

Appendix H

LPA Conceptual Plans and Cost Estimates

HARMONY ROAD ENHANCED TRAVEL CORRIDOR

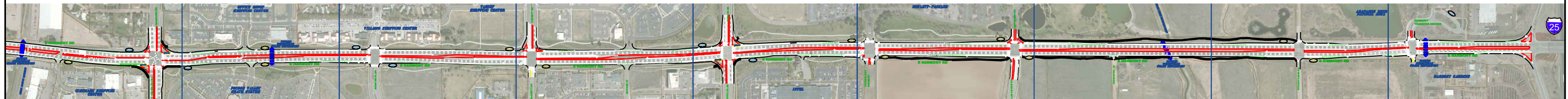
HARMONY ROAD KEY MAP

1 2 3 4 5 6 7 8 9








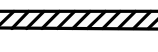
S Shields St
Front Range CC
S College Ave
Boardwalk Dr
S Lemay Ave

10 11 12 13 14 15 16 17 18




S Timberline Rd
Corbett Dr
Ziegler Rd
Lady Moon Dr
Harmony Transfer Station

LEGEND

-  BUS STOPS
-  BUS STATIONS
-  GREEN EPOXY COATED BIKE LANE
-  BIKE LANE BUFFER
-  SIDEWALKS
-  EXISTING R.O.W. FROM GIS DATA

