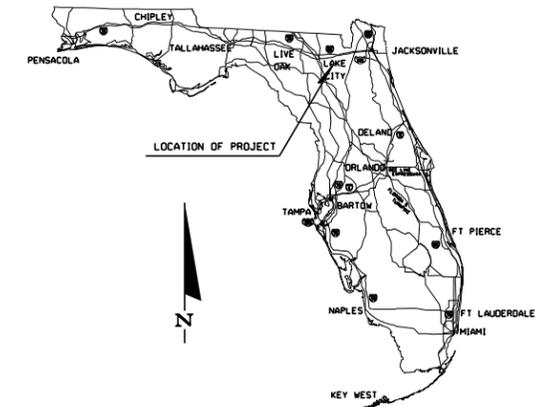


# SW BISHOP AVE ROADWAY IMPROVEMENTS

## CONSTRUCTION PLANS

STA 10+00.00 TO 91+34.16

FOR:  
Columbia County Engineer  
Chad Williams, P.E.  
PO Box 1529  
Lake City, FL 32055  
Phone: (386) 758-1005



### LEGEND

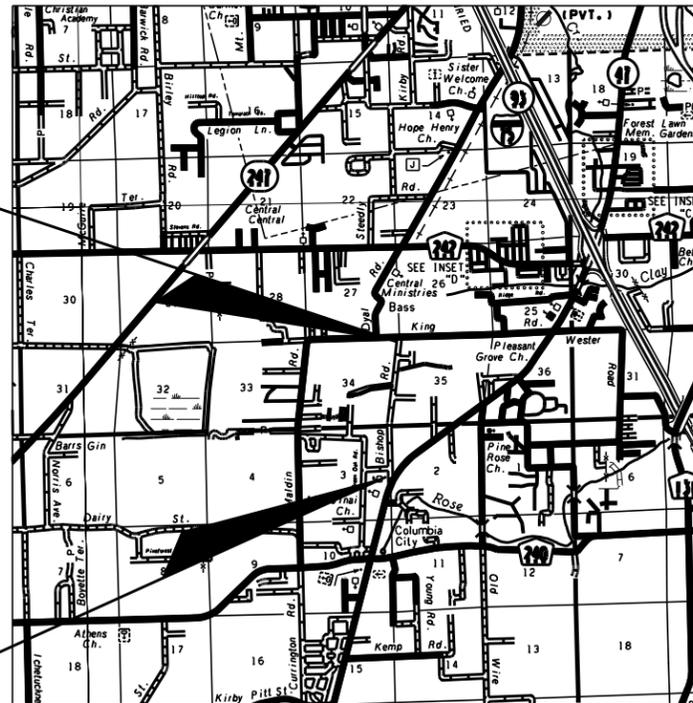
EXISTING		PROPOSED	
CONCRETE MONUMENT FOUND	□	TELEPHONE POLE	⊙
IRON PIPE FOUND	○	TELEPHONE MANHOLE	⊙
ELECTRIC METER	⊙	ELECTRIC MANHOLE	⊙
ELECTRIC MANHOLE	⊙	ELECTRIC METER	⊙
LIGHT STANDARD	⊙	LIGHT	⊙
POWER POLE	⊙	STANDARD POWER POLE	⊙
SHARED POWER POLE W/ TRANSFORMER	⊙	POWER POLE SHARED	⊙
SHARED POWER POLE	⊙	POWER POLE SHARED W/ TRANSFORMER	⊙
TELEPHONE POLE	⊙	GAS METER	⊙
REDUCER	⊙	GAS VALVE	⊙
WATER METER	⊙	WATER METER	⊙
WATER VALVE	⊙	WATER VALVE	⊙
FIRE HYDRANT	⊙	WATER REDUCER	⊙
BACKFLOW PREVENTER	⊙	WATER TEE	⊙
SANITARY SEWER VALVE	⊙	WATER 90° BEND	⊙
SANITARY MANHOLE	⊙	SINGLE WATER SERVICE	⊙
STORMWATER MANHOLE	⊙	DOUBLE WATER SERVICE	⊙
FDOT STORMWATER MANHOLE	⊙	FIRE HYDRANT	⊙
GROUND CONTOUR	—	BACKFLOW PREVENTER	⊙
D.O.T. MARKER FOUND	*	SANITARY MANHOLE	⊙
GAS METER	⊙	SANITARY VALVE	⊙
GAS VALVE	⊙	SANITARY SINGLE SERVICE	⊙
SOIL BORING LOCATION	⊙	SANITARY DOUBLE SERVICE	⊙
SINGLE POST SIGN	⊙	GROUND CONTOUR	—
BENCH MARK	⊙	DITCH BLOCK	⊙
SECTION CORNER	⊙	STORMWATER MANHOLE	⊙
RIGHT OF WAY	---	FLOW ARROW	→
PROPERTY LINE	—	HANDICAP PARKING	⊙
		MITERED END	⊙
		SIGN	⊙
		RIGHT OF WAY	---

### ABBREVIATIONS

PL	PROPERTY LINE	IP	IRON PIPE
CL	CENTER LINE	MH	MANHOLE
BL	BASE LINE	G	GAS
SAN	SANITARY SEWER	UC	UNDERGROUND CABLE
ST	STORM SEWER	OC	OVERHEAD CABLE
E	ELECTRIC	W	WATER LINE
OHE	OVERHEAD ELECTRIC	HDPE	HIGH-DENSITY POLYETHYLENE
UG	UNDERGROUND ELECTRIC	RCP	REINFORCED CONCRETE PIPE-ROUND
OHT	OVERHEAD TELEPHONE	RCPA	REINFORCED CONCRETE PIPE-ARC
UT	UNDERGROUND TELEPHONE	RCPE	REINFORCED CONCRETE PIPE-ELLIPTICAL
R	RADIUS	CMP	CORRUGATED METAL PIPE-ROUND
CO	CLEANOUT	CMPA	CORRUGATED METAL PIPE-ARC
BM	BENCH MARK	BCCMP	BITUMINOUS COATED CORRUGATED METAL PIPE
IE	INVERT ELEVATION	BCCSP	BITUMINOUS COATED CORRUGATED STEEL PIPE
LF	LINEAR FEET		

END PROJECT  
STA 91+34.16

BEGIN PROJECT  
STA 10+00.00



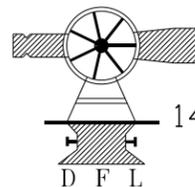
### LOCATION MAP

SECTION 2 & 3 TOWNSHIP 5 SOUTH, RANGE 16 EAST  
SECTION 34 & 35 TOWNSHIP 4 SOUTH, RANGE 16 EAST  
COLUMBIA COUNTY, FLORIDA

### INDEX OF SHEETS

KEY1	KEY SHEET
DET1	GENERAL NOTES AND TYPICAL SECTIONS
DET2	CONNECTION DETAILS
PP1 - PP11	PLAN / PROFILE SHEETS
XSC1-XSC18	CROSS SECTIONS
	APPLICABLE FDOT STANDARDS

COLUMBIA COUNTY PROJECT # 2014-001  
FINANCIAL PROJECT ID: 303.8079.541.60-63



**Donald F. Lee and Associates, Inc.**

SURVEYORS - ENGINEERS

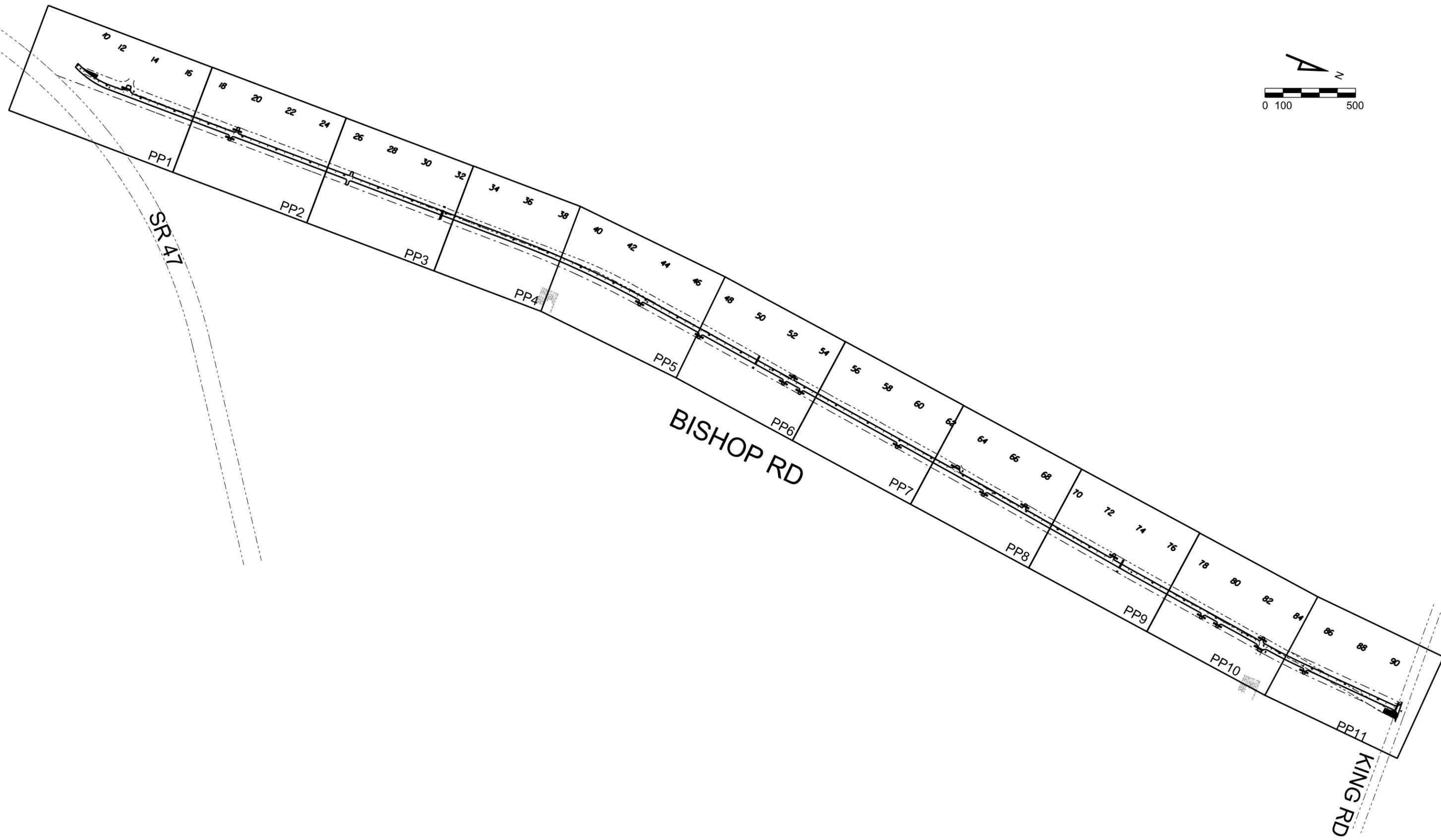
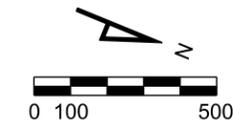
140 Northwest Ridgewood Avenue, Lake City, Florida 32055

Phone: (386) 755-6166 FAX: (386) 755-6167

Surveying Certificate of Authorization # LB 7042

Engineering Certificate of Authorization # 29834

BRETT A. CREWS, P.E. 65592



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



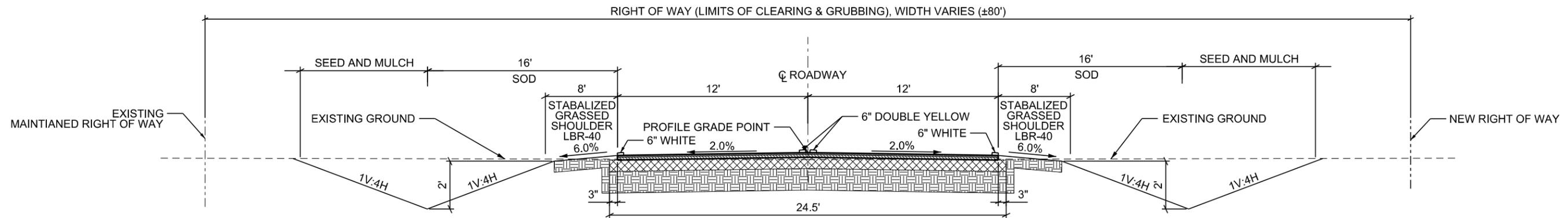
**Donald F. Lee and Associates, Inc.**  
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 Lake City, Florida 32055  
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Brett A. Crews, P.E. 65592

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BC  
 APPROVED BY:  
BC

**SW BISHOP AVE  
 ROADWAY IMPROVEMENTS**  
 KEY SHEET

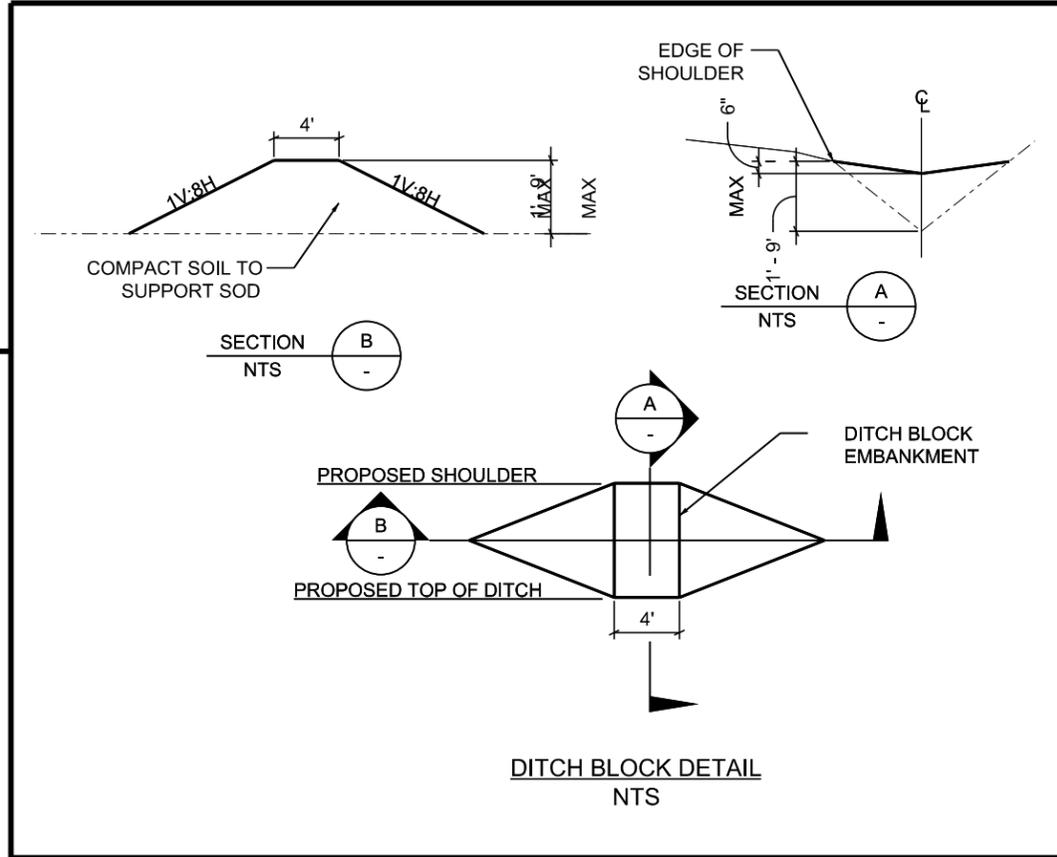
PROJECT NO.:  
2012-020  
 SHEET:  
KEY1



-  SP 9.5 @ 135 LBS/SY
-  SP 12.5 @ 165 LBS/SY
-  0.1 GAL/SY PRIME COAT
- 8" LIMEROCK BASE  
35 MPH DESIGN SPEED
- 12" STABILIZED SUBGRADE  
LBR 30 AND COMPACTED TO 98% OF  
MAXIMUM DRY DENSITY AS ESTABLISHED  
BY ASTM T-99.

ALL FINAL STRIPING SHALL BE APPLIED IN TWO APPLICATIONS  
SEE GENERAL REQUIREMENTS FOR DETAILS

**SW BISHOP AVE TYPICAL SECTION**  
NTS



**GENERAL NOTES**

1. The contractor shall verify all existing conditions and dimensions at the job site to insure that all new work will fit in the manner intended on the plans. Should any conditions exist that are contrary to those shown on the plans, the contractor shall notify the engineer of such differences immediately prior to proceeding with the work.
2. The contractor shall maintain the construction site at all times in a secure manner. All open trenches and excavated areas shall be protected from access by the general public, and closed when workers not present.
3. All construction proposed in these plans shall conform to the latest editions of the FDOT Design Standards.
4. Contractor shall provide an as-built survey meeting the requirements of Chapter 61G17 F.A.C. for the stormwater management systems. Include horizontal and vertical dimensional data so that improvements are located and delineated relative to the boundary. Provide sufficient detailed data to determine whether the improvements were constructed in accordance with the plans. Submit the survey to the engineer on reproducible 20 lb. vellum.
5. All erosion control measures shall be implemented prior to construction and be continued until construction is complete. Contractor shall take necessary measures to minimize erosion, turbidity, nutrient loading and sedimentation to adjacent lands and low areas. The Erosion and Sediment Control Plan shall be maintained as designed and upgraded as needed as directed by Engineer or SRWMD personnel. Construction designs and specifications as outlined by the "Florida Erosion and Sediment Control Inspectors Manual" shall be adhered to.
6. Any boundary and topographical information shown was obtained from a survey performed by Donald Lee and Associates, Inc., Florida Certificate No. 7042
7. Any public land corner within the limits of construction is to be protected. If a corner monument is in danger of being destroyed and has not been properly referenced, the contractor should notify the engineer.
8. Underground utility lines will require adjustment. Contractor will coordinate with utility company. Once clearing and grubbing is complete, contractor may experience a delay up to 2 weeks for utility relocations.

9. An energy dissipation and rubble pad shall be placed at the bottom of all collection flumes and collection pipe outlets.
10. Sod to be certified Bermuda sod.
11. The stormwater system is designed in accordance with SRWMD.
12. Contractor shall sod all slopes greater than 4' horizontal to 1' vertical and staple sod all slopes of 2' horizontal to 1' vertical or greater.
13. All stormwater pipes shall have a minimum cover of 6". Use Limerock backfill if pipe under pavement has less than 12" cover.
14. Soil borings provided, if any, are for informational purposes only, and not to be used in construction bidding process.

**GENERAL REQUIREMENTS**

- I. Project will consist of:
  - a. Construction of SW Bishop Ave (24' wide roadway) with limerock base and asphalt pavement, from the existing pavement near SR 47 to the connection at SW King Rd
  - b. The existing roadway consists of dirt surface and base.
- II. Contract Time
 

The contract time will be 180 calendar days from the date of contract execution. Liquidated damages shall be \$300 per calendar day. No work will be allowed on Saturdays, Sundays, and/or designated county holidays.
- III. Construction and Materials
 

All construction and materials shall conform to the requirements of the latest edition of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction. Certification by an approved testing laboratory is required and is the responsibility of the contractor. Payment shall be as specified in the bid proposal.
- IV. Bidding Requirements See Attached Bid Documents.

**V. Maintenance of Traffic**

1. One traffic lane may be closed from 8:30 am to 4:30 pm only.
2. Flagging will be required.
3. All signage to be provided by contractor.
4. Centerline delineation will be required during all non-working times.
5. Maintenance of Traffic shall conform with Florida Department of Transportation Design Standards, Latest Edition (Standard Indexes 600-670).

