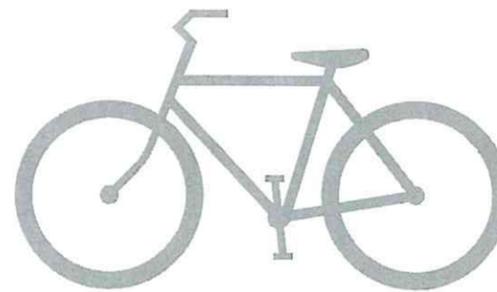


PLAN of the UNIVERSITY PARK TRAIL

CITY OF COLORADO SPRINGS PARK, RECREATION & CULTURAL SERVICES DEPARTMENT



JUNE 1, 2016

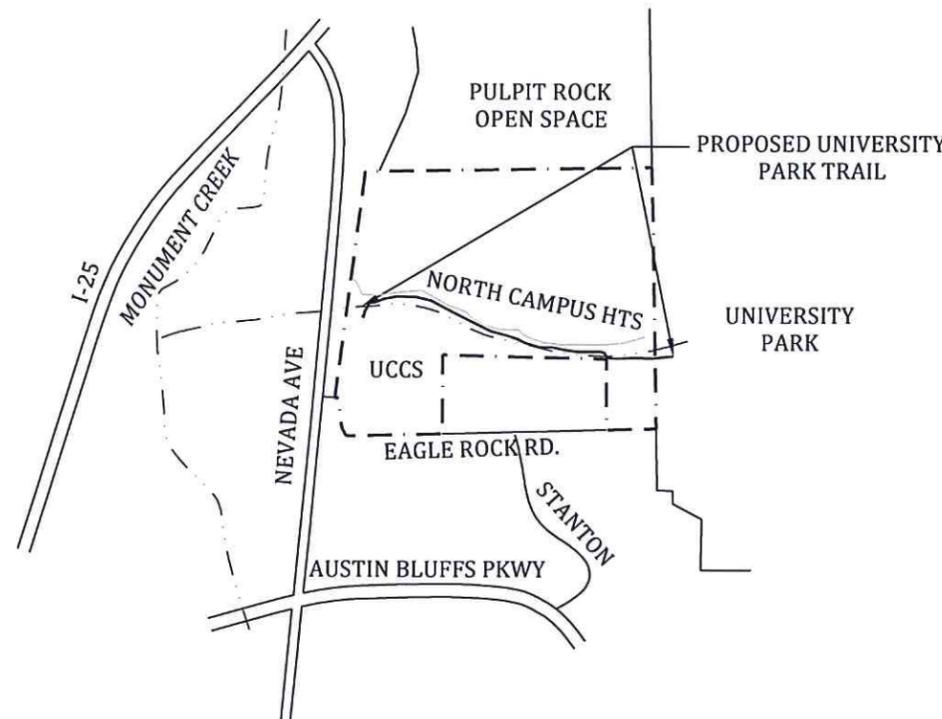
APPROVAL SIGNATURES			
TITLE	NAME	SIGNATURE	DATE
PARKS DEVELOPMENT MANAGER/TOPS PROGRAM MANAGER	CHRIS LIEBER	_____	_____
PARKS OPERATION & DEVELOPMENT MANAGER	KURT SCHROEDER	_____	_____
CITY FORESTER	PAUL SMITH	_____	_____
REGIONAL SUPERVISOR, PARKS, TRAILS & OPEN SPACE	SCOTT ABBOTT	_____	_____
CONSTRUCTION PROJECT MANAGER	STEVE BODETTE	_____	_____
CITY ENGINEERING	PATRICK MORRIS	_____	_____
CITY TRAFFIC ENGINEERING	KATHLEEN KRAGER	_____	_____
DEPT. OF UTILITIES - WATER/WASTEWATER	ADAM BAKER	_____	_____
DEPT. OF UTILITIES - GAS/ELECTRIC	TODD STURTEVANT	_____	_____
UNIVERSITY OF COLORADO COLORADO SPRINGS	GARY REYNOLDS	_____	_____

SHEET NO. INDEX OF SHEETS

1	COVER
2	GENERAL NOTES
3	PLAN STA. 17+66 TO STA. 23+00
4	PLAN STA. 13+00 TO STA. 29+00
5	PLAN STA. 29+00 TO STA. 35+00
6	PLAN STA. 35+00 TO STA. 41+00
7	PLAN STA. 41+00 TO STA. 47+00
8	PLAN STA. 47+00 TO STA. 53+00
9	PLAN STA. 53+00 TO STA. 59+00
10	PLAN STA. 59+00 TO STA. 62+00
11	PEDESTRIAN BRIDGE PLAN STA. 18+30
12	PEDESTRIAN BRIDGE PLAN STA. 51+75
13	PEDESTRIAN BRIDGE STRUCTURAL DETAILS
14	MISCELLANEOUS & STANDARD DETAILS
15	GRADING & EROSION CONTROL PLAN STA. 18+30 TO STA. 26+85
16	GRADING & EROSION CONTROL PLAN STA. 26+85 TO STA. 38+30
17	GRADING & EROSION CONTROL PLAN STA. 38+30 TO STA. 49+42
18	GRADING & EROSION CONTROL PLAN STA. 49+42 TO STA. 59+47
19	GRADING & EROSION CONTROL PLAN STA. 59+47 TO STA. 64+10
20	EROSION CONTROL DETAILS

SUMMARY OF APPROXIMATE QUANTITIES

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	PROJECT TOTALS	
			PLAN	AS CONST.
101	CLEARING AND GRUBBING	LS	1	
102	EMBANKMENT IMPORT	CY	720	
103	STRUCTURE EXCAVATION	CY	870	
104	STRUCTURE BACKFILL (CLASS 2)	CY	790	
105	AGGREGATE BASE COURSE	CY	19	
106	TOPSOIL	CY	158	
107	CRUSHED ROCK	CY	4	
108	SCARIFY AND REVEGETATE FOOT PATHS	SY	287	
109	REMOVAL OF TREES	EA	2	
110	REMOVAL OF FENCE	LF	888	
111	INSTALL FOUR-WIRE FENCE	LF	730	
112	TYPE M SOIL RIPRAP	CY	635	
113	HANDRAIL	LF	96	
114	STRUCTURAL CONCRETE f'c=4,500 psi	CY	74	
115	CDOT CLASS D DECK CONCRETE	CY	35	
116	18-INCH DRILLED PIERS	LF	160	
117	18-INCH RCP CLASS III	LF	57	
118	18-INCH CLASS III FES	EA	2	
119	ROLLED ASPHALT CURB	LF	20	
120	STANDARD PEDESTRIAN RAMP	EA	1	
121	TRAIL SECTION A	SY	380	
122	GRAVEL TRAIL SECTION	SY	3,867	
123	SILOAM BOULDER WALL	LF	80	
124	PREFABRICATED 90-FOOT PEDESTRIAN BRIDGE	EA	2	
125	EROSION CONTROL SUPERVISOR	LS	1	
126	VEHICLE TRACKING CONTROL	EA	1	
127	SEEDING AND MULCH WITH SOIL PREPARATION	AC	5.5	
128	CONCRETE WASHOUT AREA	EA	2	
129	SILT FENCE	LF	4530	
130	STRAW BALE BARRIER	EA	1	
131	CULVERT INLET PROTECTOR	EA	1	
132	CONSTRUCTION STAKING	EA	1	



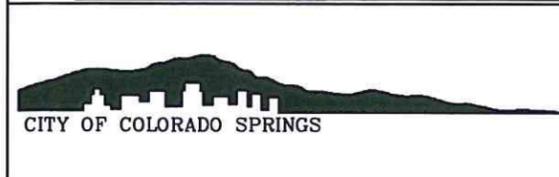
VICINITY MAP
NTS

811
Know what's below.
Call before you dig.

TRAIL DESIGN DATA	
BEGIN STATION	STA. 17+68
END STATION	STA. 63+13
MAXIMUM GRADE	10%
MINIMUM HORIZONTAL CURVE	25'
MINIMUM WIDTH (CONCRETE)	10'
TYPICAL WIDTH (CONCRETE)	12'
TYPICAL WIDTH (GRAVEL)	8'
CROSS-SLOPE	2% MAX
LENGTH	4636 LINEAR FEET

DETAILED PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT:
THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE CITY FOR DETAILED PLANS AND SPECIFICATIONS. SAID DETAILED PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED PLANS AND SPECIFICATIONS.

KIOWA ENGINEERING CORPORATION



Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Sheet Revisions	

University Park Trail		Kiowa Proj. No. 15043
COVER SHEET		
Designer: RNW		
Detailer: RNW		
Date: FEB. 15, 2016		Sheet Number 1

GENERAL NOTES

ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2012, AS SUPPLEMENTED BY THE CITY OF CS ENGINEERING DIVISION STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS AND SPECIFICATIONS WHICH HAVE BEEN APPROVED BY THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) AND THE CITY OF COLORADO SPRINGS (CITY).

THE CONTRACTOR SHALL NOTIFY THE OWNER (CITY) AND ENGINEER OF ANY PROBLEM IN CONFORMING TO THE APPROVED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.

THE CONTRACTOR SHALL PROTECT ALL EXISTING FACILITIES IN THE GENERAL AREA OF CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OPERATIONS AT NO COST TO THE PROJECT.

UTILITY LINES AS SHOWN ON THESE DRAWINGS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CALL 811 FOR UTILITY LOCATIONS AT LEAST TWO WORKING DAYS PRIOR TO ANY DIGGING. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND SHALL PROTECT THEM FROM DAMAGE DURING CONSTRUCTION.

A CITY OF COLORADO SPRINGS DEPARTMENT OF UTILITIES INSPECTOR IS REQUIRED TO BE ONSITE DURING EXCAVATION AND CONSTRUCTION AROUND GAS FACILITIES. IT IS THE RESPONSIBILITY TO COORDINATE WITH THE GAS DEPARTMENT FORTY-EIGHT (48) HOURS PRIOR TO CONSTRUCTION NEAR GAS FACILITIES.

DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS: FULL DEPTH OF ALL EMBANKMENTS. BASES OF CUTS AND FILLS 0.5 FOOT.

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

THE TESTING OF COMPACTION FOR THIS PROJECT WILL BE PER AASHTO T 99.

SUBGRADE UNDER TRAIL SHALL BE RECOMPACTED TO 95% STANDARD PROCTOR IN ACCORDANCE WITH SECTION 304 OF THE ABOVE REFERENCED CDOT SPECIFICATIONS.

SOIL PREPARATION AND SEEDING WILL BE REQUIRED FOR AN ESTIMATED 3.0 ACRES

WITHIN THE LIMITS OF THE TRAIL. SEE SWMP FOR SEEDING TYPES AND APPLICATION RATES. SURVEYING FOR THIS PROJECT SHALL BE CONDUCTED IN ACCORDANCE WITH CDOT STANDARDS.

BENCHMARK: POST PROCESS OF GPS BASE POINT #100 & CONVERTED TO NGVD 1929 DATUM. ELEVATION = 6259.189 (NGVD 1929).

ALL EXISTING MANHOLES TO BE MARKED WITH T-POSTS AND CAUTION TAPE PRIOR TO COMMENCING WITH THE CONSTRUCTION.

THE CONTRACTOR SHALL OBTAIN CDPS PERMIT FROM CDPHE.

WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. WATER WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE SUBSIDIARY TO THE EXCAVATION ITEM. USE OF UCSS PRIVATE HYDRANTS. PROHIBITED UNLESS APPROVED WITH UCSS PROJECT REPRESENTATIVE PRIOR TO THE BID

ALL REMOVED ASPHALT WILL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL BE DISPOSED OF OUTSIDE PROJECT LIMITS.

THE SOIL TO BE PLACED AS TOPSOIL MATERIAL SHALL BE FREE OF REFUSE, STUMPS, ROOTS, ROCKS, BRUSH, WEEDS, HARD CLODS, TOXIC SUBSTANCES OR OTHER MATERIAL WHICH WOULD BE DETRIMENTAL TO ITS USE ON THE PROJECT. IT SHALL HAVE A MINIMUM P.I. OF 5 BUT SHALL NOT BE SUCH HEAVY CLAY AS TO PRECLUDE PLACEMENT WITH A SHOULDER MACHINE.

SALVAGEABLE MATERIAL: MATERIAL THAT CAN BE SAVED OR SALVAGED. UNLESS OTHERWISE SPECIFIED IN THE CONTRACT, ALL SALVABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT SITE.

TOPOGRAPHIC DATA INDICATED ON THESE DRAWINGS WAS COMPILED FROM FIELD SURVEYS. CONTRACTOR MUST VERIFY EXTENT OF WORK WITHIN THESE AREAS. DIMENSIONS, ELEVATIONS, AND LOCATIONS OF EXISTING STRUCTURES, PIPELINES, AND UTILITIES ARE APPROXIMATE. WHERE SUCH DIMENSIONS OR LOCATIONS DETERMINE THE LIMITS OF THE WORK, SUCH DIMENSIONS OR LOCATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.

THE LOCATIONS OF EXISTING STRUCTURES, PIPELINES, UTILITIES, ETC., SHOWN ON THE DRAWINGS HAVE BEEN APPROXIMATED. THERE MAY BE OTHER STRUCTURES, PIPELINES, UTILITIES, ETC., NOT SHOWN ON THE DRAWINGS WHICH PRESENTLY EXIST IN THE AREA OF CONSTRUCTION. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL IMPACTED EXISTING STRUCTURES, PIPELINES, UTILITIES, ETC., IN THE PROJECT SITE.

THE CONTRACTOR SHALL CAREFULLY PRESERVE ALL MONUMENTS, BENCHMARKS, PROPERTY MARKERS, REFERENCE POINTS, AND STAKES. IN CASE OF HIS DESTRUCTION OF THESE, THE CONTRACTOR WILL BE RESPONSIBLE FOR RESETTING SAME, AT NO COST TO THE OWNER, AND SHALL BE RESPONSIBLE FOR ANY LOSS OF TIME THAT MAY BE CAUSED. CONTRACTOR TO COORDINATE WITH UCSS REPRESENTATIVE REGARDING THE LOCATION OF THE CONTRACTOR PARKING, STAGING AND LAYDOWN AREAS.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHERE UTILITIES CONFLICT WITH THE WORK IN CONFORMANCE WITH THE SPECIFICATIONS. WHERE FIELD VERIFICATION IS NOTED ON THE PLANS, THIS SHALL REQUIRE THE CONTRACTOR TO DETERMINE THE LOCATION OF THE FACILITY IN QUESTION PRIOR TO CONSTRUCTION. A DETERMINATION SHALL BE MADE BY THE CONTRACTOR IF THE CURRENT DESIGN WILL CONFLICT WITH THE EXISTING FACILITY AND NOTIFY THE ENGINEER IN WRITING.

ALL EXISTING AREAS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED IN CONFORMANCE WITH THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE PROJECT.

ALL EXISTING ROADWAYS AND SIDEWALKS AND LANDSCAPING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR RECONSTRUCTED IN CONFORMANCE WITH THE SPECIFICATIONS.

SIGNAGE SHALL FOLLOW THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" LATEST EDITION AND THE CITY OF COLORADO SPRINGS TRAFFIC ENGINEERING SIGNAGE & PAVEMENT MARKING STANDARDS. CONTRACTOR SHALL SUBMIT TO THE CITY A TRAFFIC CONTROL PLAN PRIOR TO COMMENCING WITH THE WORK. SIGNAGE SHALL BE REVIEWED BY UCSS PROJECT REPRESENTATIVE.

CONTRACTOR SHALL ESTABLISH TRAIL CORRIDOR WITH STAKES. THE OWNER WILL THEN MARK ALL TREES TO BE SAVED IN A WALKTHROUGH OF THE TRAIL CORRIDOR WITH THE CONTRACTOR REPRESENTATIVE FROM UCSS SHALL REVIEW THE PRELIMINARY STAKING PRIOR TO CONSTRUCTION COMMENCING.

ALL DISCHARGES TO DRAINAGE COURSES AND STORM SEWER SYSTEMS MUST COMPLY WITH THE APPLICABLE PROVISIONS OF THE COLORADO WATER QUALITY CONTROL ACT AND THE COLORADO DISCHARGE PERMIT REGULATIONS, AND ARE SUBJECT TO INSPECTION BY THE CITY OF COLORADO SPRINGS, EL PASO COUNTY, CDOT AND CDPHE. EL PASO COUNTY AND COLORADO SPRINGS HAVE MS-4 PERMITS. CONTRACTOR SHALL DEVISE AND IMPLEMENT A PERMANENT PLAN FOR PERIODIC REMOVAL AND DISPOSAL OF SEDIMENT FROM EROSION CONTROL FACILITIES AND FOR MAINTENANCE OF EROSION CONTROL FACILITIES.