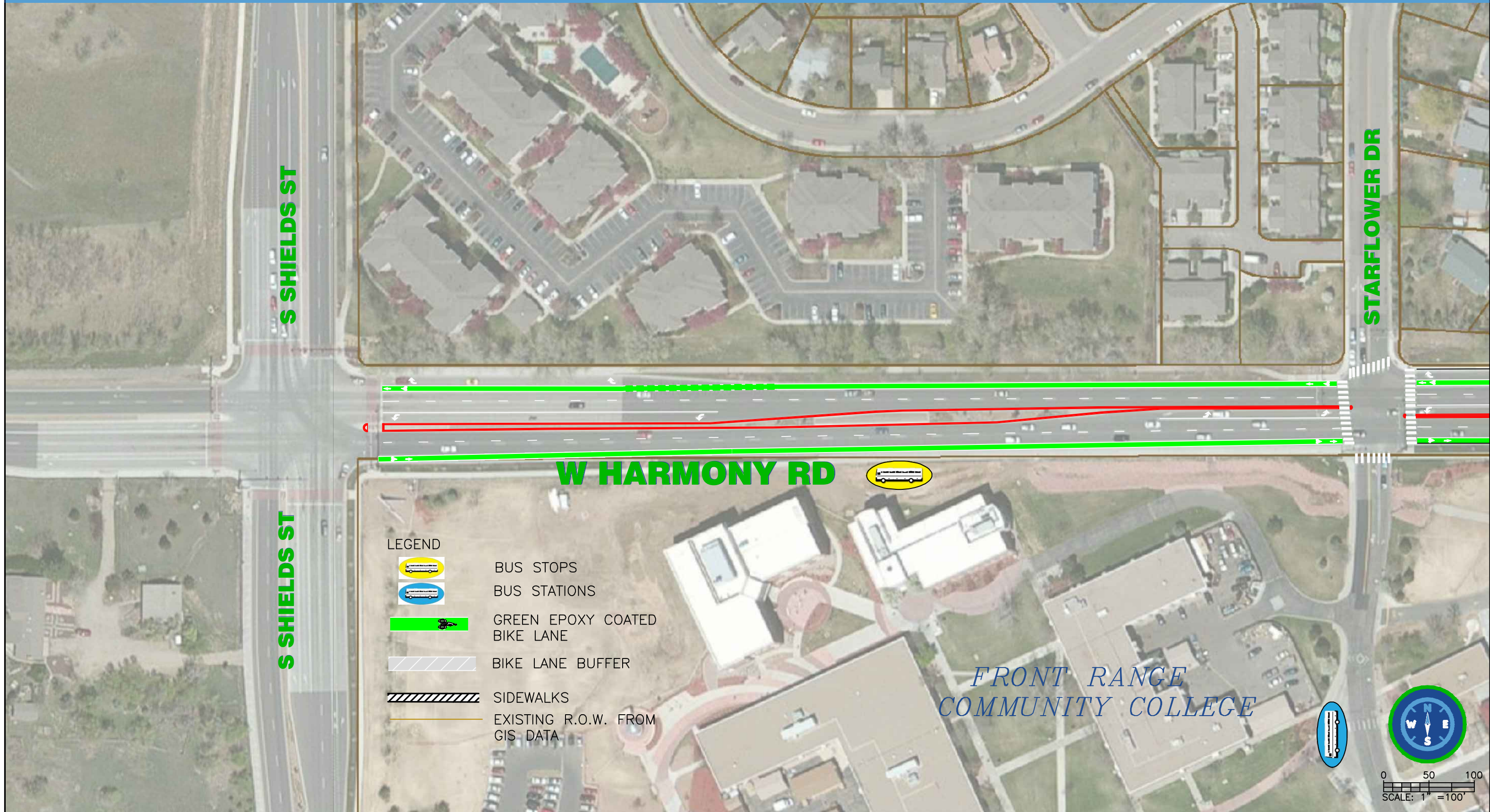


Print Date: _____
 File Name: 11184-01 Harmony Rd Corridor.dwg
 Horizontal Scale: 1:100 Vertical Scale: _____
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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: KEY MAP 1 of 1	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



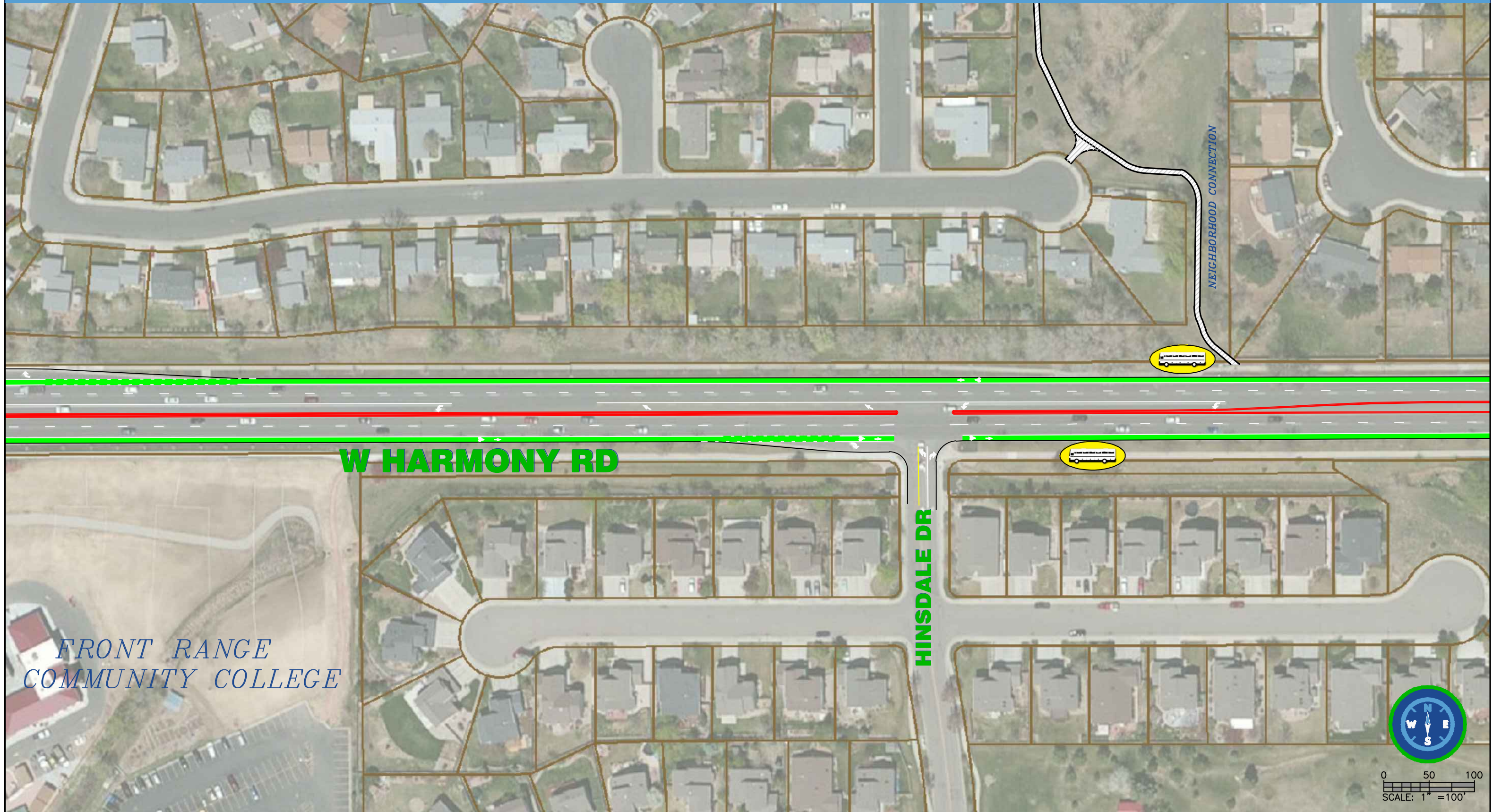
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Harmony Road ENHANCED TRAVEL CORRIDOR
Alternatives Analysis

HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 1 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



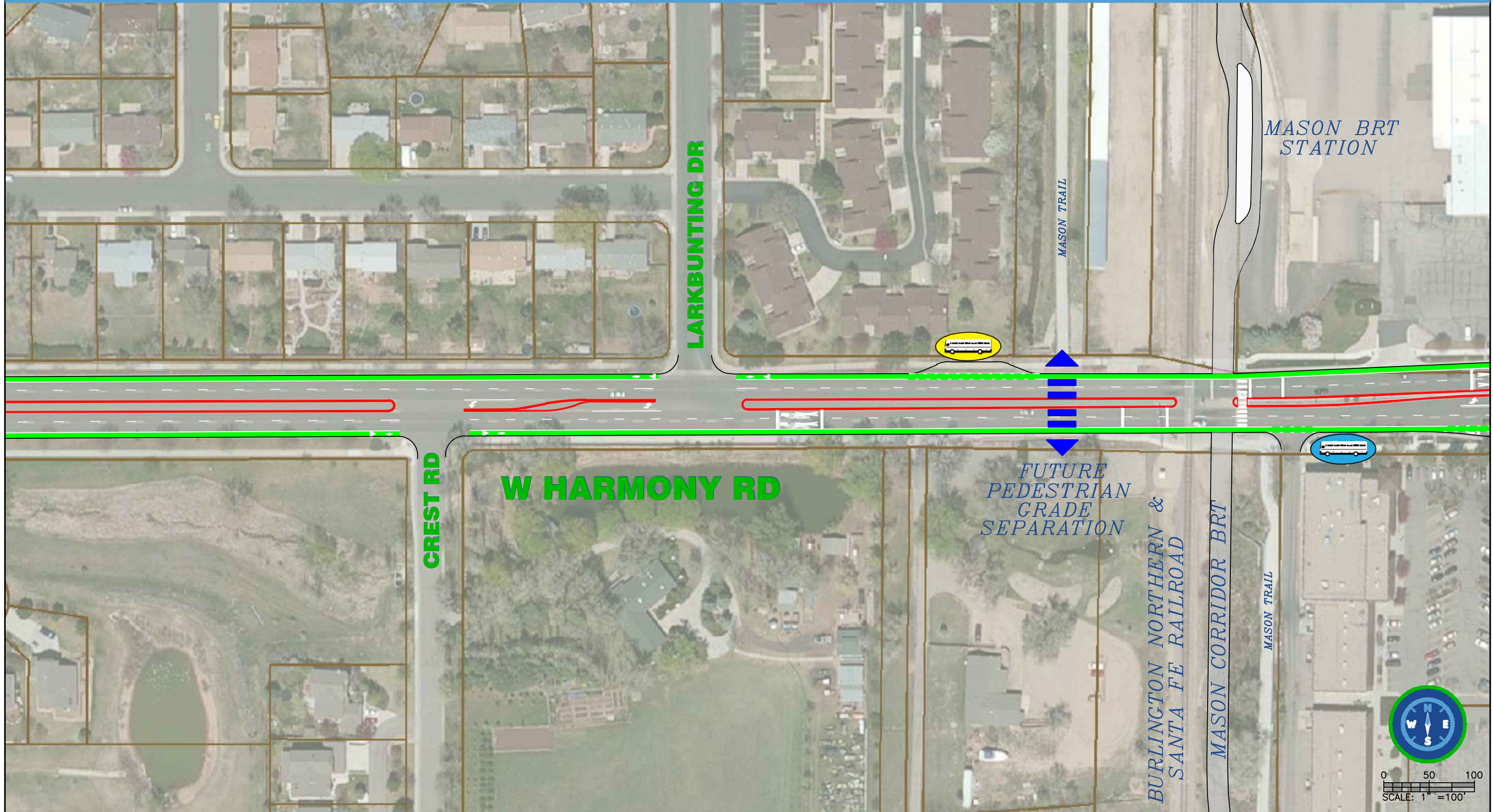
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Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 2 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



