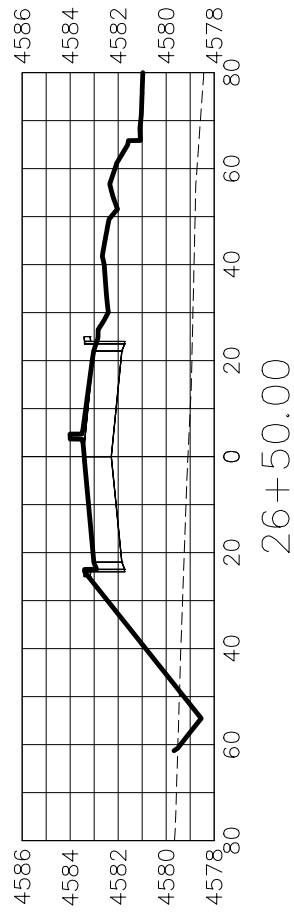
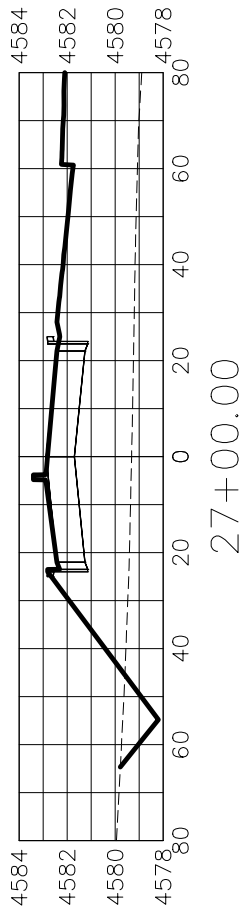
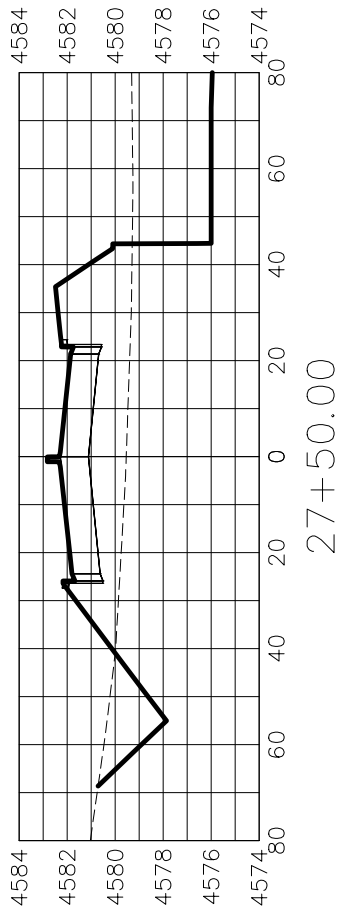
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APPROVED BY	TCP	DATE	2018



PUBLIC WORKS  
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
ROADWAY CROSS SECTIONS



REVISION	DESCRIPTION	DATE
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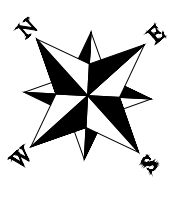
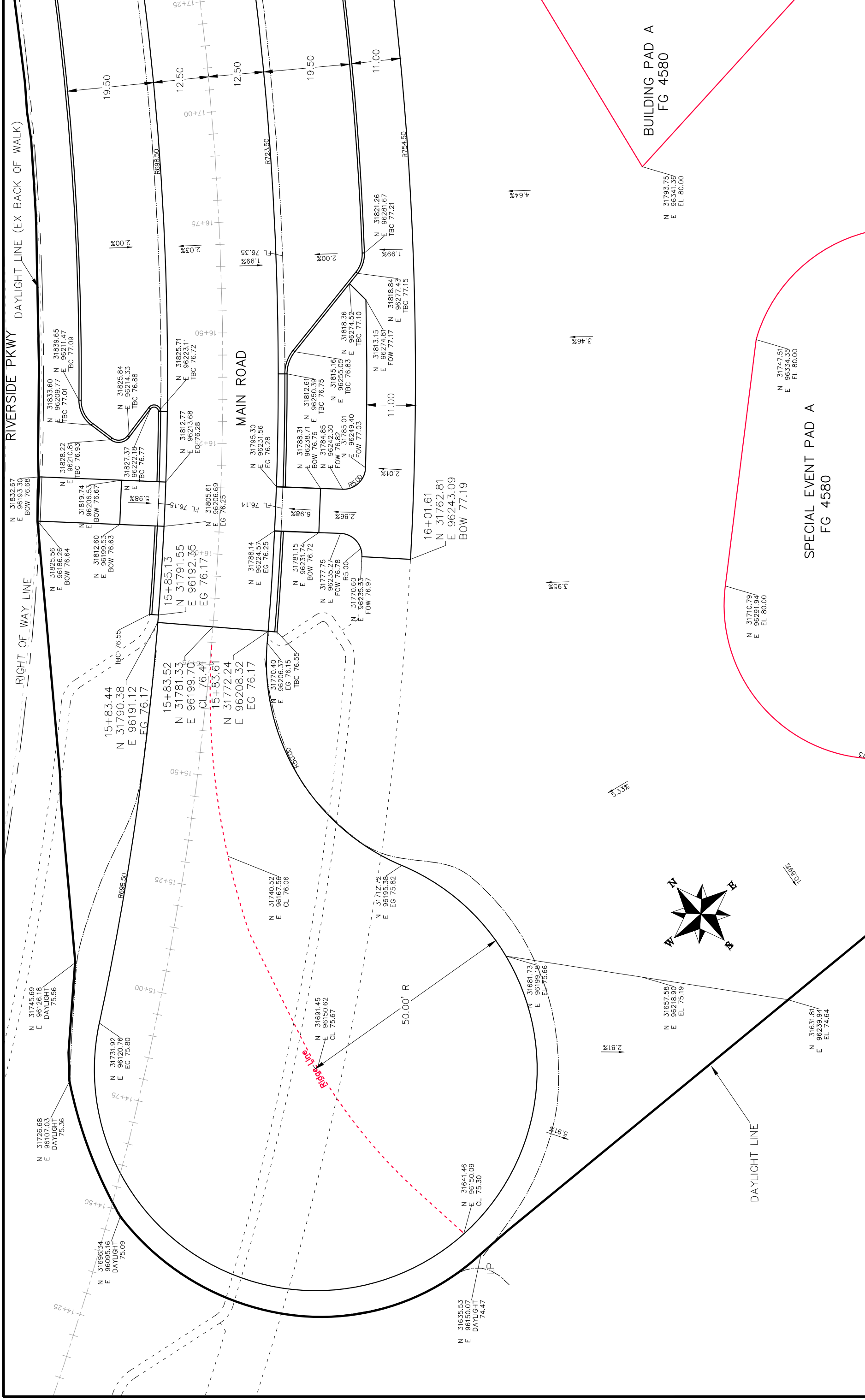
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SCALE:	PLAN & PROFILE
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0	VERTICAL



PUBLIC WORKS  
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK  
ROADWAY CROSS SECTIONS



REVISION	DATE	DESCRIPTION
REVISION 1	DATE	DESCRIPTION
REVISION 2	DATE	DESCRIPTION
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REVISION 4	DATE	DESCRIPTION

**Grand Junction**  
 CITY OF  
 COLORADO

**PUBLIC WORKS**  
 ENGINEERING DIVISION

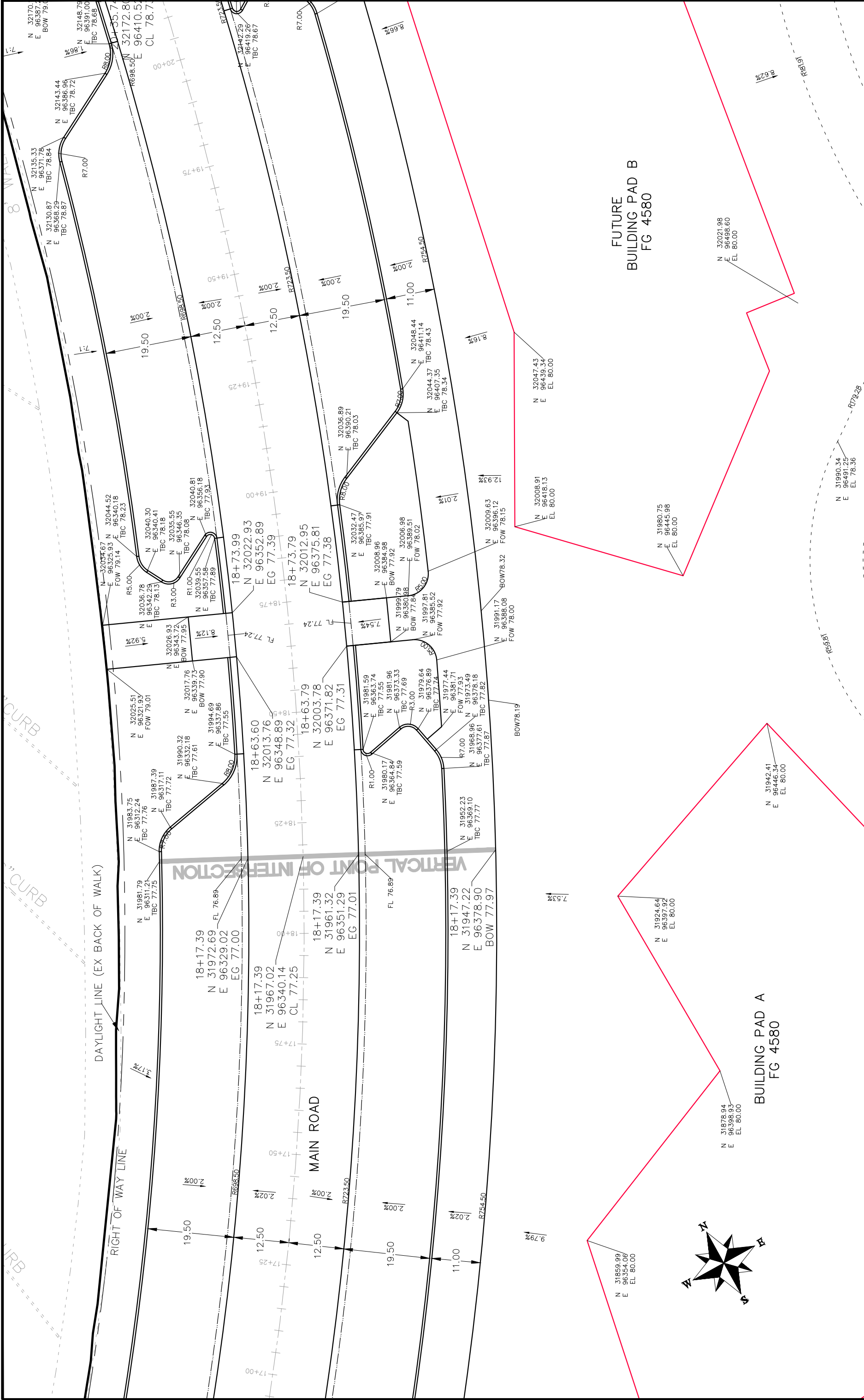
Las Colonias Business Park  
 20th Scale Staking Plan

SCALE	DATE
PLAN & PROFILE	DATE 2017
HORIZONTAL	DATE 2017
VERTICAL	DATE 2017

SCALE	DATE
PLAN & PROFILE	DATE 2017
HORIZONTAL	DATE 2017
VERTICAL	DATE 2017

SCALE	DATE
PLAN & PROFILE	DATE 2017
HORIZONTAL	DATE 2017
VERTICAL	DATE 2017





REVISION	DATE	DESCRIPTION
1	2017	PLAN & PROFILE
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3	2017	VERTICAL
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5	2017	NA

CITY OF  
**Grand Junction**  
 COLORADO

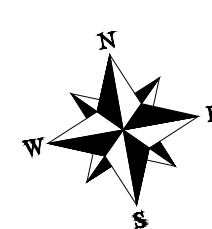
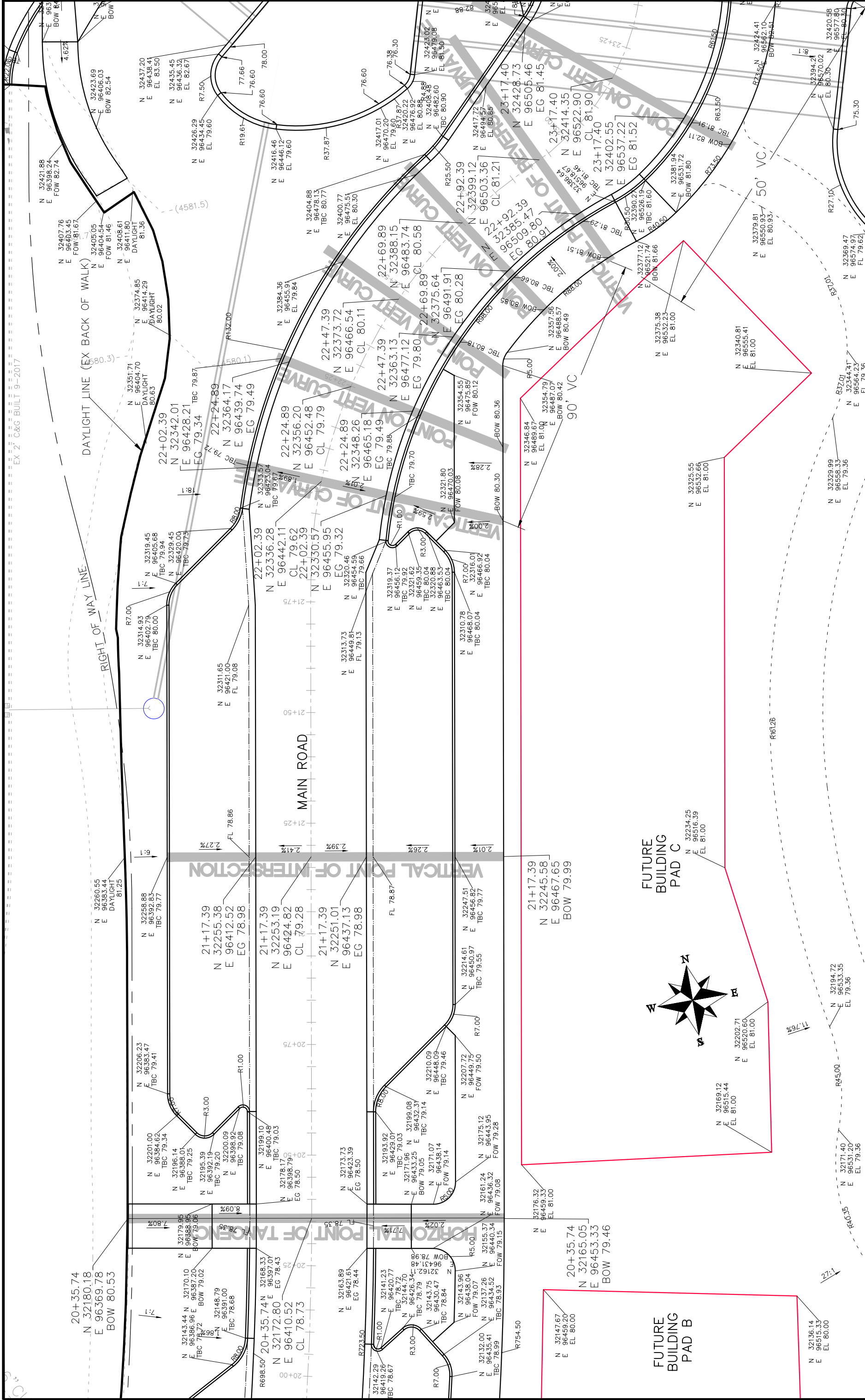
**PUBLIC WORKS**  
 ENGINEERING DIVISION