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



**Donald F. Lee and Associates, Inc.**  
SURVEYORS - ENGINEERS  
140 Northwest Ridgewood Avenue  
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Brett A. Crews, P.E. 65592

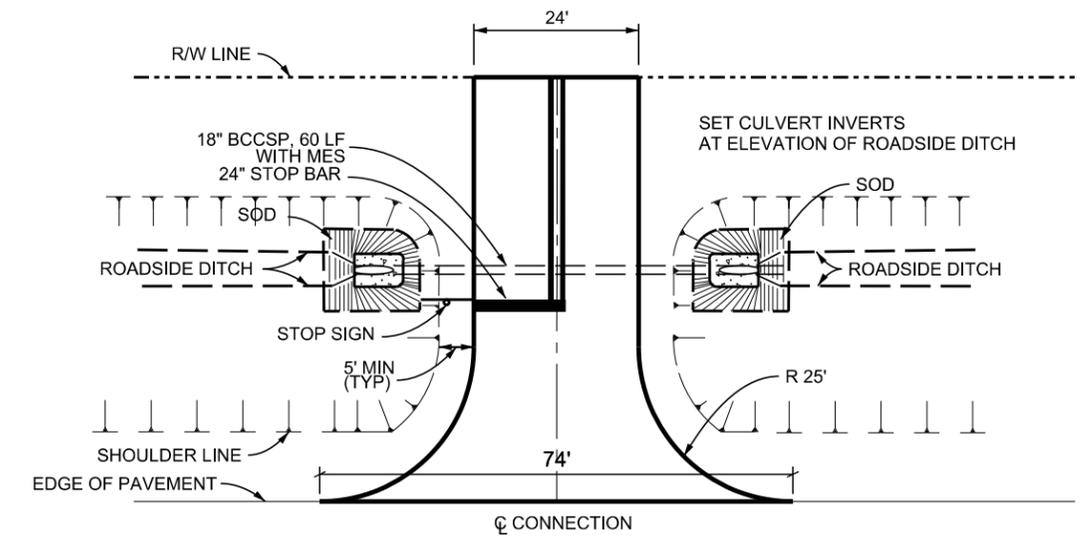
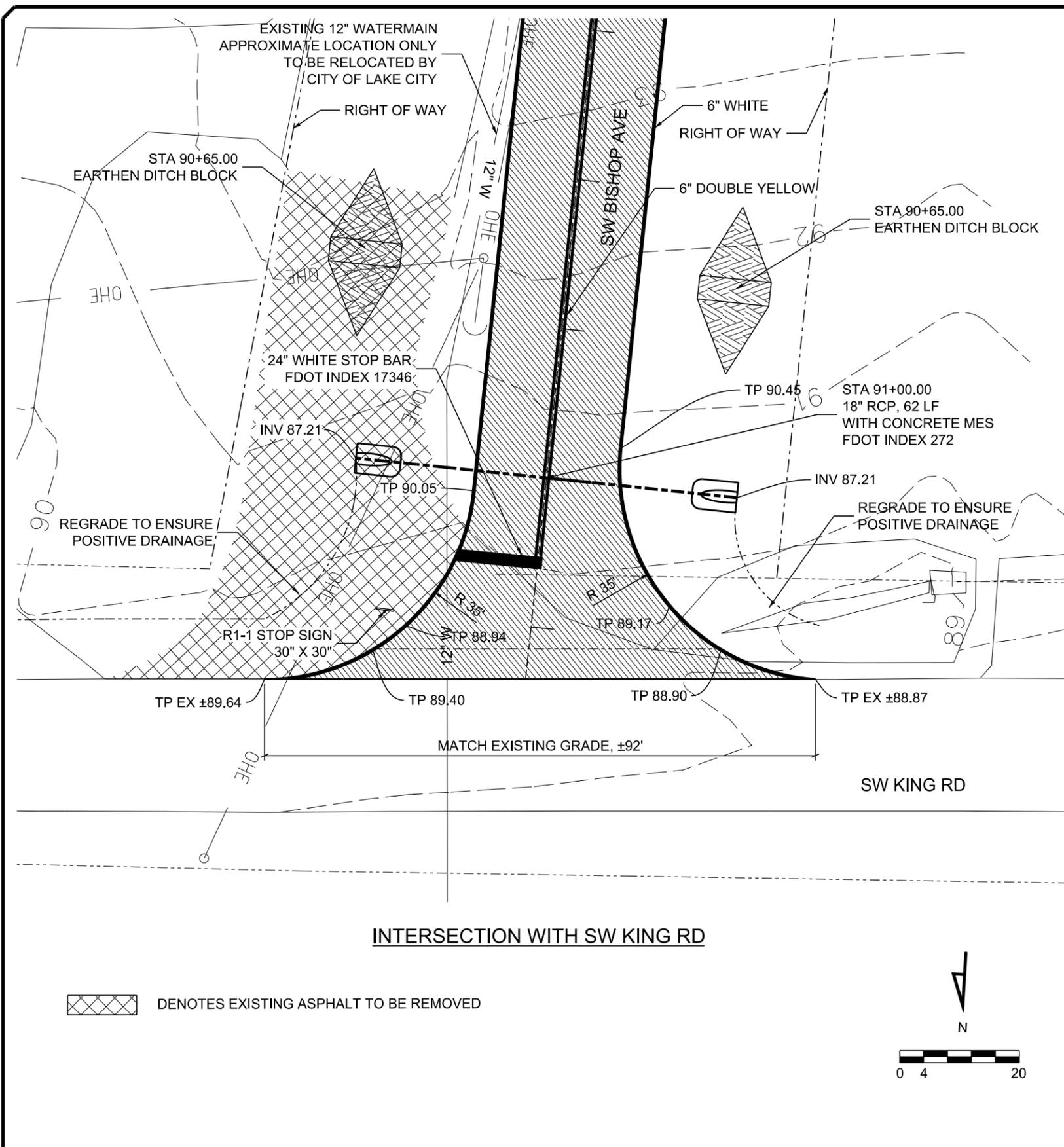
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**BC**  
APPROVED BY:  
**BC**

**SW BISHOP AVE  
ROADWAY IMPROVEMENTS**

**GENERAL NOTES  
AND TYPICAL SECTIONS**

PROJECT NO.:  
**2012-020**

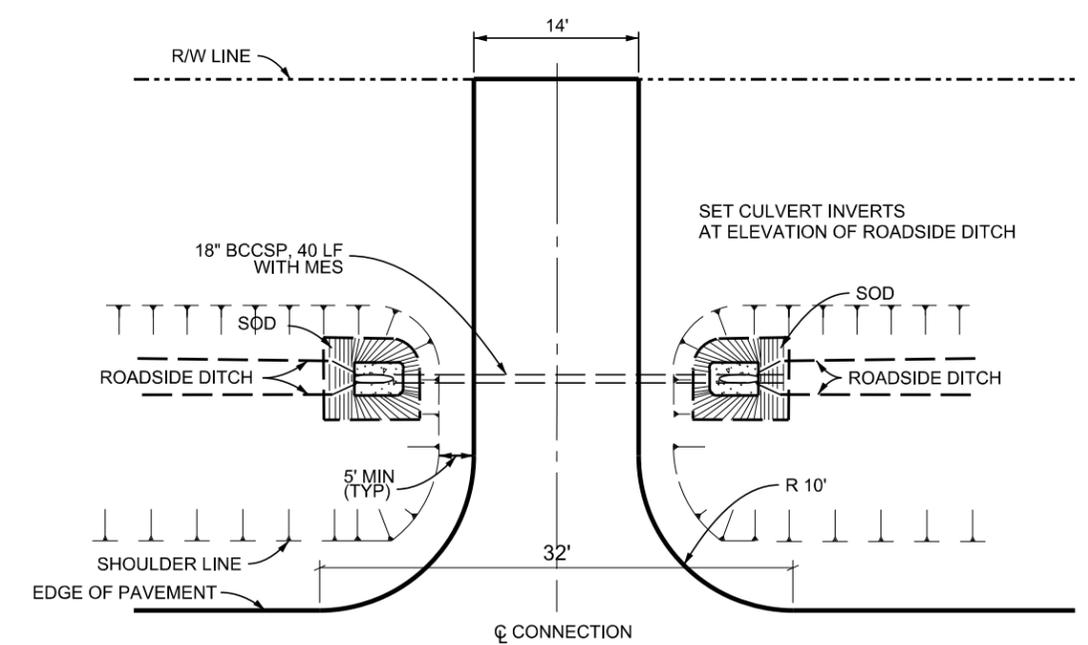
SHEET:  
**DET1**



**TYPICAL ROADWAY CONNECTION DETAIL**  
NTS

PAVEMENT SECTION (WITHIN COUNTY R/W)  
2.0" SUPERPAVE (12.5)  
0.1 GAL/SY PRIME COAT  
6" LIMEROCK BASE  
8" COMPACTED SUB-GRADE, LBR 30

NOTE:  
SUBGRADE SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY AS ESTABLISHED BY ASTM T-99.



**TYPICAL DRIVEWAY CONNECTION DETAIL**  
NTS

PAVEMENT SECTION (WITHIN COUNTY R/W)  
2.0" SUPERPAVE (12.5)  
0.1 GAL/SY PRIME COAT  
6" LIMEROCK BASE  
8" COMPACTED SUB-GRADE, LBR 30

NOTE:  
SUBGRADE SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY AS ESTABLISHED BY ASTM T-99.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

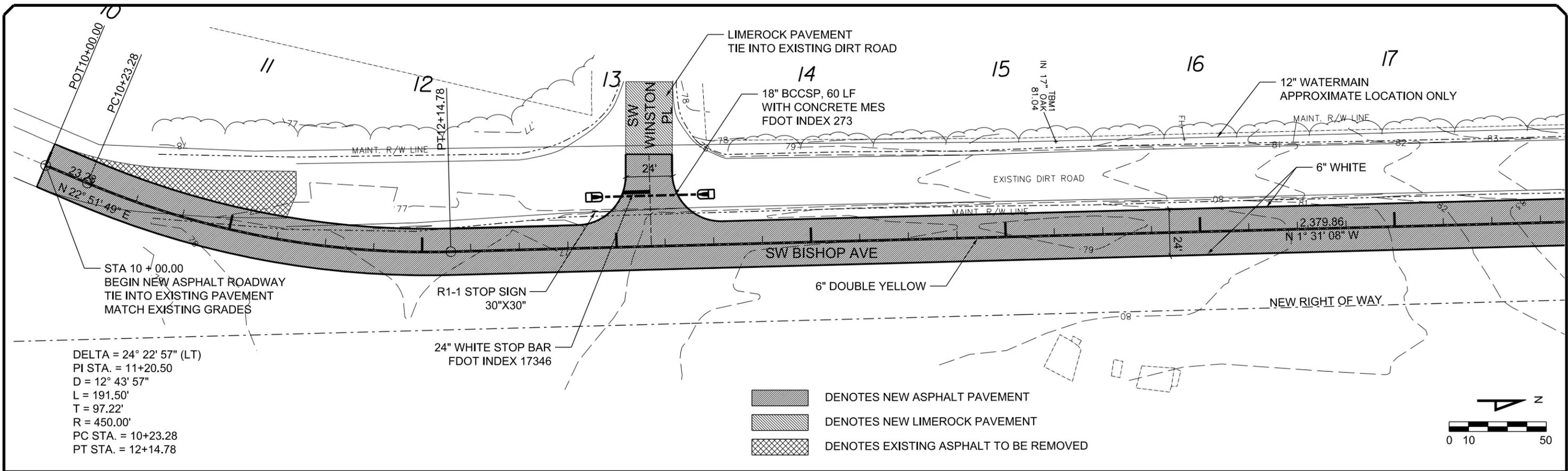

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 APPROVED BY:  
**BC**  
 Brett A. Crews, P.E. 65592

**SW BISHOP AVE  
ROADWAY IMPROVEMENTS**

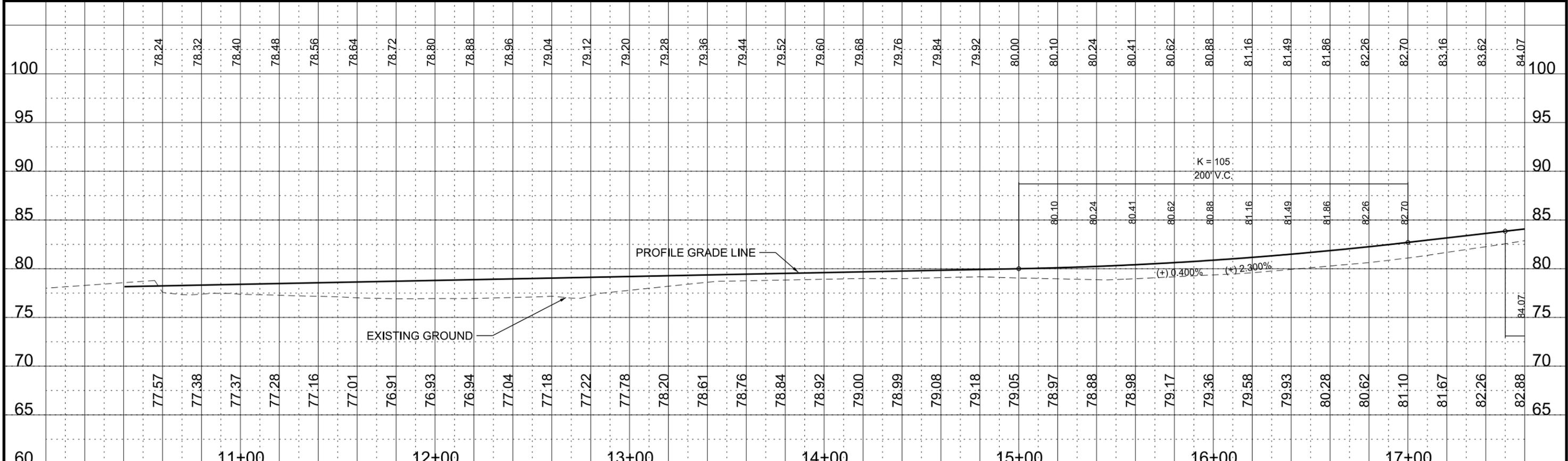
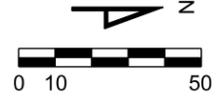
**CONNECTION DETAILS**

PROJECT NO.: 2012-020  
 SHEET: DET2



DELTA = 24° 22' 57" (LT)  
 PI STA. = 11+20.50  
 D = 12° 43' 57"  
 L = 191.50'  
 T = 97.22'  
 R = 450.00'  
 PC STA. = 10+23.28  
 PT STA. = 12+14.78

- DENOTES NEW ASPHALT PAVEMENT
- DENOTES NEW LIMEROCK PAVEMENT
- DENOTES EXISTING ASPHALT TO BE REMOVED

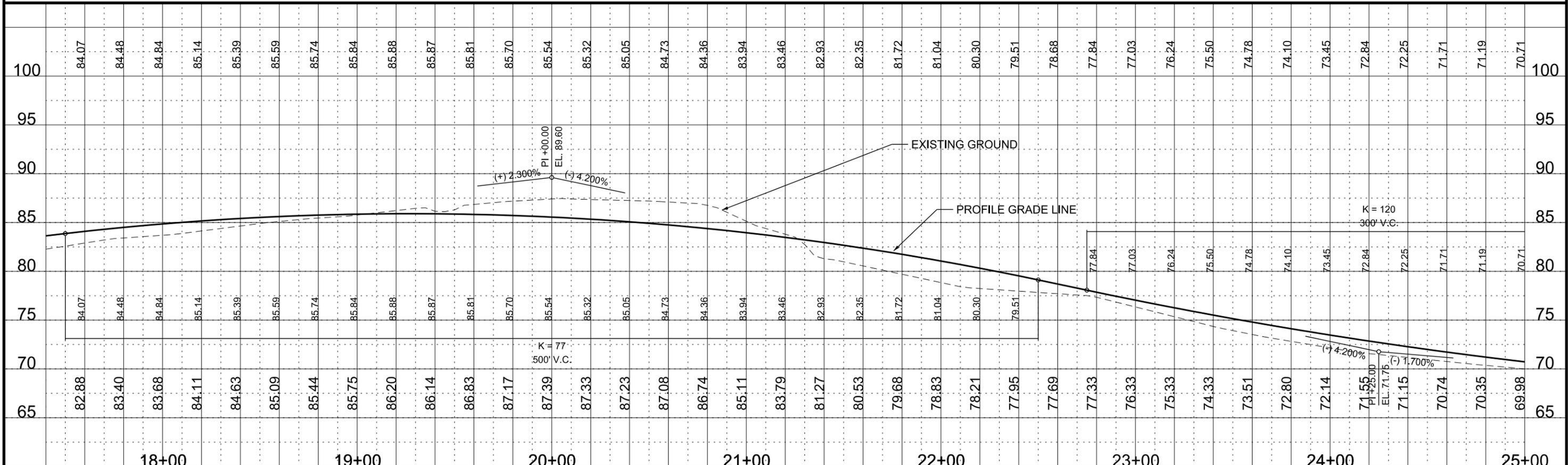
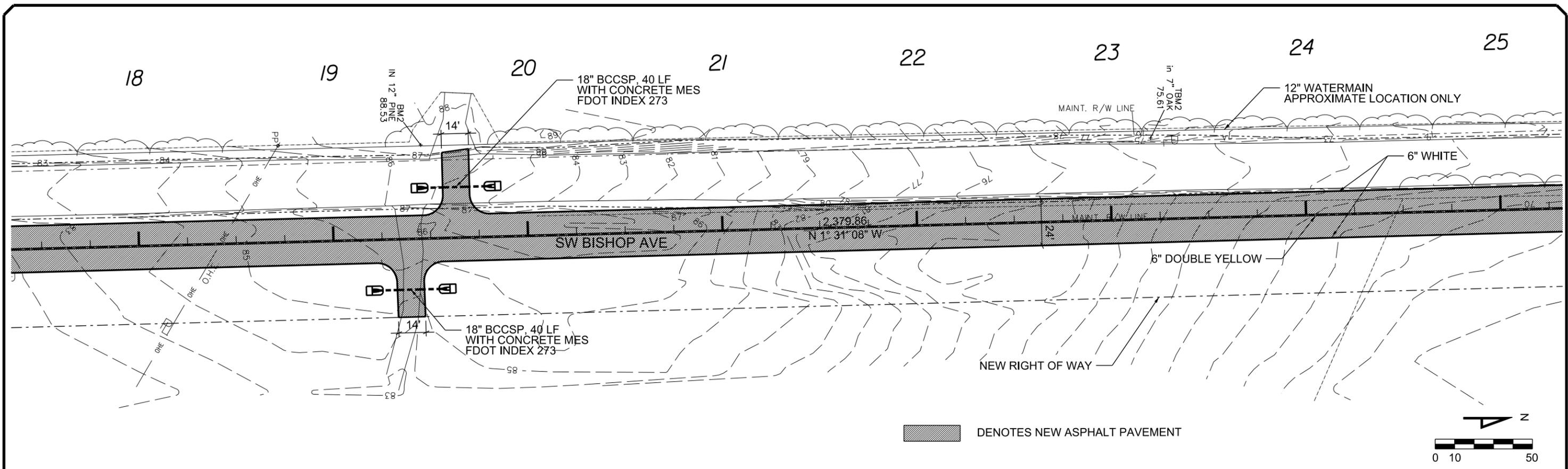