KNOWN UTILITIES WITHIN PROJECT LIMITS

CONTRACTOR MUST VERIFY ALL UTILITIES PRIOR TO EXCAVATION

1. CITY OF COLORADO SPRINGS DEPT. OF UTILITIES: WATER, WASTEWATER, ELECTRIC & GAS DIVISIONS

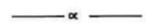
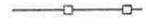
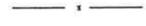
PRE-EXCAVATION CHECKLIST

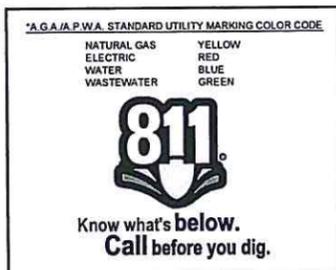
- GAS AND OTHER UTILITY LINES OF RECORD SHOWN ON PLANS.
- UTILITIES CENTRAL LOCATING CALLED AT LEAST 2 BUSINESS DAYS AHEAD. (811)
- UTILITIES LOCATED AND MARKED.
- EMPLOYEES BRIEFED ON MARKING AND COLOR CODES.*
- EMPLOYEES TRAINED ON EXCAVATION AND SAFETY PROCEDURES FOR NATURAL GAS LINES.
- WHEN EXCAVATION APPROACHES GAS LINES, EMPLOYEES EXPOSE LINES BY CAREFUL PROBING AND HAND DIGGING.

*A.G.A./A.P.W.A. STANDARD UTILITY MARKING COLOR CODE

NATURAL GAS	YELLOW
ELECTRIC	RED
WATER	BLUE
WASTEWATER	GREEN

LEGEND:

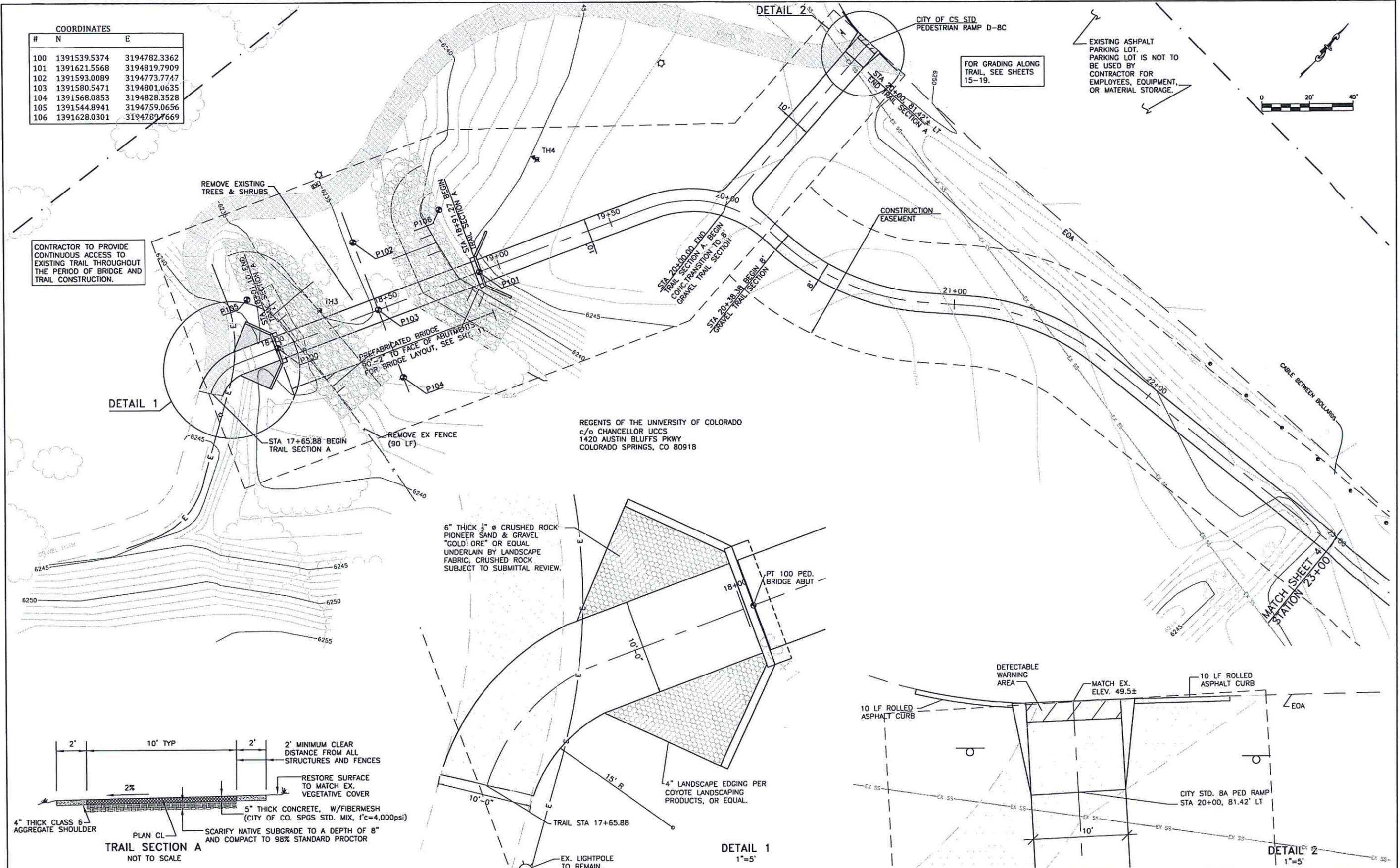
	SANITARY SEWER MANHOLE
	UNDERGROUND SANITARY SEWER MARKER
	WATER VALVE
	UNDERGROUND WATER MARKER
	ELECTRIC VAULT
	ELECTRIC STREET LIGHT
	OVERHEAD ELECTRIC LINE
	TELEPHONE PEDESTAL
	UTILITY POLE
	GUY WIRE
	BOLLARD
	STREET SIGN
	CHAIN-LINK FENCE
	BARBED-WIRE FENCE
	STRAND-WIRE FENCE



Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

	Sheet Revisions	As Constructed	University Park Trail GENERAL NOTES		Kiowa Proj. No. 15043
	No Revisions:		Designer: RNW		
	Revised:		Detailer: RNW		
	Void:		Date: FEB 15, 2016		2

COORDINATES		
#	N	E
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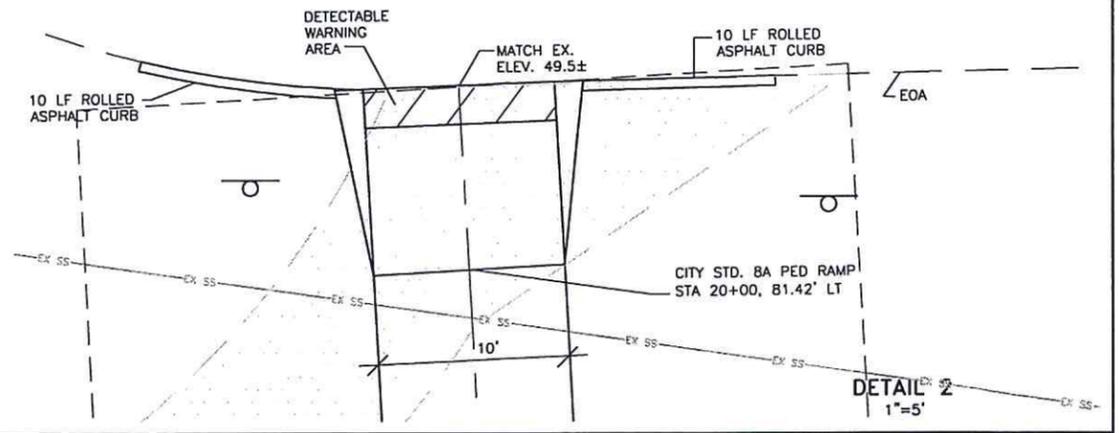
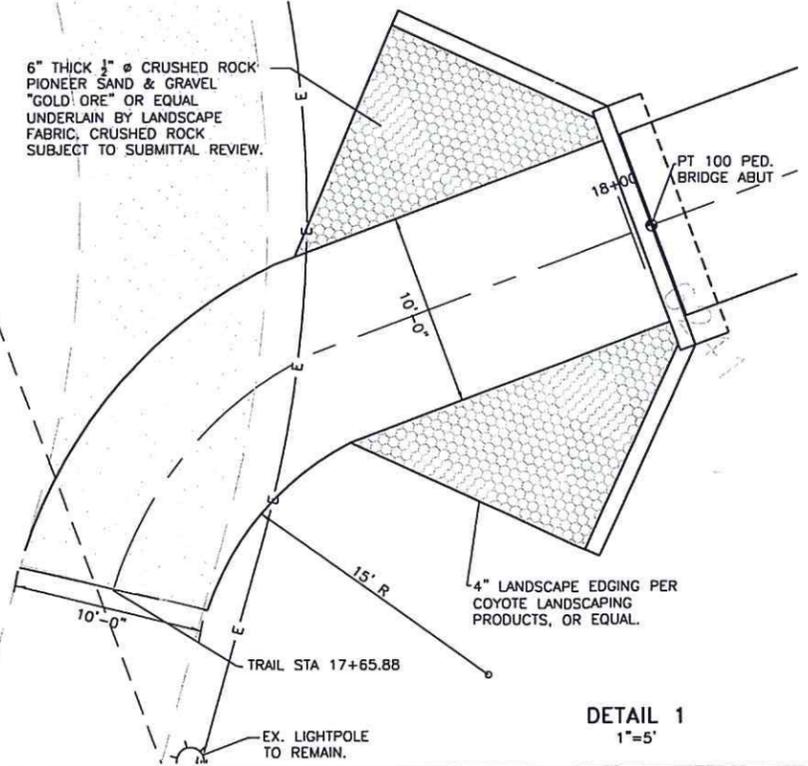
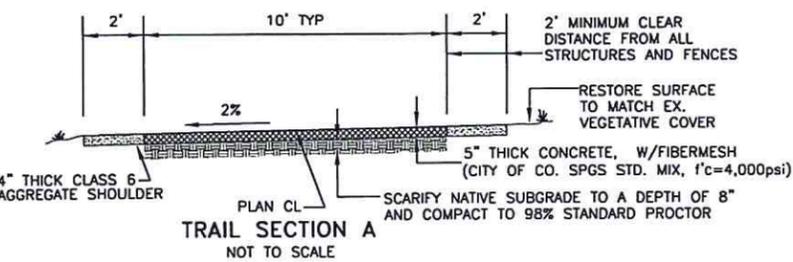
CONTRACTOR TO PROVIDE CONTINUOUS ACCESS TO EXISTING TRAIL THROUGHOUT THE PERIOD OF BRIDGE AND TRAIL CONSTRUCTION.

DETAIL 1

DETAIL 2

REGENTS OF THE UNIVERSITY OF COLORADO
c/o CHANCELLOR UCCS
1420 AUSTIN BLUFFS PKWY
COLORADO SPRINGS, CO 80918

6" THICK 1/2" Ø CRUSHED ROCK PIONEER SAND & GRAVEL "GOLD ORE" OR EQUAL UNDERLAIN BY LANDSCAPE FABRIC, CRUSHED ROCK SUBJECT TO SUBMITTAL REVIEW.

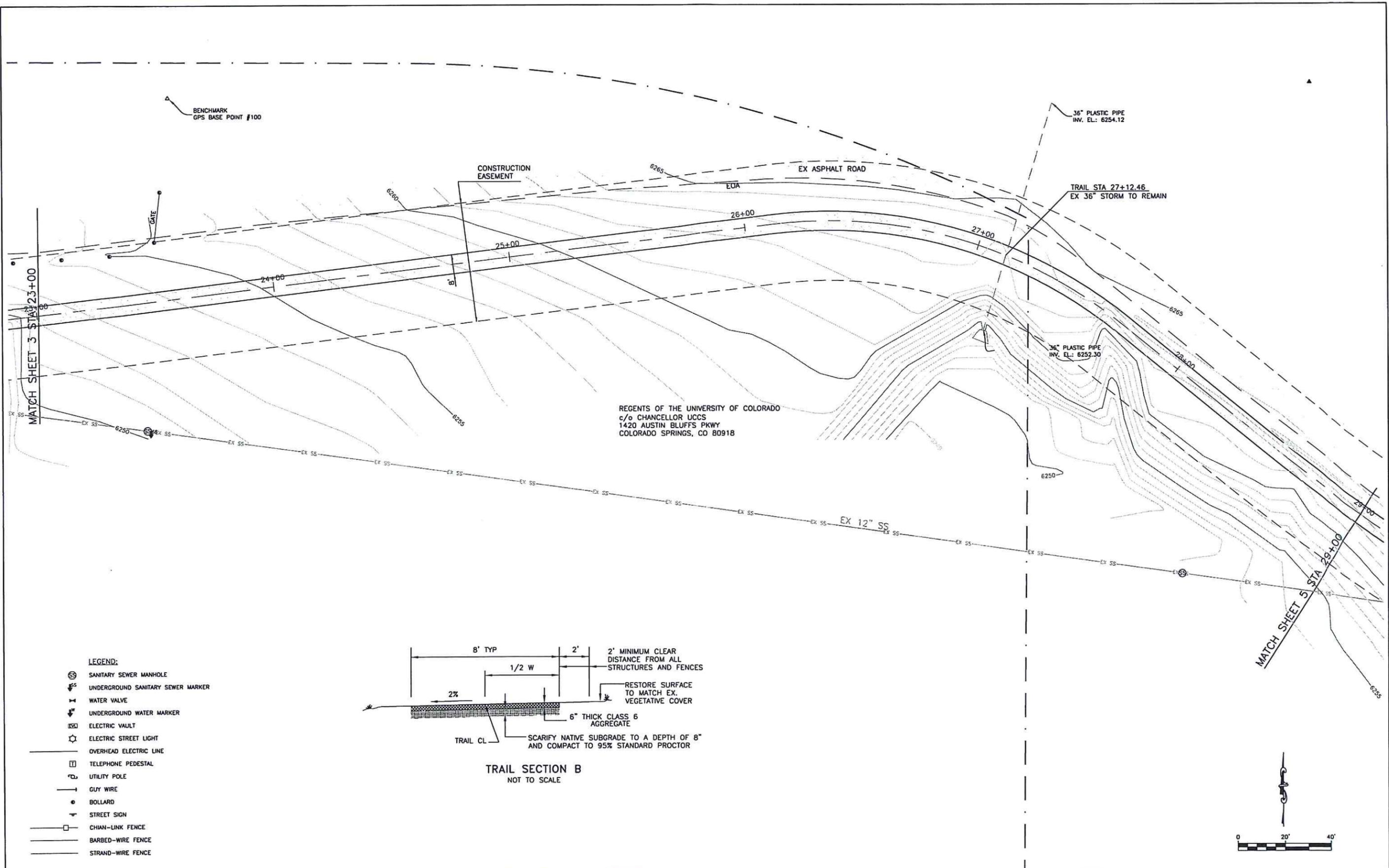


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Colorado Springs, Colorado 80904
17191 630-7342

Sheet Revisions	
	No Revisions:
	Revised:
	Void:

University Park Trail
FINAL TRAIL PLAN STA 16+66 TO STA 23+00
Designer: RNW
Detailer: RNW
Date: FEB 15, 2016

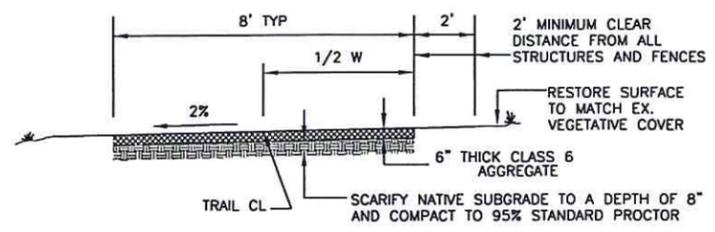
Kiowa Proj. No. 15043
Sheet Number 3



REGENTS OF THE UNIVERSITY OF COLORADO
 c/o CHANCELLOR UCCS
 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918

LEGEND:

- ⊕ SANITARY SEWER MANHOLE
- ⊕^{SS} UNDERGROUND SANITARY SEWER MARKER
- ⊕ WATER VALVE
- ⊕^W UNDERGROUND WATER MARKER
- ⊕^{EV} ELECTRIC VAULT
- ⊕^{EL} ELECTRIC STREET LIGHT
- OVERHEAD ELECTRIC LINE
- ⊕ TELEPHONE PEDESTAL
- ⊕ UTILITY POLE
- GUY WIRE
- BOLLARD
- ⊕ STREET SIGN
- CHAIN-LINK FENCE
- BARBED-WIRE FENCE
- STRAND-WIRE FENCE