Las Colonias Business Park  
 20th Scale Staking Plan

DATE	DATE	DATE	DATE
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2017	2017	2017	2017
2017	2017	2017	2017

DRAWN BY JCS  
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SCALES:  
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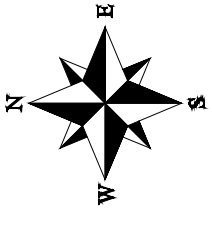
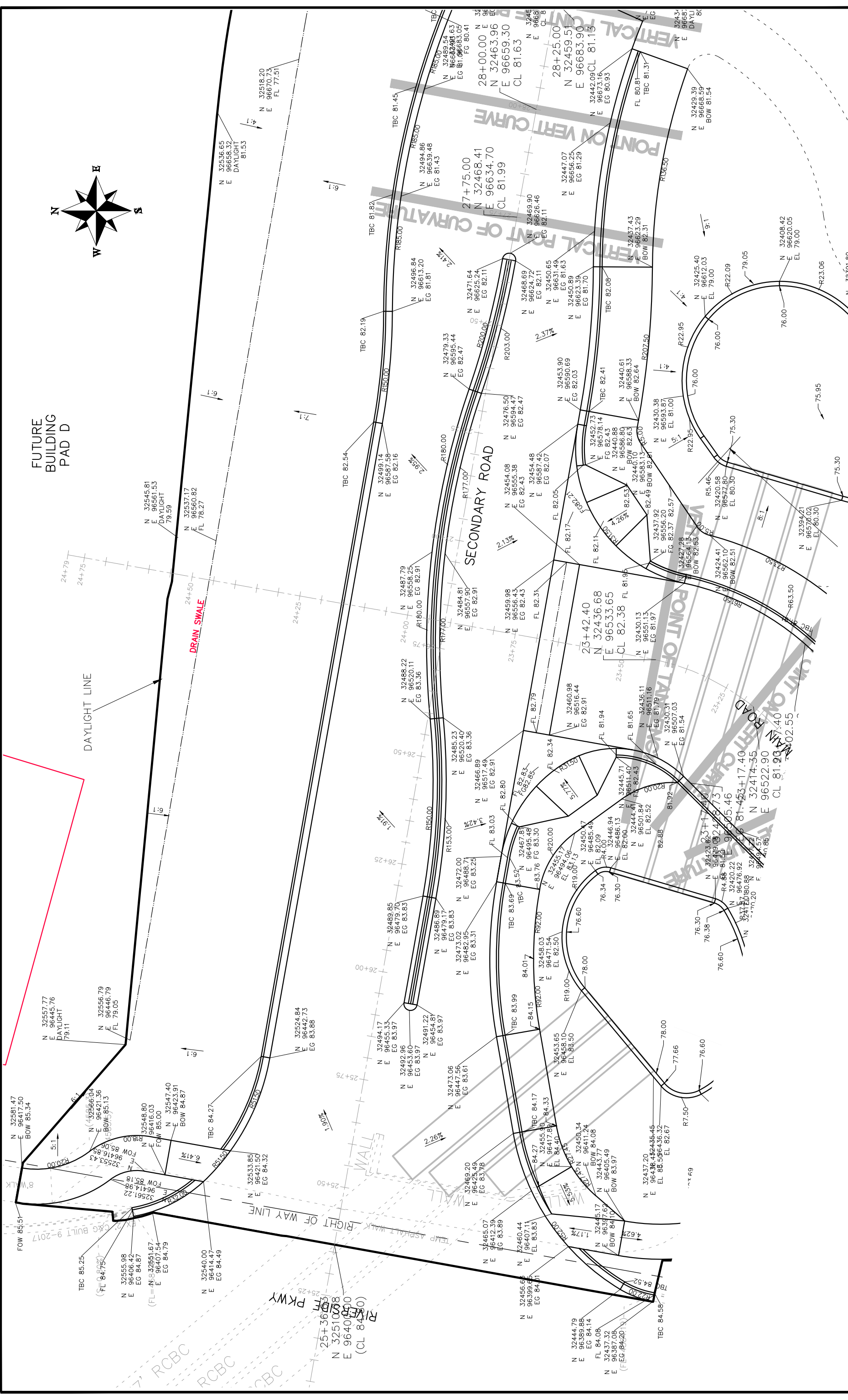
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SCALE	DATE	APPROVED BY
PLAN & PROFILE	2017	JCS
HORIZONTAL	2017	JCS
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NA	2017	JCS

**CITY OF**  
**Grand Junction**  
 COLORADO

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 ENGINEERING DIVISION

**Las Colonias Business Park**  
 20th Scale Staking Plan



FUTURE BUILDING PAD D

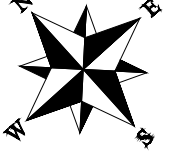
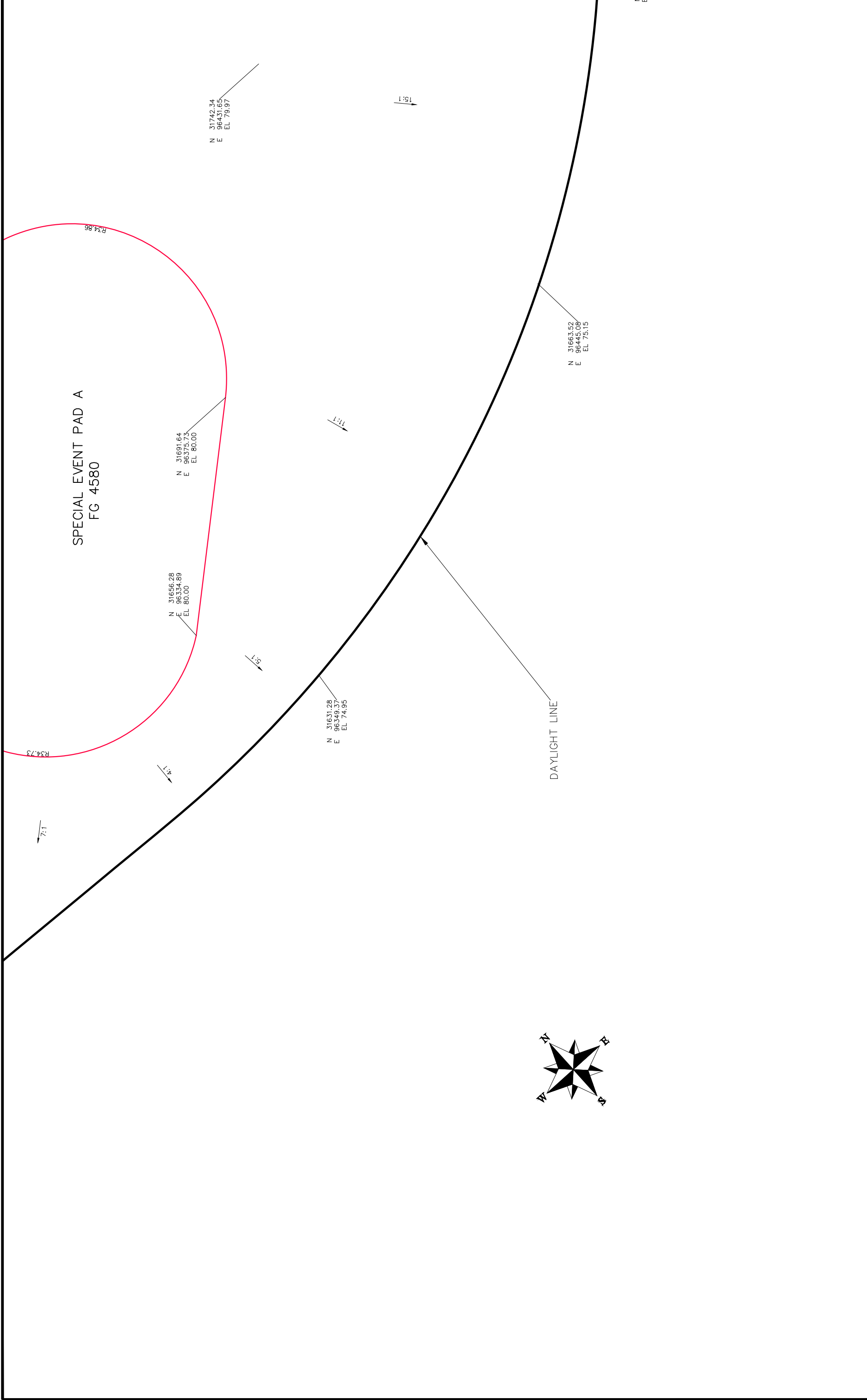
DAYLIGHT LINE