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Brett A. Crews, P.E. 65592

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APPROVED BY: <b>BC</b>		SHEET: <b>PP1</b>
<b>PLAN / PROFILE</b>		

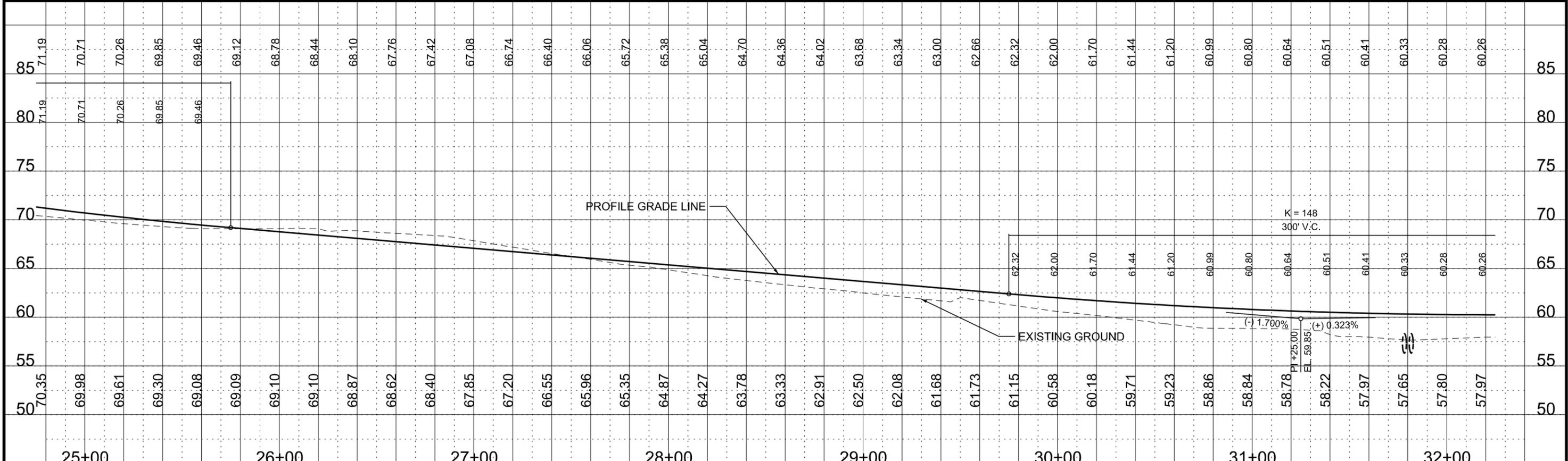
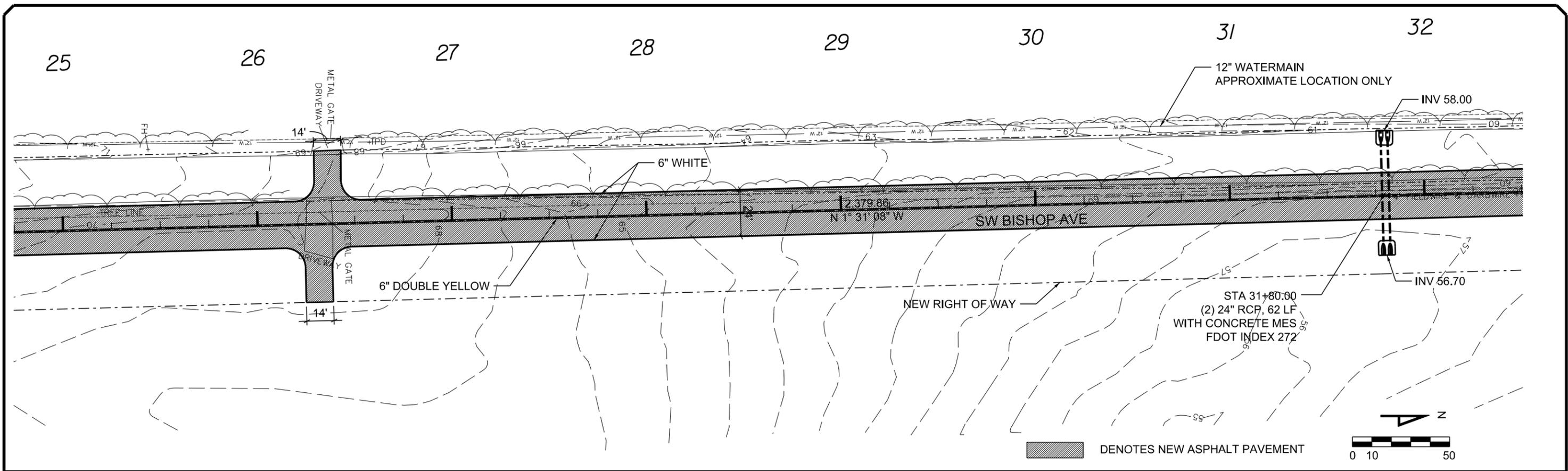


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APPROVED BY:	BC		<b>PLAN / PROFILE</b>	SHEET:

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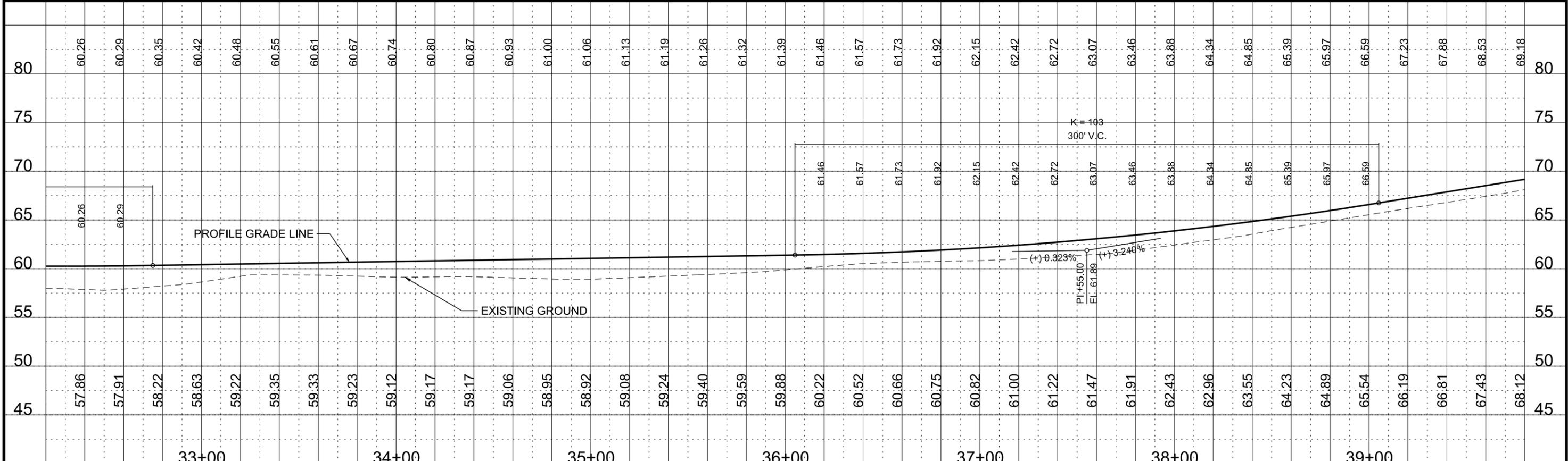
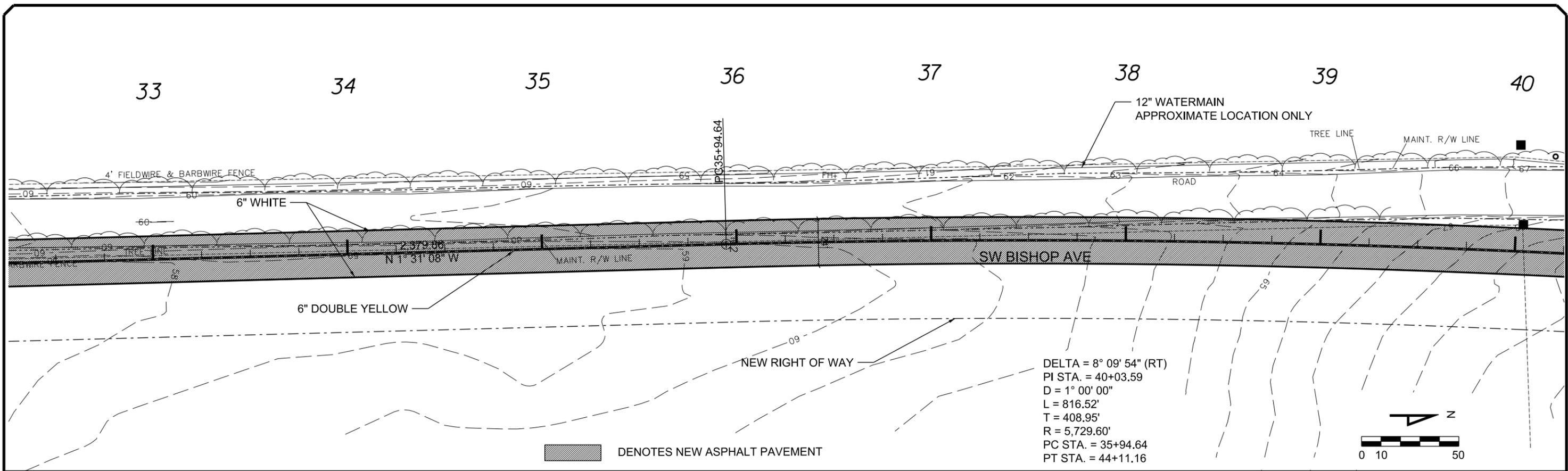


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Brett A. Crews, P.E. 65592

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APPROVED BY: <b>BC</b>		2012-020
<b>PLAN / PROFILE</b>		SHEET: <b>PP3</b>



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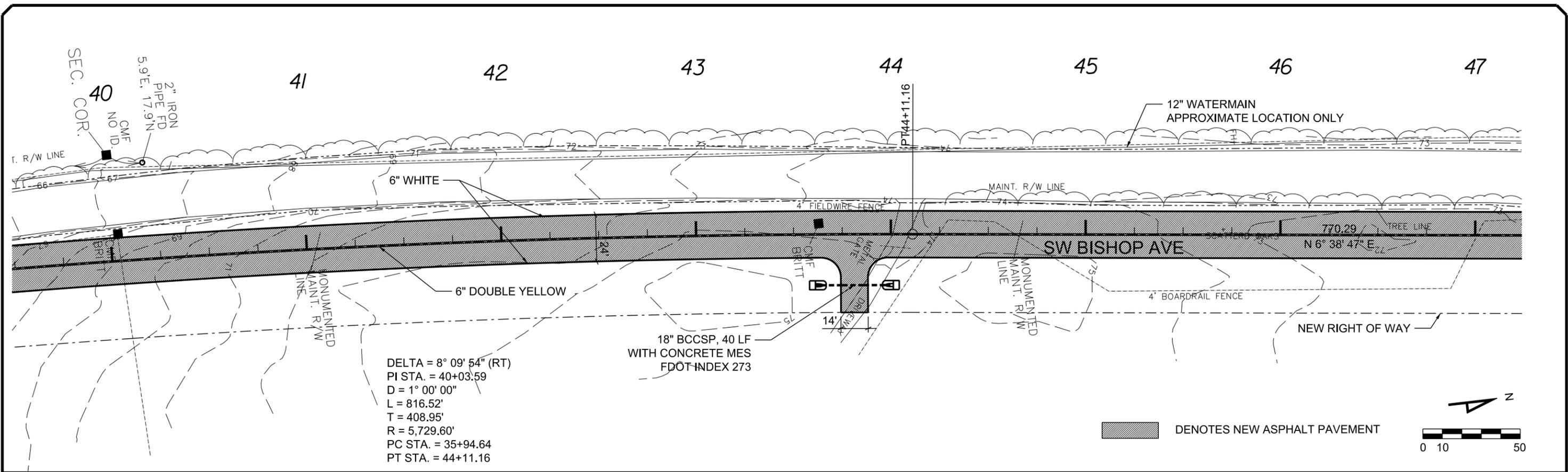
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BC  
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BC

**SW BISHOP AVE  
ROADWAY IMPROVEMENTS**

**PLAN / PROFILE**

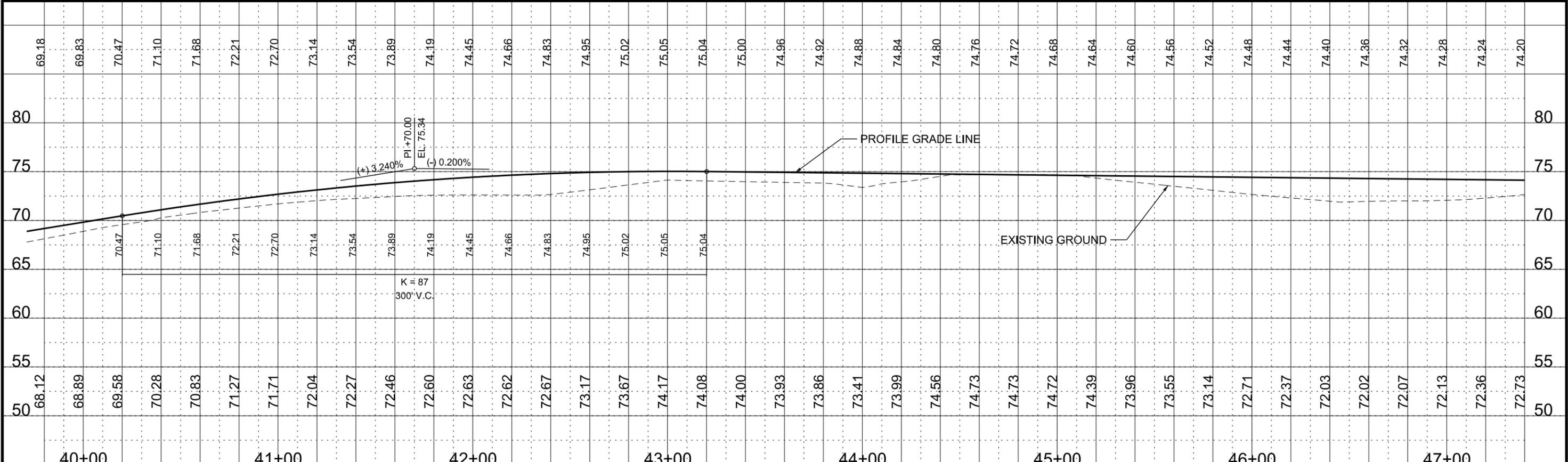
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SHEET:  
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 D = 1° 00' 00"  
 L = 816.52'  
 T = 408.95'  
 R = 5,729.60'  
 PC STA. = 35+94.64  
 PT STA. = 44+11.16

18" BCCSP, 40 LF  
 WITH CONCRETE MES  
 FDOT-INDEX 273

DENOTES NEW ASPHALT PAVEMENT

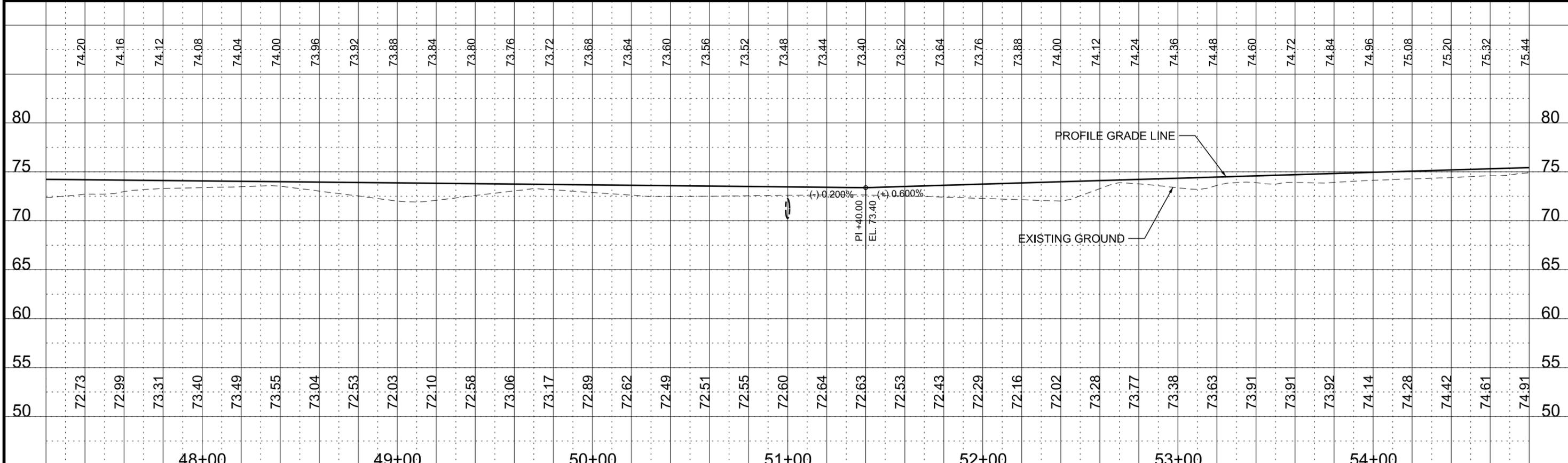
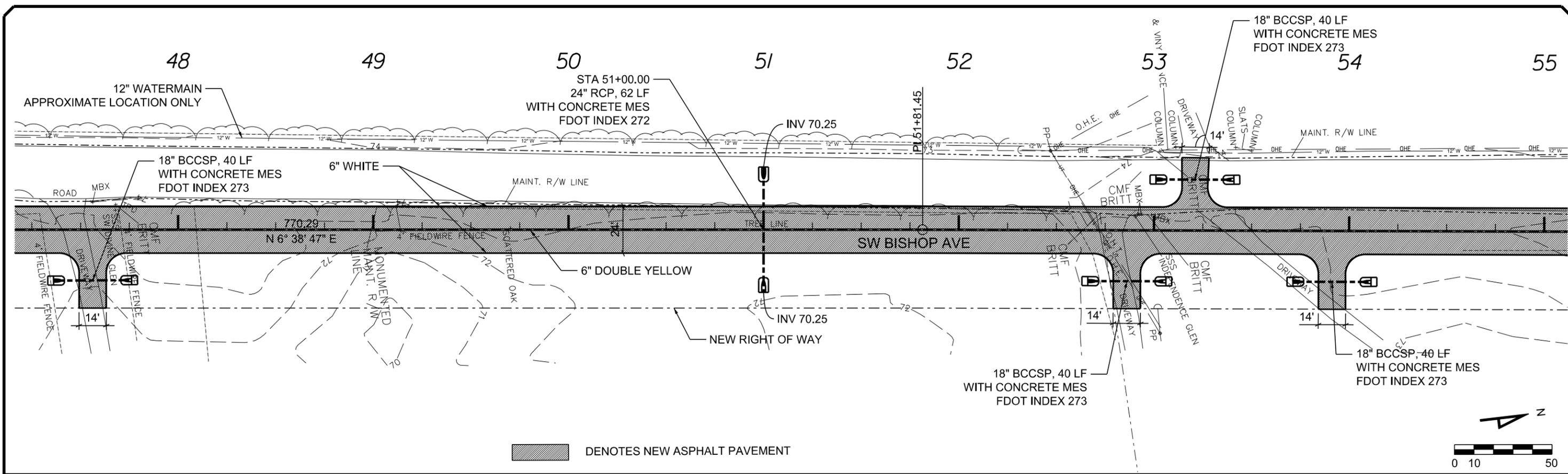