TRAIL SECTION B
 NOT TO SCALE

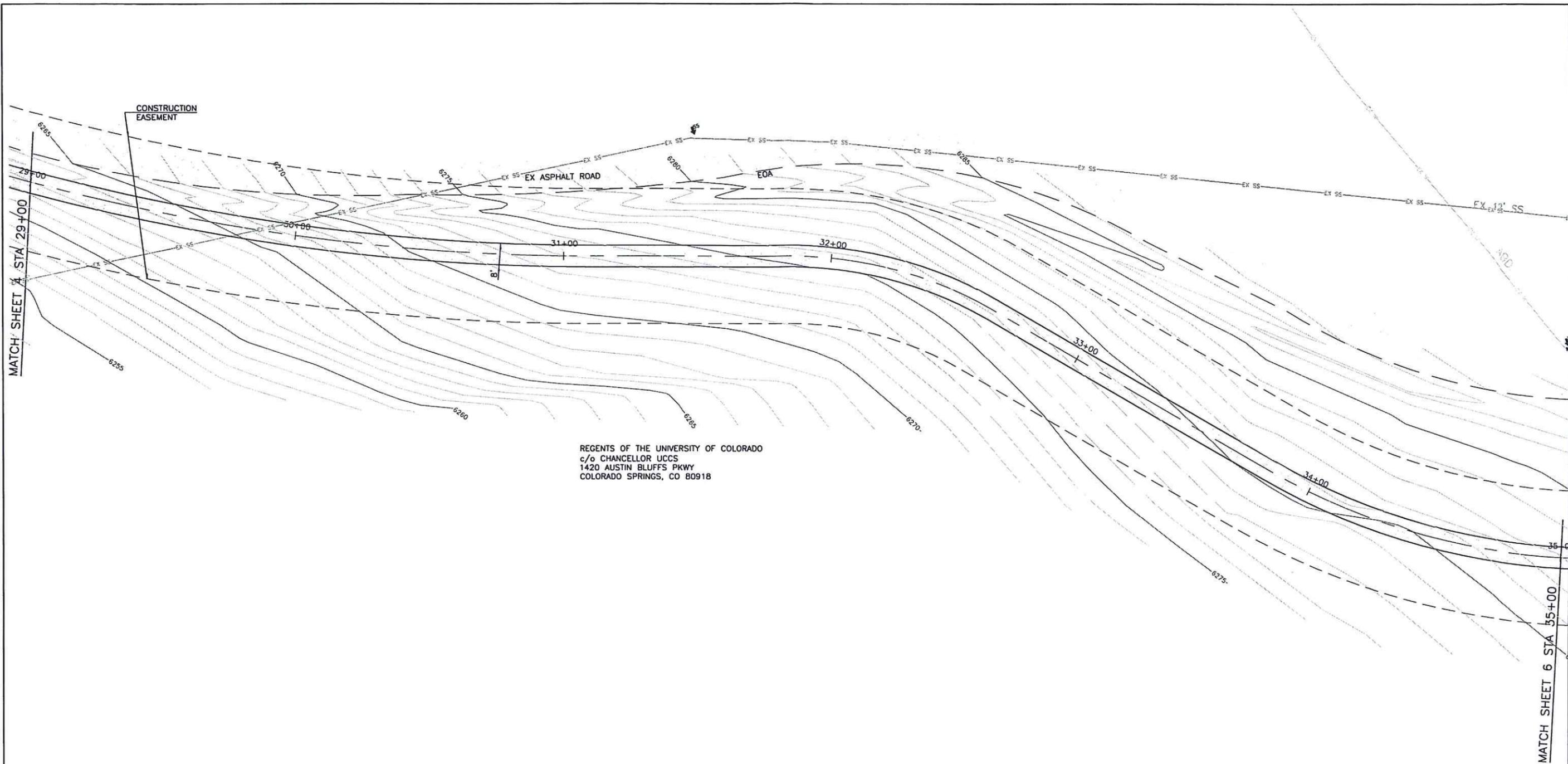


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Sheet Revisions	
	No Revisions:
	Revised:
	Void:

University Park Trail	
FINAL TRAIL PLAN STA 23+00 TO STA29+00	
Designer:	RNW
Detailer:	RNW
Date:	FFR. 15. 2016

Kiowa Proj. No. 15043
Sheet Number 4

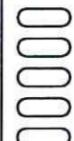


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 c/o CHANCELLOR UCCS
 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918



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Sheet Revisions	

No Revisions:

Revised:

Void:

University Park Trail
 FINAL TRAIL PLAN STA 29+00 TO 35+00

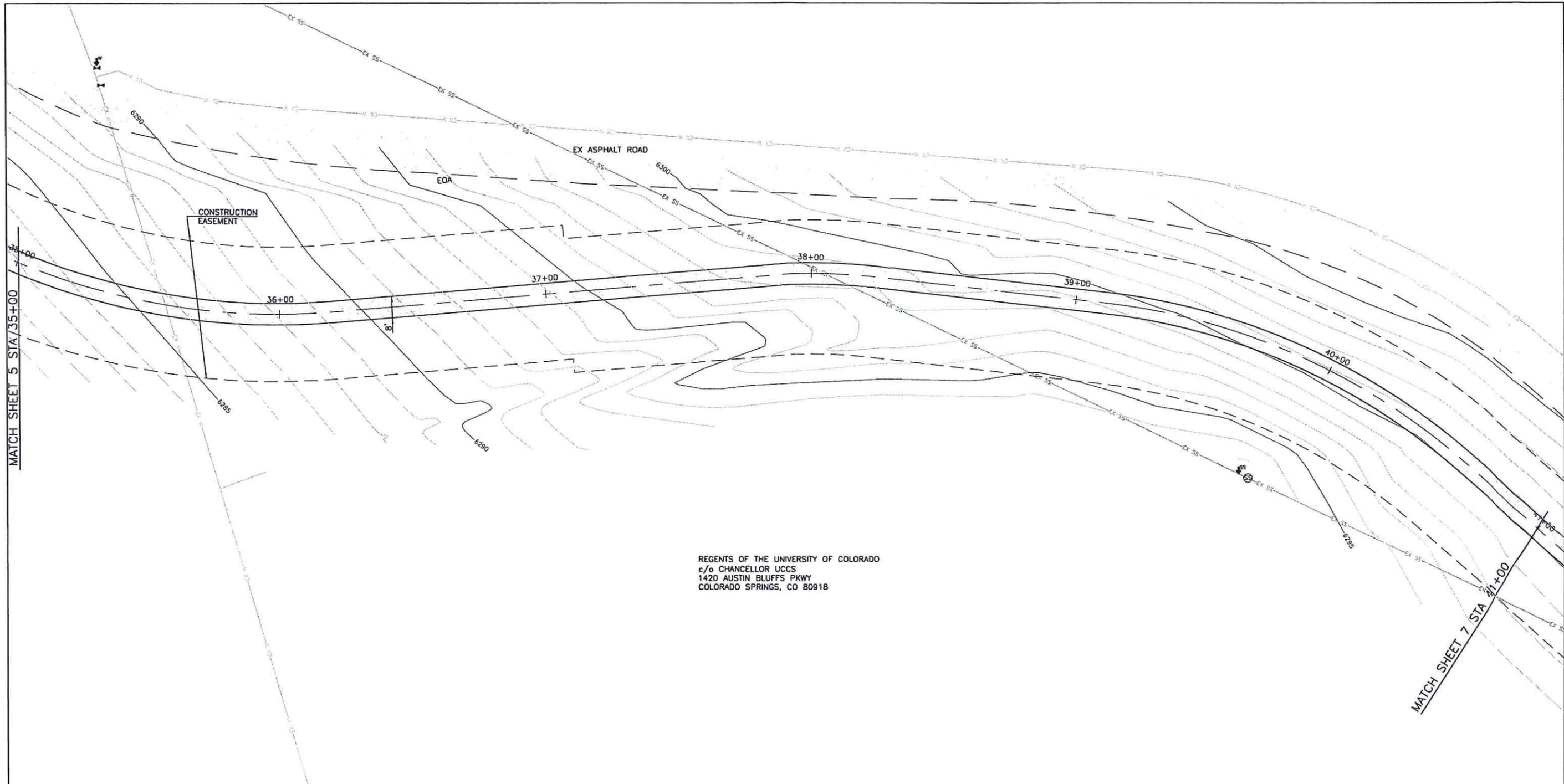
Designer: RNW

Detailer: RNW

Date: FEB 15, 2016

Kiowa Proj. No. 15043

Sheet Number 5



REGENTS OF THE UNIVERSITY OF COLORADO
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 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918



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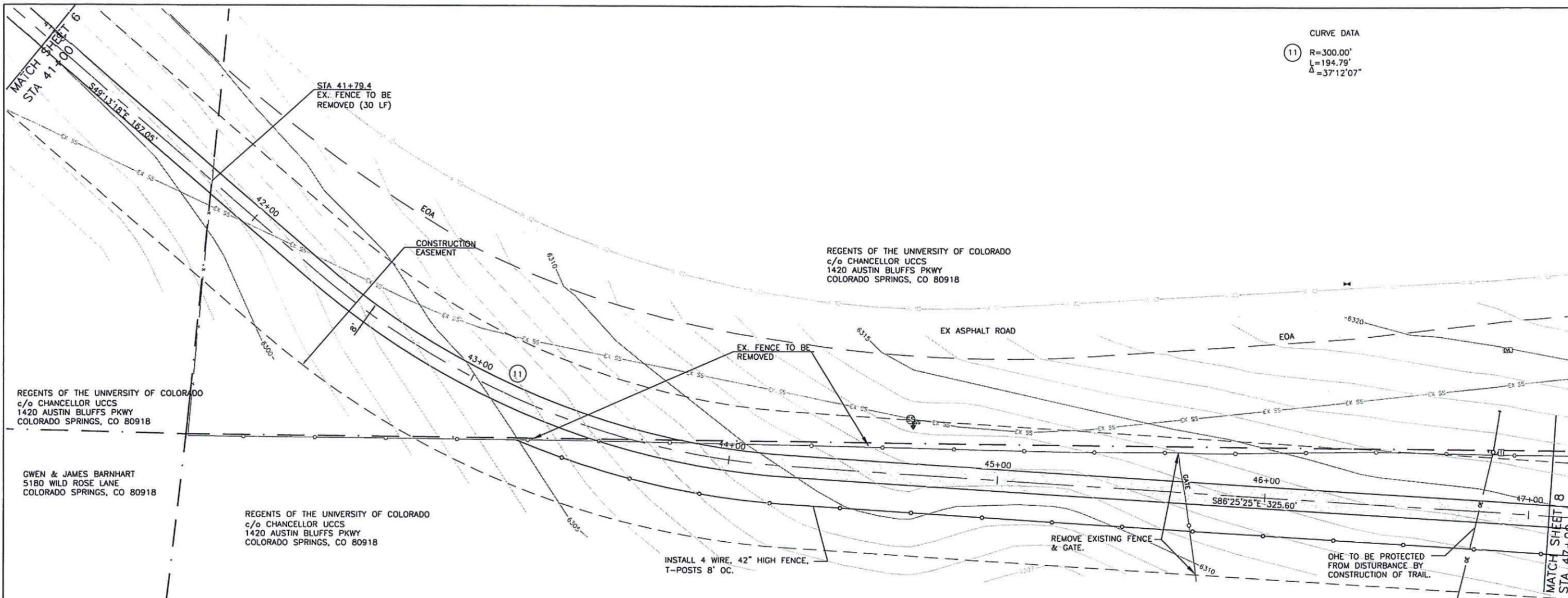
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 (719) 630-7342

Sheet Revisions	

No Revisions:	
Revised:	
Void:	

University Park Trail	
FINAL TRAIL PLAN STA 35+00 TO STA 41+00	
Designer:	RNW
Detailer:	RNW
Date:	FPR 15 2016

Kiowa Proj. No. 15043
Sheet Number 6



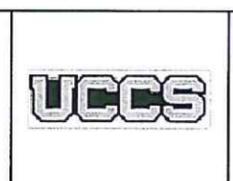
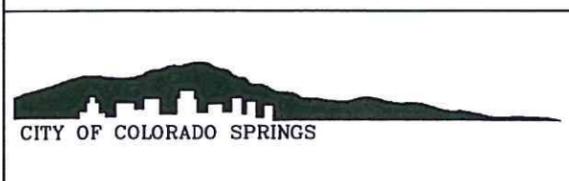
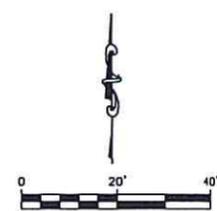
CURVE DATA
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 L=194.79'
 Δ=37°12'07"

REGENTS OF THE UNIVERSITY OF COLORADO
 c/o CHANCELLOR UCCS
 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918

GWEN & JAMES BARNHART
 5180 WILD ROSE LANE
 COLORADO SPRINGS, CO 80918

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 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918

REGENTS OF THE UNIVERSITY OF COLORADO
 c/o CHANCELLOR UCCS
 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918



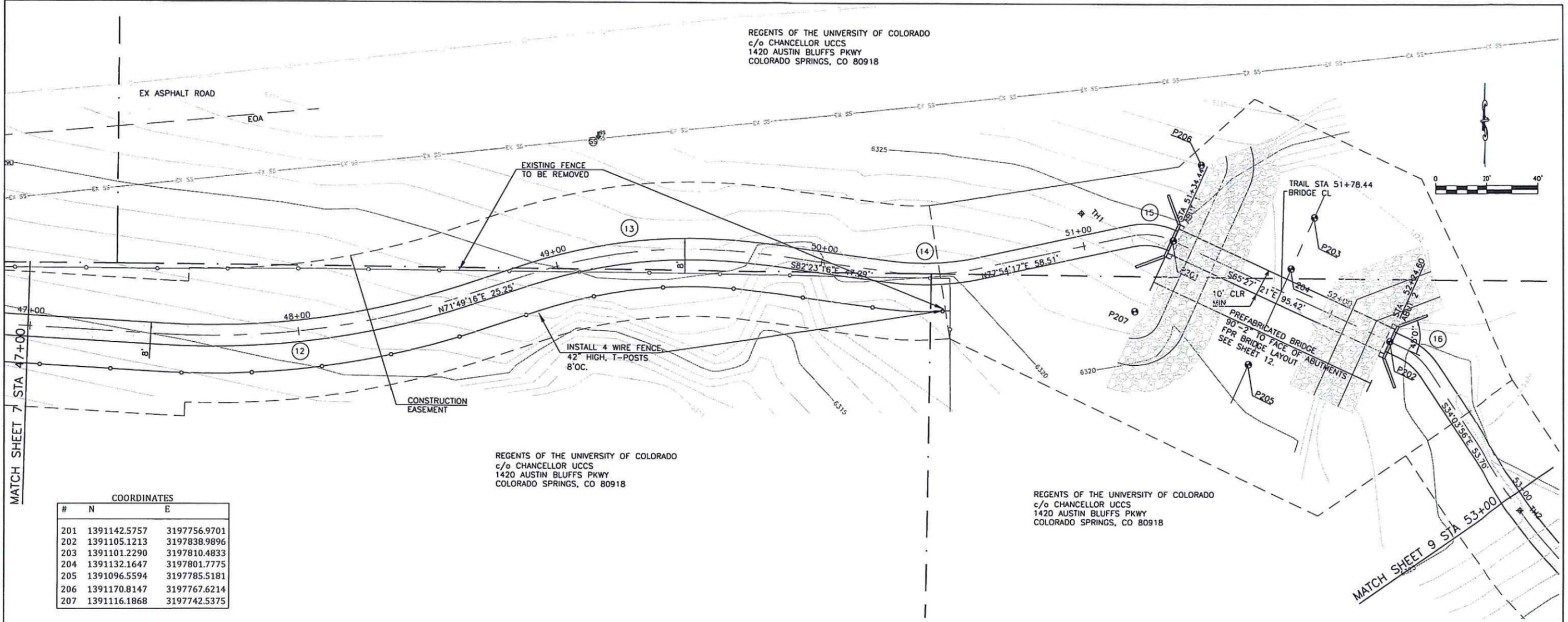
Kiowa
 Engineering Corporation
 1604 South 21st Street
 Colorado Springs, Colorado 80904
 (719) 630-7342

Sheet Revisions	

University Park Trail	
FINAL TRAIL PLAN STA 41+00 TO STA 47+00	
Designer:	RNW
Detailer:	RNW
Date:	FEB. 15, 2016

Kiowa Proj. No. 15043
 Sheet Number 7

REGENTS OF THE UNIVERSITY OF COLORADO
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 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918



MATCH SHEET 7 STA 47+00

MATCH SHEET 9 STA 53+00

REGENTS OF THE UNIVERSITY OF COLORADO
 c/o CHANCELLOR UCCS
 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918

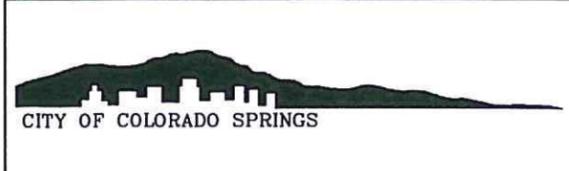
REGENTS OF THE UNIVERSITY OF COLORADO
 c/o CHANCELLOR UCCS
 1420 AUSTIN BLUFFS PKWY
 COLORADO SPRINGS, CO 80918

COORDINATES

#	N	E
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205	1391096.5594	3197785.5181
206	1391170.8147	3197767.6214
207	1391116.1868	3197742.5375