DRAIN SWALE

SECONDARY ROAD

MAIN ROAD

<p><b>Grand Junction</b> COLORADO</p>		<p><b>PUBLIC WORKS</b> ENGINEERING DIVISION</p>		<p><b>Las Colonias Business Park</b> 20th Scale Staking Plan</p>	
<p>REVISION Δ REV1_INT</p>		<p>DATE</p>		<p>DATE</p>	
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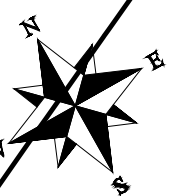
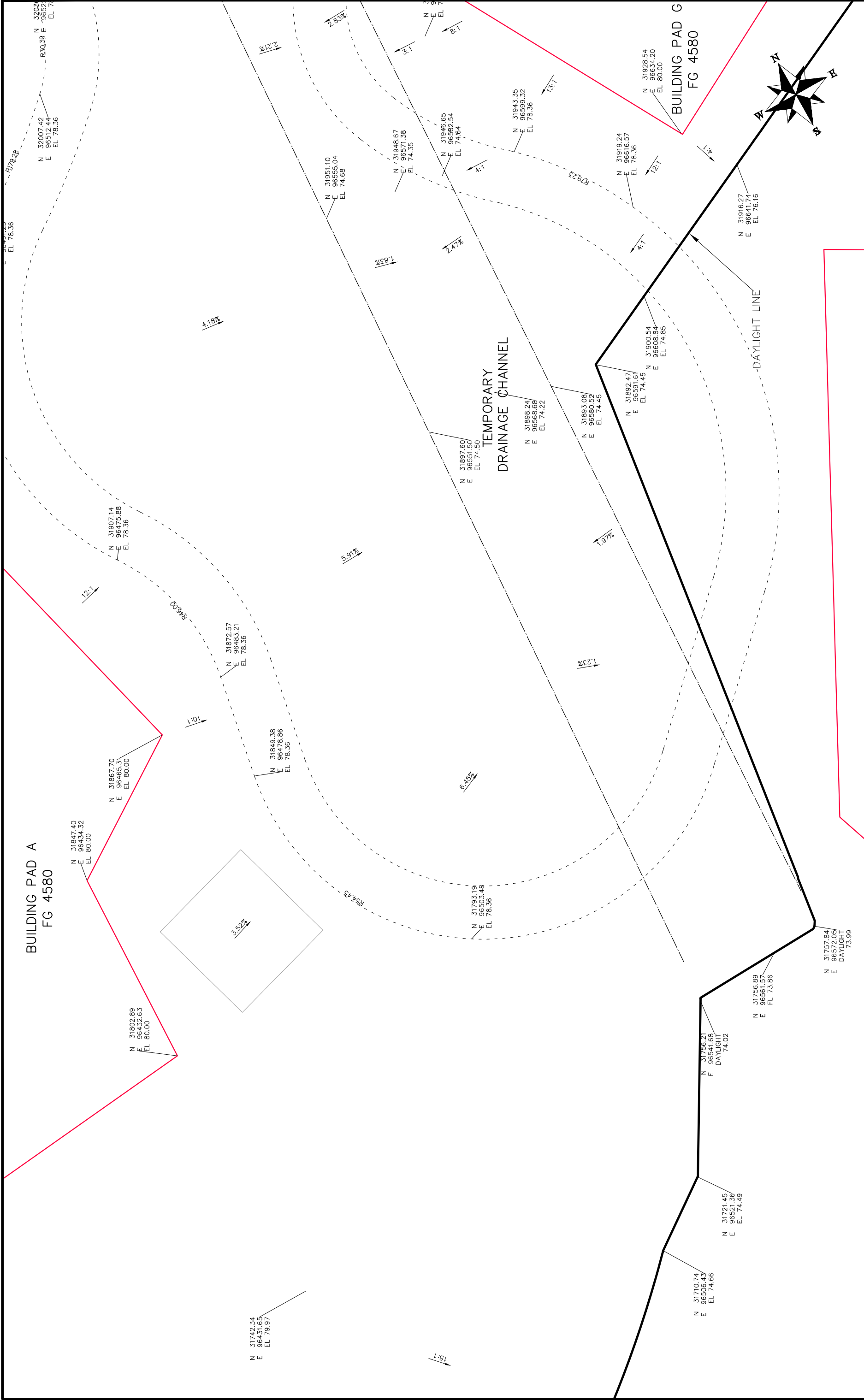
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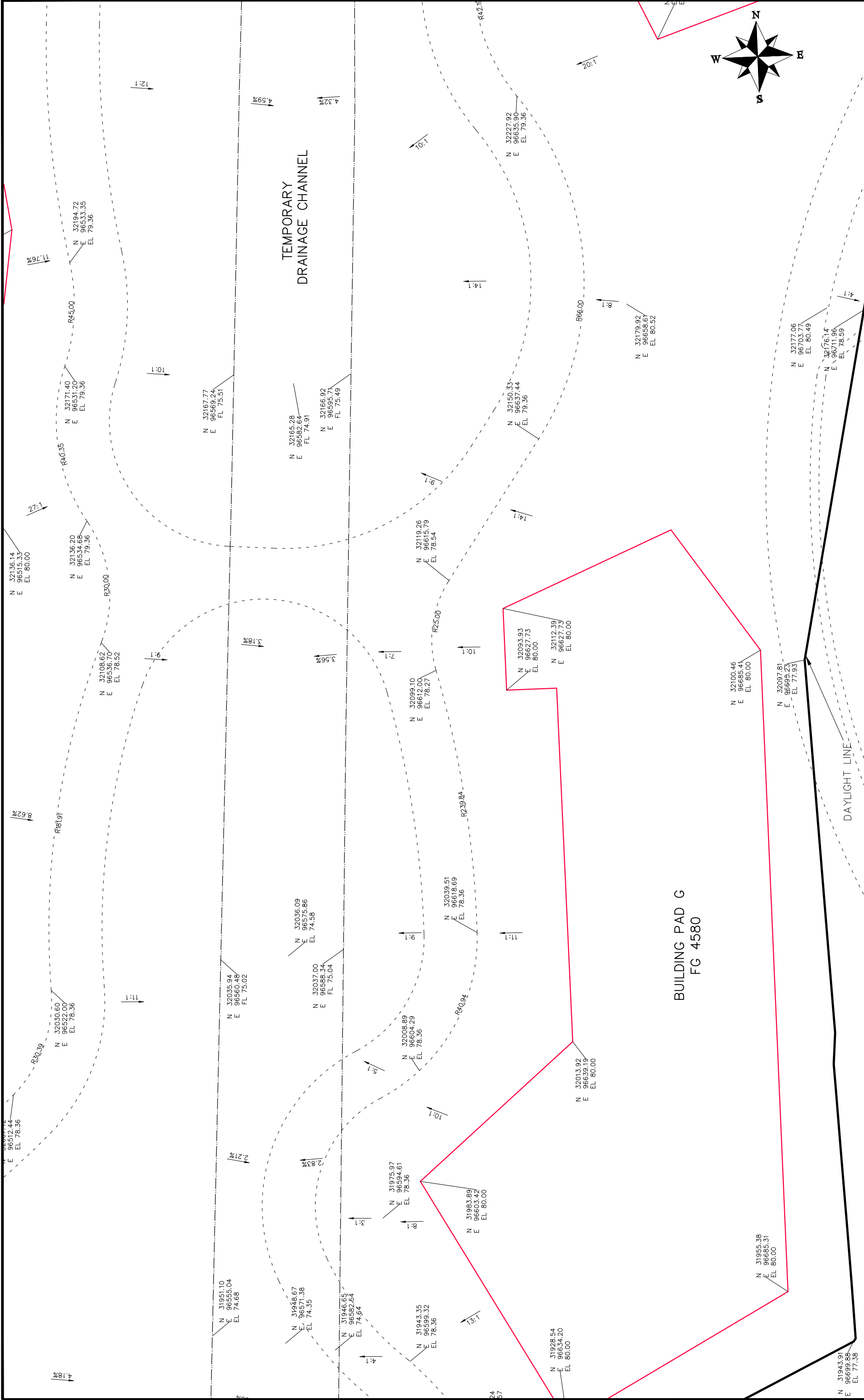
**PUBLIC WORKS  
ENGINEERING DIVISION**

**Las Colonias Business Park  
20th Scale Staking Plan**

PLAN & PROFILE	
HORIZONTAL	1" = 30'
VERTICAL	1" = 10'



<p><b>Las Colonias Business Park</b> <b>20th Scale Staking Plan</b></p>																																									
<p><b>PUBLIC WORKS</b> <b>ENGINEERING DIVISION</b></p>																																									
																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISION	DATE	DESCRIPTION													<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SCALE:</th> <th>PLAN &amp; PROFILE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	SCALE:	PLAN & PROFILE																							
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REVISION	DATE	DESCRIPTION

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VERTICAL	2017	2017

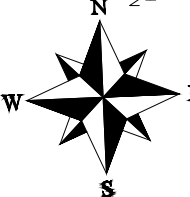
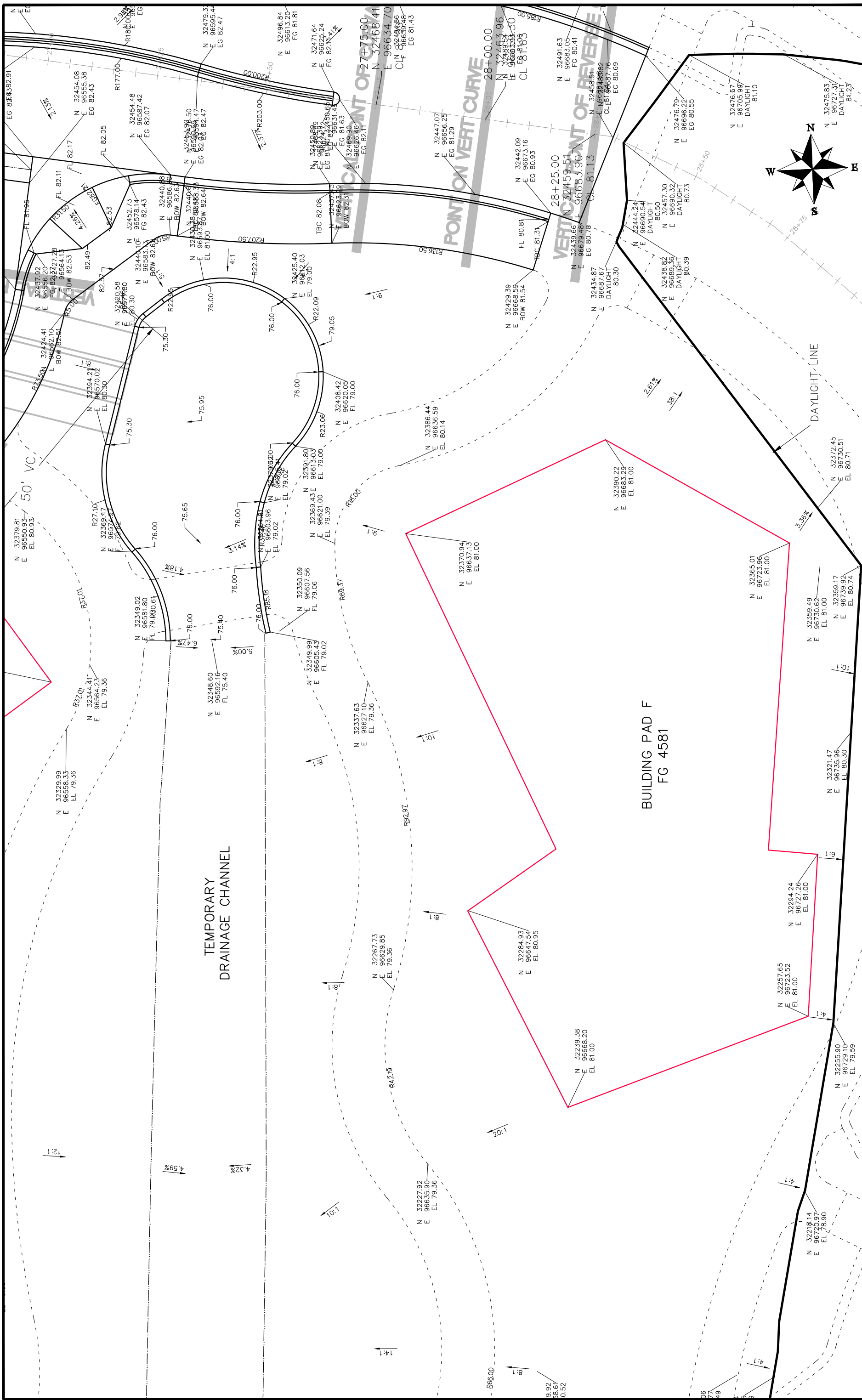
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PLAN & PROFILE	2017	2017
HORIZONTAL	2017	2017
VERTICAL	2017	2017

DRAWN BY JCS  
 DESIGNED BY JCS  
 CHECKED BY TCP  
 APPROVED BY TOP



**PUBLIC WORKS  
ENGINEERING DIVISION**

**Las Colonias Business Park  
20th Scale Staking Plan**



Las Colonias Business Park  
20th Scale Staking Plan

PUBLIC WORKS  
ENGINEERING DIVISION

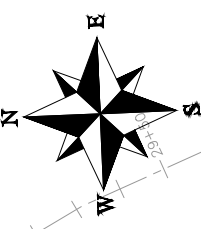
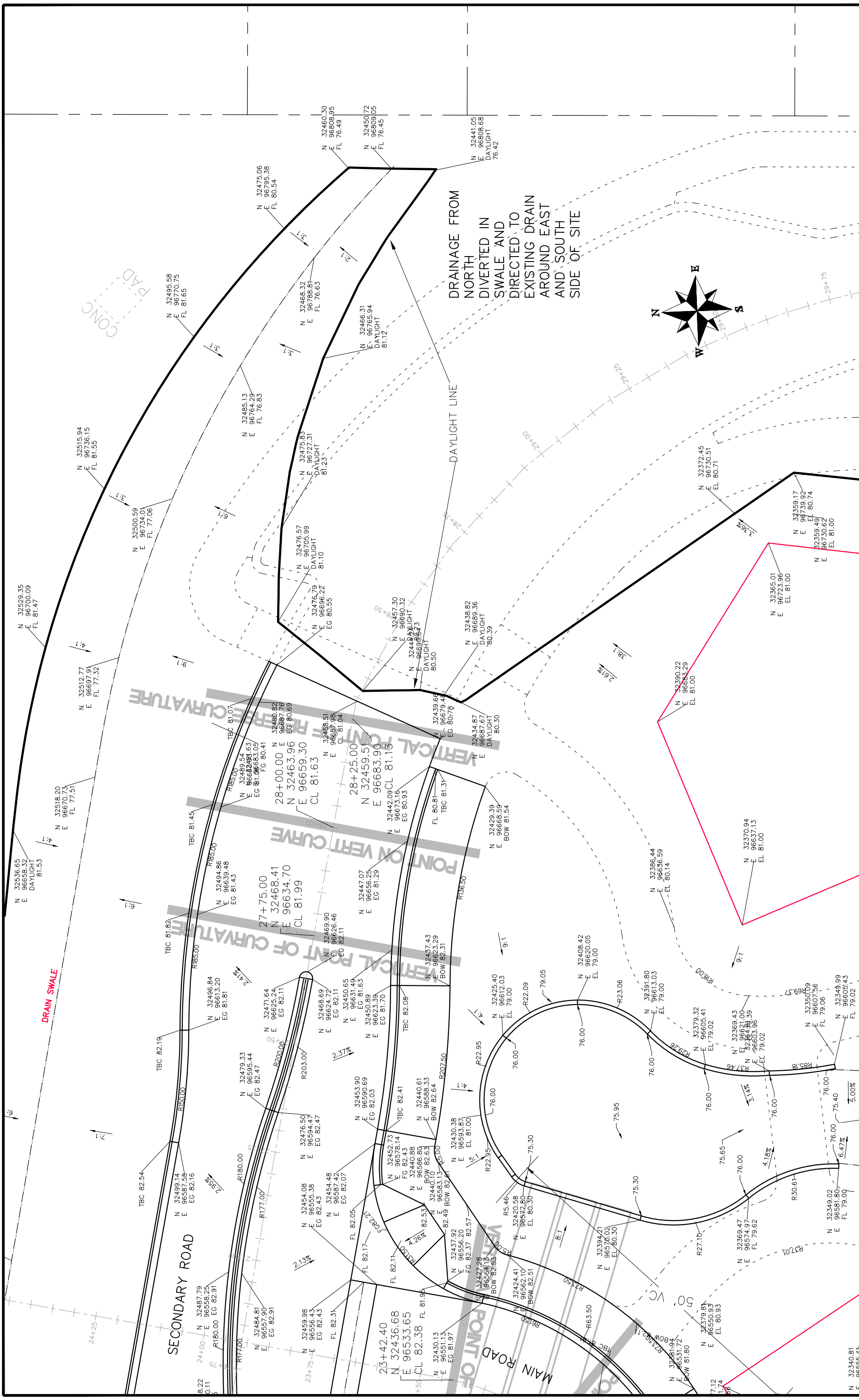