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APPROVED BY:	BC		<b>PLAN / PROFILE</b>	SHEET:



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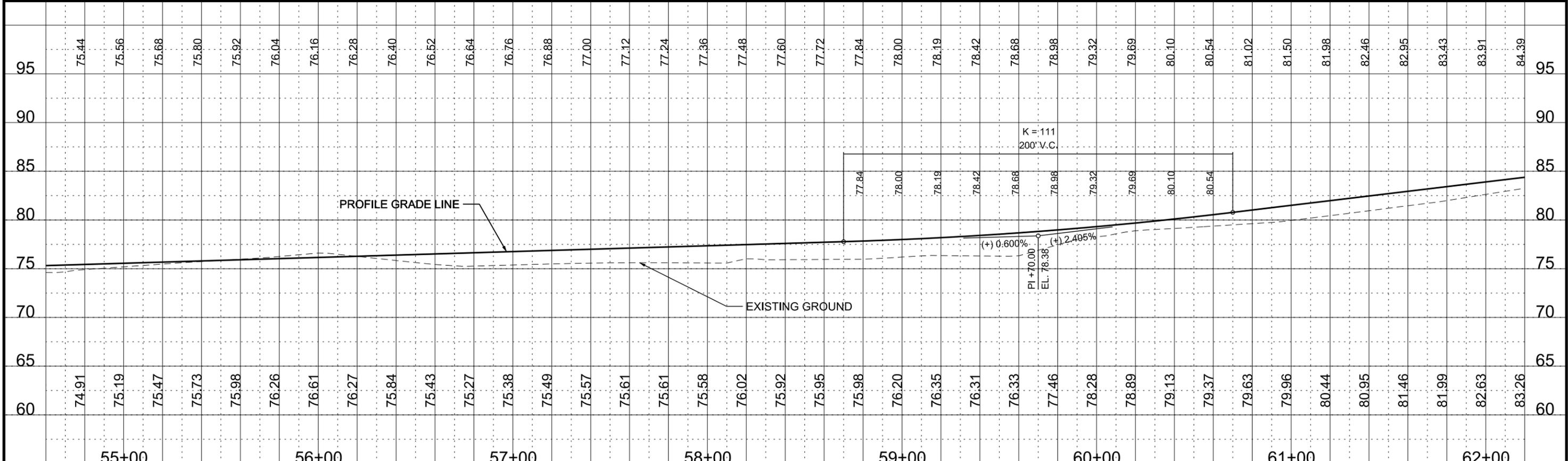
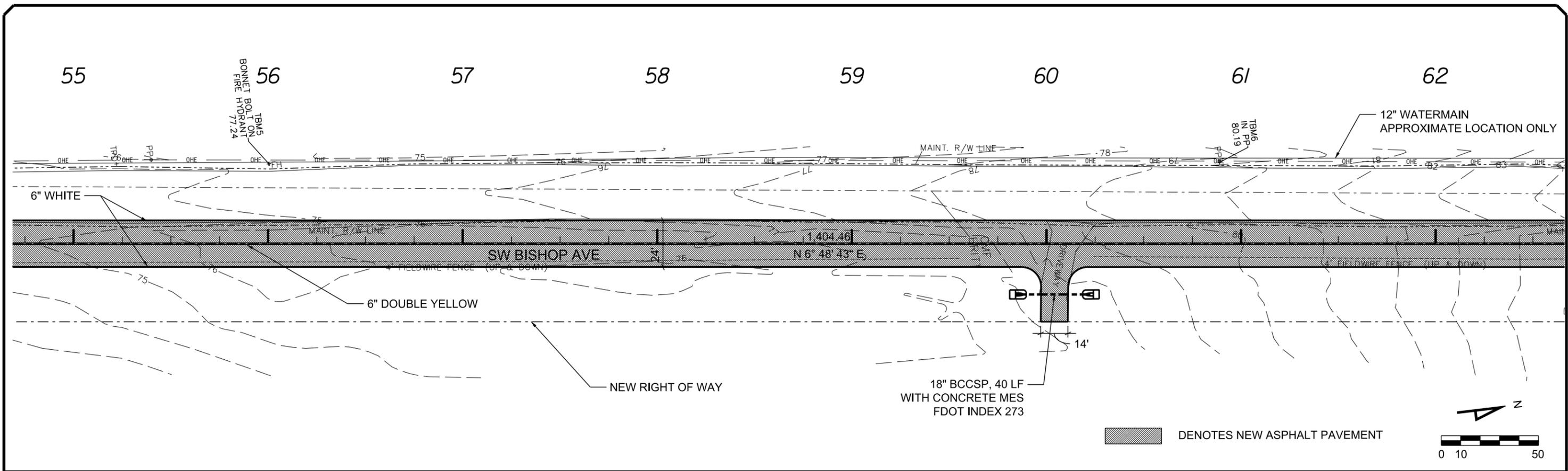

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**SW BISHOP AVE  
 ROADWAY IMPROVEMENTS**  
**PLAN / PROFILE**

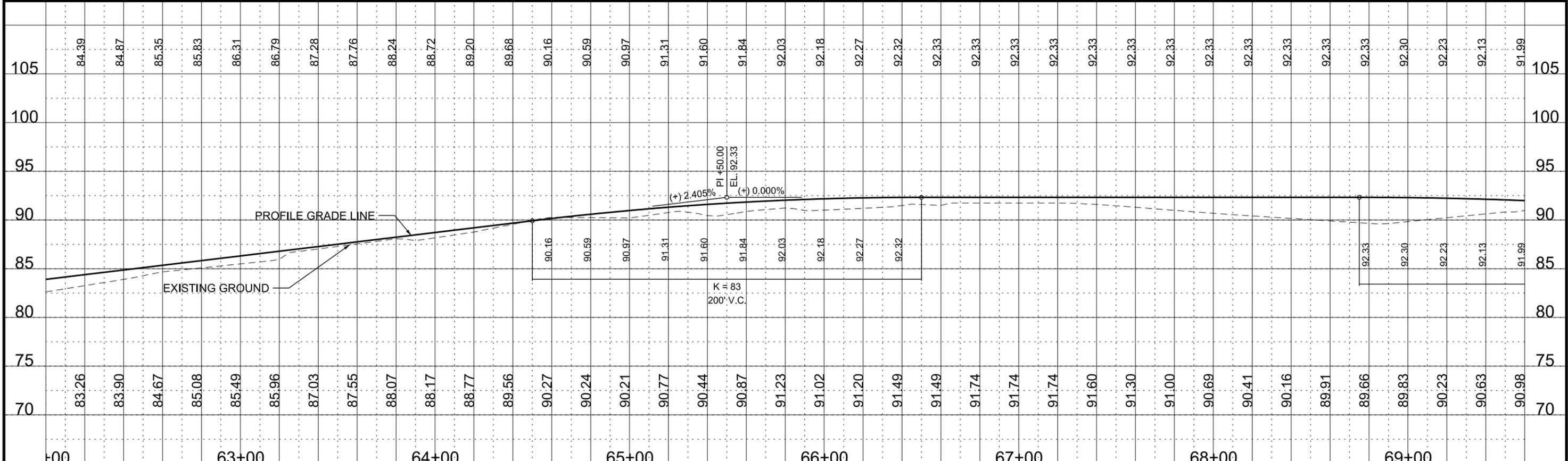
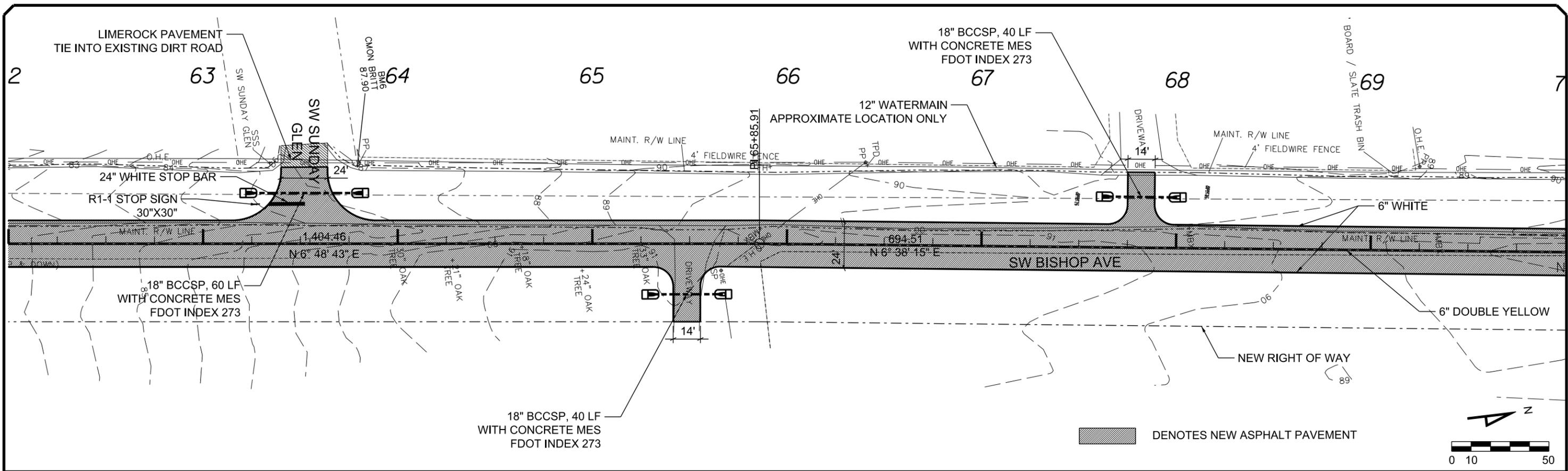
CES PROJECT NO.:  
**2012-020**  
 SHEET:  
**PP6**



REVISIONS					
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		2012-020
APPROVED BY: <b>BC</b>	<b>PLAN / PROFILE</b>	SHEET: <b>PP7</b>

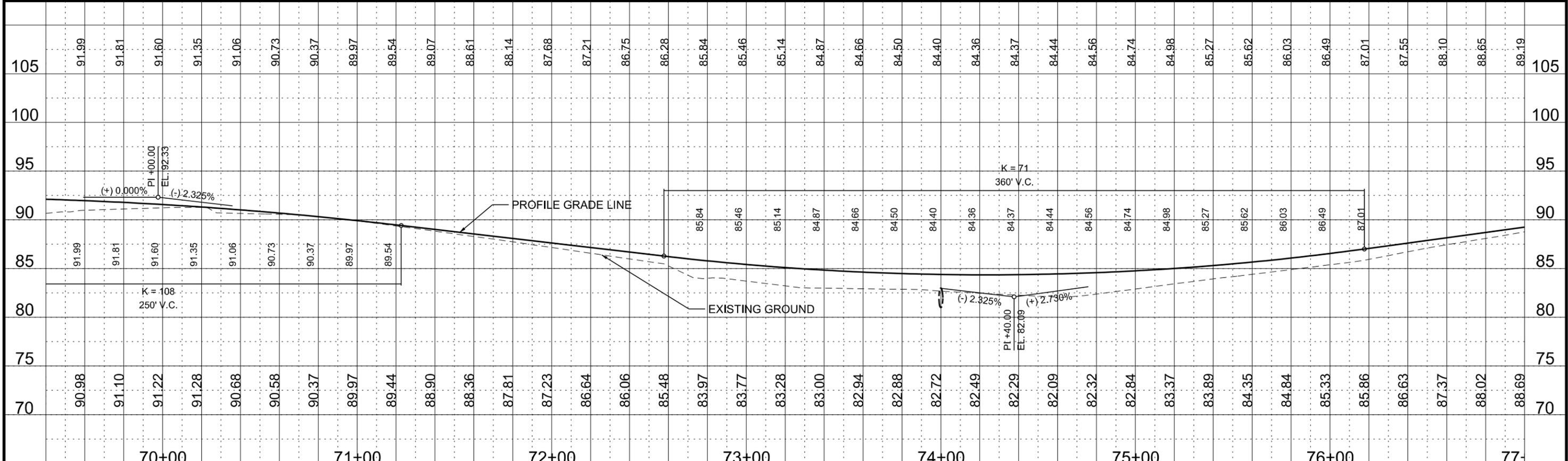
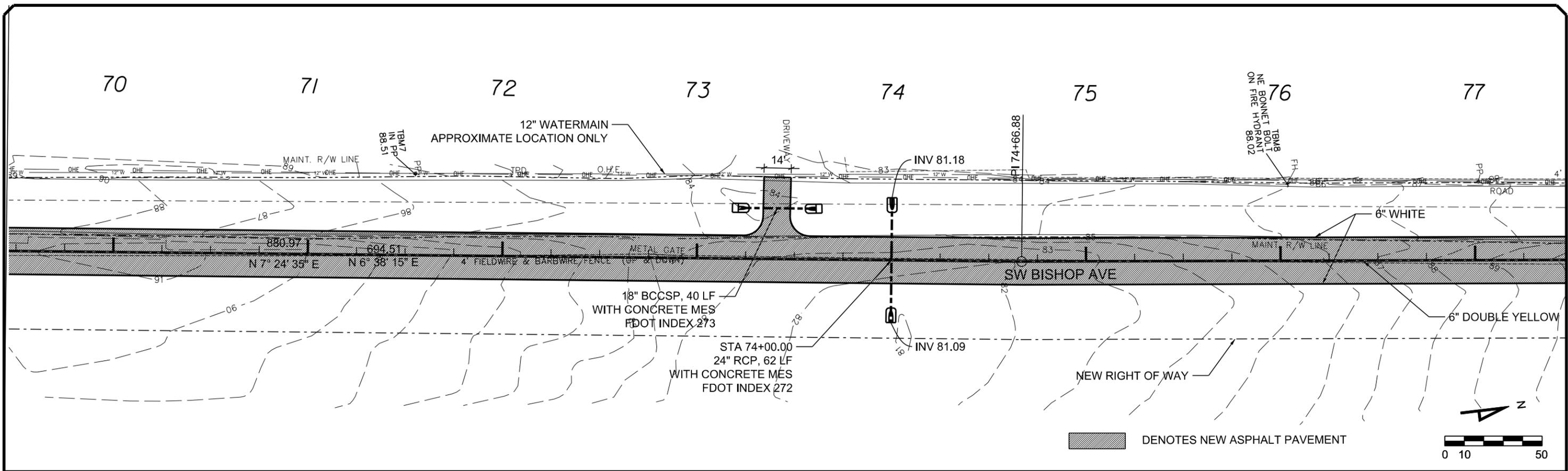


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**BC**  
 APPROVED BY:  
**BC**  
 Brett A. Crews, P.E. 65592

<b>SW BISHOP AVE ROADWAY IMPROVEMENTS</b>	CES PROJECT NO.: <b>2012-020</b>
<b>PLAN / PROFILE</b>	SHEET: <b>PP8</b>



REVISIONS					
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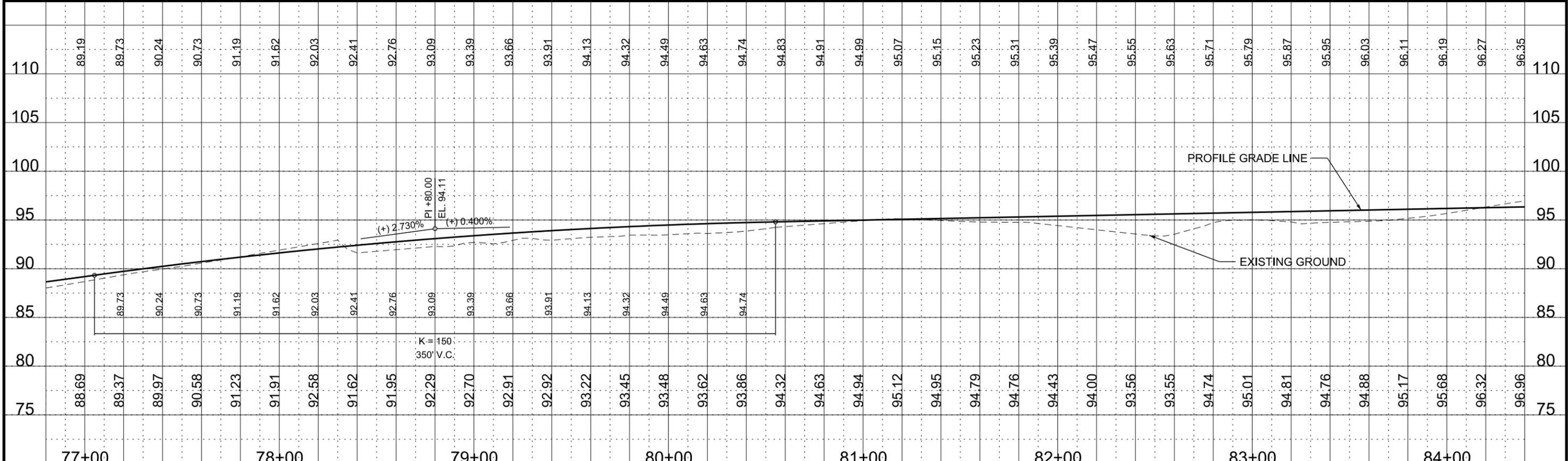
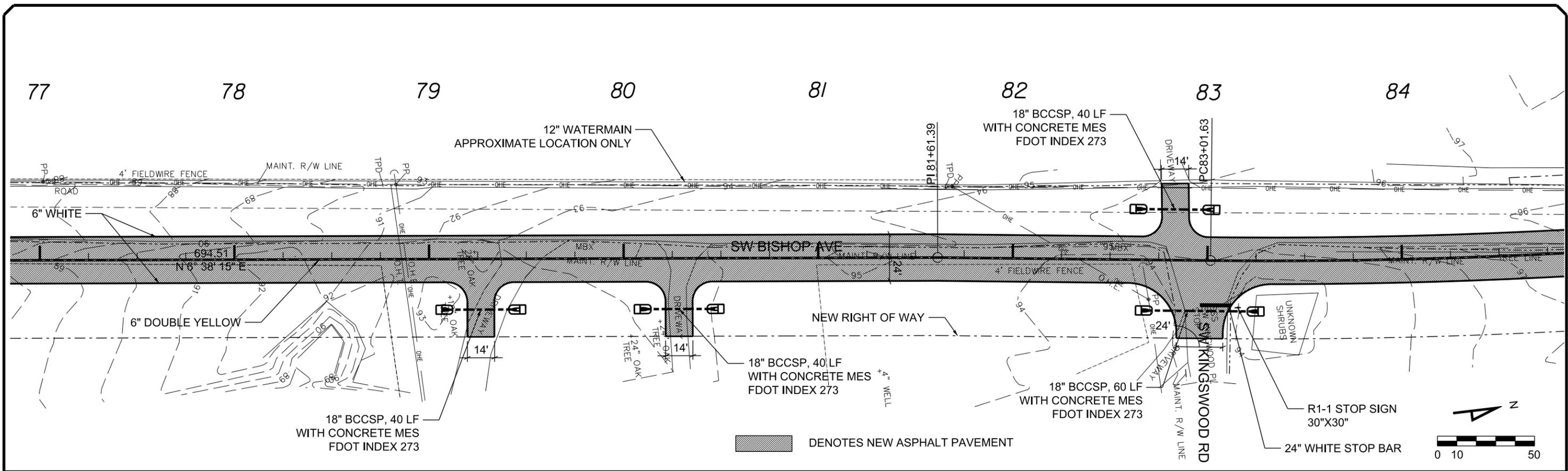