CURVE DATA

- ⑫ R=300.00'
L=113.92'
Δ=21°45'29"
- ⑬ R=200.00'
L=90.04'
Δ=25°47'38"
- ⑭ R=100.00'
L=34.40'
Δ=19°42'27"
- ⑮ R=25.00'
L=15.99'
Δ=36°38'22"
- ⑯ R=25.00'
L=13.70'
Δ=31°23'25"

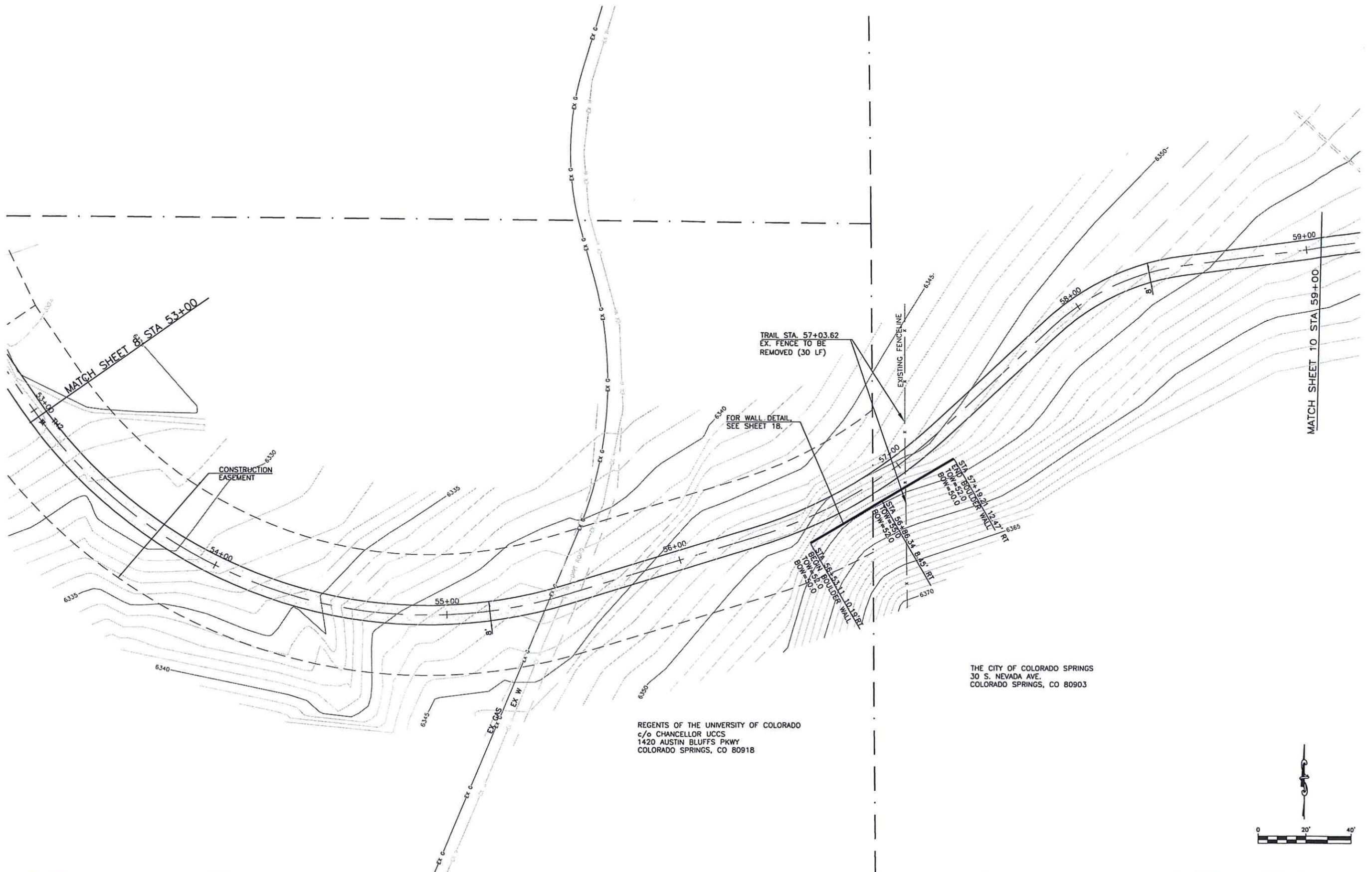


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Sheet Revisions	As Constructed
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	Void:

University Park Trail	
FINAL TRAIL PLAN STA 47+00 TO STA 53+00	
Designer:	RNW
Detailer:	RNW
Date:	FEB 15, 2016

Kiowa Proj. No. 15043
 Sheet Number **8**

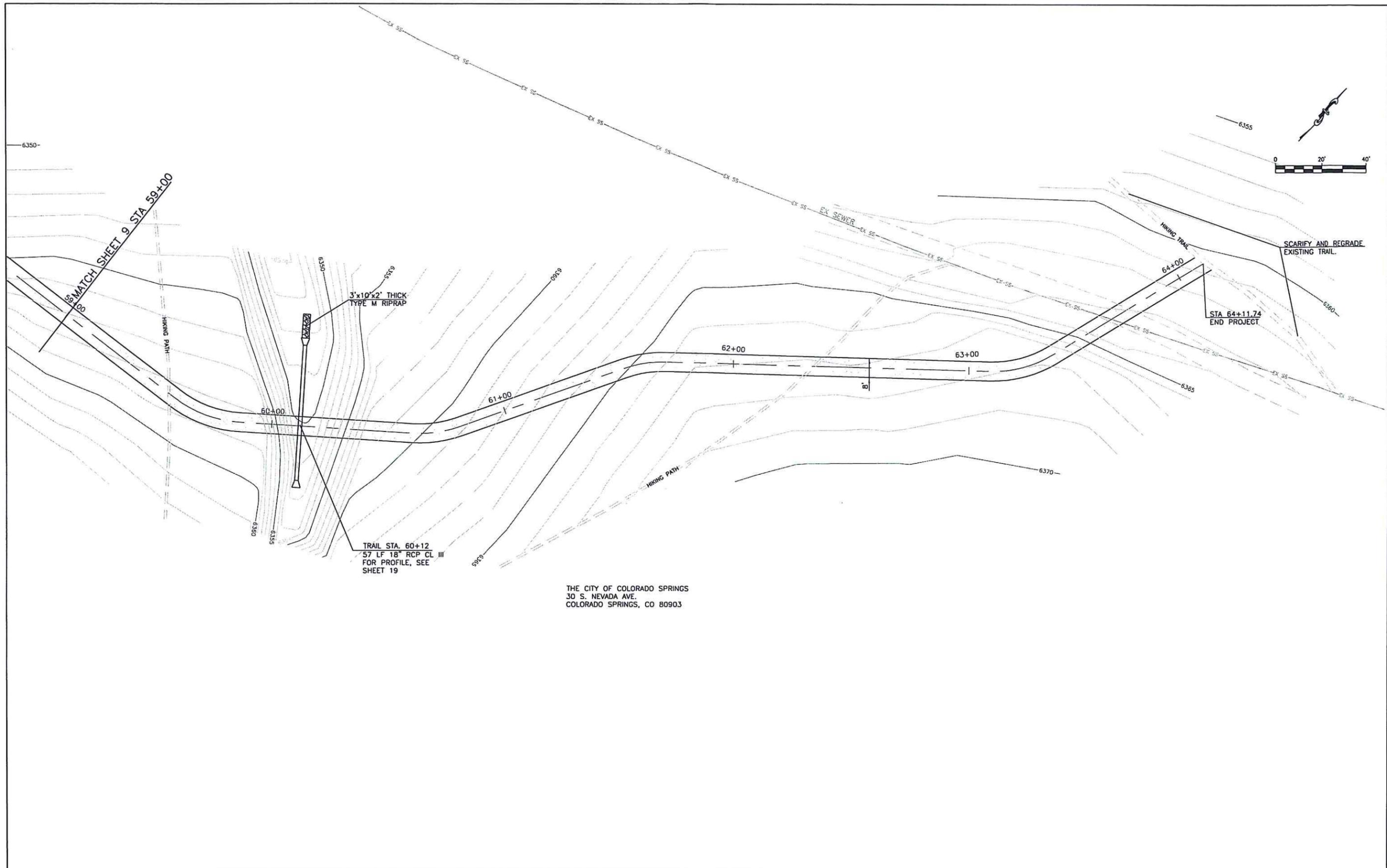


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University Park Trail FINAL TRAIL PLAN STA 53+00 TO 60+00	
Designer: RNW	
Detailer: RNW	
Date: FFR. 15. 2016	

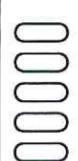
Kiowa Proj. No. 15043
Sheet Number **9**



THE CITY OF COLORADO SPRINGS
 30 S. NEVADA AVE.
 COLORADO SPRINGS, CO 80903



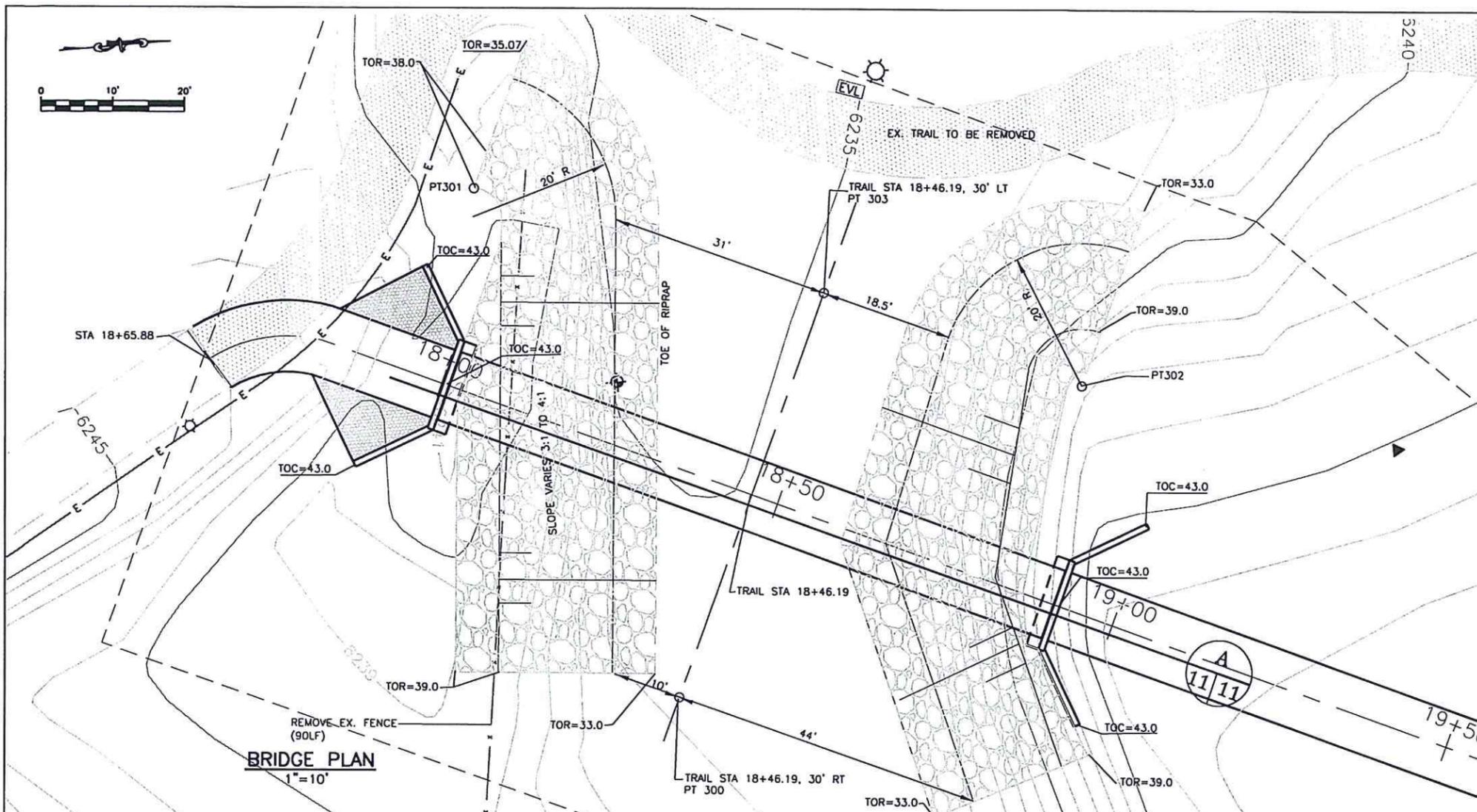
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University Park Trail	
FINAL TRAIL PLAN STA 59+00 TO 64+11	
Designer:	RNW
Detailer:	RNW
Date:	FEB. 15, 2016

Kiowa Proj. No. 15043
Sheet Number 10



DESIGN DATA

UNIFORM PEDESTRIAN LOAD = 90 psf
 VEHICLE LOAD = 10,000 lbs (H5 TRUCK)
 REINFORCED CONCRETE $f_c=4,500$ psi ABUTMENT
 STRUCTURAL STEEL: AASHTO M-183 (ASTM A-36)

BRIDGE DESCRIPTION

PRE-FABRICATED SINGLE SPAN PEDESTRIAN BRIDGE
 WITH SELF-WEATHERING STEEL AND WITH CONCRETE DECKING CDOT CLASS D
 LENGTH = 90 FEET (STA 18+46)
 WIDTH = 10 FEET
 RAILING HEIGHT = 54 INCHES (MINIMUM)

SPECIFICATIONS FOR BRIDGE GIRDER AND DECK UNIT (ITEM 628)

GENERAL

IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND ERECT A FULLY ENGINEERED, PREFABRICATED BRIDGE GIRDER AND DECK UNIT. THIS WORK SHALL CONSIST OF ALL LABOR, MATERIALS, AND EQUIPMENT FOR INSTALLATION OF THE SUPERSTRUCTURE AS SHOWN ON THE PLANS. FABRICATION AND DELIVERY OF THE BRIDGE GIRDER AND DECK UNIT SHALL BE FURNISHED BY THE CITY OF COLORADO SPRINGS. FABRICATION AND CONSTRUCTION OF THE BRIDGE AND ITS COMPONENTS SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS ON THE PLANS.

GEOMETRY

SPAN LENGTHS, DECK WIDTH AND ELEVATIONS SHALL BE IN ACCORDANCE WITH BRIDGE PLANS.

REQUIREMENTS FOR PEDESTRIAN AND BICYCLE RAILING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

DESIGN DATA

THE SUPERSTRUCTURE SHALL BE DESIGNED FOR A MINIMUM PEDESTRIAN LOAD OF 85 psf
 THE SUPERSTRUCTURE SHALL ALSO BE DESIGNED FOR A VEHICLE LOAD OF 10,000 POUNDS (H5 TRUCK).

OTHER LOADS FOR SUPERSTRUCTURE DESIGN SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AASHTO GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES.

MATERIALS

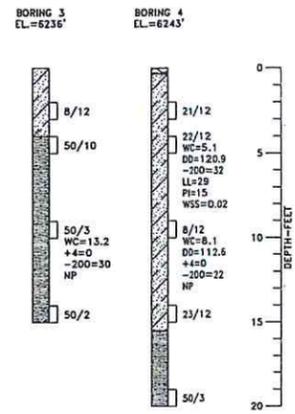
THE BRIDGE SHALL BE FABRICATED FROM HIGH STRENGTH, SELF-WEATHERING, LOW ALLOY, ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD-FORMED WELDED SQUARE AND RECTANGULAR TUBING AND ASTM A588, ASTM A606, OR ASTM A 242 PLATE AND STRUCTURAL STEEL SHAPES ($f_y=50,000$ psi). ALL BOLTS SHALL BE ASTM A325 HIGH STRENGTH BOLTS. DECK SHALL BE 6" THICK CDOT CLASS D REINFORCED CONCRETE OVER 20 GAGE GALVANIZED STEEL FORM DECKING. REINFORCING STEEL SHALL BE GRADE 60 STEEL REBAR.

CONCRETE FOR USE IN THE CONSTRUCTION OF THE DRILLED PIERS, ABUTMENTS AND WINGWALLS SHALL HAVE A MAXIMUM WATER CEMENT RATIO OF .45, A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,500 psi, AND 6% (PERCENT) ENTRAINED AIR.