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VERTICAL	1" = 20'

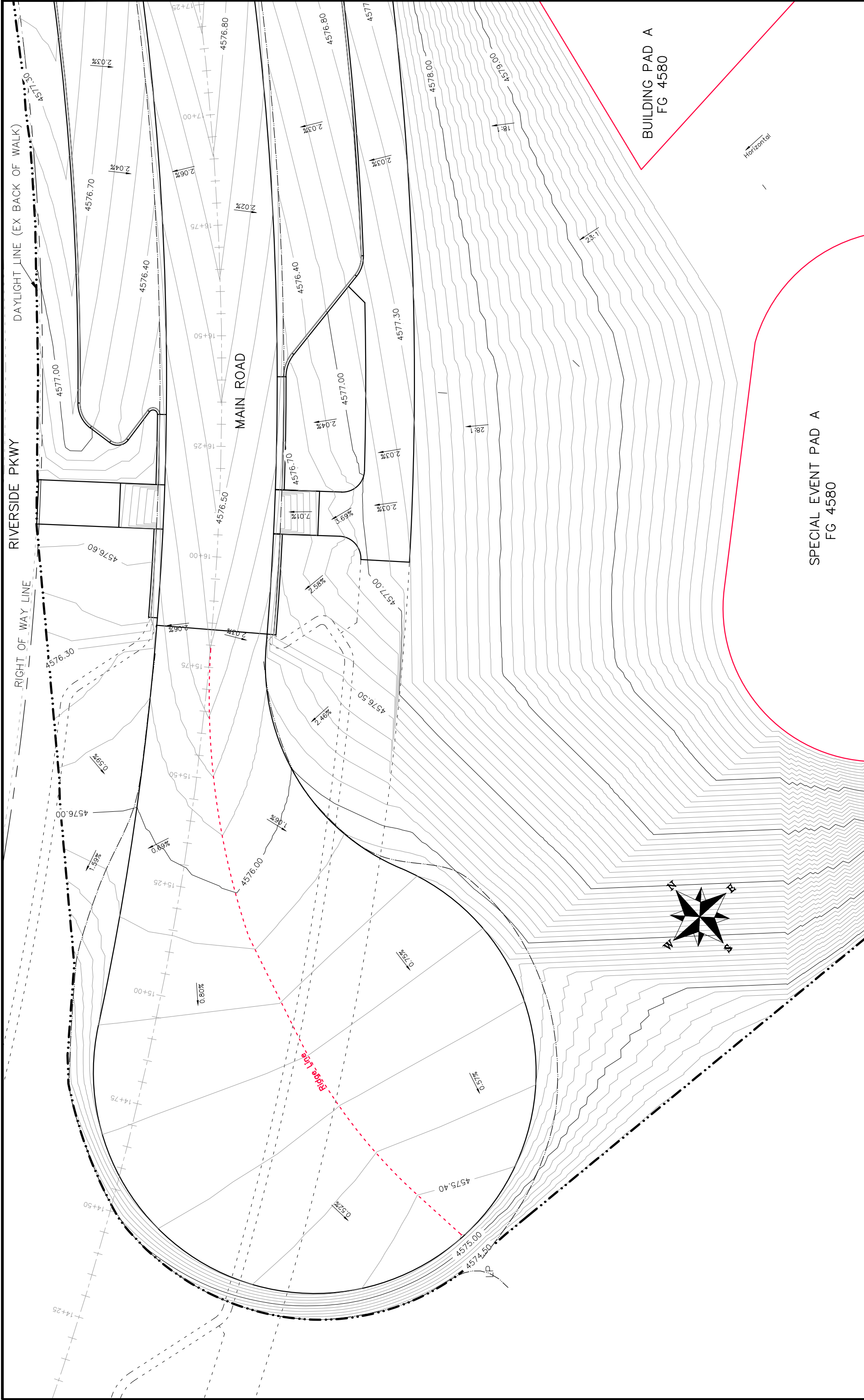
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REVISION	DATE	DESCRIPTION
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2	2017	REV2_INT
3	2017	REV3_INT
4	2017	REV4_INT



<p><b>CITY OF</b>  <b>Grand Junction</b>          COLORADO</p>		<p><b>PUBLIC WORKS</b>  <b>ENGINEERING DIVISION</b></p>		<p><b>Las Colonias Business Park</b>  <b>20th Scale Staking Plan</b></p>	
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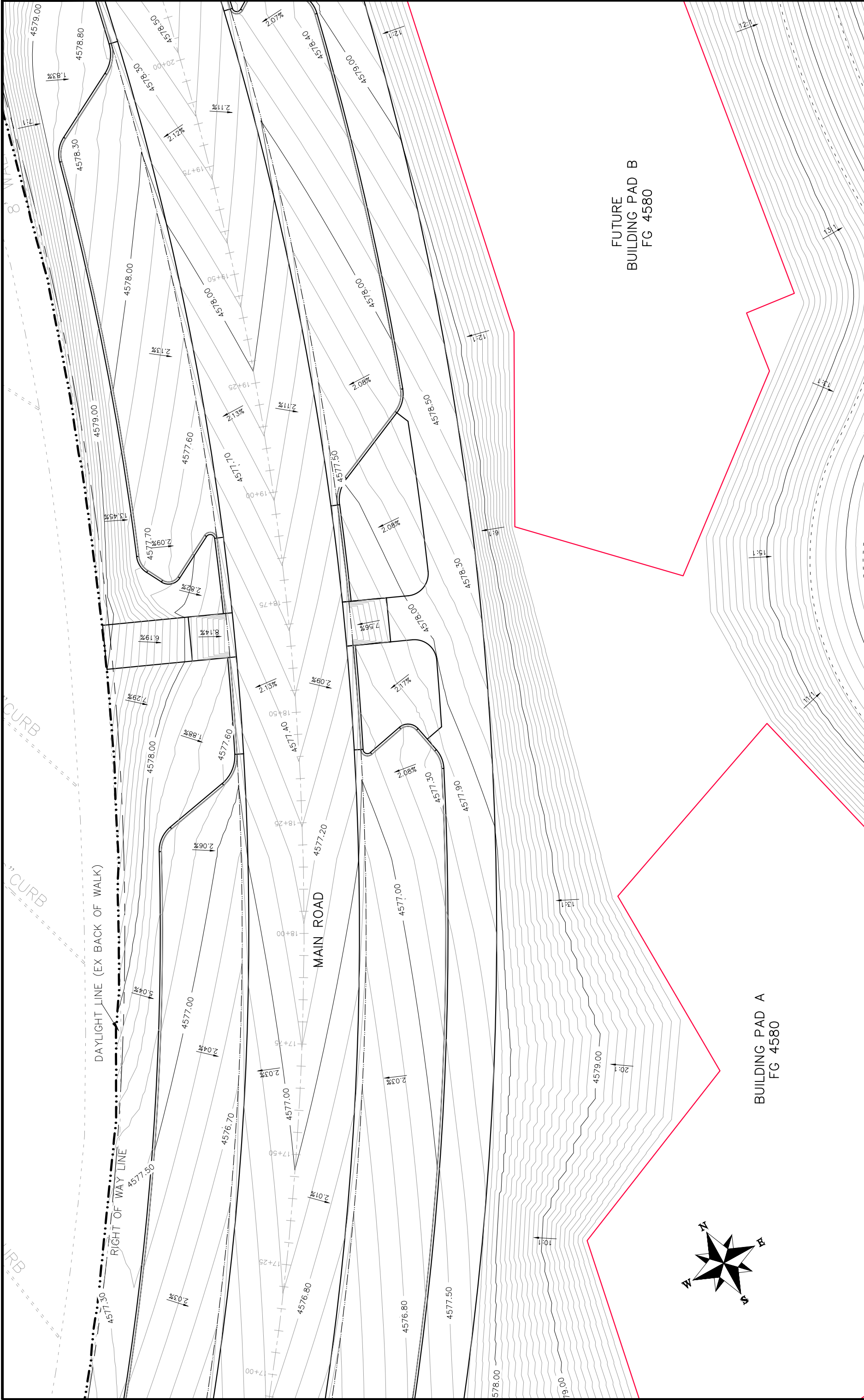


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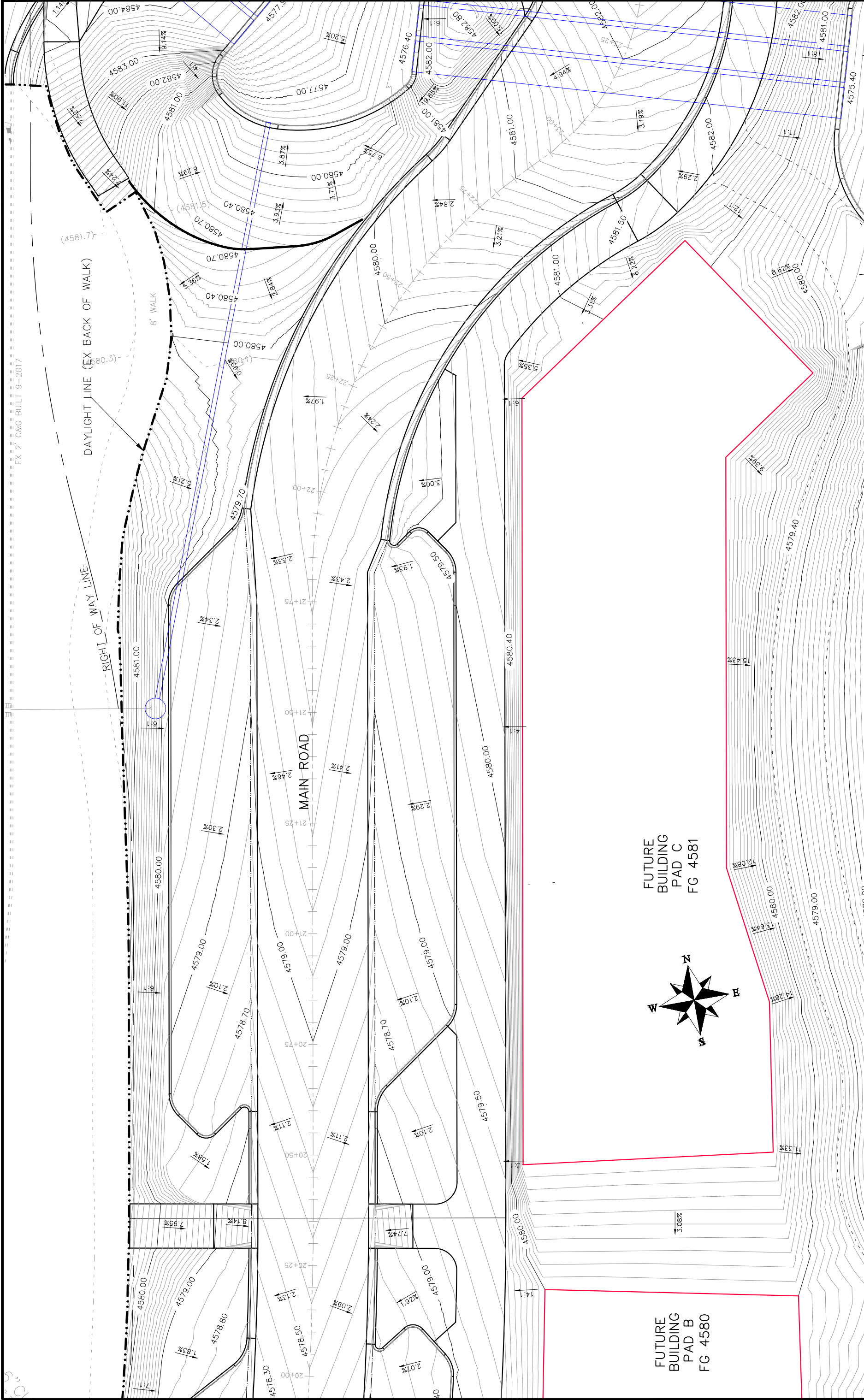