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Brett A. Crews, P.E. 65592

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**BC**  
APPROVED BY:  
**BC**

**SW BISHOP AVE  
ROADWAY IMPROVEMENTS**  
  
**PLAN / PROFILE**

CES PROJECT NO.:  
**2012-020**  
SHEET:  
**PP9**



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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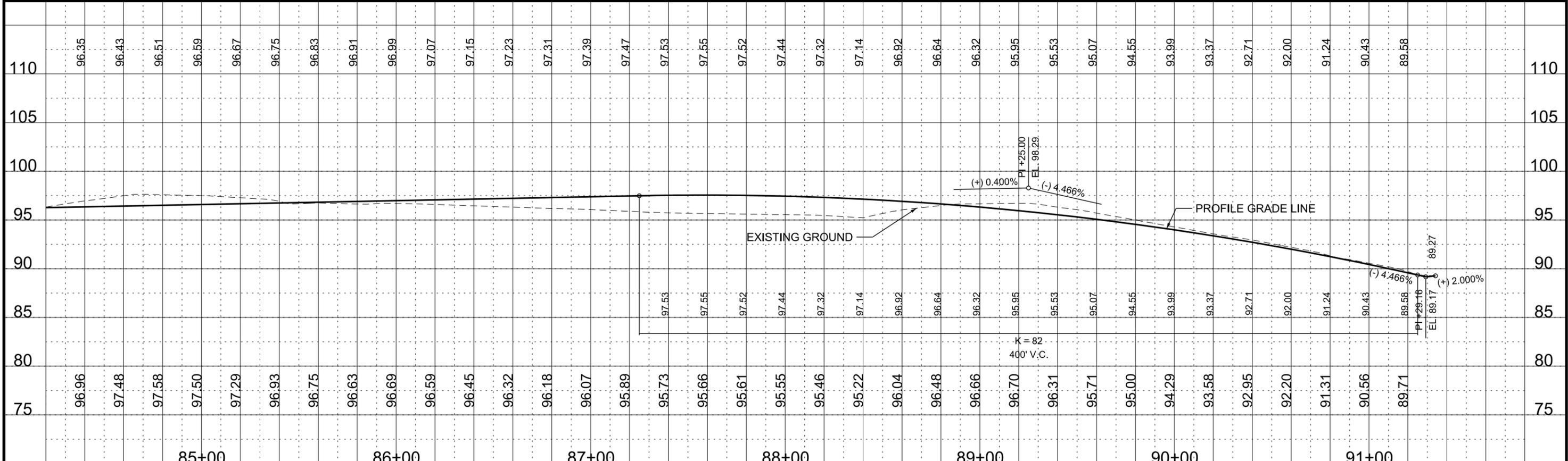
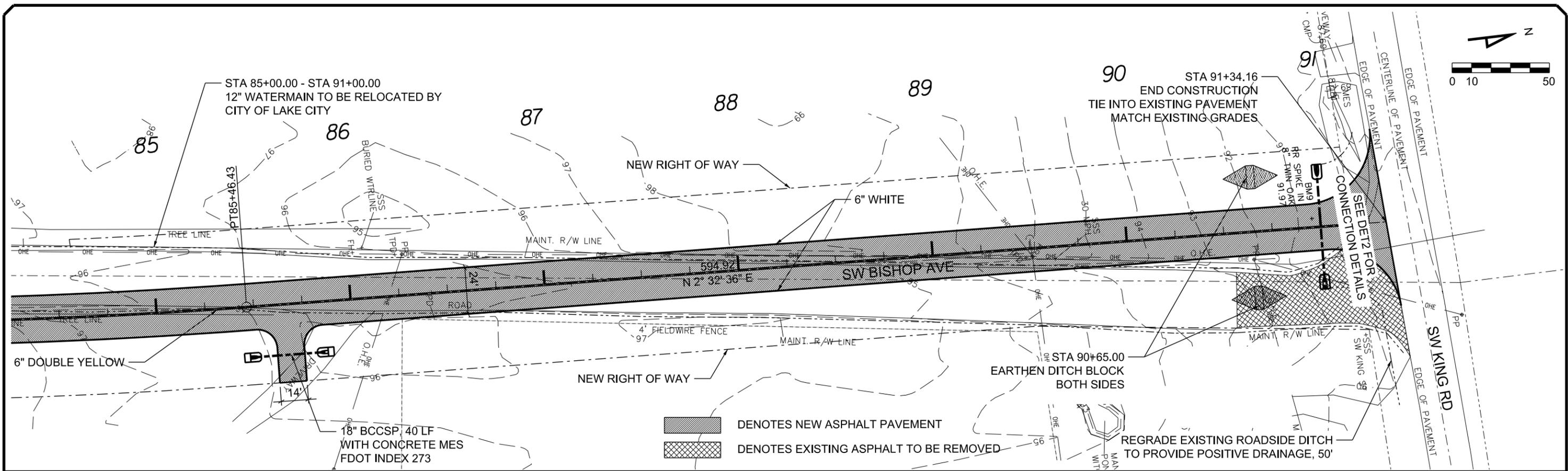
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BC

**SW BISHOP AVE  
 ROADWAY IMPROVEMENTS**

**PLAN / PROFILE**

CES PROJECT NO.:  
2012-020  
 SHEET:  
PP10



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

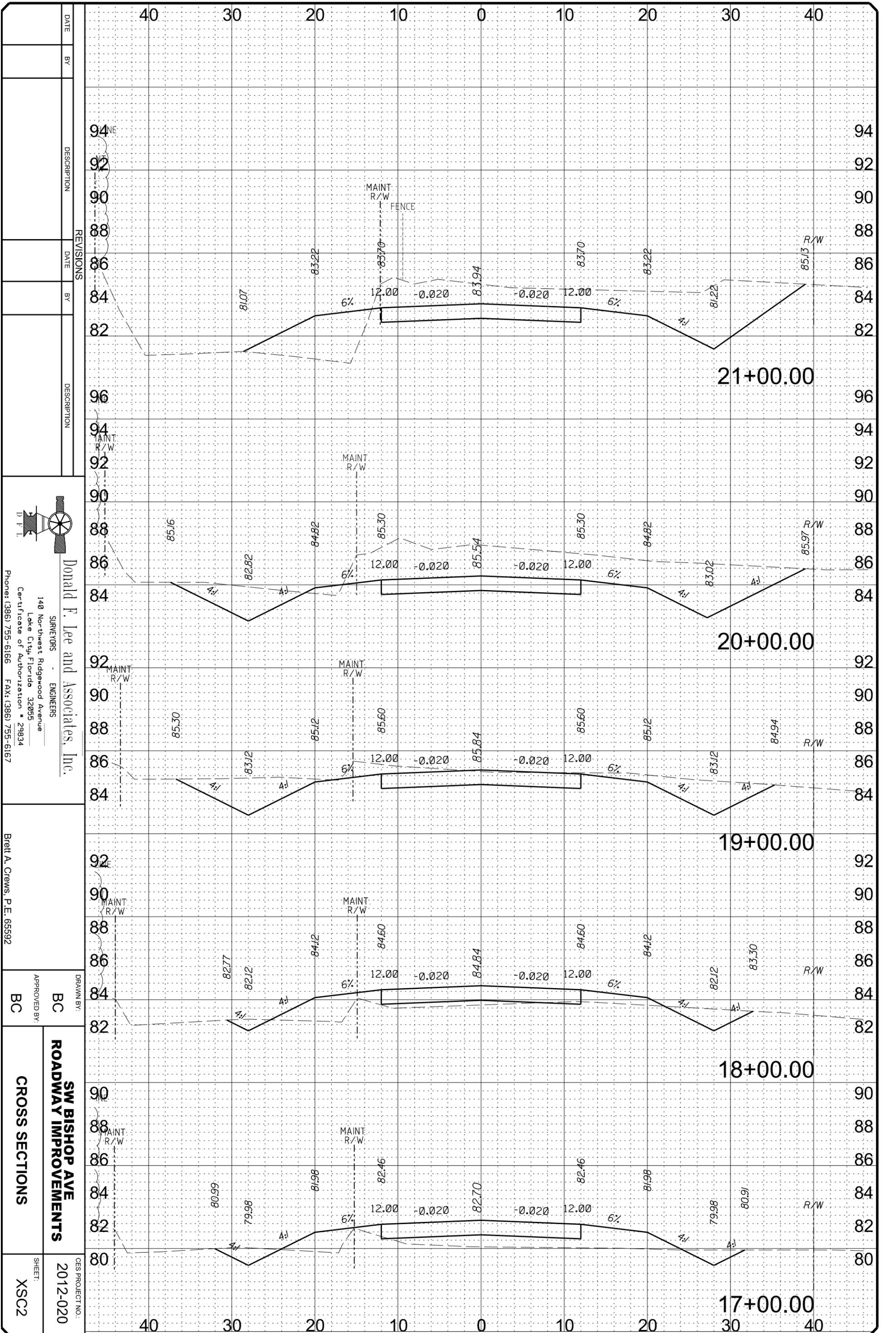

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**SW BISHOP AVE  
 ROADWAY IMPROVEMENTS**  
**PLAN / PROFILE**

CES PROJECT NO.:  
**2012-020**  
 SHEET:  
**PP11**



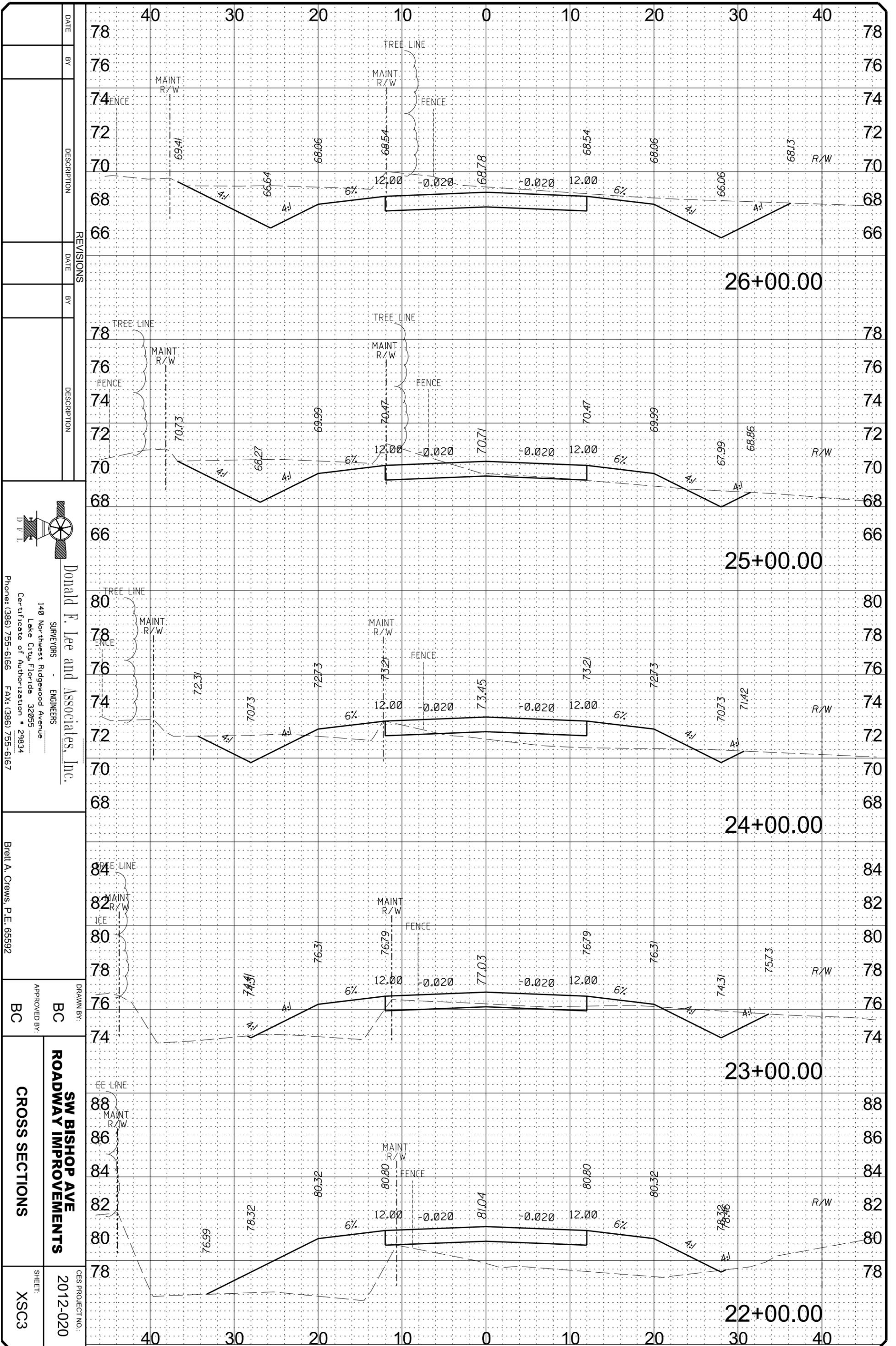


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CROSS SECTIONS	SW BISHOP AVE ROADWAY IMPROVEMENTS
SHEET:	XSC2
PROJECT NO.:	2012-020



DATE	BY	DESCRIPTION

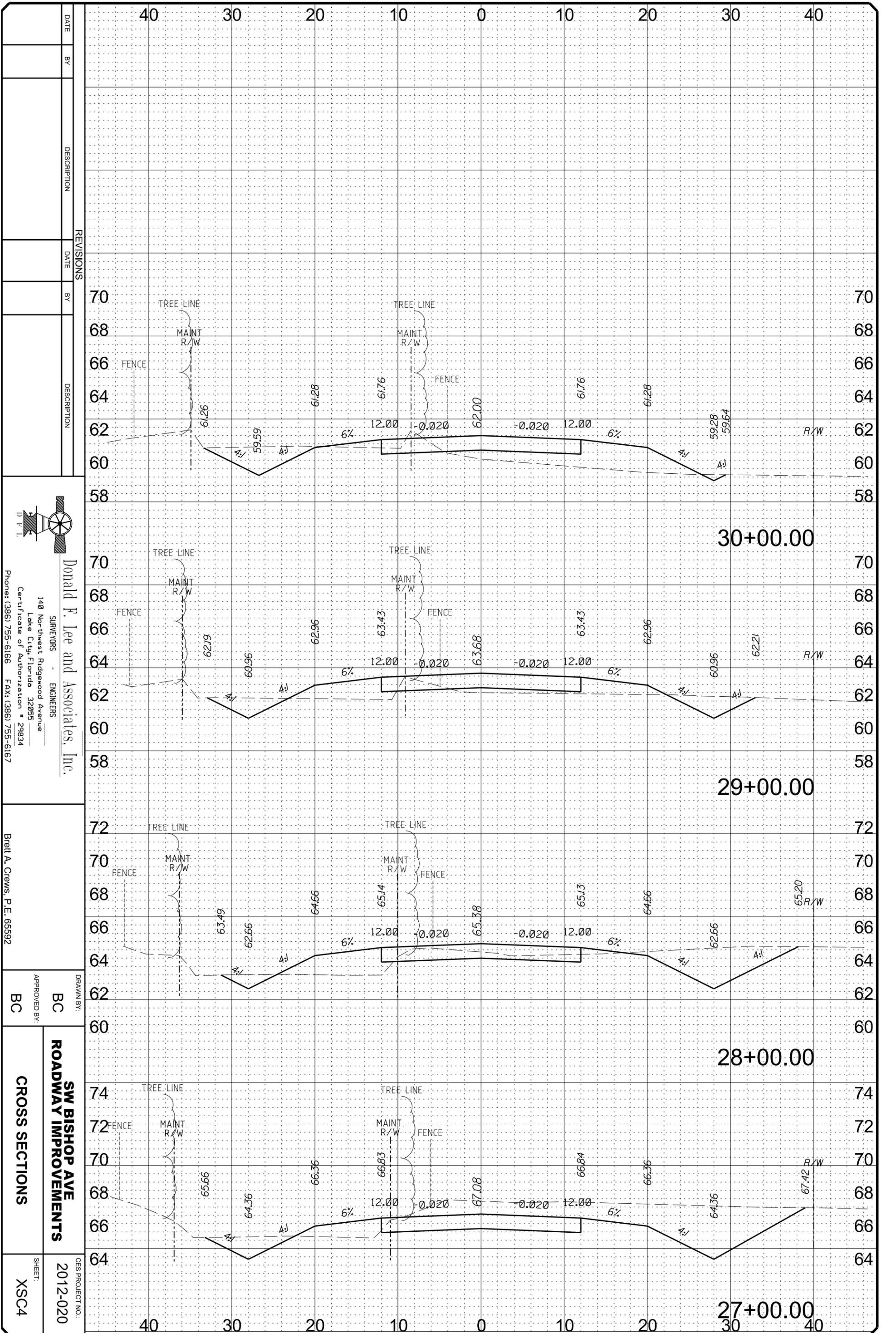
  

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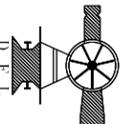
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CROSS SECTIONS	SW BISHOP AVE ROADWAY IMPROVEMENTS
SHEET:	XSC3
PROJECT NO.:	2012-020



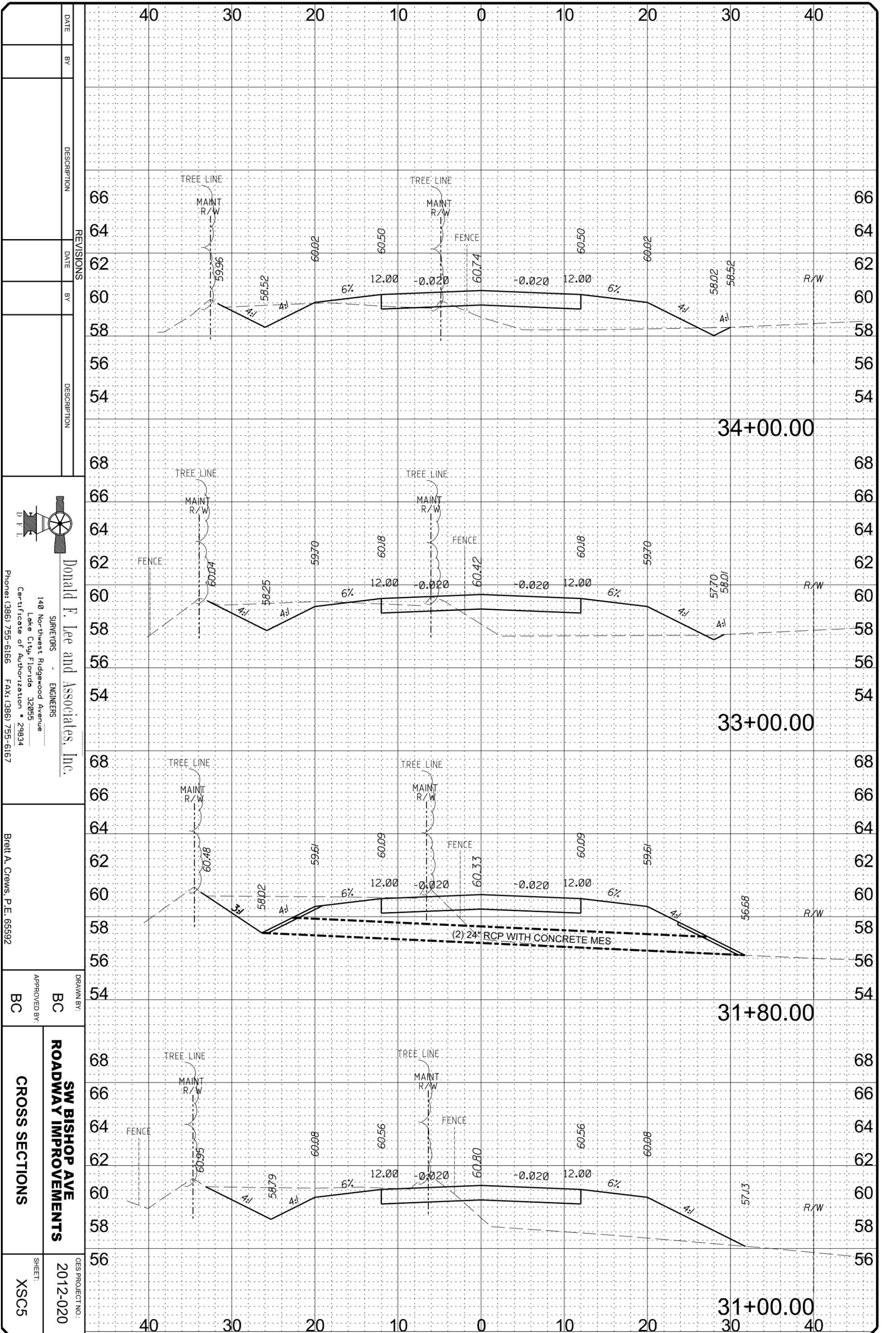
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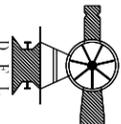