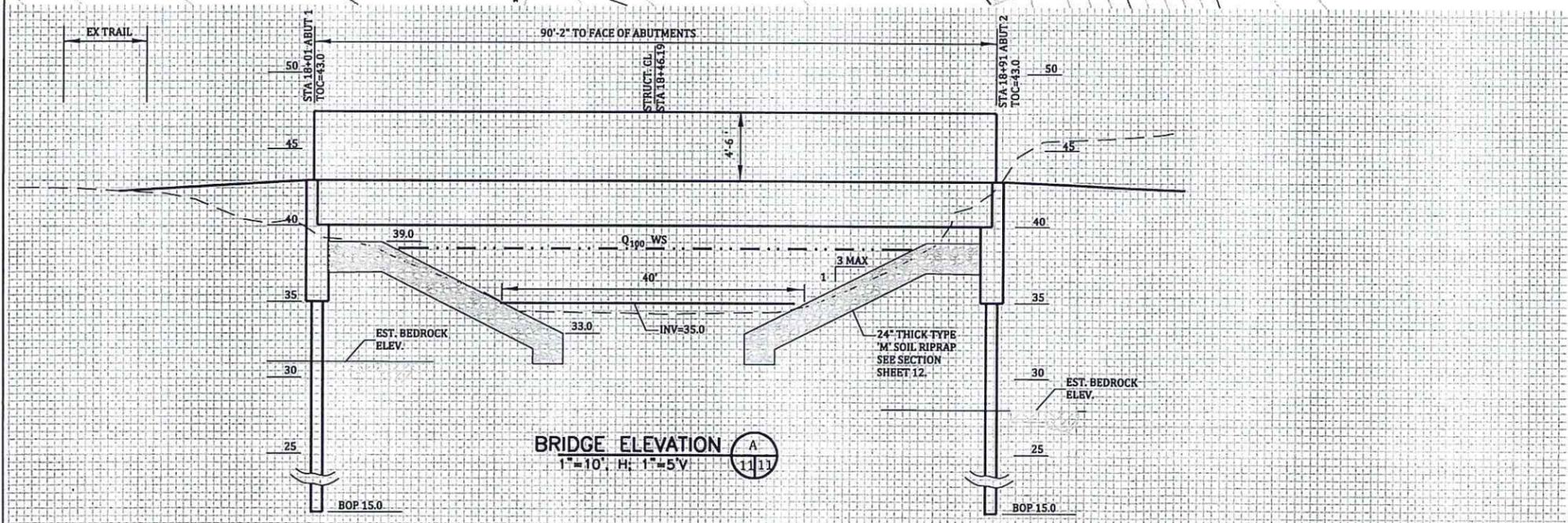
EXPANSION JOINT MATERIAL SHALL MEET AASHTO M-213.

SHOP DRAWINGS

THE CONTRACTOR SHALL SUBMIT SHOP FABRICATION DRAWINGS AND DESIGN CALCULATIONS TO THE CITY OF COLORADO SPRINGS AND UCCS FOR APPROVAL. ALL DRAWINGS AND CALCULATIONS THAT ARE SUBMITTED SHALL BE APPROVED, SIGNED, AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF COLORADO.



SOILS BORINGS



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University Park Trail	
PEDESTRIAN BRIDGE STA 18+50	
Designer:	RNW
Detailer:	RNW
Date:	FEB. 15. 2016

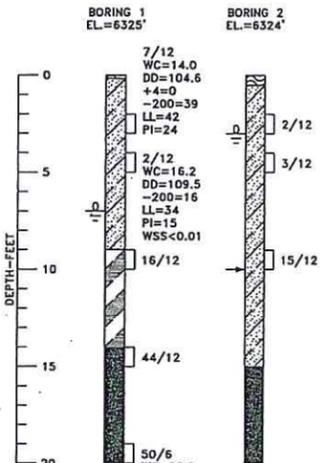
Kiowa Proj. No. 15043
Sheet Number 11

DESIGN DATA

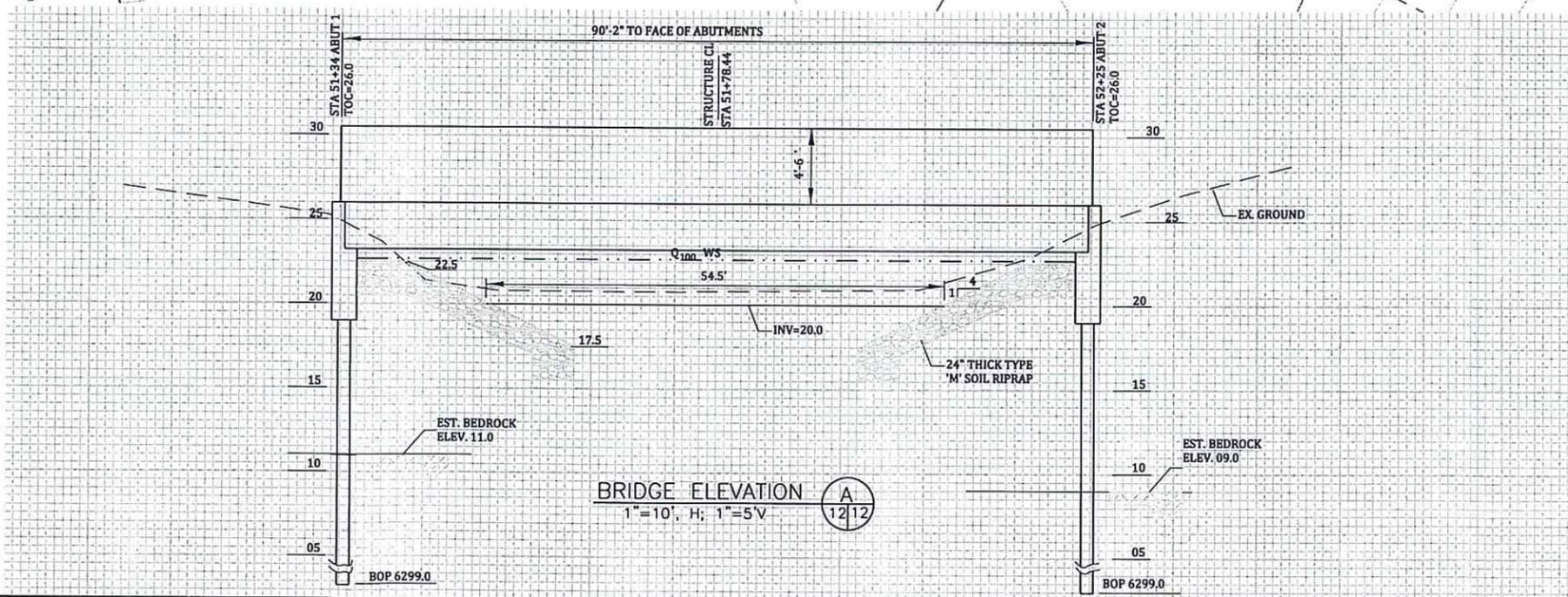
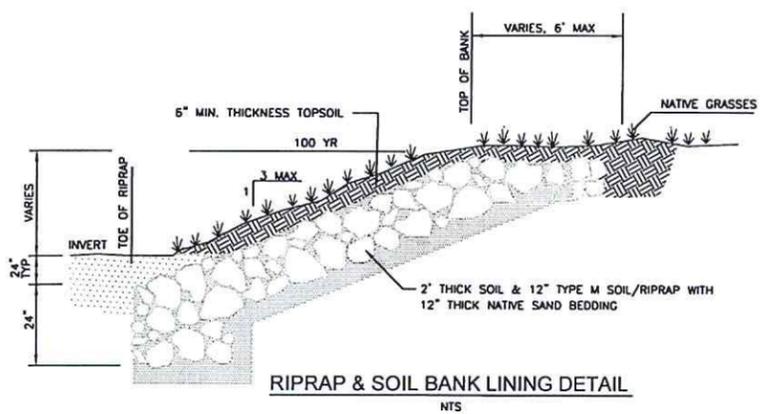
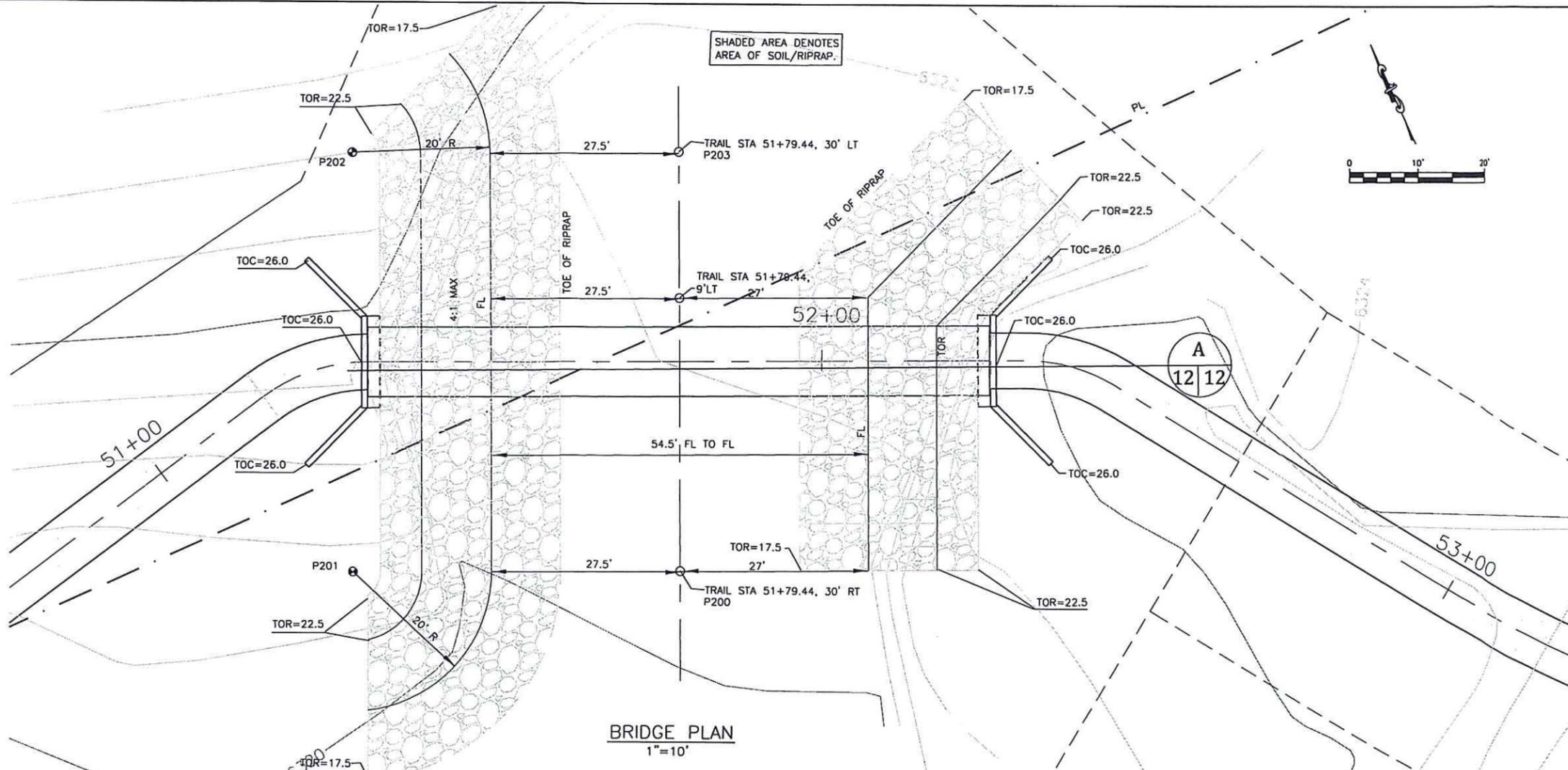
UNIFORM PEDESTRIAN LOAD = 90 psf
 VEHICLE LOAD = 10,000 lbs (H5 TRUCK)
 REINFORCED CONCRETE CLASS BZ, $f_c=4,000$ psi ABUTMENT
 STRUCTURAL STEEL: AASHTO M-183 (ASTM A-36)

BRIDGE DESCRIPTION

PRE-FABRICATED SINGLE SPAN PEDESTRIAN BRIDGE
 WITH SELF-WEATHERING STEEL AND WITH CONCRETE DECKING CDOT CLASS D
 LENGTH = 90 FEET (STA 51+79)
 WIDTH = 10 FEET
 RAILING HEIGHT = 54 INCHES (MINIMUM)



SOILS BORINGS



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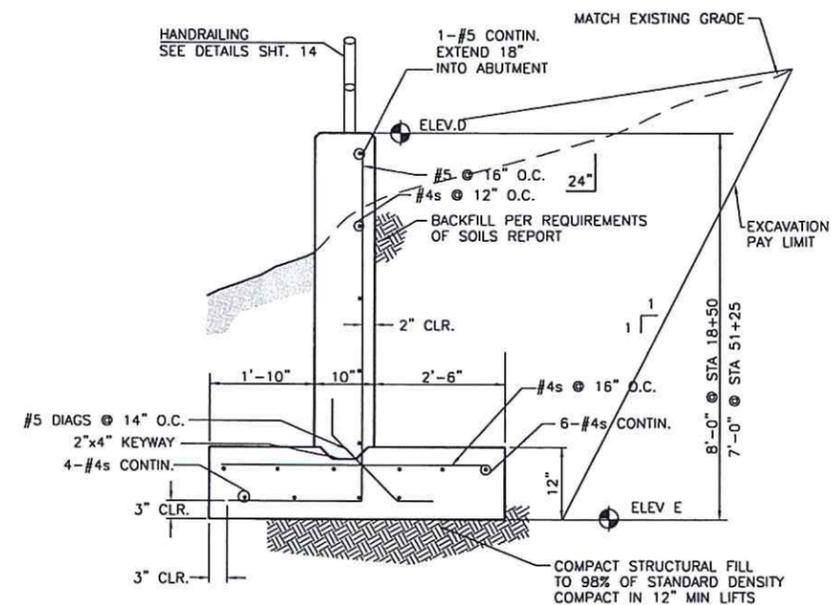
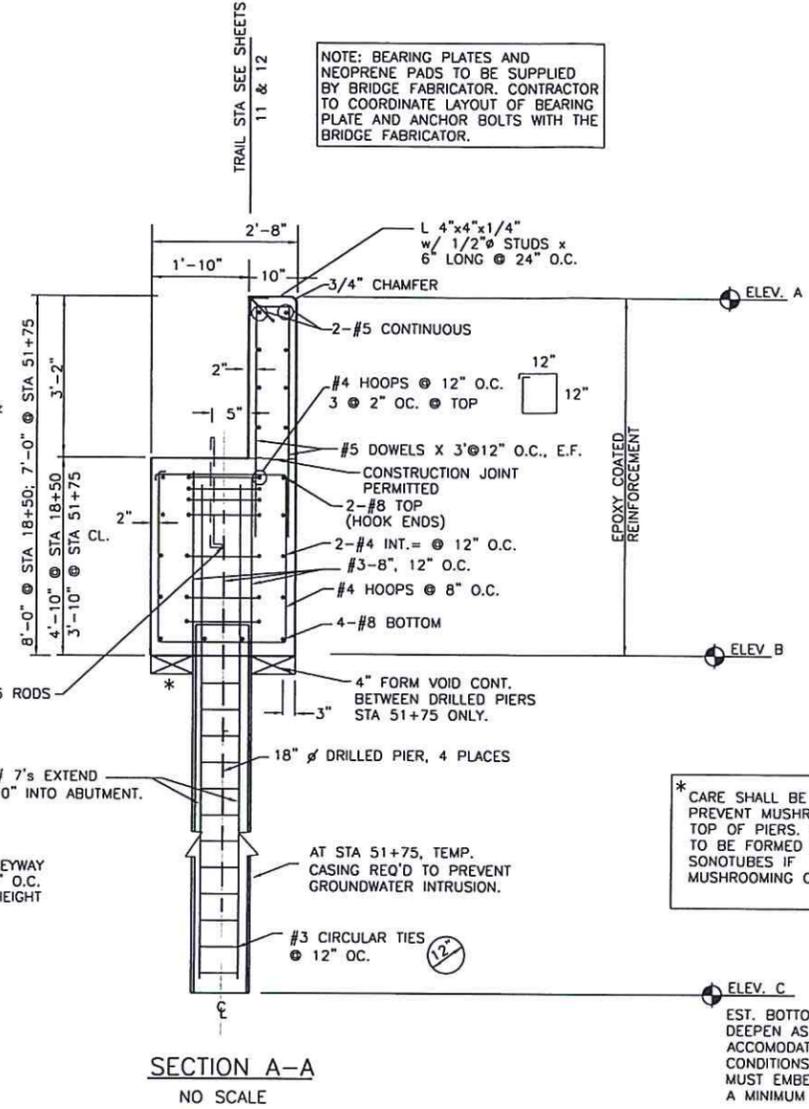
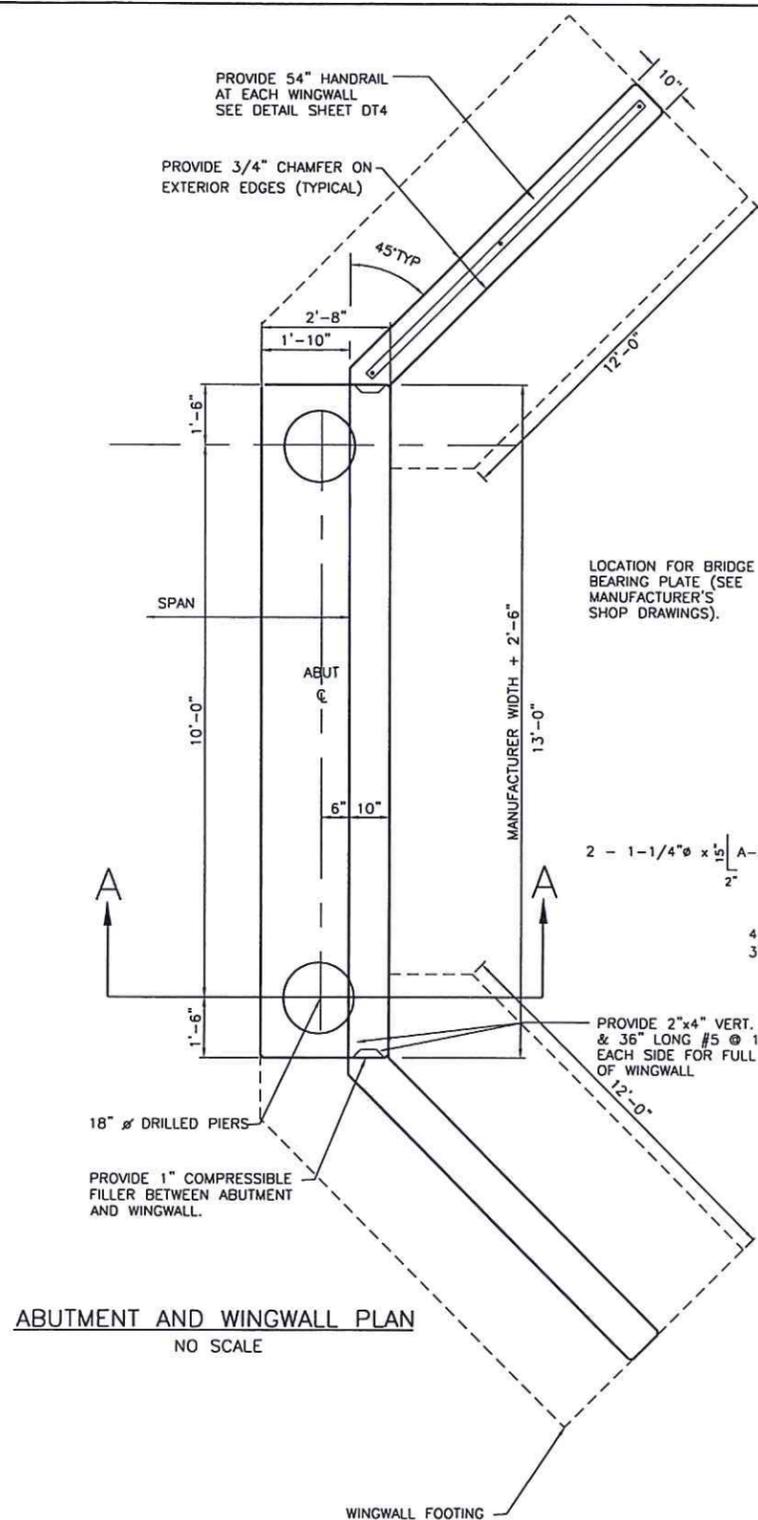
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	Revised:
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University of Colorado at
Colorado Springs
PEDESTRIAN BRIDGE PLAN STA 51+75