**PUBLIC WORKS**  
**ENGINEERING DIVISION**

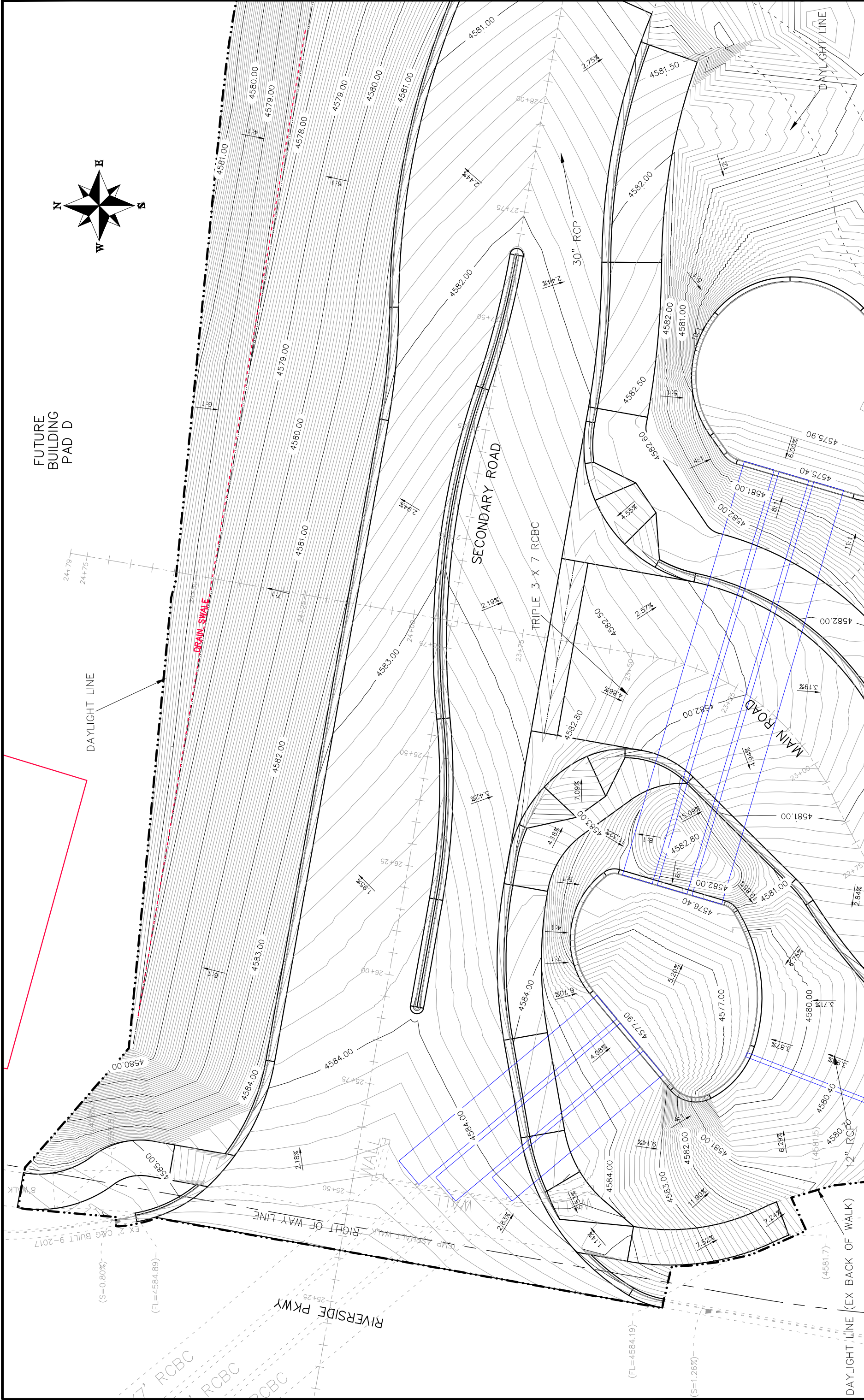
**Las Colonias Business Park**  
**20th Scale Tenth Foot Contour Plan**



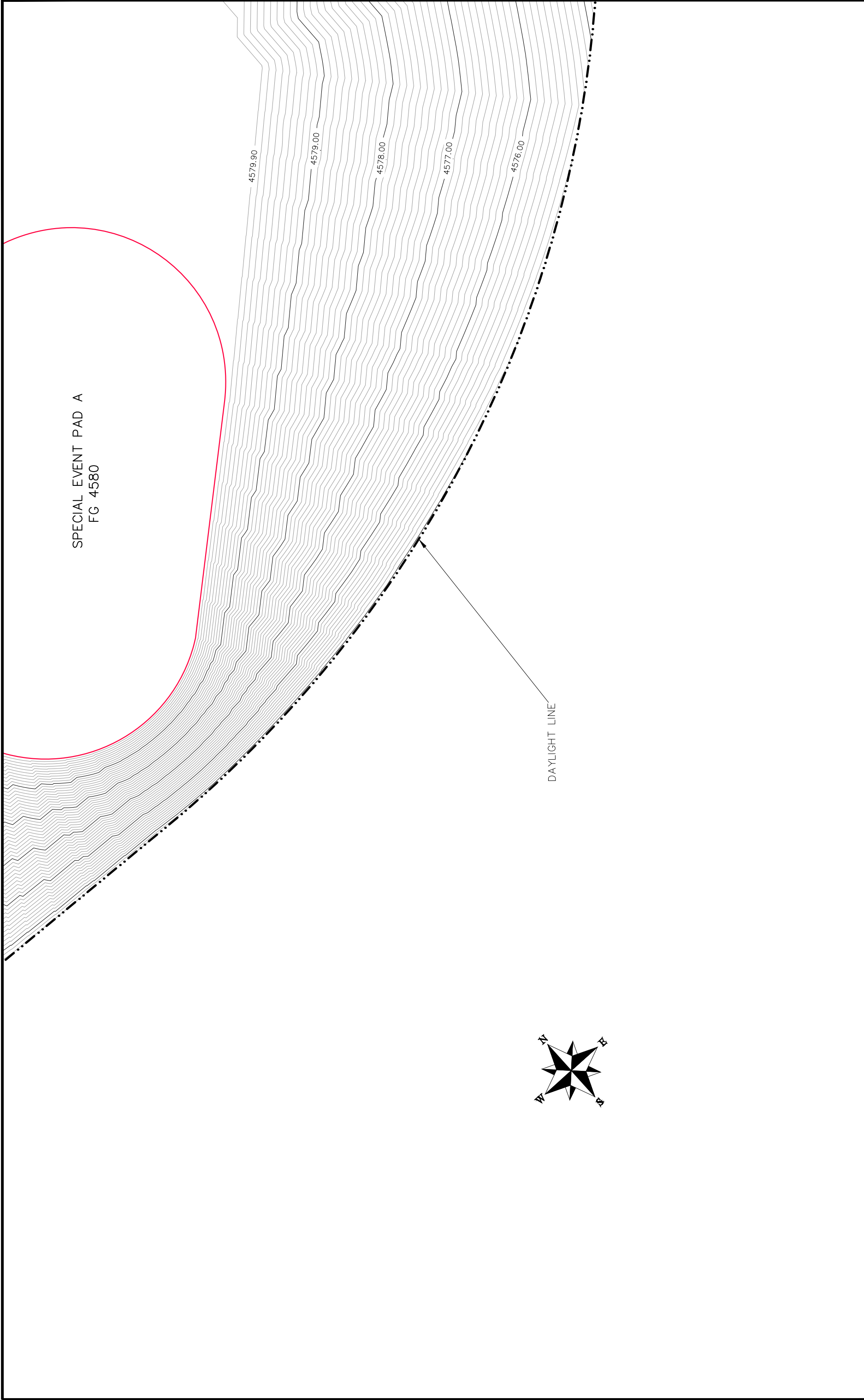
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CITY OF <b>Grand Junction</b> COLORADO		PUBLIC WORKS ENGINEERING DIVISION		Las Colonias Business Park 20th Scale Tenth Foot Contour Plan	



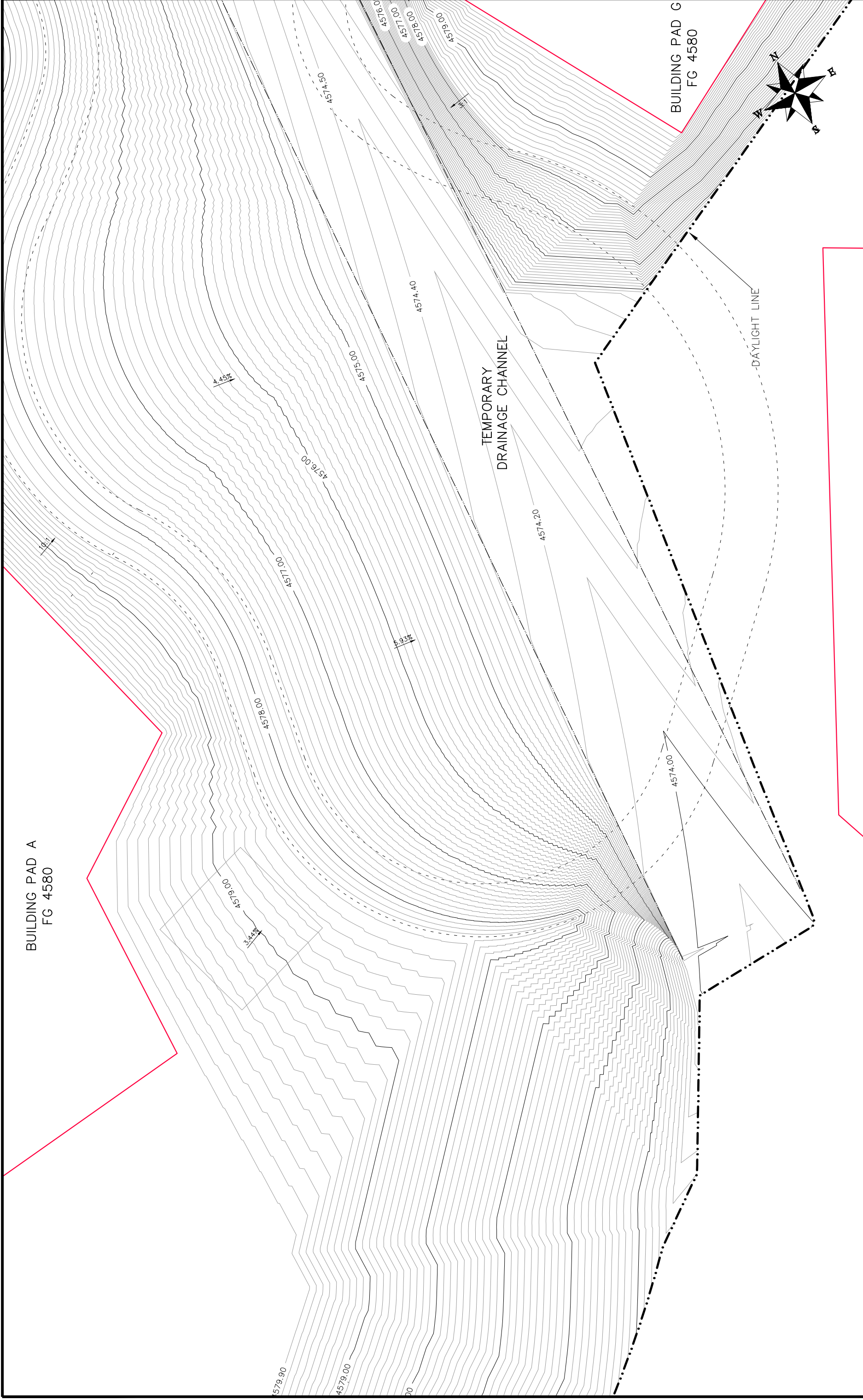
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PUBLIC WORKS ENGINEERING DIVISION				Las Colonias Business Park 20th Scale Tenth Foot Contour Plan			