  
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**SW BISHOP AVE**  
**ROADWAY IMPROVEMENTS**  
**CROSS SECTIONS**  
 SHEET: XSC4  
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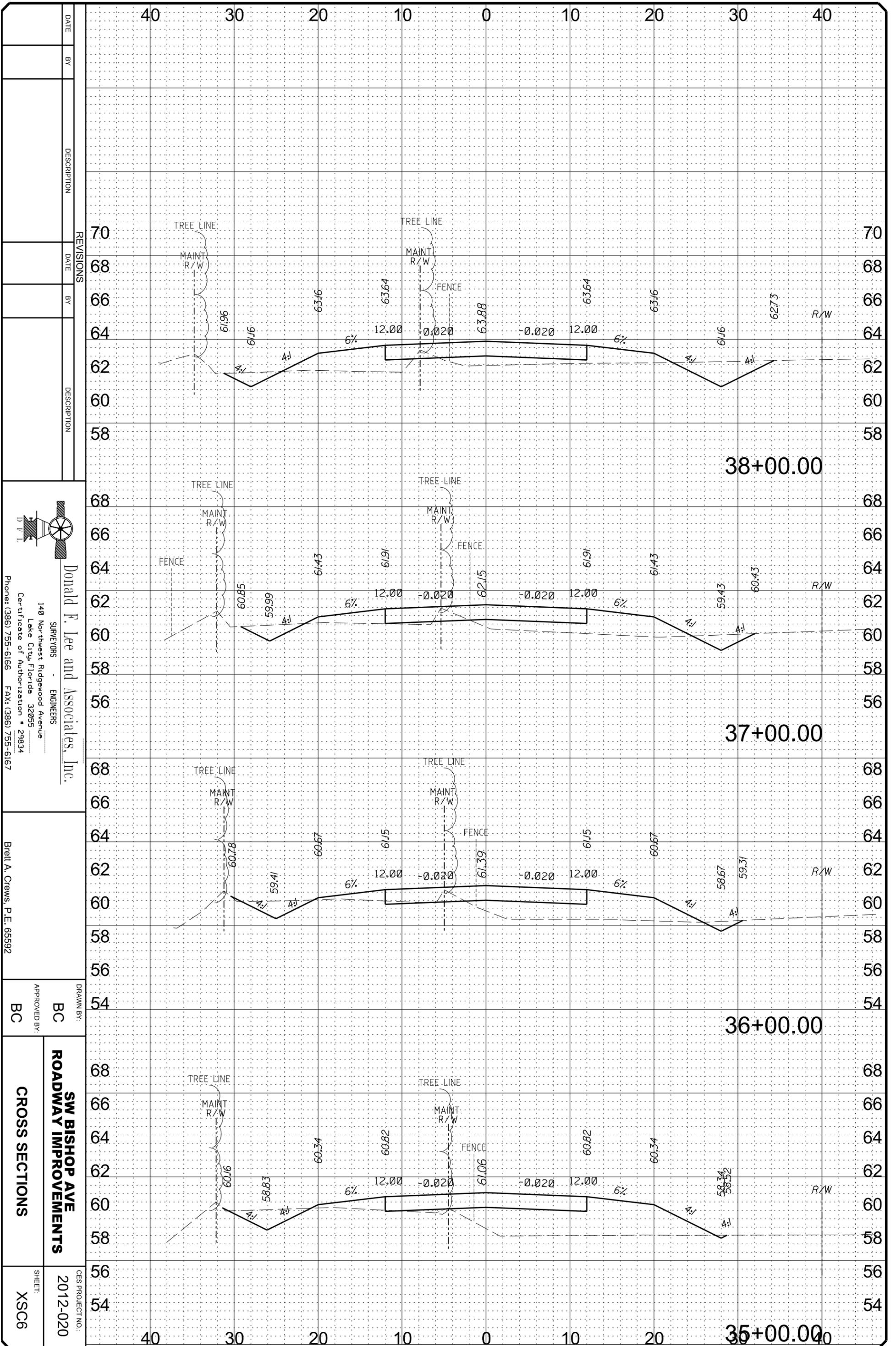

  
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**SW BISHOP AVE**  
**ROADWAY IMPROVEMENTS**  
**CROSS SECTIONS**

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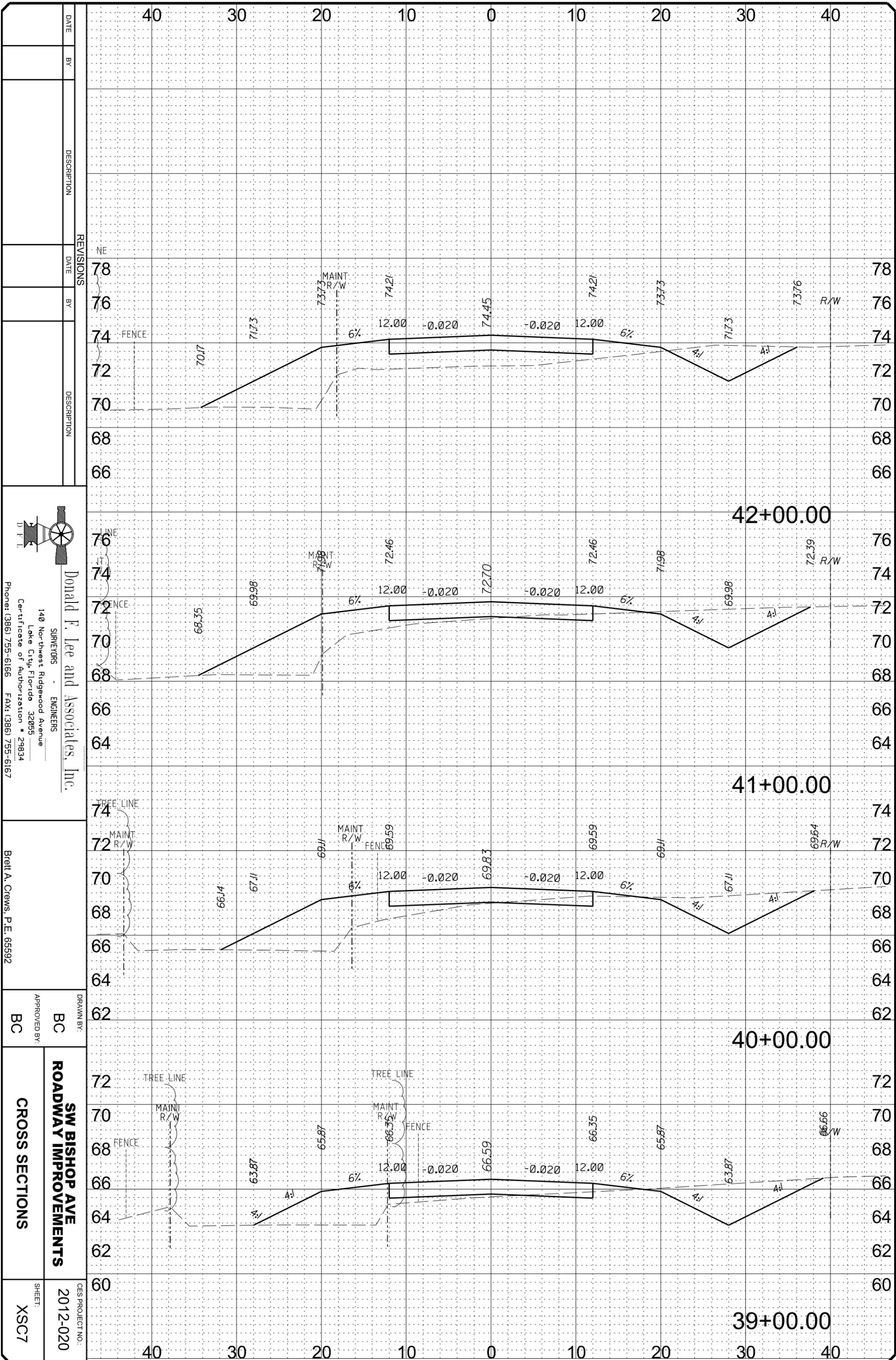
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**SW BISHOP AVE ROADWAY IMPROVEMENTS**  
 CROSS SECTIONS  
 SHEET: **XSC6**  
 O&S PROJECT NO.: **2012-020**



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DATE	BY	DESCRIPTION

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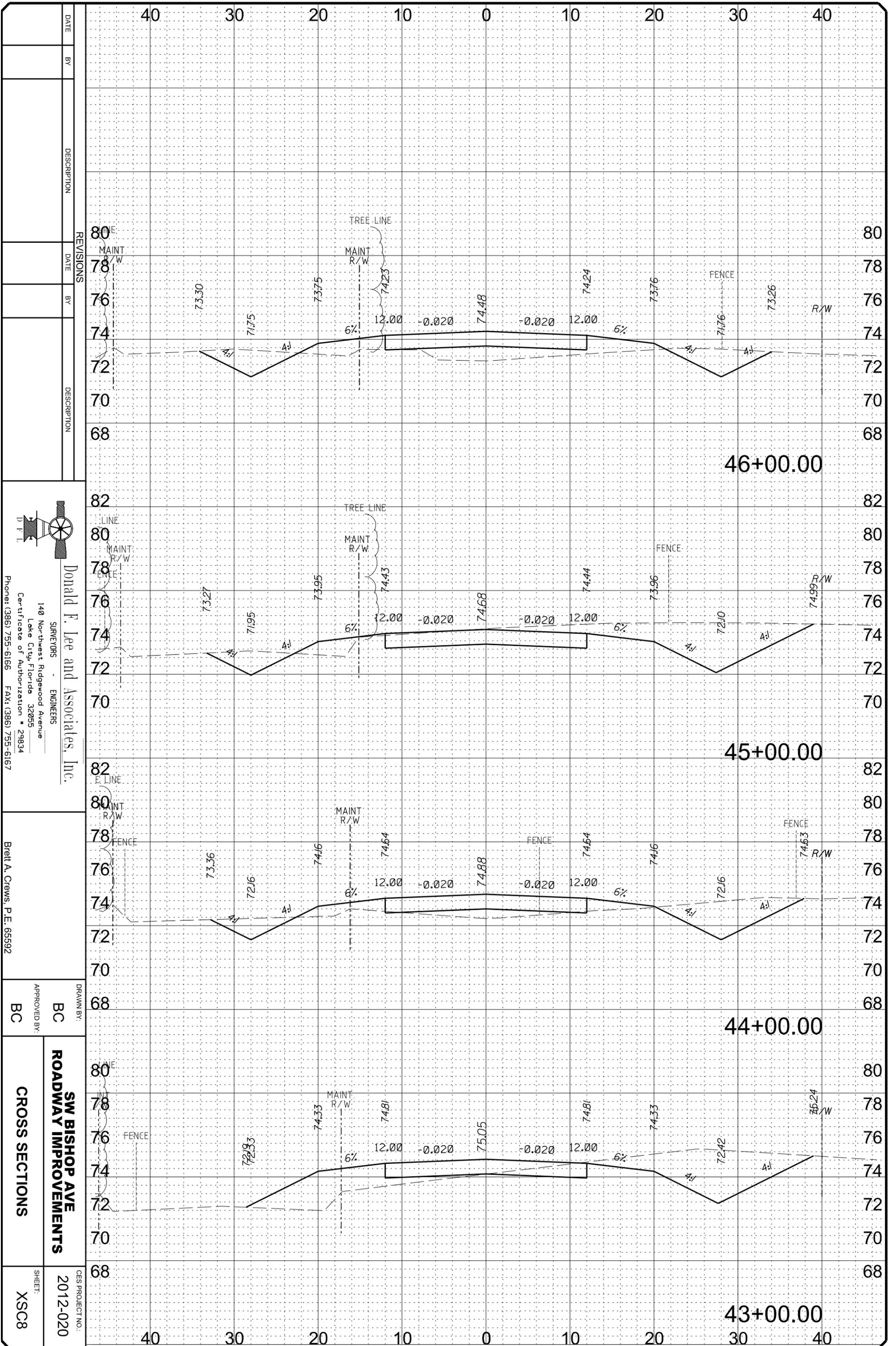
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**SW BISHOP AVE ROADWAY IMPROVEMENTS**

**CROSS SECTIONS**

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SHEET: XSC7  
 OES PROJECT NO.: 2012-020



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**REVISIONS**

DATE	BY	DESCRIPTION

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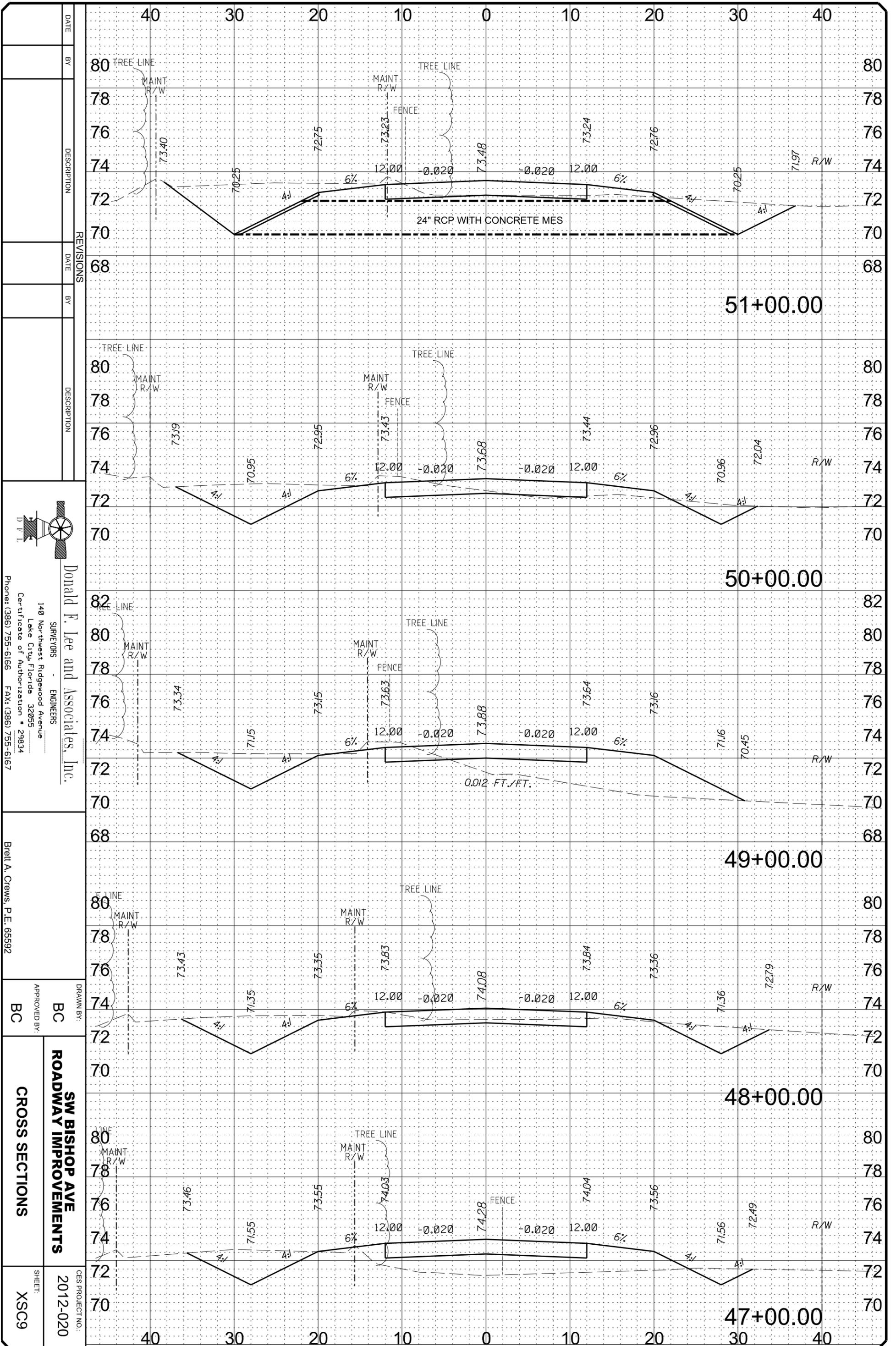
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**SW BISHOP AVE ROADWAY IMPROVEMENTS**

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SHEET: XSC8  
 OES PROJECT NO.: 2012-020