Designer: RNW
 Detailer: RNW
 Date: FEB. 15, 2016

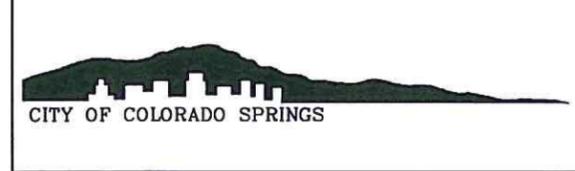
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Sheet Number 12



- NOTES:**
1. A REPRESENTATIVE OF THE SOILS ENGINEER SHALL VERIFY THAT THE REQUIRED MINIMUM PENETRATION INTO BEDROCK HAS BEEN ACHIEVED.
 2. CONCRETE FOR USE IN THE CONSTRUCTION OF THE DRILLED PIERS, ABUTMENTS AND WINGWALLS SHALL HAVE A MAXIMUM WATER CEMENT RATIO OF .45, A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,500 psi, AND 6% (PERCENT) ENTRAINED AIR.

ELEVATION SCHEDULE						
	ELEV. A	ELEV. B	ELEV. C ABUT. 1	ELEV. C ABUT.2	ELEV. D	ELEV.E
STA 18+50	6243.0	6235.0	6214.67	6214.67	6243.0	6235.0
STA 51+75	6326.0	6319.0	6298.67	6298.67	6326.0	6319.0



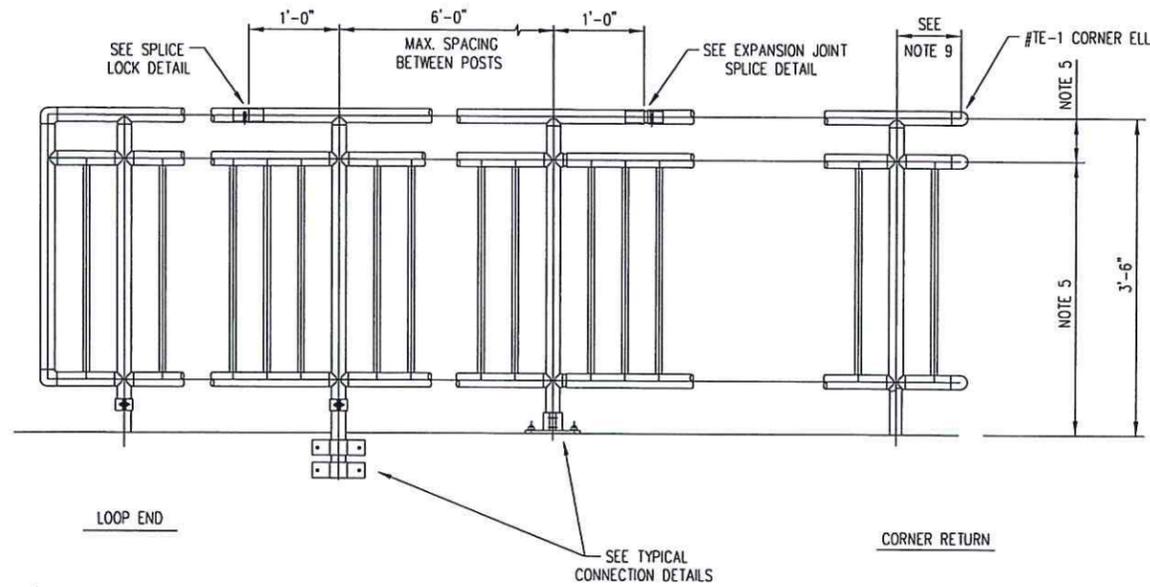
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	Void:

University Park Trail PEDESTRIAN BRIDGE STRUCTURAL DETAILS	
Designer:	RNW
Detailer:	RNW
Date:	FEB. 15, 2016

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Sheet Number 13

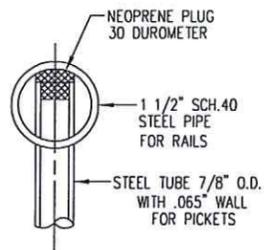
INTERNATIONAL BUILDING CODE (IBC-2012) SUGGESTED DESIGN SPECIFICATIONS

FOR PUBLIC ACCESS APPLICATIONS

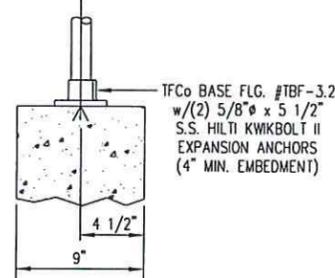


TYPICAL TYPE I HANDRAIL

(GUARDRAILS SHALL BE TOP MOUNTED OR SIDE MOUNTED AS SHOWN ON PLANS)



PICKET TO RAIL CONNECTION



TYPICAL TOP MOUNT CONNECTION TO CONCRETE WALL

POST SPACING = 5'-9"

TYPE I HANDRAIL

- Guardrails and Handrails shall be the product of a company normally engaged in the manufacture of pipe railing. Railing shall be shop assembled in lengths not to exceed 24 feet for field erection.
- The handrail shall be made of pipes joined together with component fittings. Samples of all components, bases, toe plate and pipe shall be submitted for approval at the request of the engineer. Components that are pop-riveted or glued at the joints will not be acceptable. All components must be mechanically fastened with stainless steel hardware. Handrail and components shall be TUFRAIL, as manufactured by Thompson Fabricating, LLC (Birmingham, Alabama) or an approved equal.
- Railings shall be 1 1/2" Schedule 40 STEEL pipe. ASTM-B-221. Posts shall be 1 1/2" Schedule 40 aluminum pipe. Post spacing shall be a maximum of 6'-0".
- Guardrails and Handrails shall be designed to withstand a 200 lb concentrated load applied in any direction and at any point on the top rail. Guardrails and Handrails shall also be designed to withstand a uniform load of 50 lb/ft applied horizontally to the top rail. Uniform loads are not to be applied simultaneously with the concentrated loads.
- Pickets and intermediate railings shall be provided such that a 4-inch diameter sphere cannot pass through any opening up to a height of 34 inches. From a height of 34 inches to 42 inches above the adjacent walking surface, a sphere 4-3/8 inches max in diameter shall not pass. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway shall be of a size such that a sphere of 6 inches in diameter cannot pass through the opening.
- Pickets and intermediate railings shall be designed to withstand a horizontally applied normal load of 50 lb on an area not to exceed one square foot including openings and space between rails.
- The manufacturer shall submit calculations for approval at the request of the Engineer. Testing of base castings or base extrusions by an independent lab or manufacturer's lab (if manufacturer's lab meets the requirements of the Aluminum Association) will be an acceptable substitute for calculations. Calculations will be required for approval of all other design aspects.
- Posts shall not interrupt the continuation of the top rail at any point along the railing, including corners and end terminations (OSHA 1910.23). The top surface of the top railing shall be smooth and shall not be interrupted by projected fittings.
- The mid-rail at a corner return shall be able to withstand a 200 lb load without loosening. The manufacturer is to determine this dimension for their system and provide physical laboratory tests to confirm compliance.
- Concrete anchors shall be stainless steel type 303 or 304 wedge anchors and shall be furnished by the handrail manufacturer. The anchor design shall include the appropriate reduction factors for spacing and edge distances in accordance with the manufacturer's published data.
- Toe plate shall conform to OSHA standards. Toe plate shall be a minimum of 4" high and shall be an extrusion that attaches to the posts with clamps that will allow for expansion and contraction between posts. Toe plates shall be set 1/4" above the walking surface. Toe plates shall be provided on handrails as required by OSHA and/or as shown on drawings. Toe plates shall be shipped loose in stock lengths for field installation.
- Openings in the railing shall be guarded by a self-closing gate (OSHA 1910.23). Safety chains shall not be used unless specifically shown on the drawings.
- HANDRAIL FINISH SHALL BE ONE COAT METAL PRIMER AND TWO COATS POWDER COAT RAL 6009 FIR GREEN.



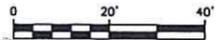
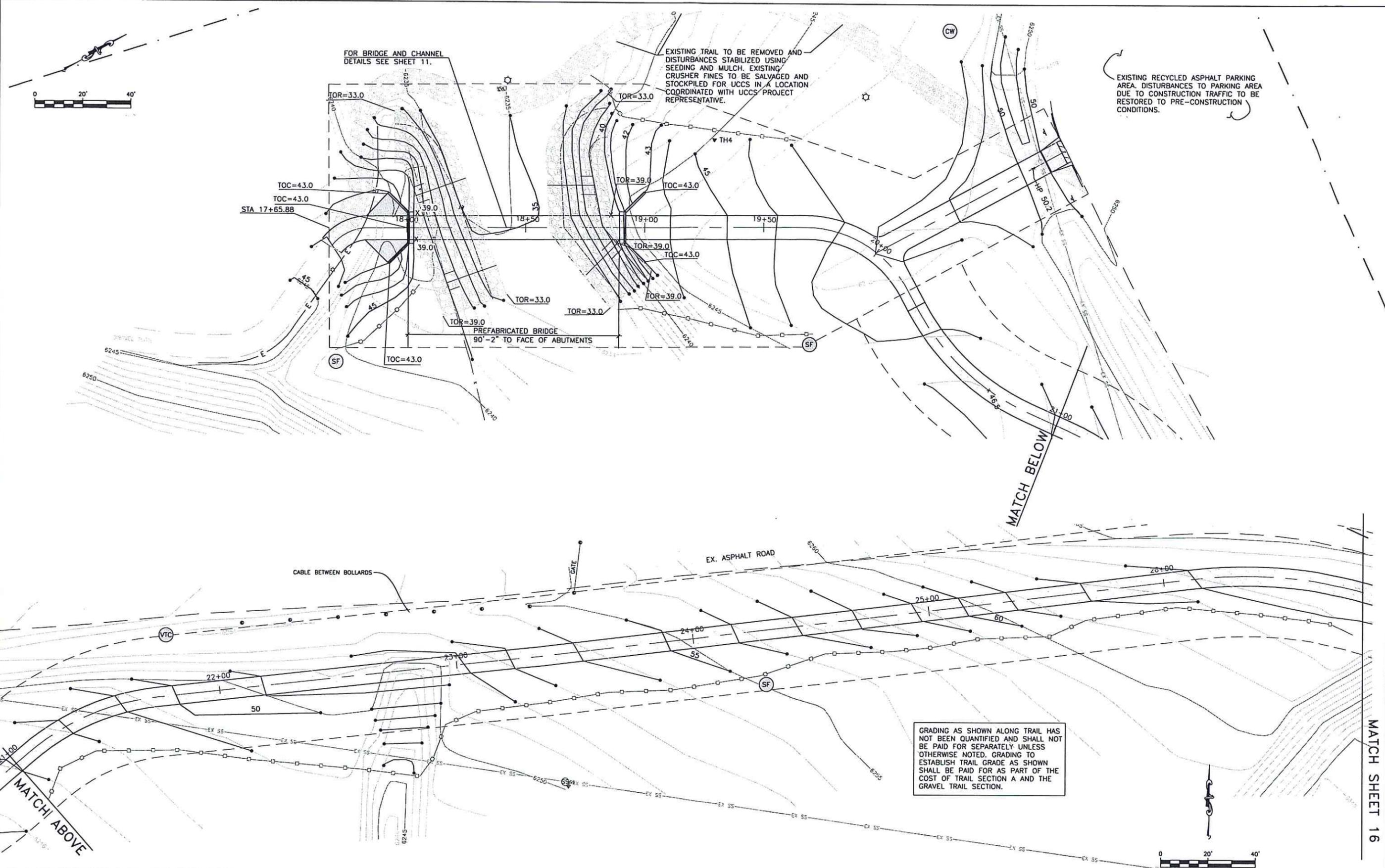
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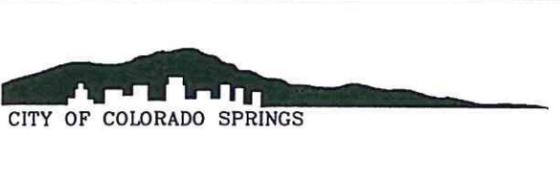
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Void:	

University Park Trail	
MISCELLANEOUS AND STANDARD DETAILS	
Designer:	RNW
Detailer:	RNW
Date:	FEB. 15, 2016

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Sheet Number 14



GRADING AS SHOWN ALONG TRAIL HAS NOT BEEN QUANTIFIED AND SHALL NOT BE PAID FOR SEPARATELY UNLESS OTHERWISE NOTED. GRADING TO ESTABLISH TRAIL GRADE AS SHOWN SHALL BE PAID FOR AS PART OF THE COST OF TRAIL SECTION A AND THE GRAVEL TRAIL SECTION.