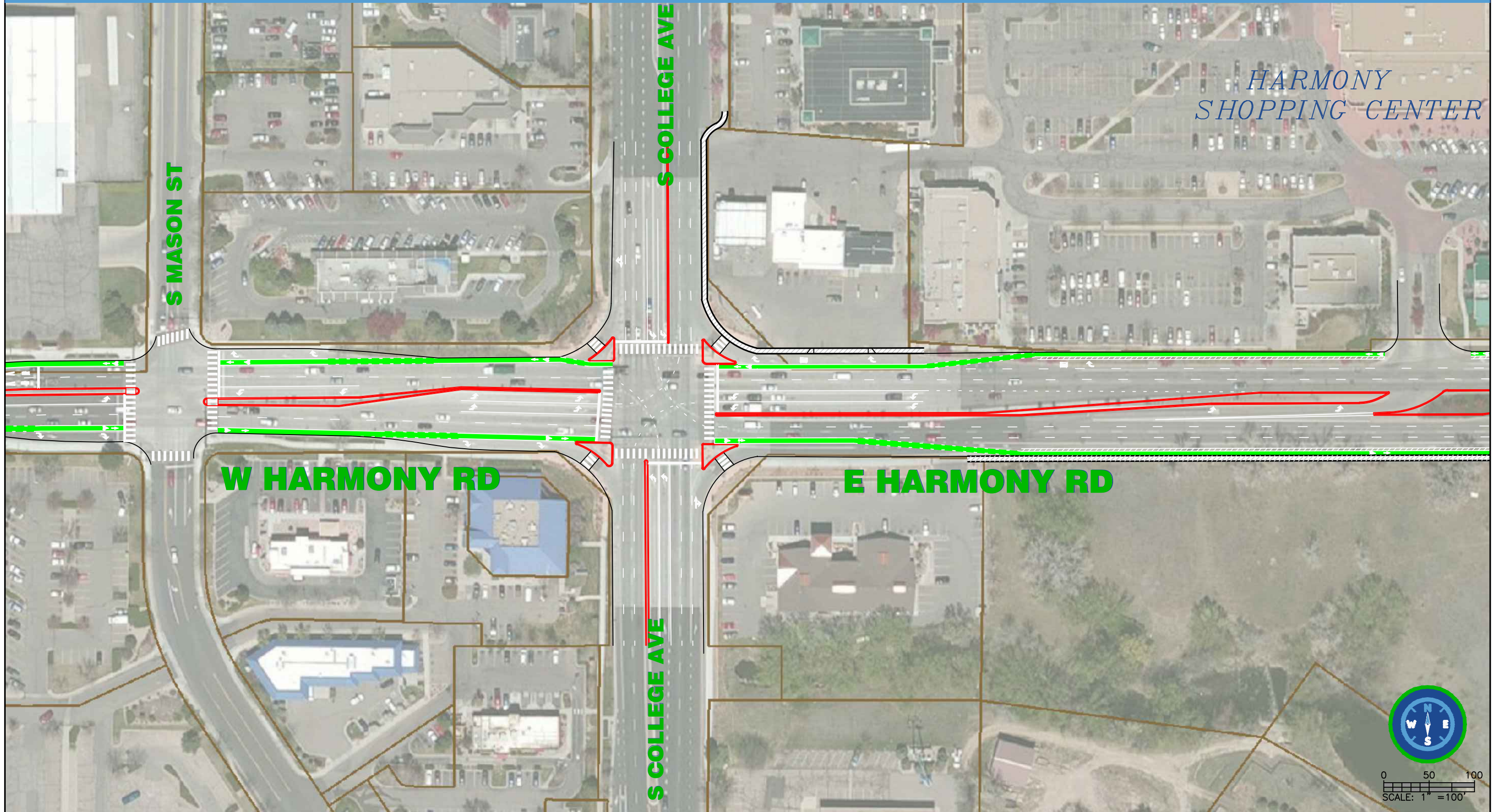
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Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 3 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