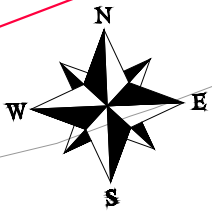
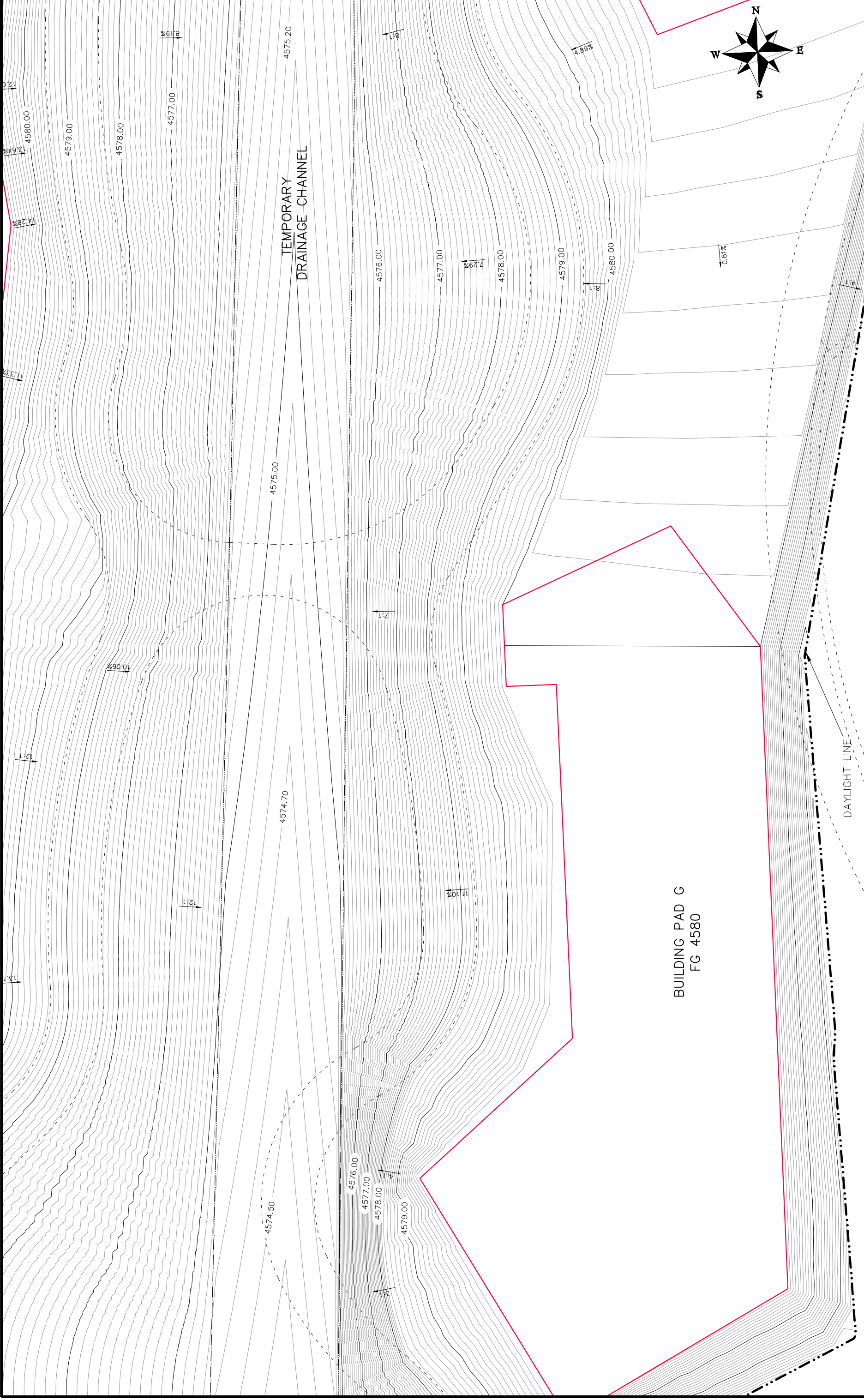
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REVISION $\Delta$ REV1_INT REVISION $\Delta$ REV2_INT REVISION $\Delta$ REV3_INT REVISION $\Delta$ REV4_INT		DATE REV1_DATE REV2_DATE REV3_DATE REV4_DATE	DRAWN BY JCS DESIGNED BY JCS CHECKED BY TCP APPROVED BY TCP	DATE 2017 DATE 2017 DATE 2017 DATE 2017	PLAN & PROFILE HORIZONTAL 3 VERTICAL 20 NA NA NA NA	SCALES:		PUBLIC WORKS ENGINEERING DIVISION	Las Colonias Business Park 20th Scale Tenth Foot Contour Plan
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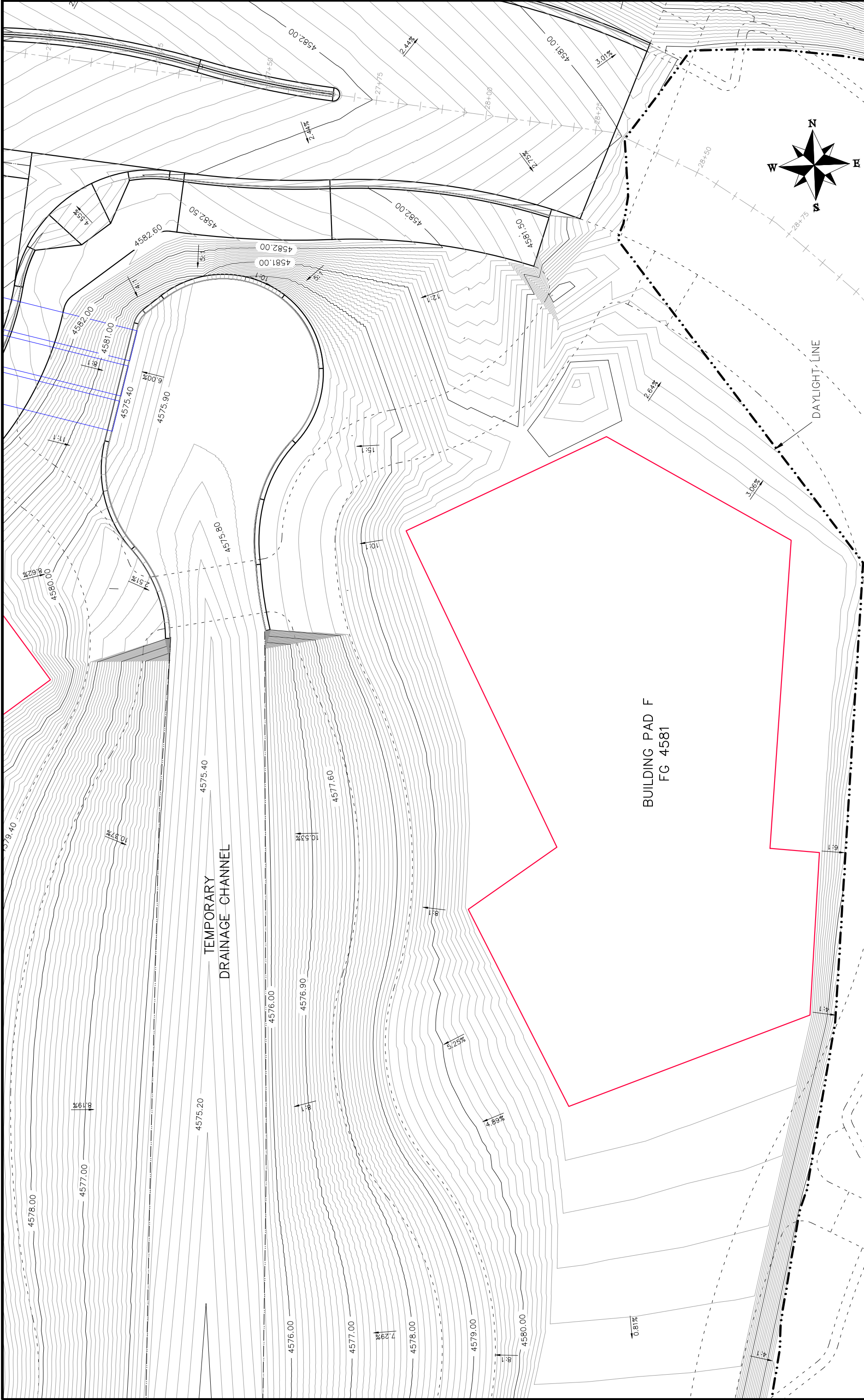
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3	VERTICAL
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NA	NA



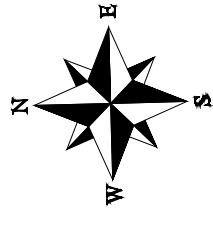
PUBLIC WORKS  
ENGINEERING DIVISION

Las Colonias Business Park  
20th Scale Tenth Foot Contour Plan



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		PUBLIC WORKS ENGINEERING DIVISION			
CITY OF <b>Grand Junction</b> COLORADO		Las Colonias Business Park 20th Scale Tenth Foot Contour Plan			





CONC  
PAD

DRAINAGE FROM  
NORTH  
DIVERTED IN  
SWALE AND  
DIRECTED TO  
EXISTING DRAIN  
AROUND EAST  
AND SOUTH  
SIDE OF SITE

DAYLIGHT LINE

DRAIN SWALE

DAYLIGHT LINE

SECONDARY ROAD

MAIN ROAD

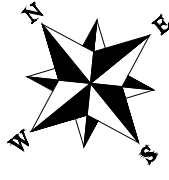
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REVISION 3	REVI_DATE	REVI_INT	DATE	JCS	DATE	DATE	DATE
REVISION 4	REVI_DATE	REVI_INT	DATE	JCS	DATE	DATE	DATE

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NA	NA

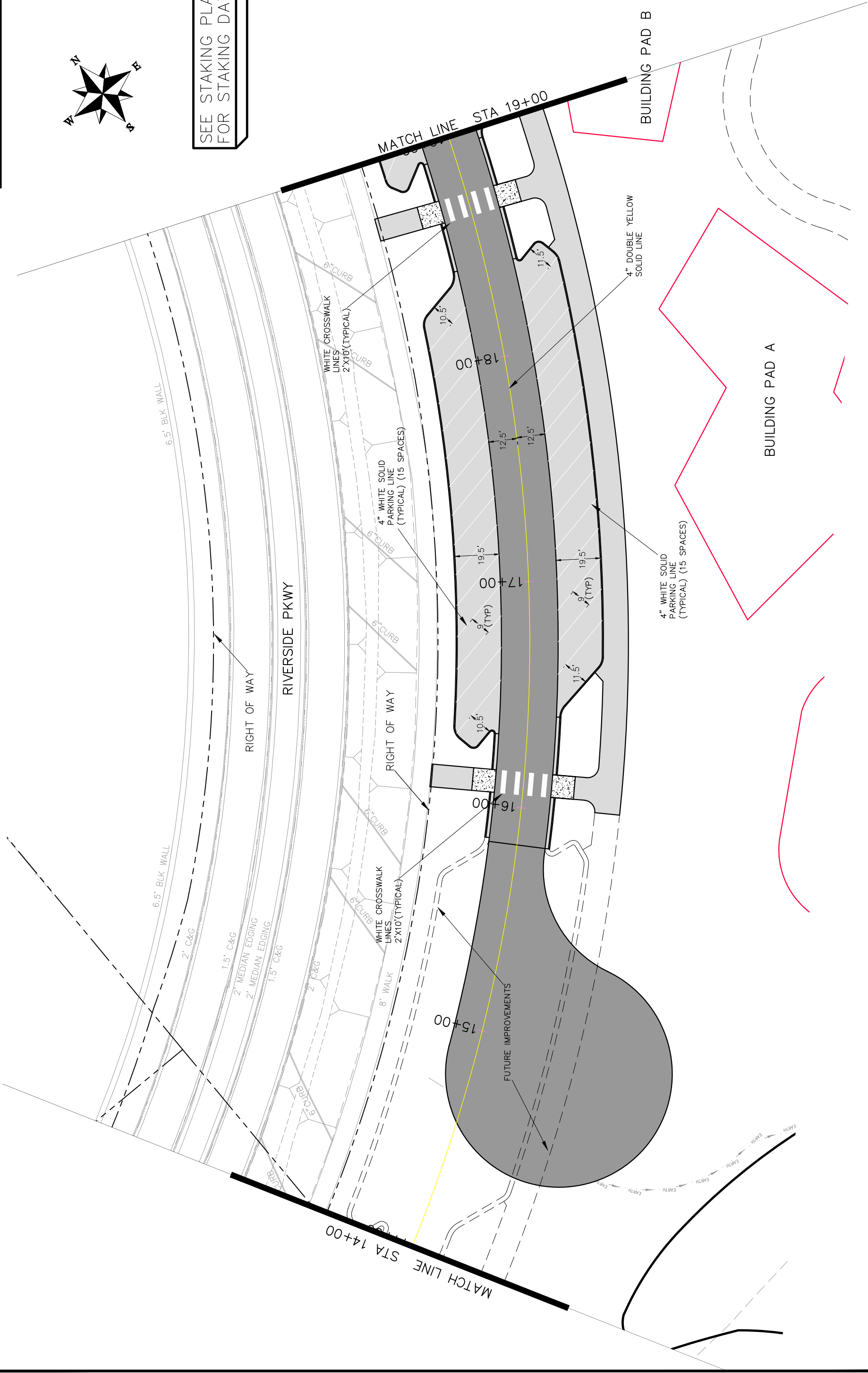


PUBLIC WORKS  
ENGINEERING DIVISION

Las Colonias Business Park  
20th Scale Tenth Foot Contour Plan



SEE STAKING PLANS FOR STAKING DATA



LAS COLONIAS BUSINESS PARK  
STRIPING AND SIGNAGE PLAN  
STA 14+00 TO STA 19+00

PUBLIC WORKS  
AND UTILITIES  
ENGINEERING DIVISION



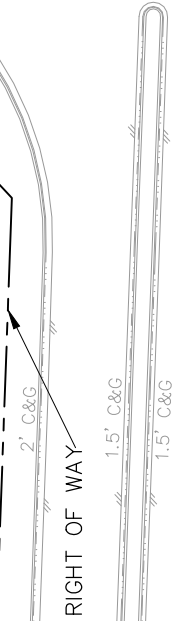
SCALES:

PLAN & PROFILE	DATE	2017
HORIZONTAL	DATE	2017
VERTICAL	DATE	2017

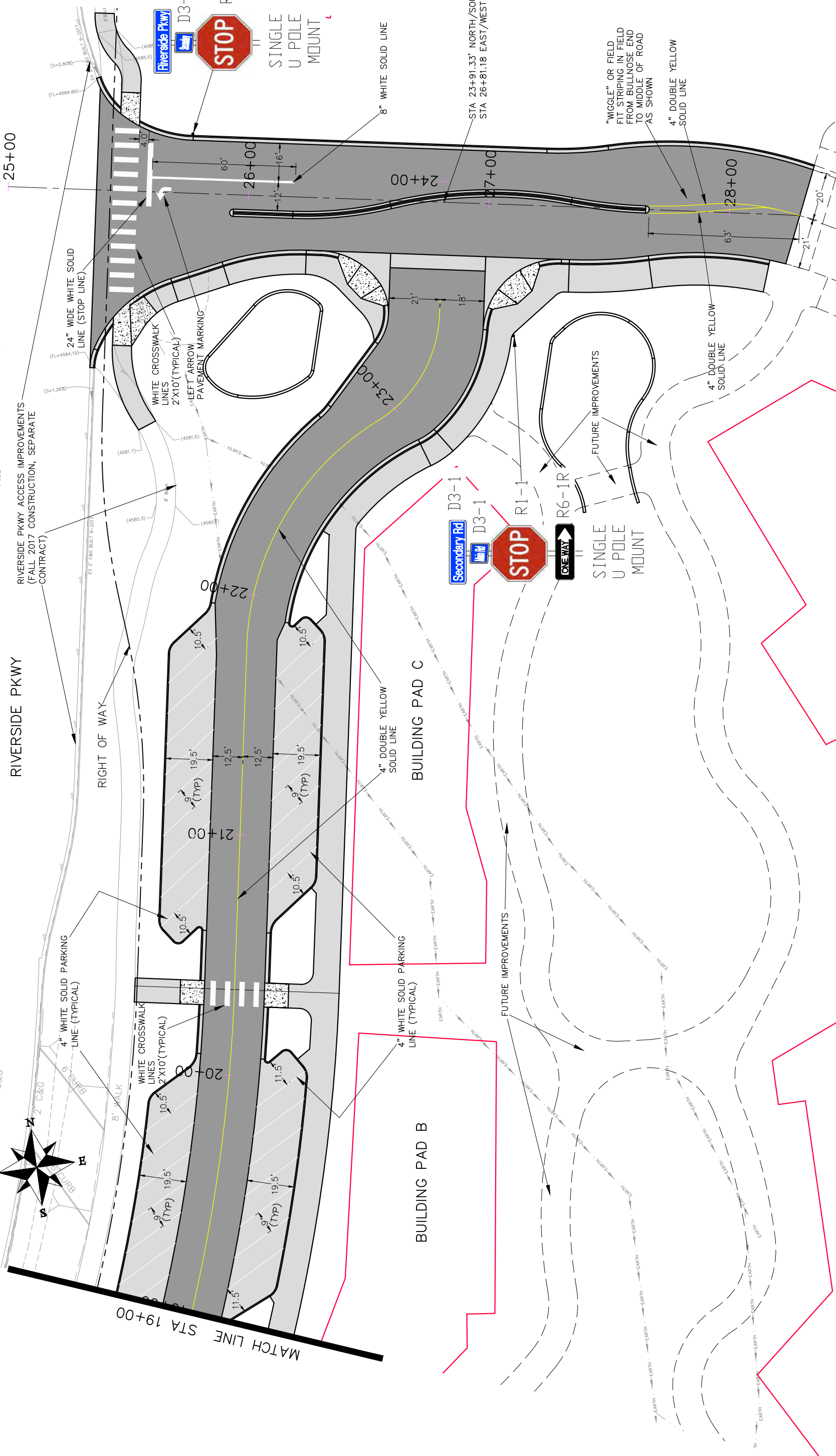
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CHECKED BY	TOP	DATE	2017
APPROVED BY	TOP	DATE	2017