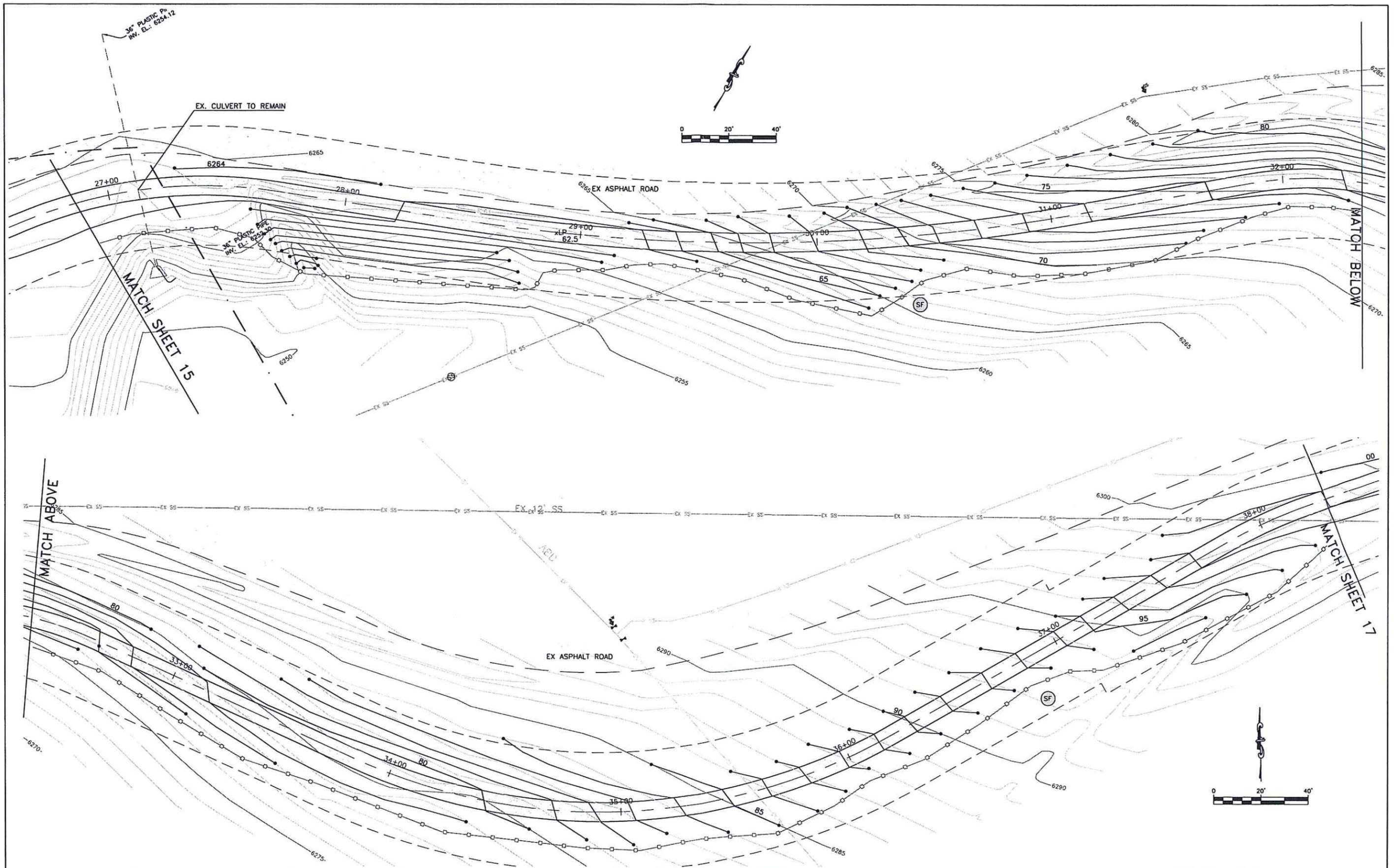


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Designer:	RNW
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Date:	FFR 15 2016

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CITY OF COLORADO SPRINGS



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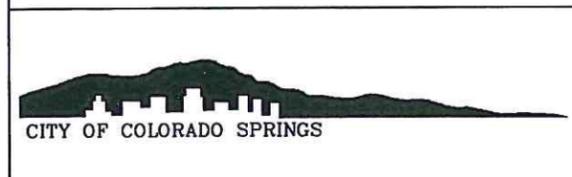
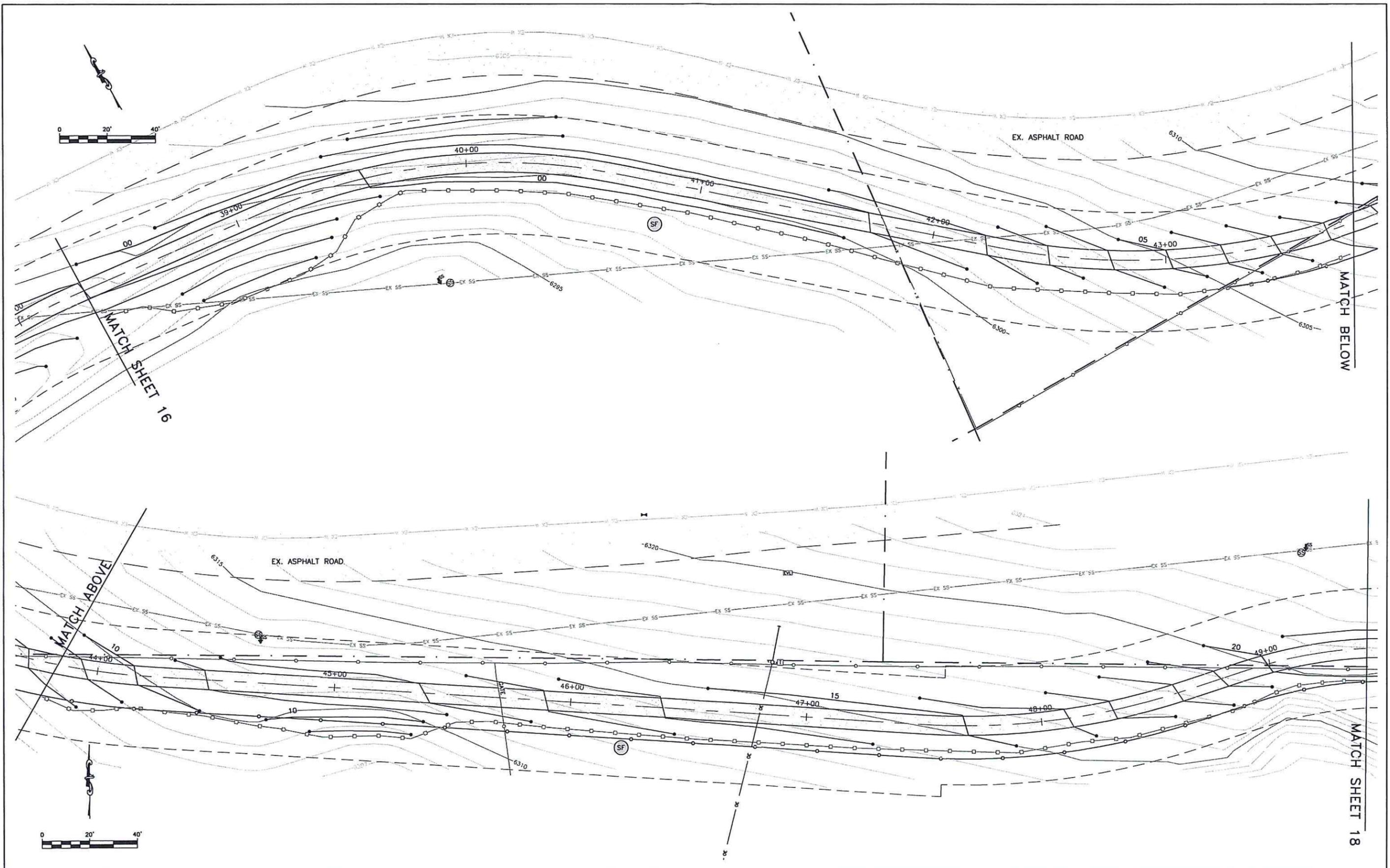
No Revisions:
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University Park Trail
GRADING & EROSION CONTROL PLAN

Designer: RNW
Detailer: RNW
Date: FFR. 15. 2016

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Sheet Number 16

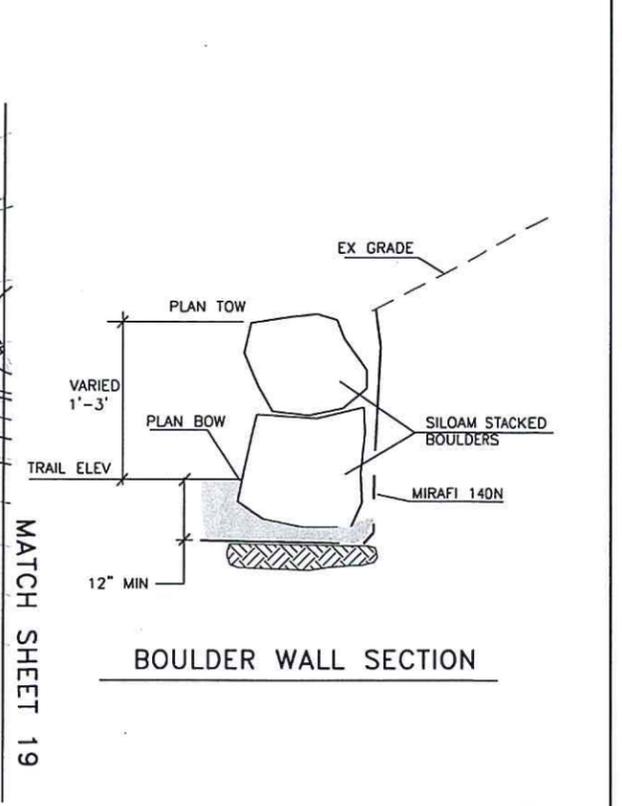
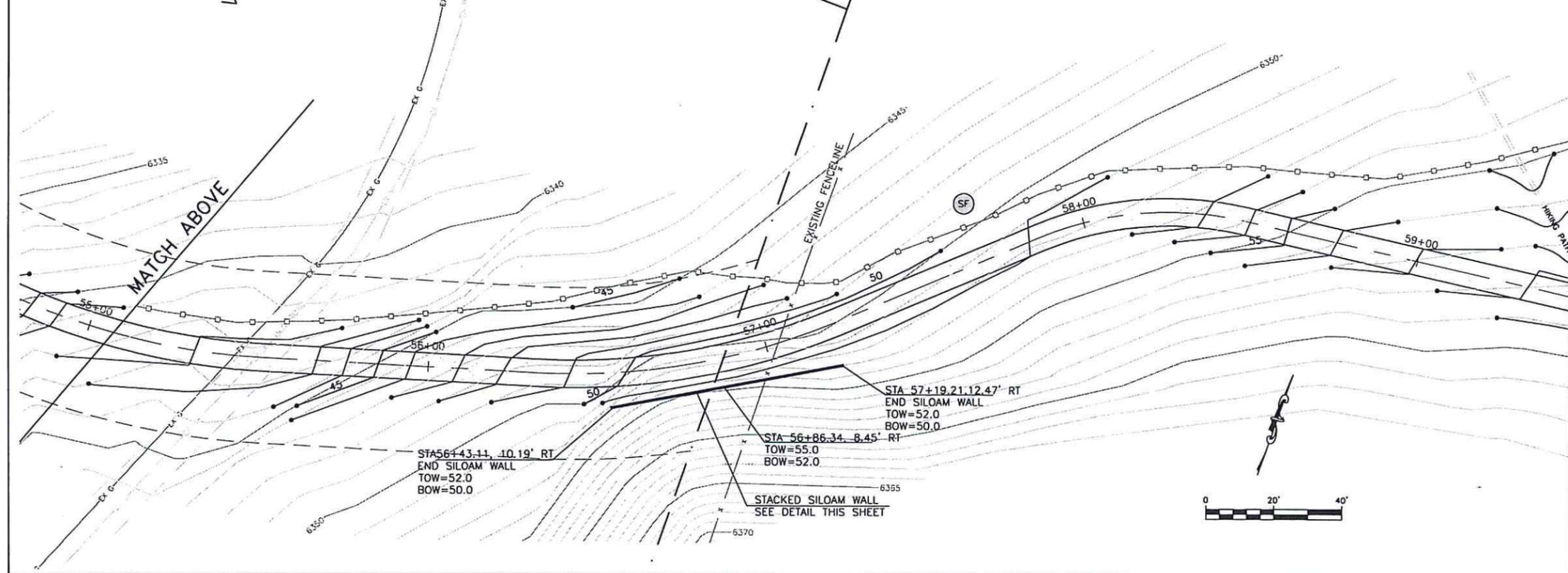
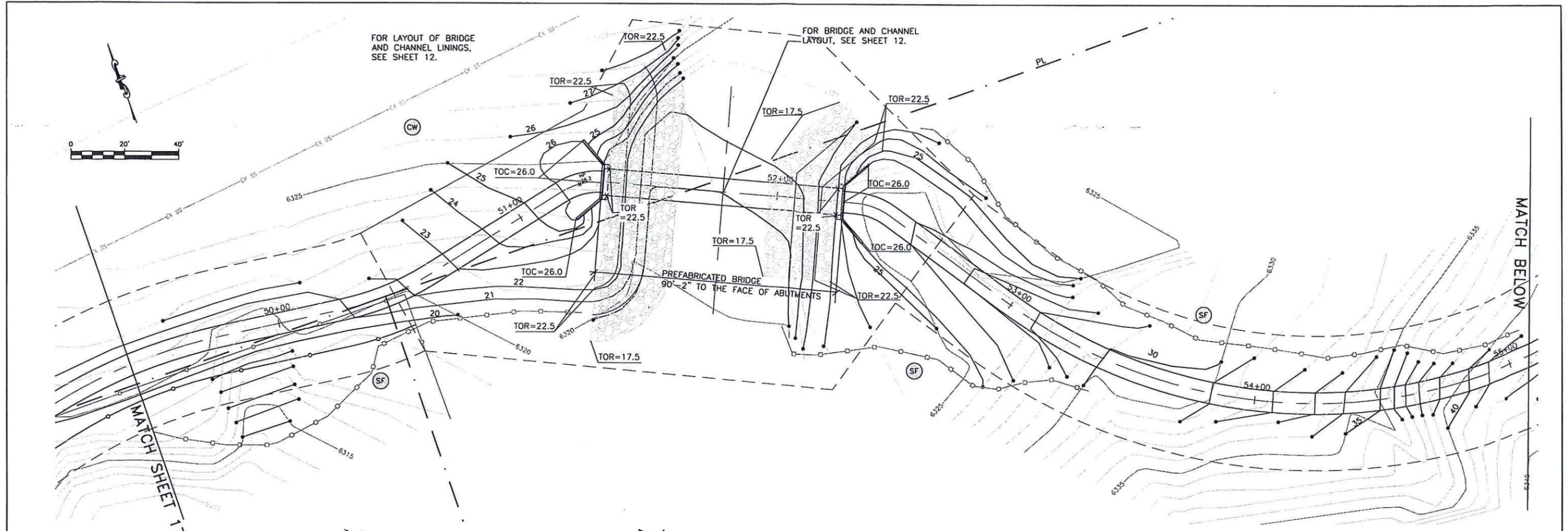


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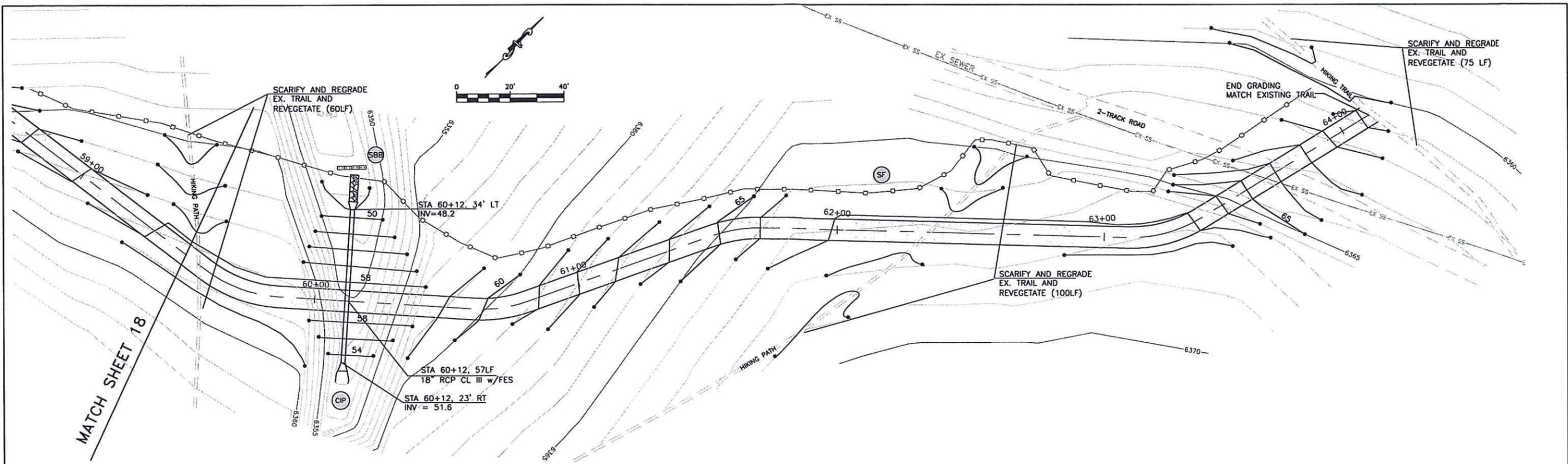
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University Park Trail GRADING & EROSION CONTROL PLAN	
Designer:	RNW
Detailer:	RNW
Date:	FEB 15, 2016