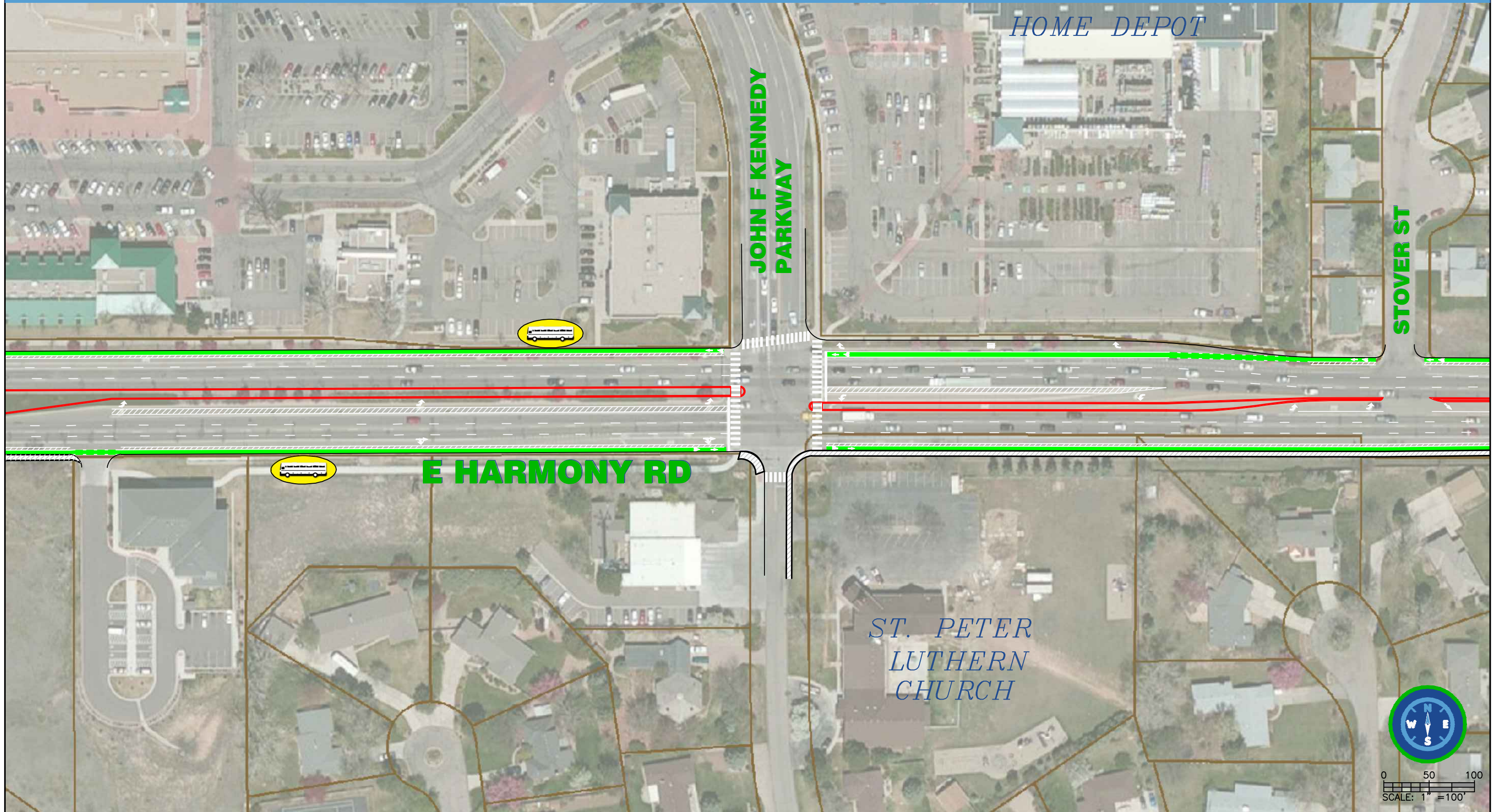
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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 4 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