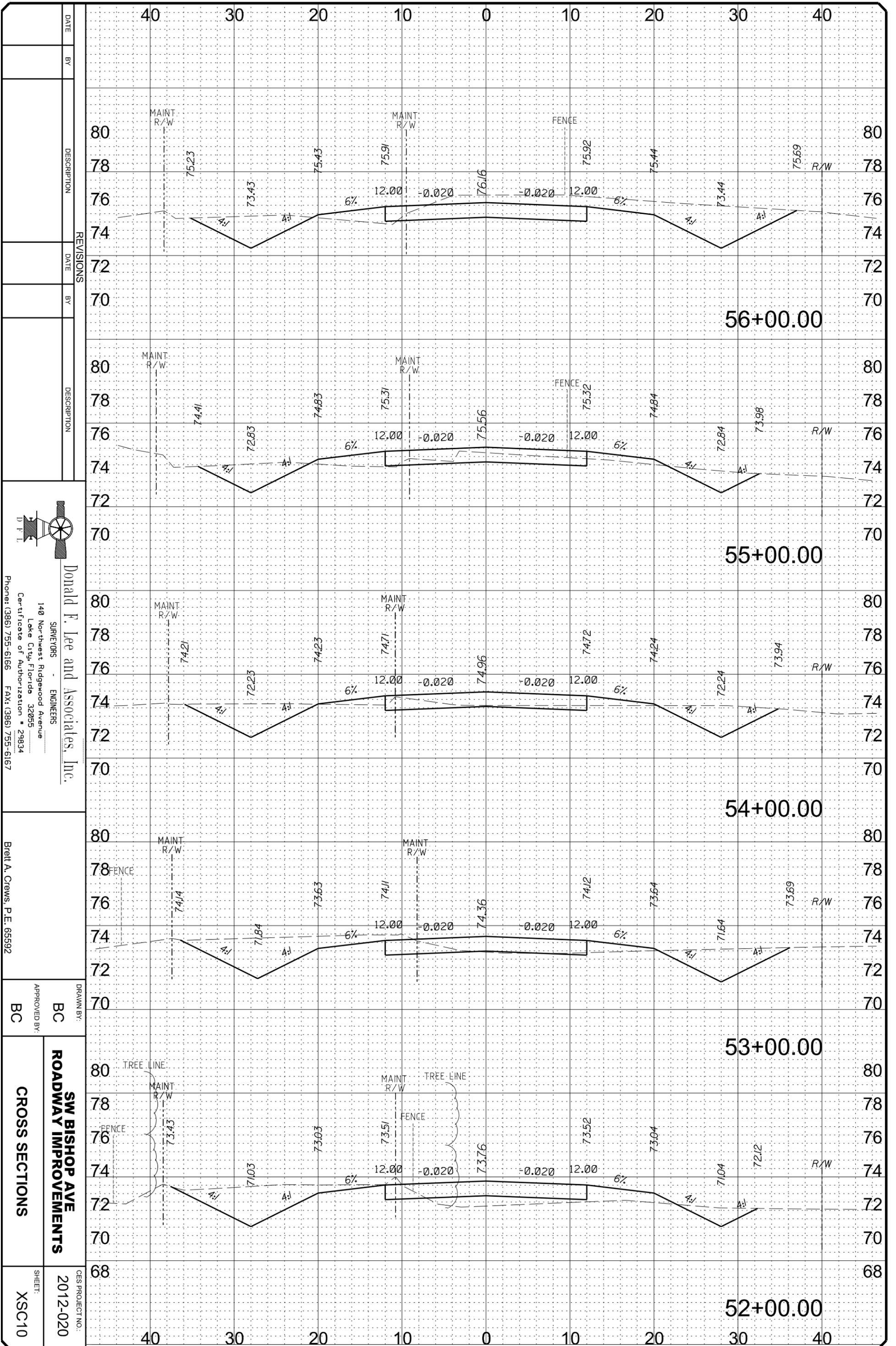
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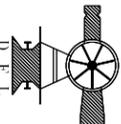
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 CROSS SECTIONS  
 SHEET: **XSC9**  
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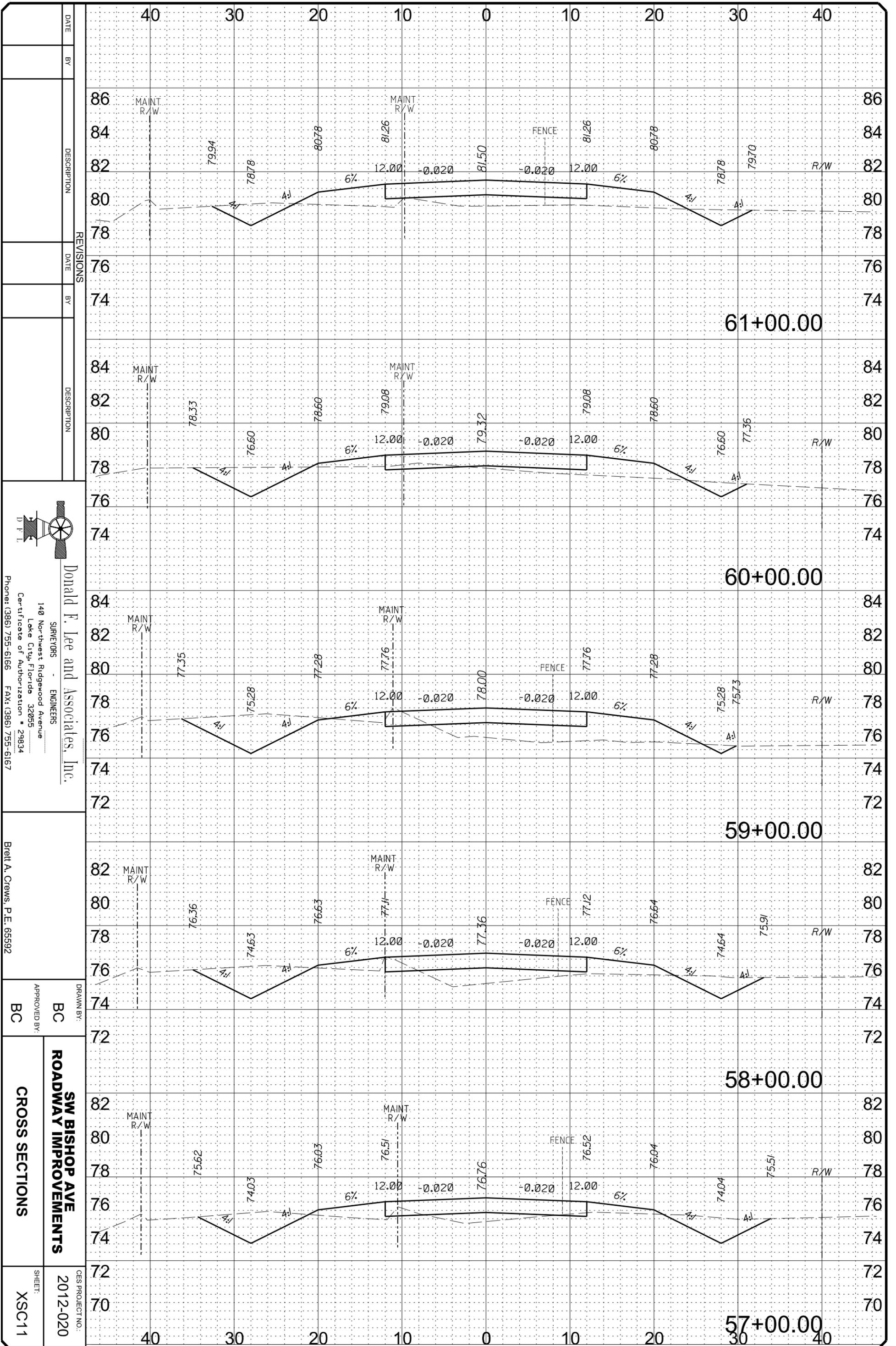

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SHEET:	XSC10

**SW BISHOP AVE ROADWAY IMPROVEMENTS**

**CROSS SECTIONS**



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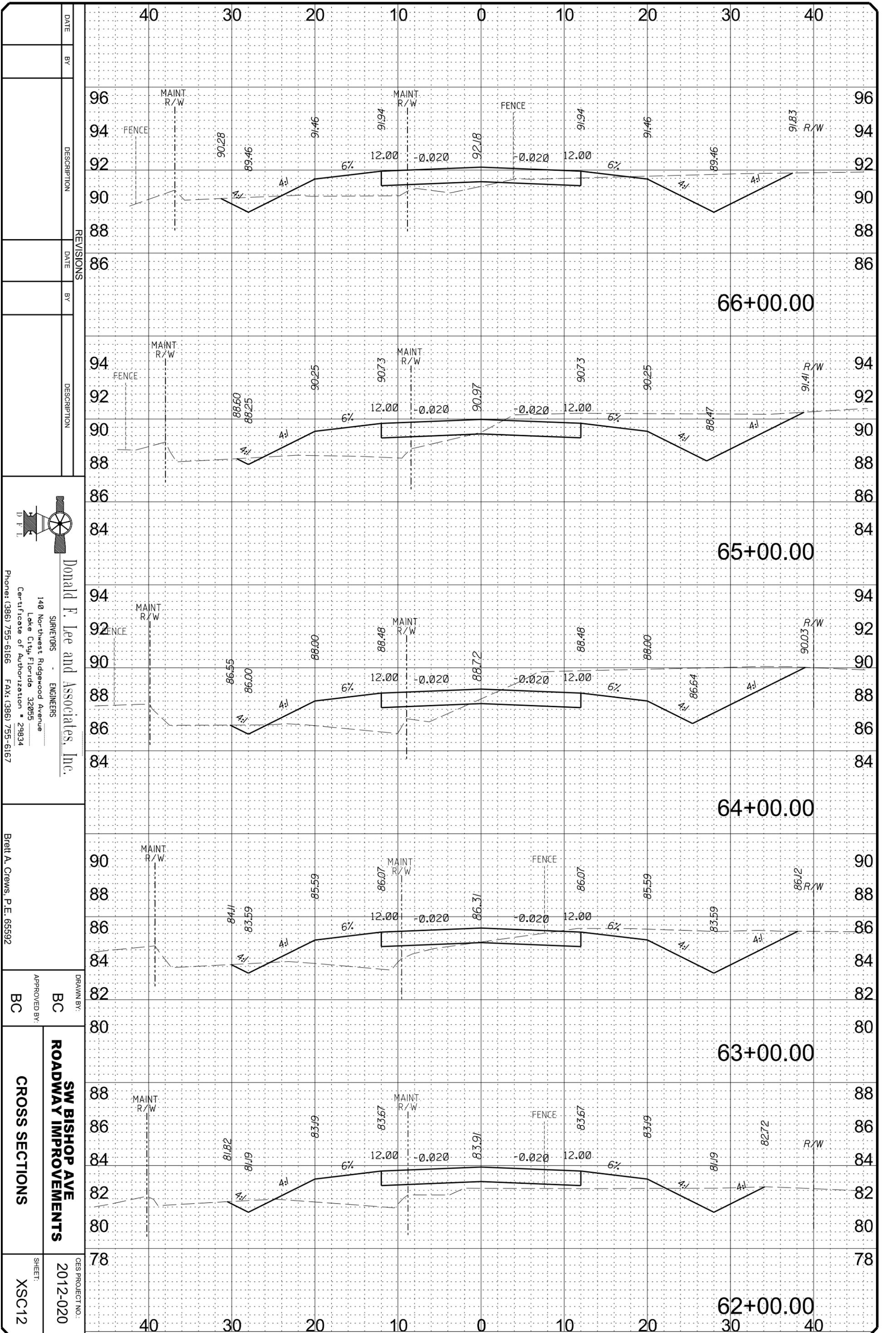
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**SW BISHOP AVE**  
**ROADWAY IMPROVEMENTS**  
**CROSS SECTIONS**

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DATE	BY	DESCRIPTION

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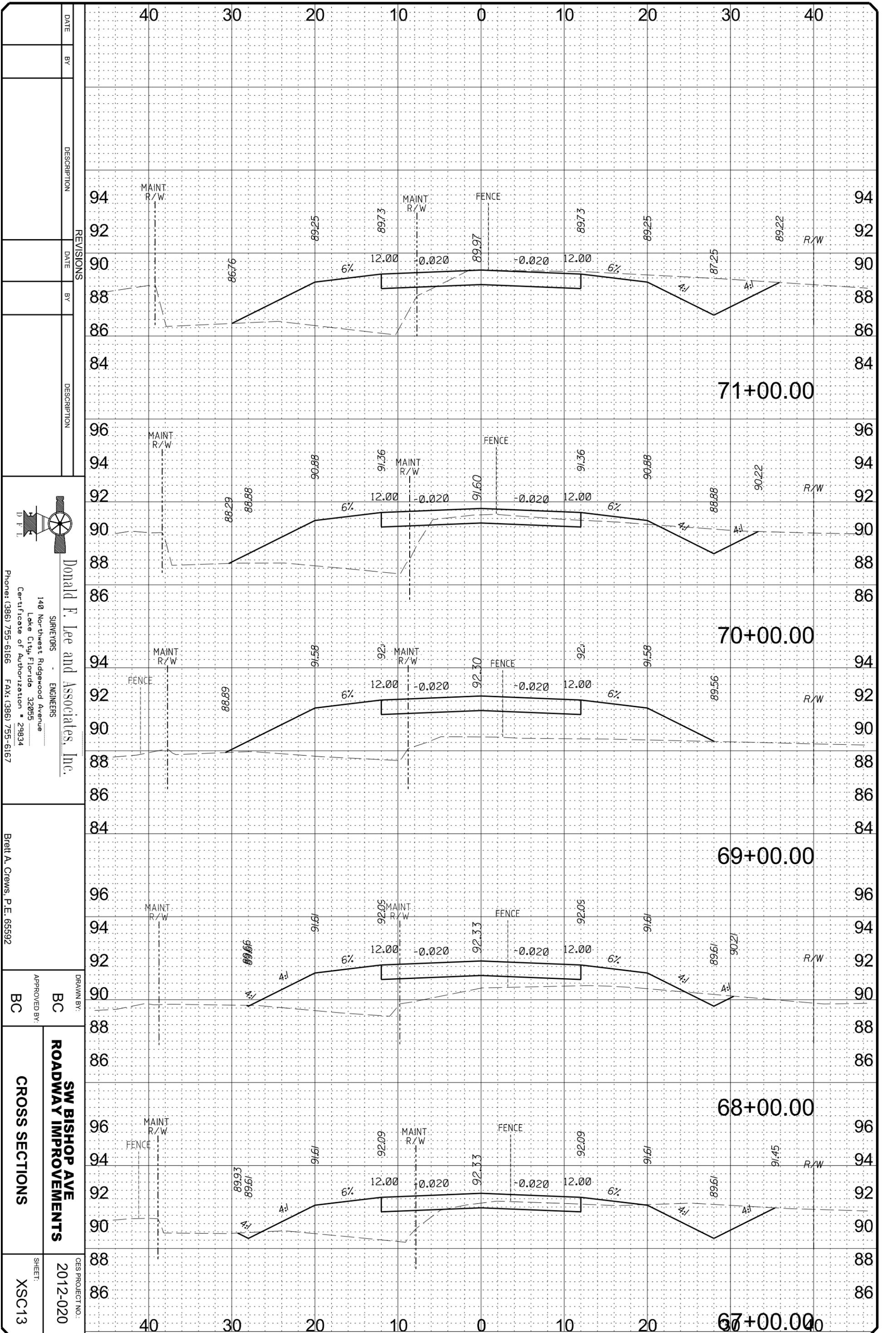
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**SW BISHOP AVE ROADWAY IMPROVEMENTS**

**CROSS SECTIONS**

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 SHEET: XSC12

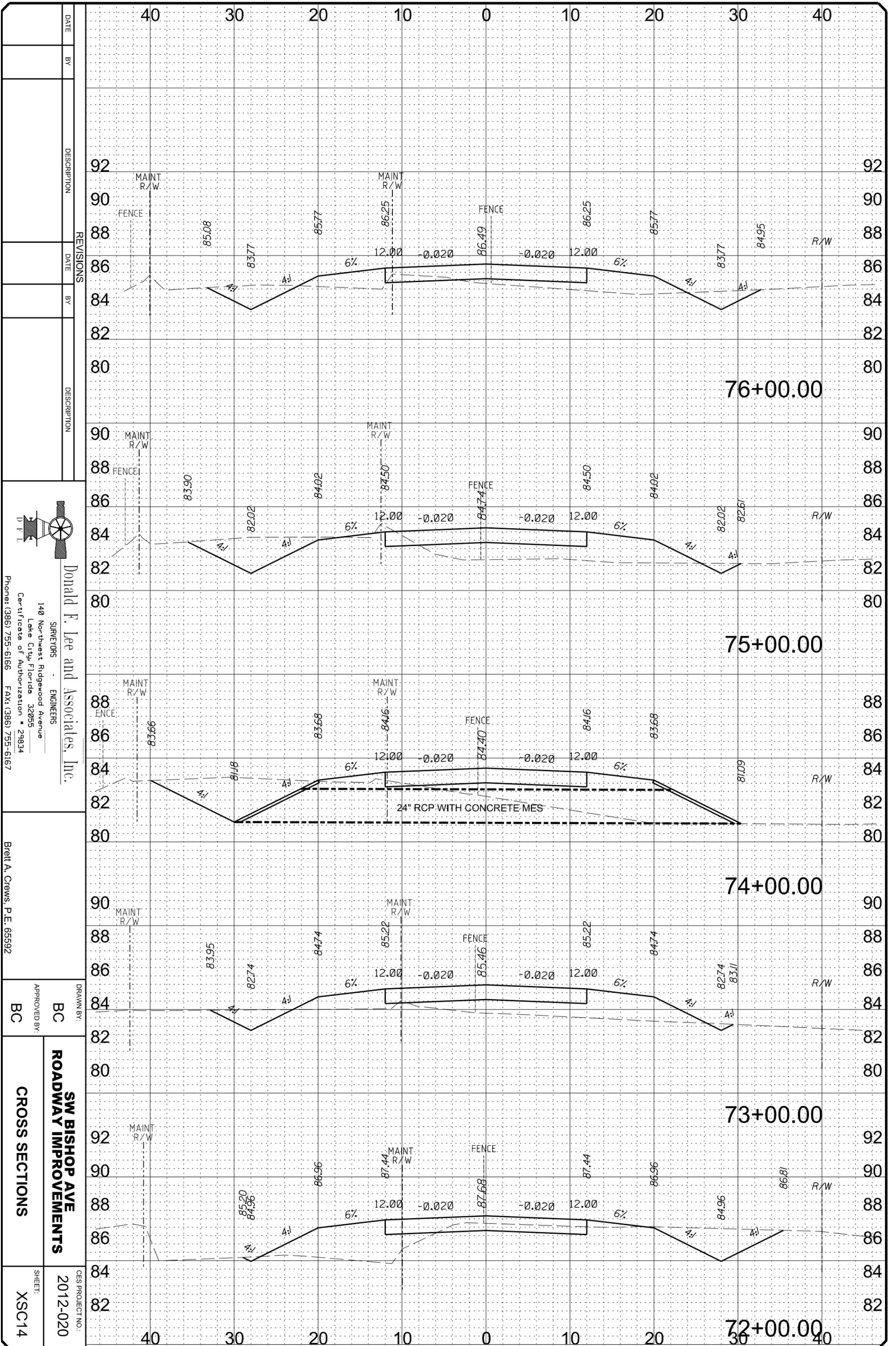


DATE	BY	DESCRIPTION

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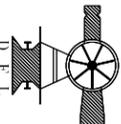
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SHEET:	XSC13
OS PROJECT NO.:	2012-020