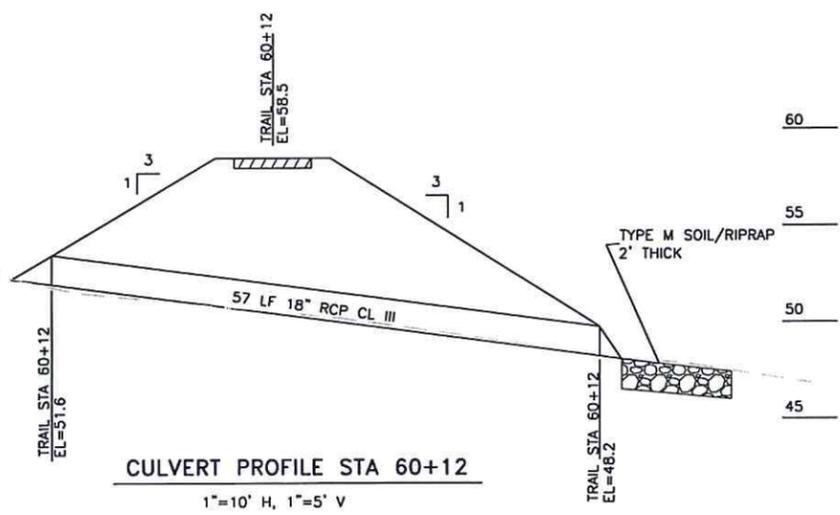
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MATCH SHEET 18



Standard Grading, Erosion And Stormwater Quality Control Plan Notes

1. Any land disturbance by any owner, developer, builder, contractor, or other person shall comply with the Basic Grading, Erosion and Stormwater Quality Control Requirements and General Prohibitions noted in the Drainage Criteria Manual Volume II.
2. No clearing, grading, excavation, filling, or other land disturbing activities shall be permitted until sign off and acceptance of the Grading Plan and Erosion and Stormwater Quality Control Plan is received from EDRD.
3. The installation of the first level of temporary erosion control facilities and BMP's shall be installed and inspected prior to any earth disturbance operations taking place. Call City Stormwater Inspections, 385-5980, 48 hours prior to construction.
4. Sediment (mud and dirt) transported onto a public road, regardless of the size of the site, shall be cleaned immediately.
5. Concrete wash water shall not be discharged to or allowed to runoff to State Waters, including any surface or subsurface storm drainage system or facilities.
6. Soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within twenty-one (21) calendar days after final grading or final earth disturbance has been completed. Disturbed areas and stockpiles which are not at final grade but will remain dormant for longer than thirty (30) days shall also be mulched within twenty-one (21) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded. All temporary soil erosion control measures and BMP's shall be maintained until permanent soil erosion control measures are implemented.
7. The grading and erosion control plan will be subject to re-review and re-acceptance by EDRD should any of the following occur: grading does not commence within twelve (12) months of the City Engineer's acceptance of the plan, a change in property ownership, proposed development changes, or proposed grading revisions.
8. The Plan shall not substantially change the depth of cover, or access existing utility lines. Acceptance of this plan does not constitute approval to grade in any utility easement or right-of-way. Approvals to grade within utility easements must be obtained from the appropriate utility company. It is not permissible for any person to modify the grade of the earth on any Colorado Springs Utilities easement or Utility right-of-way without their written approval. The plan shall not increase or divert water towards utility facilities. Any changes to existing utility facilities to accommodate the plan must be approved by the affected utility owner prior to implementing the plan. The cost to relocate or protect existing utilities or to provide interim access is the applicant's expense.

Engineer's Statement

This Erosion and Stormwater Quality Control/Grading Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. If such work is performed in accordance with the grading and erosion control plan, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

Signature: _____ Date: _____
 Printed Name: _____ Seal: _____

Developer's/Owner's Statement

The owner will comply with the requirements of the Erosion and Stormwater Quality Control Plan including temporary BMP inspection requirements and final stabilization requirements. I acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for stormwater discharges associated with Construction Activity.

Owner Signature: _____ Date: _____
 Name of Owner: City of Colorado Springs Parks, Recreation and Cultural Services
 DBA: _____ Phone: _____
 Title: _____ Email: _____
 Address: _____ Fax: _____

City of Colorado Springs Grading and Erosion Control Review
 This grading plan is filed in accordance with section 7.7.1503 (enacted as ord. 82-56) of the code of the City of Colorado Springs, 2001, as amended. Erosion control is reviewed in accordance with the Drainage Criteria Manual, Vol. I (October 1994) and Vol. II (Aug. 2002); latest revisions.

For the City Engineer

 Notes: _____

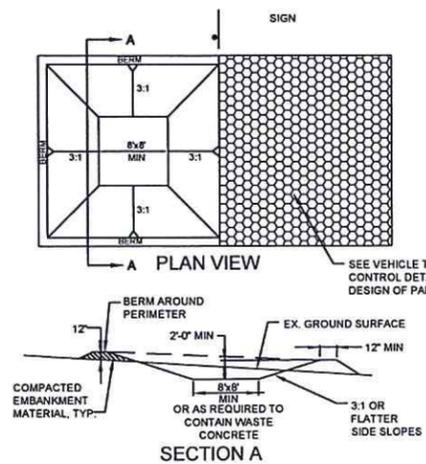


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University Park Trail GRADING & EROSION CONTROL PLAN	
Designer:	RNW
Detailer:	RNW
Date:	FEB. 15, 2016

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Sheet Number	19



CONCRETE WASHOUT AREA
NTS

- INSTALLATION REQUIREMENTS**
- SEE GEC FOR LOCATIONS OF CONCRETE WASHOUT AREA.
 - THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT SITE.
 - VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
 - SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
 - EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.
- MAINTENANCE REQUIREMENTS**
- THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
 - AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
 - WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOPSOIL, DRILL SEED AND CRIMP MULCH OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
 - INSPECT WEEKLY, AND DURING AND AFTER ANY STORM EVENT.



SEEDING AND MULCHING INSTALLATION NOTES

- SEE PLAN VIEW FOR AREA OF SEEDING AND MULCHING.
- TYPE OF SEED MIX.
- ALL BRANDS FURNISHED SHALL BE FREE FROM SUCH NOXIOUS SEEDS AS RUSSIAN OR CANADIAN THISTLE, COARSE FESCUE, EUROPEAN BIRDWEED, JOHNSON GRASS, KNAPWEED AND LEAFY SPURGE.
- THE SEEDER SHALL FURNISH TO THE CONTRACTOR A SIGNED STATEMENT CERTIFYING THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY. SEED WHICH HAS BECOME WET, MOLDY OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL NOT BE ACCEPTABLE. SEED TICKETS SHALL BE PROVIDED TO REGULATING AGENCY UPON REQUEST.
- DRILL SEEDING MIX SHALL CONFORM TO THE TABLE ON THE RIGHT.
- IF THE SEED AVAILABLE ON THE MARKET DOES NOT MEET THE MINIMUM PURITY AND GERMINATION PERCENTAGES SPECIFIED, THE SUBCONTRACTOR MUST COMPENSATE FOR A LESSER PERCENTAGE OF PURITY OR GERMINATION BY FURNISHING SUFFICIENT ADDITIONAL SEED TO EQUAL THE SPECIFIED PRODUCT. THE TAGS FROM THE SEED MIXES MUST BE SUPPLIED TO CONTRACTOR AND FORWARDED TO THE REGULATING AGENCY'S GESC INSPECTOR.
- THE FORMULA USED FOR DETERMINING THE QUANTITY OF PURE LIVE SEED (PLS) SHALL BE: (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS).
- PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY THE REGULATING AGENCY.
- ALL AREAS TO BE SEEDING AND MULCHING SHALL HAVE NATIVE TOPSOIL OR APPROVED SOIL AMENDMENTS SPREAD TO A DEPTH OF AT LEAST 6 INCHES (LOOSE DEPTH). HAIL, ROCKS AND OTHER COMPACTED AREAS SHALL BE LOOSENED TO A DEPTH OF 8 INCHES PRIOR TO SPREADING TOPSOIL.
- SOIL IS TO BE THOROUGHLY LOOSENED (TILLED) TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO SEEDING. THE TOP 6 INCHES OF THE SEED BED SHALL BE FREE OF ROCKS GREATER THAN 4 INCHES AND SOIL CLODS GREATER THAN 2 INCHES. SEEDINGS OVER ANY COMPACTED AREAS THAT HAVE NOT BEEN THOROUGHLY LOOSENED SHALL BE REJECTED.
- SEED IS TO BE APPLIED USING A MECHANICAL DRILL TO A DEPTH OF 1/4 INCH. ROW SPACING SHALL BE NO MORE THAN 6 INCHES. MATERIAL USED FOR MULCH SHALL CONSIST OF LONG-STEMMED STRAW AT LEAST 50 PERCENT OF THE MULCH. BY HEIGHT, SHALL BE 18 INCHES OR MORE IN LENGTH. MULCH SHALL BE APPLIED AND MECHANICALLY ANCHORED TO A DEPTH OF AT LEAST 2 INCHES. MULCH SHALL BE APPLIED AT A RATE OF 4000 LB. OF STRAW PER ACRE.
- IF THE PERMITTEE DEMONSTRATES TO THE REGULATING AGENCY THAT IT IS NOT POSSIBLE TO DRILL SEED, SEED IS TO BE UNIFORMLY BROADCAST AT TWO TIMES THE DRILLED RATE, THEN LIGHTLY HARROWED TO PROVIDE A SEED DEPTH OF APPROXIMATELY 1/4 INCH. THEN ROLLED TO COMPACT. THEN MULCH AS SPECIFIED ABOVE.
- SEEDING AND MULCHING SHALL BE COMPLETED WITHIN 30 DAYS OF INITIAL EXPOSURE OR 7 DAYS AFTER GRADING IS SUBSTANTIALLY COMPLETE IN A GIVEN AREA (AS DEFINED BY THE REGULATING AGENCY). THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
- MULCH SHALL BE APPLIED WITHIN 24 HOURS OF SEEDING.
- TACKIFIER SHOULD BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

SEEDING AND MULCHING MAINTENANCE NOTES

- SEEDING AND MULCHING AREAS SHALL BE INSPECTED FOR REQUIRED COVERAGE MONTHLY FOR A PERIOD OF TWO YEARS FOLLOWING INITIAL SEEDING. REPAIRS AND RE-SEEDING AND MULCHING SHALL BE UNDERTAKEN AFTER THE FIRST GROWING SEASON FOR ANY AREAS FAILING TO MEET THE REQUIRED COVERAGE.
- REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:
 - THREE (3) PLANTS PER SQUARE FOOT SHALL BE OF THE VARIETY AND SPECIES FOUND IN THE DOUGLAS COUNTY APPROVED MIX.
 - NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO FEET BY TWO FEET OR EQUIVALENT).
 - FREE OF INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL.
 - FREE OF INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL.
- REQUIRED COVERAGE FOR TURF GRASS AREAS SHALL BE DEFINED AS FOLLOWS:
 - AT LEAST 80% VEGETATIVE COVER OF GRASS SPECIES PLANTED.
 - NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO FEET BY TWO FEET OR EQUIVALENT).
 - FREE OF INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL.
 - ALL AND OTHER VEGETATION SHALL BE REMOVED WITHIN TOPSOIL PRIOR TO RESEEDING. THE RESEEDING METHOD SHALL BE APPROVED BY THE COUNTY.

SEED MIX

AREAS DISTURBED BY THE EARTHWORK SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASSES. NATIVE SEED MIX FOR THIS PROJECT SHALL BE AS FOLLOWS:

SPECIES	VARIETY	LBS. PLS. per acre Drilled	LBS. PLS. per acre Broadcast
Blue grama (B. gracilis)	Lanington	0.4	0.8
Little bluestem (L. scoparia)	Pasturo	1.2	2.4
Sideoats grama (S. capripendula)	Bulle or Vaughn	1.0	3.2
Prairie sandreed (C. longiligula)	Goshen	1.1	2.0
Sand dropped (S. cyathoides)		1.1	2.2
Green needlegrass (G. viridula)		1.7	3.4
Stromboski wheatgrass	Sodor	2.0	4.0
		8.1 PLS.	16.1 PLS.

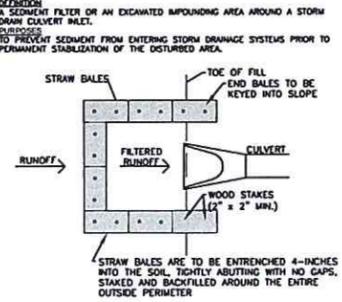
SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL IN AREAS ACCESSIBLE TO A DRILL. HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL.

MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL OR HYDROMULCH.

SEEDING AND MULCH (SM)

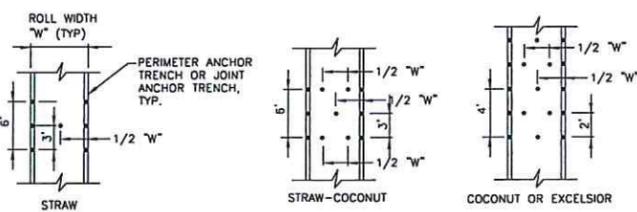
BMP LEGEND

- CWA CONCRETE WASHOUT AREA
- ECB EROSION CONTROL BLANKET
- CIP CULVERT PROTECTION
- SM SEEDING AND MULCHING
- SF SILT FENCE
- SSA STABILIZED STAGING AREA
- VTC VEHICLE TRACKING CONTROL
- LOC LIMITS OF CONSTRUCTION
- SBB STRAW BALE CHECK



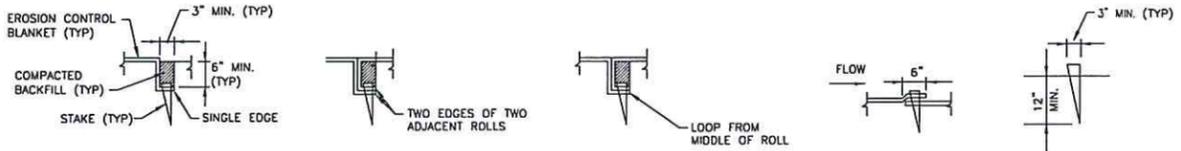
CULVERT INLET PROTECTION
NTS

- INSTALLATION REQUIREMENTS**
- INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
 - BALES ARE TO BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE END OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
 - SEE STRAW BALE BARRIER DETAILS AND NOTES FOR INSTALLATION REQUIREMENTS.
- MAINTENANCE REQUIREMENTS**
- CONTRACTOR SHALL INSPECT STRAW BALE INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.
 - DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED. BALES NEED TO BE REPAIRED WITH COMPACTED BACKFILL MATERIAL.
 - SEDIMENT SHALL BE REMOVED FROM BEHIND STRAW BALES WHEN IT ACCUMULATES TO APPROXIMATELY 1/3 THE HEIGHT OF THE BARRIER.
 - INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.



STAKING PATTERNS
NTS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION, IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE).



PERIMETER ANCHOR TRENCH
NTS

JOINT ANCHOR TRENCH
NTS

INTERMEDIATE ANCHOR TRENCH
NTS

OVERLAPPING JOINT
NTS

WOOD STAKE DETAIL
NTS, MIN. THICKNESS 1/2"

EROSION CONTROL BLANKET INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
 - TYPE OF BLANKET (STRAW, STRAW-COCOONUT, COCONUT OR EXCELSIOR)
 - AREA "A" IN SQUARE YARDS OF EACH TYPE BLANKET.
- ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
- IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE BLANKET IN ACCORDANCE WITH THE SEEDING AND MULCHING REQUIREMENTS. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE, NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
- INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
- THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
- MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO THE ADJACENT TABLE.

EROSION CONTROL BLANKET INSTALLATION NOTES - CONTINUED

- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED.
- SEE DRAINAGE DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION MEASURES THAT MAY EXCEED THE DESIGN CONDITIONS ASSOCIATED WITH THE DETAILS ABOVE.
- ANY EROSION CONTROL BLANKET PULLED OUT, TORN OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

EROSION CONTROL BLANKET TYPE

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING
STRAW	—	100%	—	DOUBLE/NATURAL
STRAW-COCOONUT	30% MIN.	70% MIN.	—	DOUBLE/NATURAL
COCONUT	100%	—	—	DOUBLE/NATURAL
EXCELSIOR	—	—	100%	DOUBLE/NATURAL

* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

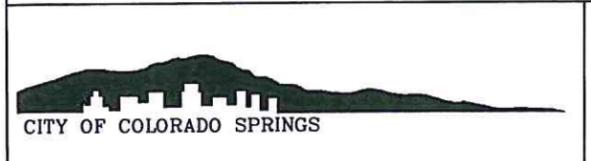
EROSION CONTROL BLANKET MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
- EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS REQUESTED TO BE REMOVED BY THE REGULATING AGENCY.
- ANY EROSION CONTROL BLANKET PULLED OUT, TORN OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

STRAW BALE BARRIER (SBB)
NTS

SILT FENCE DETAIL (SF)
NTS

EROSION CONTROL BLANKET (ECB)
NTS



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Sheet Revisions

As Constructed	No Revisions:	Revised:	Void:
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University Park Trail

EROSION CONTROL DETAILS

Designer: RNW
Detailer: RNW
Date: FFR 15 2016

Kiowa Proj. No. 15043

Sheet Number 20