DESCRIPTION	DATE
REVISION Δ XXX	201X
REVISION Δ XXX	201X
REVISION Δ XXX	201X
REVISION Δ XXX	201X

WINTERS



RIVERSIDE PKWY  
RIGHT OF WAY  
RIVERSIDE PKWY ACCESS IMPROVEMENTS  
(FALL 2017 CONSTRUCTION, SEPARATE CONTRACT)



SEE STAKING PLANS FOR STAKING DATA

REVISION	DATE	DESCRIPTION
REVISION Δ XXX	201X	
REVISION Δ XXX	201X	
REVISION Δ XXX	201X	
REVISION Δ XXX	201X	

SCALE	DATE
PLAN & PROFILE	2017
HORIZONTAL	2017
VERTICAL	2017

DATE	DATE	DATE	DATE
2017	2017	2017	2017

DESCRIPTION	DATE	DATE	DATE	DATE
	2017	2017	2017	2017



PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK STRIPING AND SIGNAGE PLAN STA 19+00 TO STA 24+00

#### EROSION CONTROL MEASURES

Contractor to update the SWMP according to specific construction phasing and stormwater management practices for current construction activity when warranted.

#### Site Description

1. The site has a total disturbance area of 7.56 acres with the majority of disturbance being caused by the development of Phase 1 of the Las Colonias Business Park.
2. Stormwater leaves the site through double 3' x 6' Reinforced Concrete Box Culverts where it drains directly to the Colorado River.
3. Proposed utilities for this project include: storm drain, sanitary sewer, potable water, gas, electricity, telephone, cable television, and broadband infrastructure.

#### EROSION CONTROL MEASURES

##### Performance Standards

The general requirements for erosion control work shall be as follows:

1. Any grading shall be conducted in such a manner so as to effectively reduce accelerated soil erosion and resulting sedimentation.
2. All grading shall be designed, constructed and completed in such a manner so that exposed area of any disturbed land shall be limited to the shortest time period.
3. Sediment caused by accelerated soil erosion shall be removed from runoff water before leaving the site.
4. The contractor shall try to minimize the amount of disturbance necessary for the construction project by preserving established vegetation to act as a BMP.

##### During Construction (Temporary Measures)

1. **Anchored Straw Bales (ASB):** The use of hay bales is proposed as a culvert outlet trap at the junction of the outlet of the tripple 3x7 and double 3x6 RCBC's to stop any sediment produced from stormwater runoff from continuing to the new temporary drain channel as shown on the construction drawings. Hay bales will also be used further as a sediment trap where the new temporary channel ties to the existing channel downstream of the culvert outlet trap.
2. **Erosion Logs:** The use of erosion logs is proposed at the toe of cut and fill slopes and other areas where sediment from upstream flows may spill to existing drainage ways. Other locations are shown on the plan. Installation shall be in accordance with the detail as shown on the plans.

##### After Construction (Permanent Measures)

1. **Reseeding:** Native seed mix will be applied to all disturbed areas and protected with a bonded fiber matrix for soil protection and stability.

#### Maintenance

1. The contractor or his designated representative shall make routine checks on all erosion control measures to determine if repairs or sediment removal is necessary.
2. After each rainfall or moderate snow melt, erosion control measures are to be checked. If repairs are needed, they shall be completed immediately.
3. Silt and sediment shall be removed when they reach a height of one-half of the barrier (erosion log or anchored straw bale).
4. When temporary measures are to be removed, any silt and sediment deposits shall be removed and spread evenly in fill areas.

#### General Notes

1. The SWMP establishes the minimum acceptable requirements for stormwater pollution prevention on site. The Contractor may supplement these requirements as appropriate for specific construction activities. Any changes to the practices shown on this plan must be reviewed by Project Inspector/Engineer prior to implementation.
2. At all times during construction, erosion and sediment control shall be maintained by the contractor or his designated representative.
3. Erosion control systems shall be installed as grading progresses.
4. The Contractor shall provide and maintain a portable concrete washout facility.
5. Details shown are schematic only. Adjust as necessary to fit field conditions.
6. Erosion bales shall be placed to avoid runoff flowing between, around or under bales. Bales shall be anchored with 2" x 2" x 4' wooden stakes or #4 reinforcing bars, two per bale (see details for further instructions).
7. Negative impacts to downstream areas (or receiving waters) caused by the slope grading to be monitored and corrected by the contractor.
8. Construction traffic entrances shall be cleaned on a continual basis during slope grading.
9. A copy of the SWMP and construction plans shall be maintained on site at all times.

REVISION	DESCRIPTION	DATE

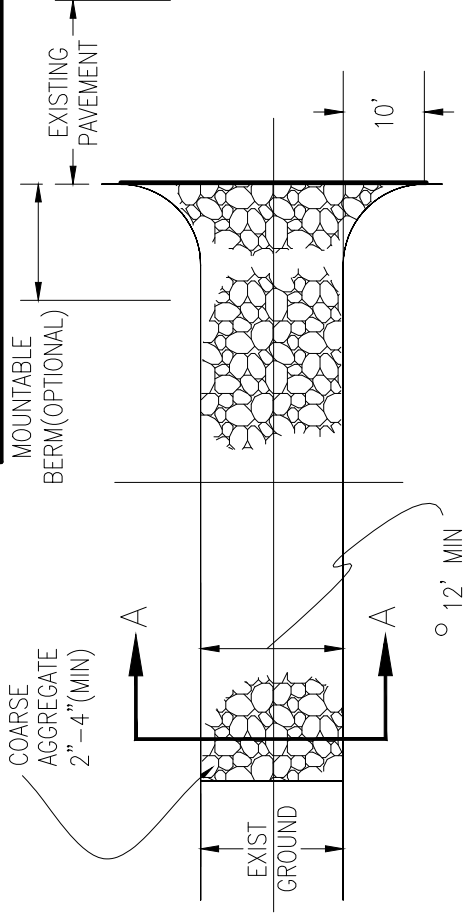
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CHECKED BY	TOP	DATE	2018
APPROVED BY	TOP	DATE	2018

SCALES:	
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HORIZONTAL	AS SHOWN
VERTICAL	AS SHOWN

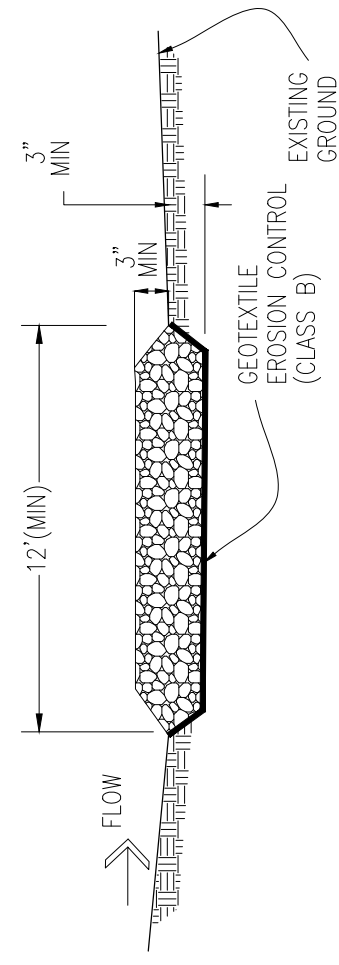
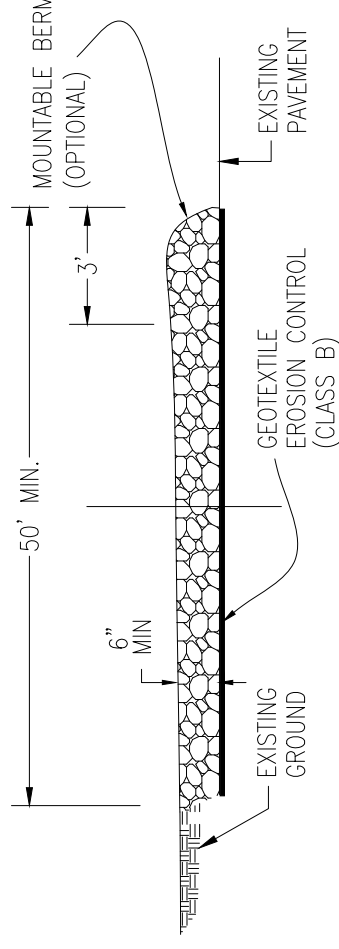


PUBLIC WORKS  
ENGINEERING DIVISION

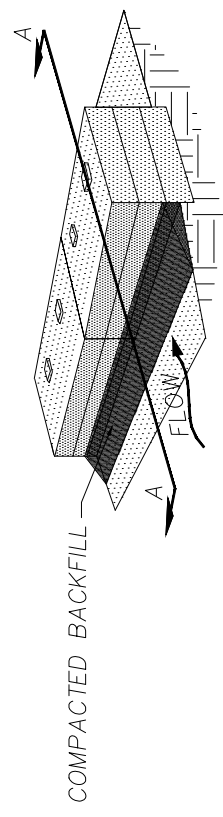
Las Colonias Business Park Phase I  
Storm Water Management Plan



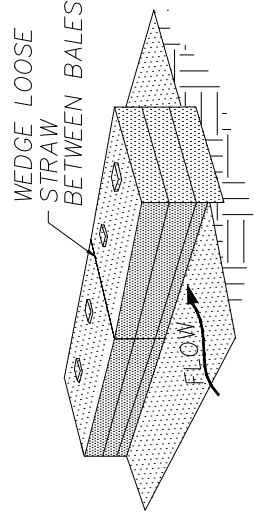
o MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.



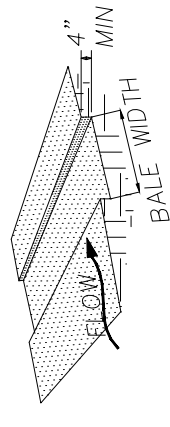
STABILIZED CONSTRUCTION ENTRANCE



STEP 3. PLACE COMPACTED BACKFILL AGAINST THE UPSTREAM FACE.

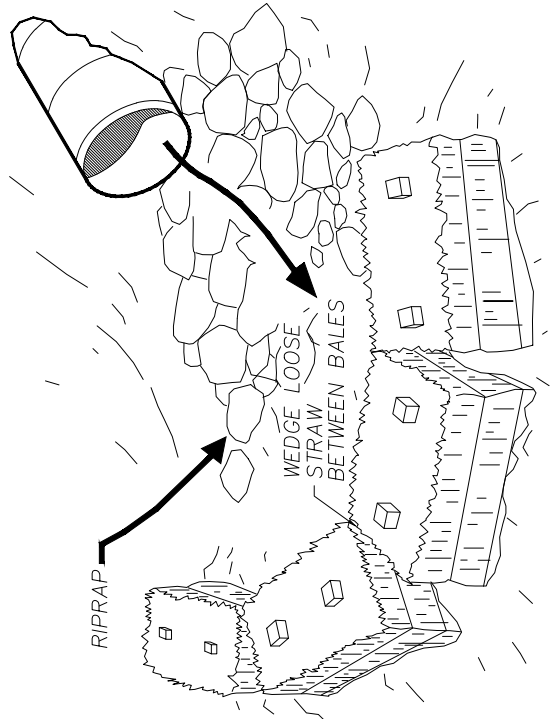
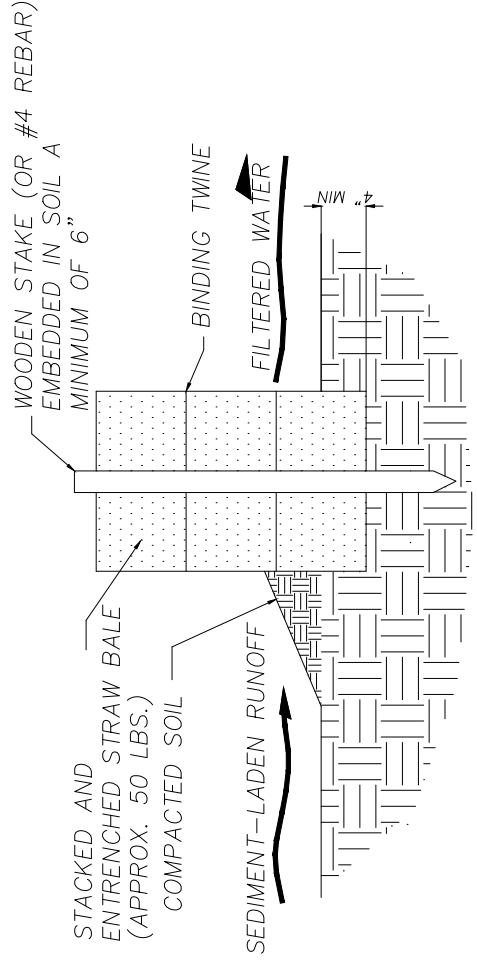


STEP 2. PLACE BALE IN TRENCH, STAKE IN PLACE



STEP 1. EXCAVATE TRENCH FOR BALES

BALE INSTALLATION PROCEDURE



CULVERT OUTLET TRAP  
N.T.S.  
ANCHORED STRAW BALE (A.S.B.)