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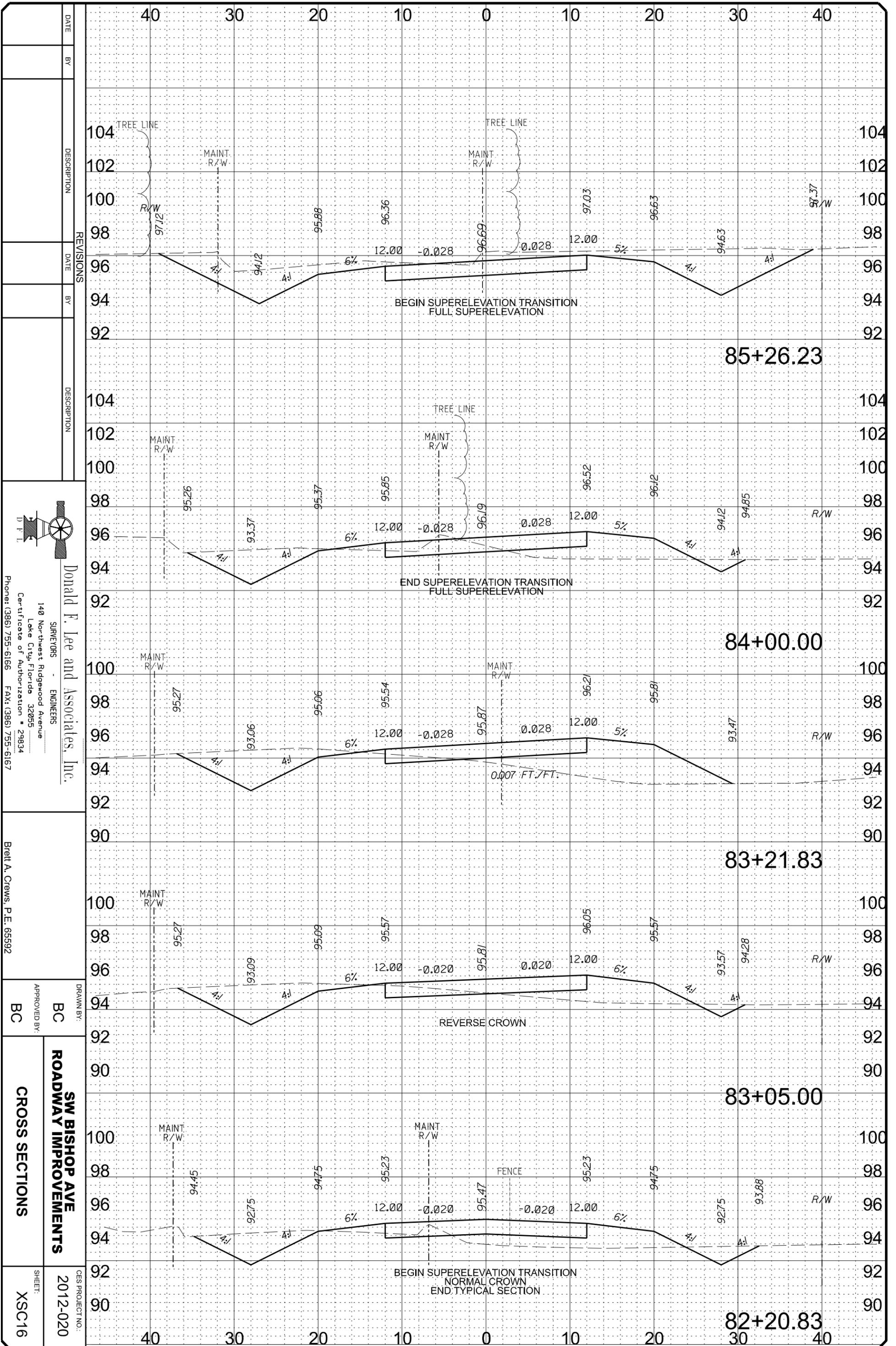

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**SW BISHOP AVE**  
**ROADWAY IMPROVEMENTS**  
 CROSS SECTIONS  
 SHEET: **XSC14**  
 OES PROJECT NO.: **2012-020**

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DATE	BY	DESCRIPTION

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**SW BISHOP AVE**  
**ROADWAY IMPROVEMENTS**  
**CROSS SECTIONS**

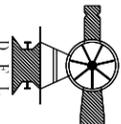
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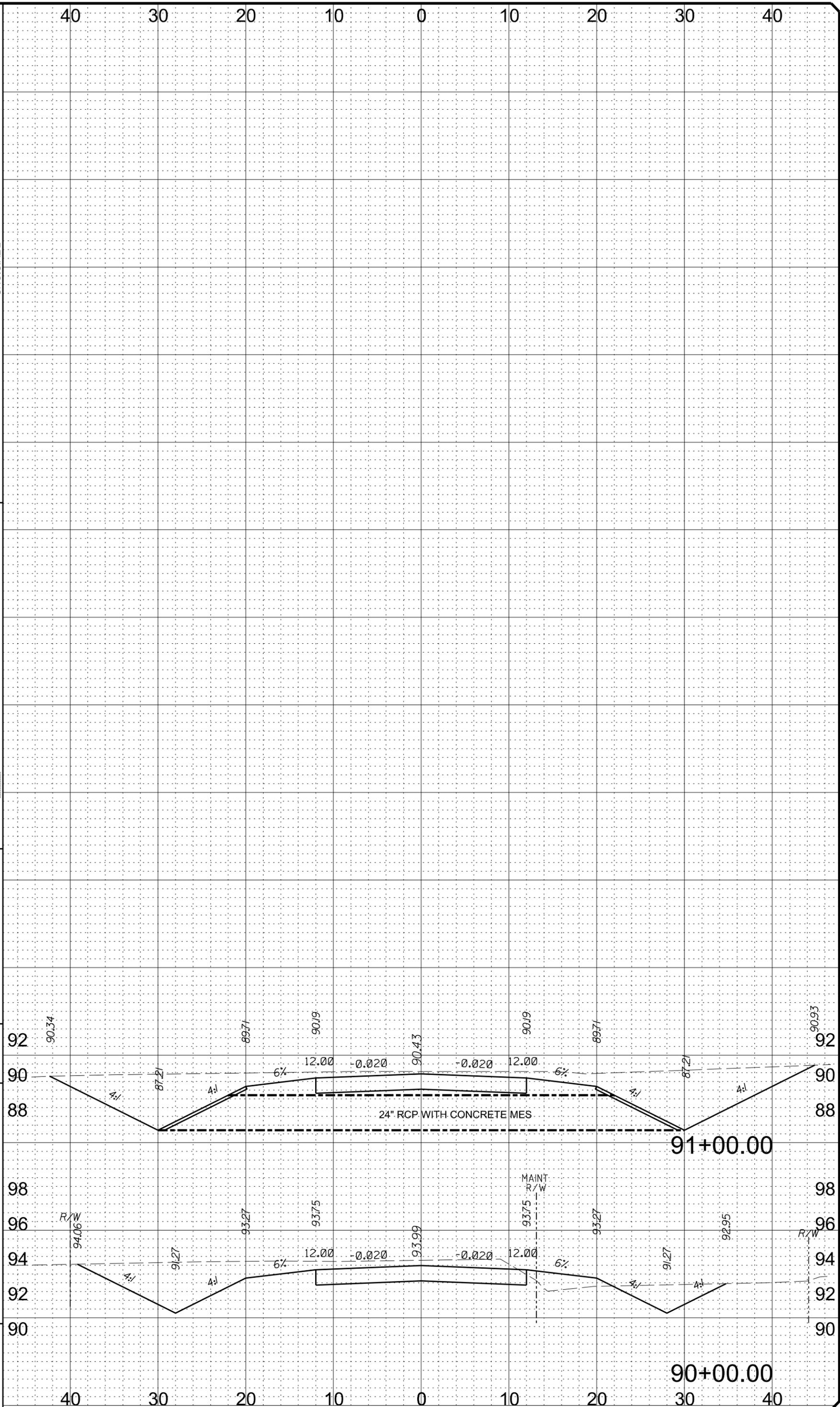
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**SW BISHOP AVE  
 ROADWAY IMPROVEMENTS**

**CROSS SECTIONS**

SHEET: XSC18  
 OES PROJECT NO.: 2012-020



**DIMENSIONS AND QUANTITIES**

	D	X	A	B	C	E	F	G	H ■	M				N	5½" CONCRETE SLAB (CY) ▣				SODDING (SY)			
										Single	Double	Triple	Quad.		Single	Double	Triple	Quad.	Single	Double	Triple	Quad.
										Pipe	Pipe	Pipe	Pipe		Pipe	Pipe	Pipe	Pipe	Pipe	Pipe	Pipe	Pipe
1:2 Slope	15"	2'-7"	1.92'	2.18'	4.10'	2.06'	5'	1.22'	2.9'	4.63'	7.21'	9.79'	12.37'	1.19'	0.38	0.58	0.77	0.96	21	24	27	30
	18"	2'-10"	1.97'	2.74'	4.71'	2.56'	6'	1.41'	3.4'	4.92'	7.75'	10.58'	13.42'	1.21'	0.44	0.65	0.87	1.09	22	25	28	31
	24"	3'-5"	2.06'	3.85'	5.91'	3.56'	7'	1.73'	3.4'	5.50'	8.92'	12.33'	15.75'	1.25'	0.54	0.83	1.12	1.42	24	28	32	35
	30"	4'-3"	2.15'	4.95'	7.10'	4.56'	8'	2.00'	3.4'	6.08'	10.33'	14.58'	18.83'	1.29'	0.66	1.09	1.50	1.91	26	31	35	40
	36"	5'-1"	2.25'	6.08'	8.33'	5.56'	9'	2.24'	3.4'	6.67'	11.75'	16.83'	21.92'	1.33'	0.81	1.38	1.95	2.51	28	34	39	45
	42"	6'-0"	2.34'	7.21'	9.55'	6.56'	10'	2.45'	3.4'	7.25'	13.25'	19.25'	25.25'	1.38'	0.97	1.70	2.45	3.19	30	37	43	50
	48"	6'-9"	2.43'	8.33'	10.76'	7.56'	11'	2.65'	3.4'	7.83'	14.58'	21.33'	28.08'	1.42'	1.13	2.04	2.93	3.84	32	39	47	54
	54"	7'-8"	2.52'	9.44'	11.96'	8.56'	12'	2.83'	3.4'	8.42'	16.08'	23.75'	31.42'	1.46'	1.31	2.44	3.58	4.72	34	42	51	59
	60"	8'-6"	2.62'	10.56'	13.18'	9.56'	14'	3.00'	4.4'	9.00'	17.50'	26.00'	34.50'	1.50'	1.51	2.89	4.28	5.68	36	45	55	64
	66"	9'-2"	2.71'	11.68'	14.39'	10.56'	15'	3.18'	4.4'	9.58'	18.75'	27.92'	37.08'	1.54'	1.68	3.25	4.84	6.43	38	48	58	68
72"	10'-0"	2.80'	12.80'	15.60'	11.56'	16'	3.30'	4.4'	10.16'	20.16'	30.16'	40.16'	1.58'	1.89	3.74	5.59	7.45	40	51	62	73	
1:4 Slope	15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.0'	4.63'	7.21'	9.79'	12.37'	1.19'	0.57	0.87	1.15	1.44	23	26	29	32
	18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.0'	4.92'	7.75'	10.58'	13.42'	1.21'	0.66	0.99	1.31	1.65	25	28	31	35
	24"	3'-5"	2.53'	7.18' △	9.71' △	7.03' △	11'	1.73'	4.0'	5.50'	8.92'	12.33'	15.75'	1.25'	0.85	1.30	1.75	2.20	28	32	36	40
	30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	4.0'	6.08'	10.33'	14.58'	18.83'	1.29'	1.10	1.74	2.39	3.05	31	36	41	46
	36"	5'-1"	2.87'	11.31' ◇	14.18'	11.03' ◇	15'	2.24'	4.0'	6.67'	11.75'	16.83'	21.92'	1.33'	1.32	2.21	3.08	3.96	34	40	46	52
	42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	4.0'	7.25'	13.25'	19.25'	25.25'	1.38'	1.58	2.76	3.91	5.09	38	44	51	58
	48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	4.0'	7.83'	14.58'	21.33'	28.08'	1.42'	1.85	3.30	4.73	6.17	41	48	56	63
	54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	4.0'	8.42'	16.08'	23.75'	31.42'	1.46'	2.14	3.95	5.77	7.58	44	52	61	69
	60"	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	4.0'	9.00'	17.50'	26.00'	34.50'	1.50'	2.45	4.66	6.87	9.07	47	56	66	75
	66"	9'-2"	3.73'	21.62'	25.35'	21.03'	25'	3.18'	4.0'	9.58'	18.75'	27.92'	37.08'	1.54'	2.88	5.54	8.18	10.84	49	59	69	80
72"	10'-0"	3.91'	23.68'	27.59'	23.03'	27'	3.30'	4.0'	10.16'	20.16'	30.16'	40.16'	1.58'	3.54	6.61	9.87	13.13	52	63	74	85	

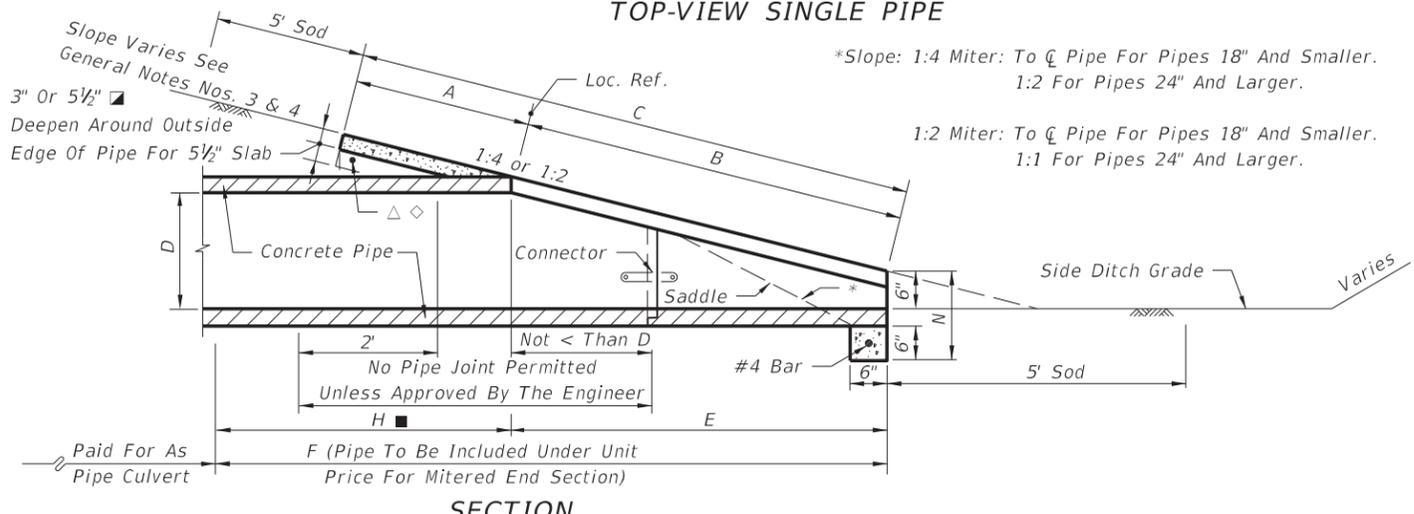
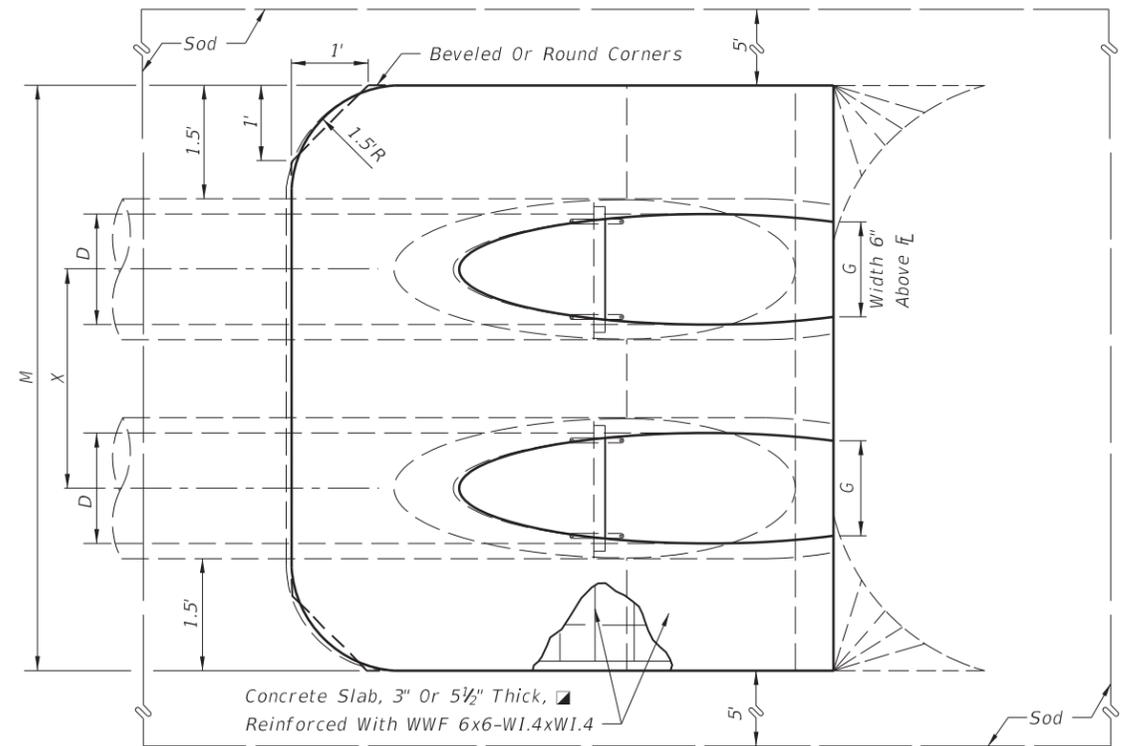
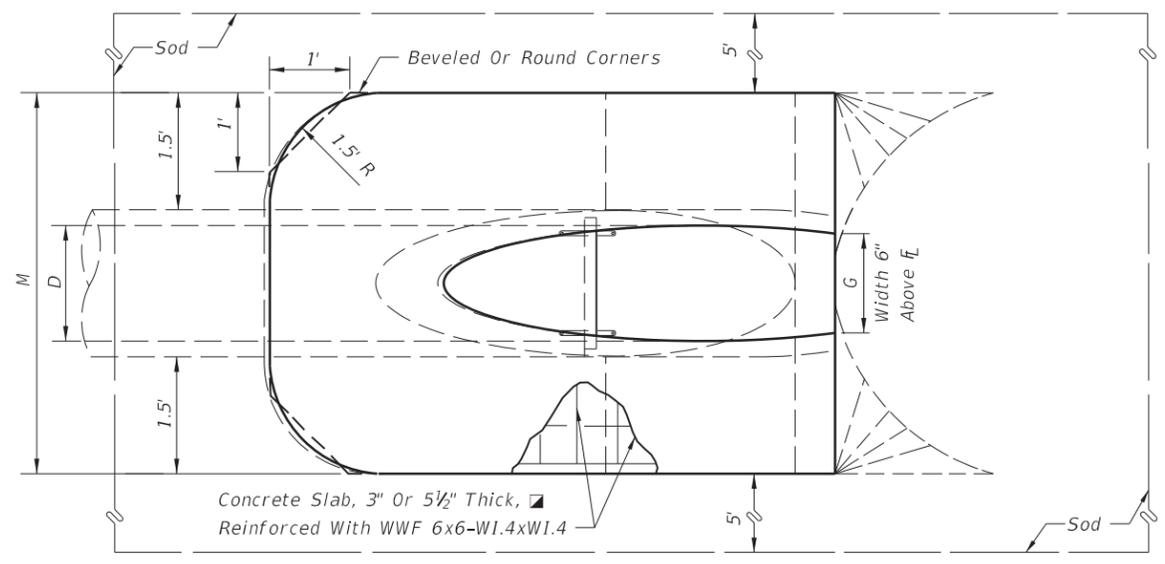
▣ See General Note No. 5.  
See Sheet 5 For 3" Slab Quantities

■ Values shown for estimating pipe quantities and are for information only.

△ 6.42'    △ 6.25'    Dimensions permitted to allow use of 8' standard pipe lengths.

◇ 10.40'    ◇ 10.10'    Dimensions permitted to allow use of 12' standard pipe lengths.

△ ◇ Concrete slab shall be deepened to form bridge across crown of pipe. See section below.



NOTE: See sheet 6 for details and notes.

**SINGLE AND MULTIPLE ROUND CONCRETE PIPE**

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6/29/2012

LAST REVISION	DESCRIPTION:	<b>FDOT DESIGN STANDARDS</b> 2013	<b>CROSS DRAIN MITERED END SECTION</b>	INDEX NO.	SHEET NO.
02				272	1