REVISION	DATE	DESCRIPTION
REVISION Δ XXX	201X	
REVISION Δ XXX	201X	
REVISION Δ XXX	201X	
REVISION Δ XXX	201X	

SCALE	DATE	DATE
PLAN & PROFILE	2017	2017
HORIZONTAL	NA	NA
VERTICAL	NA	NA

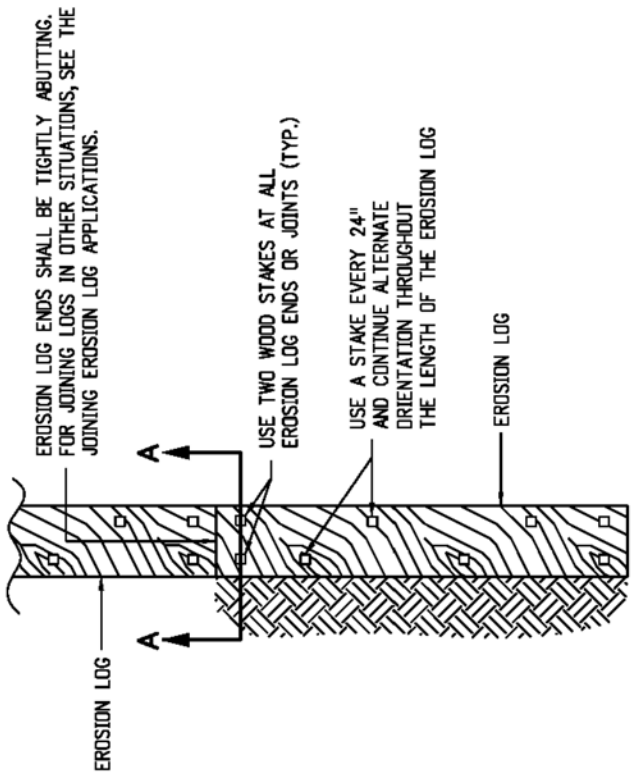
  

DATE	DATE	DATE
2017	2017	2017
2017	2017	2017
2017	2017	2017

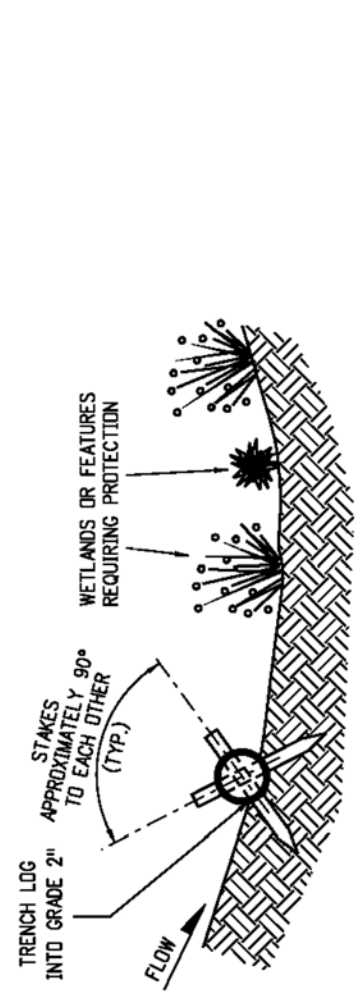


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LAS COLONIAS BUSINESS PARK  
STORM WATER MANAGEMENT PLAN PHASE 1  
BEST MANAGEMENT PRACTICE DETAILS

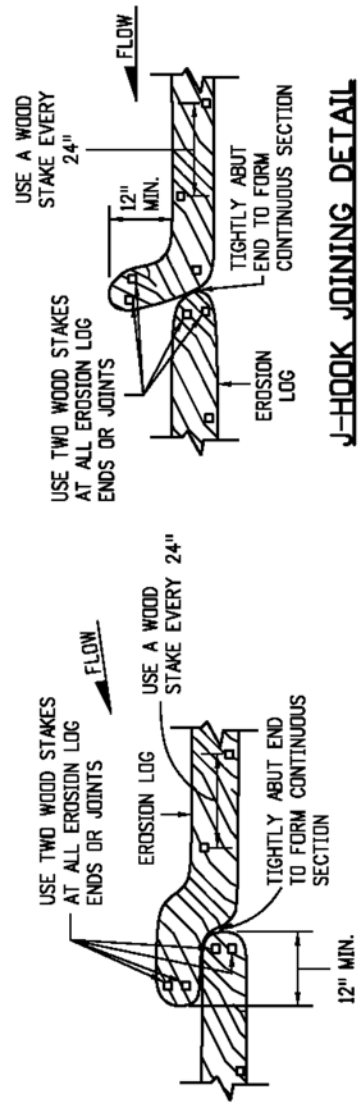


**PLAN VIEW**



**SECTION A-A**

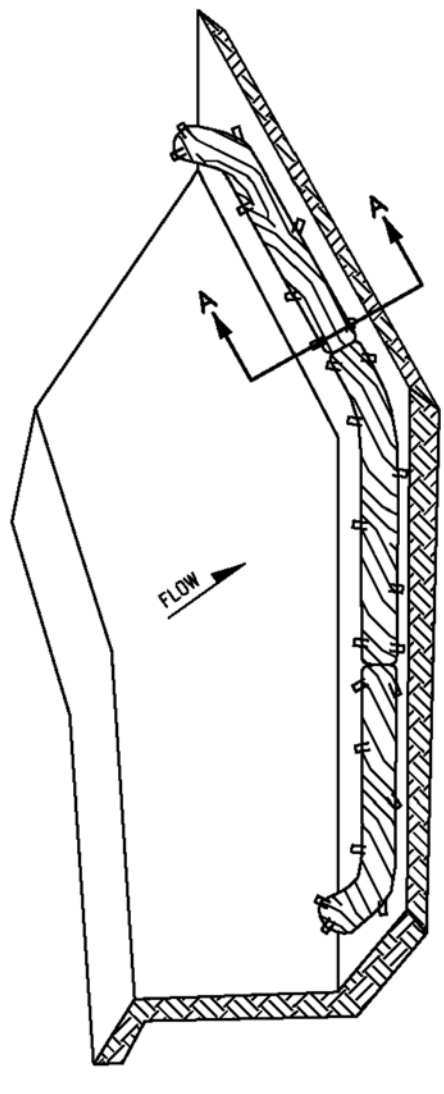
**TYPICAL STAKE INSTALLATION**



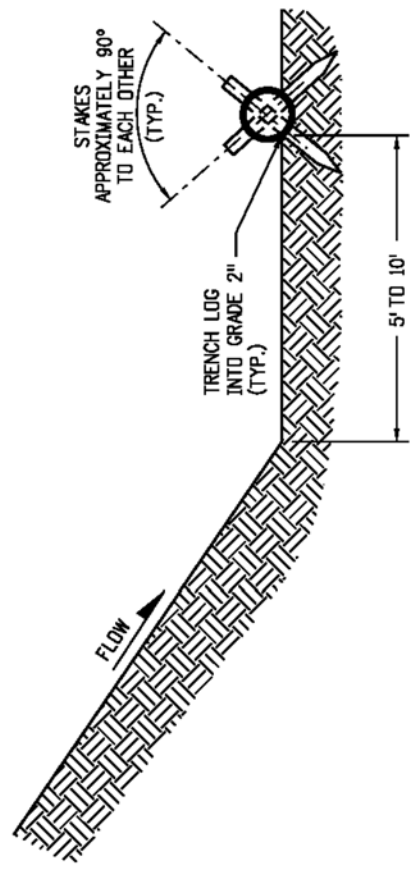
**OVERLAP JOINING DETAIL**

**J-HOOK JOINING DETAIL**

**JOINING EROSION LOG APPLICATIONS**



**ISOMETRIC VIEW**



**SECTION A-A**

- NOTES:
1. EROSION LOGS USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
  2. EROSION LOGS SHALL BE PLACED ON THE CONTOUR WITH ENDS FLARED UP SLOPE.
  3. SEE SHEET 2 OF 11 FOR JOINING LOGS DETAIL.

EROSION LOGS PAY ITEMS	
NUMBER	DESCRIPTION
208-00012	TYPE 1 (9")
208-00002	TYPE 1 (12")
208-00013	TYPE 1 (20")
208-00007	TYPE 2 (8")
208-00008	TYPE 2 (12")
208-00009	TYPE 2 (18")

**EROSION LOG TOE OF SLOPE PROTECTION**

REVISION	DATE
REVISION Δ XXX	201X
REVISION Δ XXX	201X
REVISION Δ XXX	201X
REVISION Δ XXX	201X

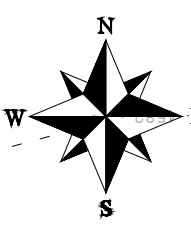
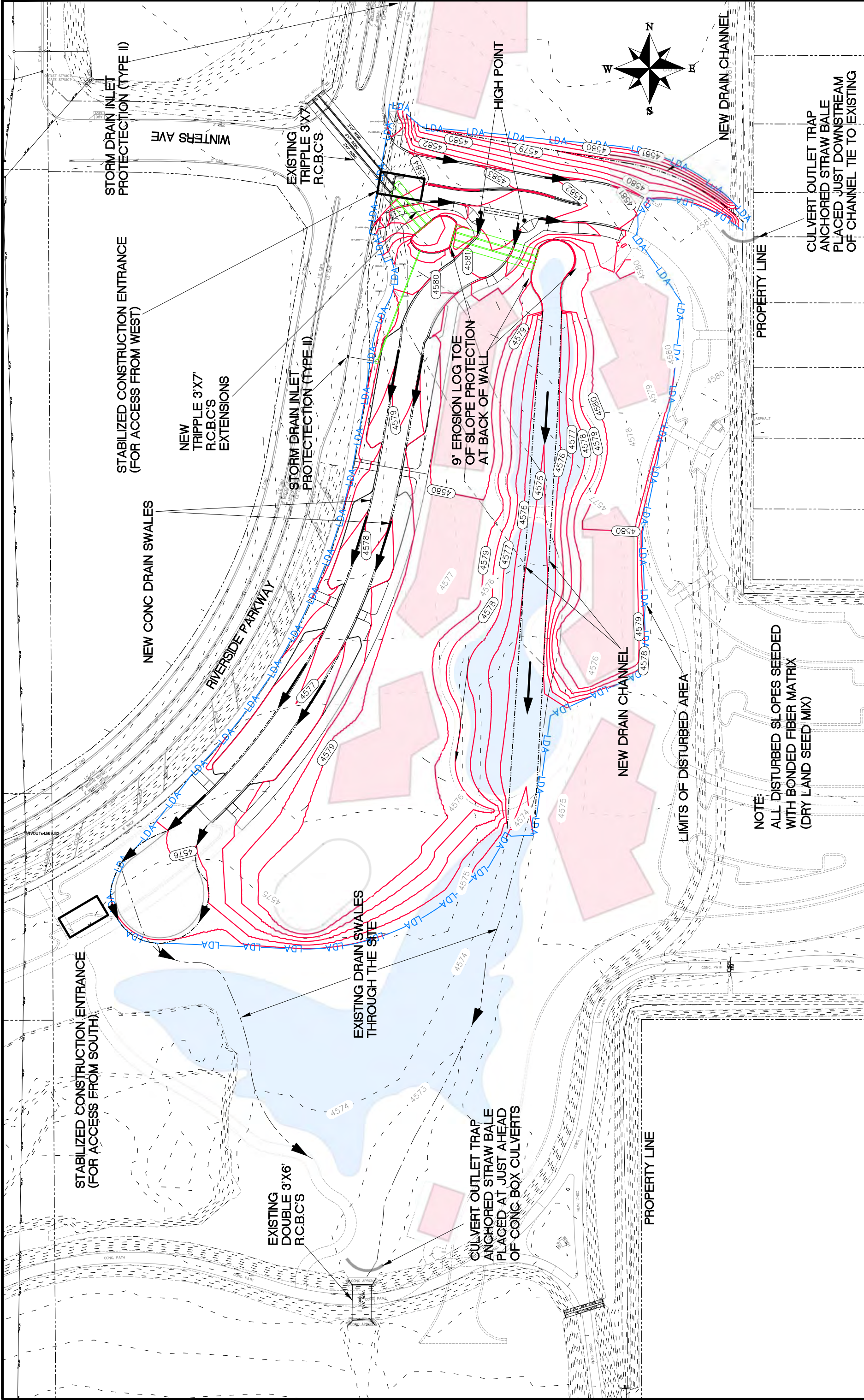
DESCRIPTION	DATE
DRAWN BY JCS	DATE 2017
DESIGNED BY JCS	DATE 2017
CHECKED BY TOP	DATE 2017
APPROVED BY TOP	DATE 2017

SCALES:	
PLAN & PROFILE	VERTICAL
0 NA	0 NA
0 NA	0 NA



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LAS COLONIAS BUSINESS PARK  
STORM WATER MANAGEMENT PLAN PHASE 1  
BEST MANAGEMENT PRACTICE DETAILS



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION 1		2018	JCS	2018
REVISION 2		2018	JCS	2018
REVISION 3		2018	TOP	2018
REVISION 4		2018	TOP	2018

CITY OF  
**Grand Junction**  
 COLORADO

PUBLIC WORKS  
 ENGINEERING DIVISION

Las Colonias Business Park Phase I  
 Storm Water Management Plan

NOTE:  
 ALL DISTURBED SLOPES SEEDED  
 WITH BONDED FIBER MATRIX  
 (DRY LAND SEED MIX)