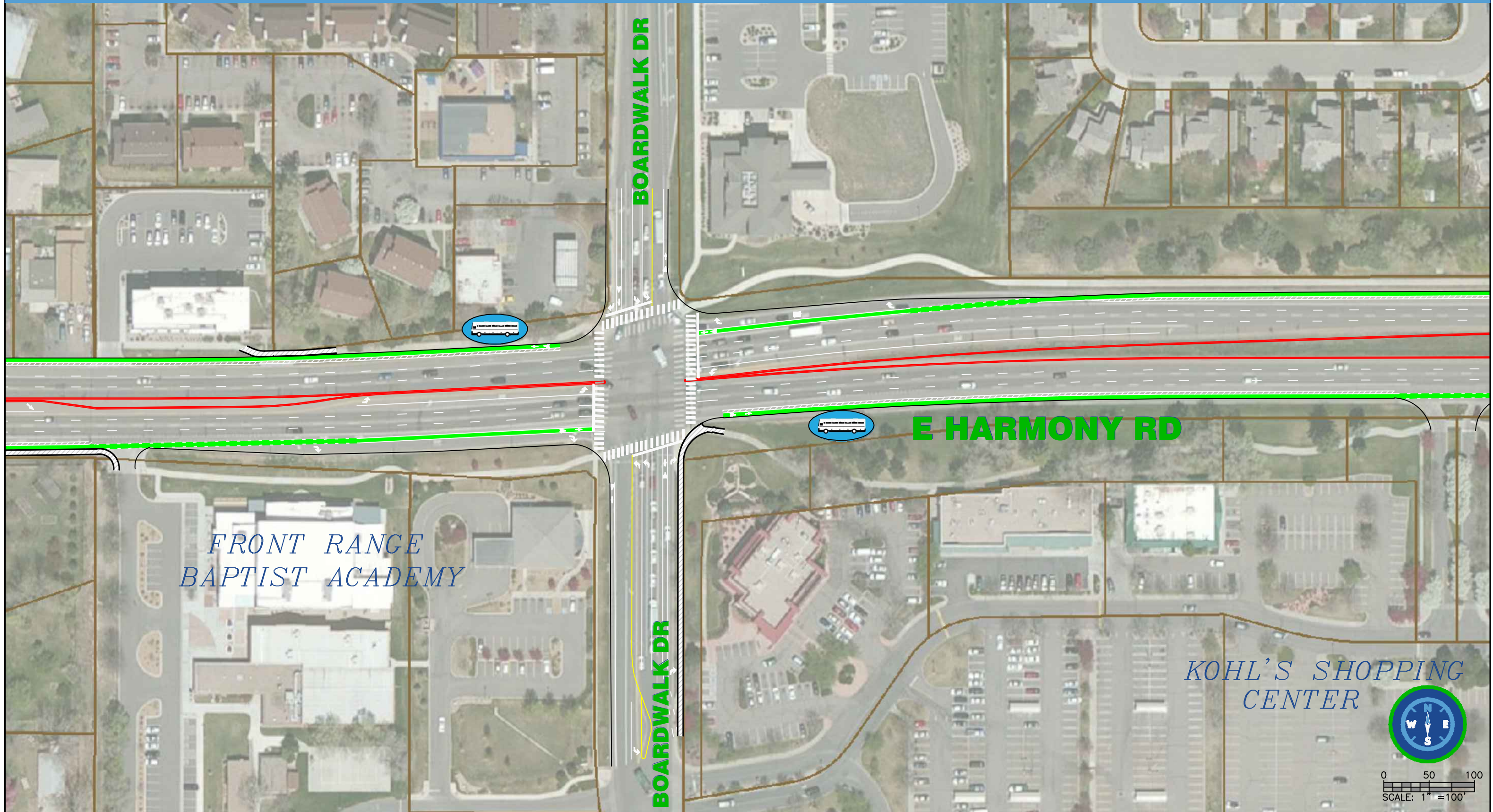
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Designer: RRF	Structure Numbers	
Detailer: JMD	Sheets: Concept 5 of 18	Sheet Number XX
Subset:		

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



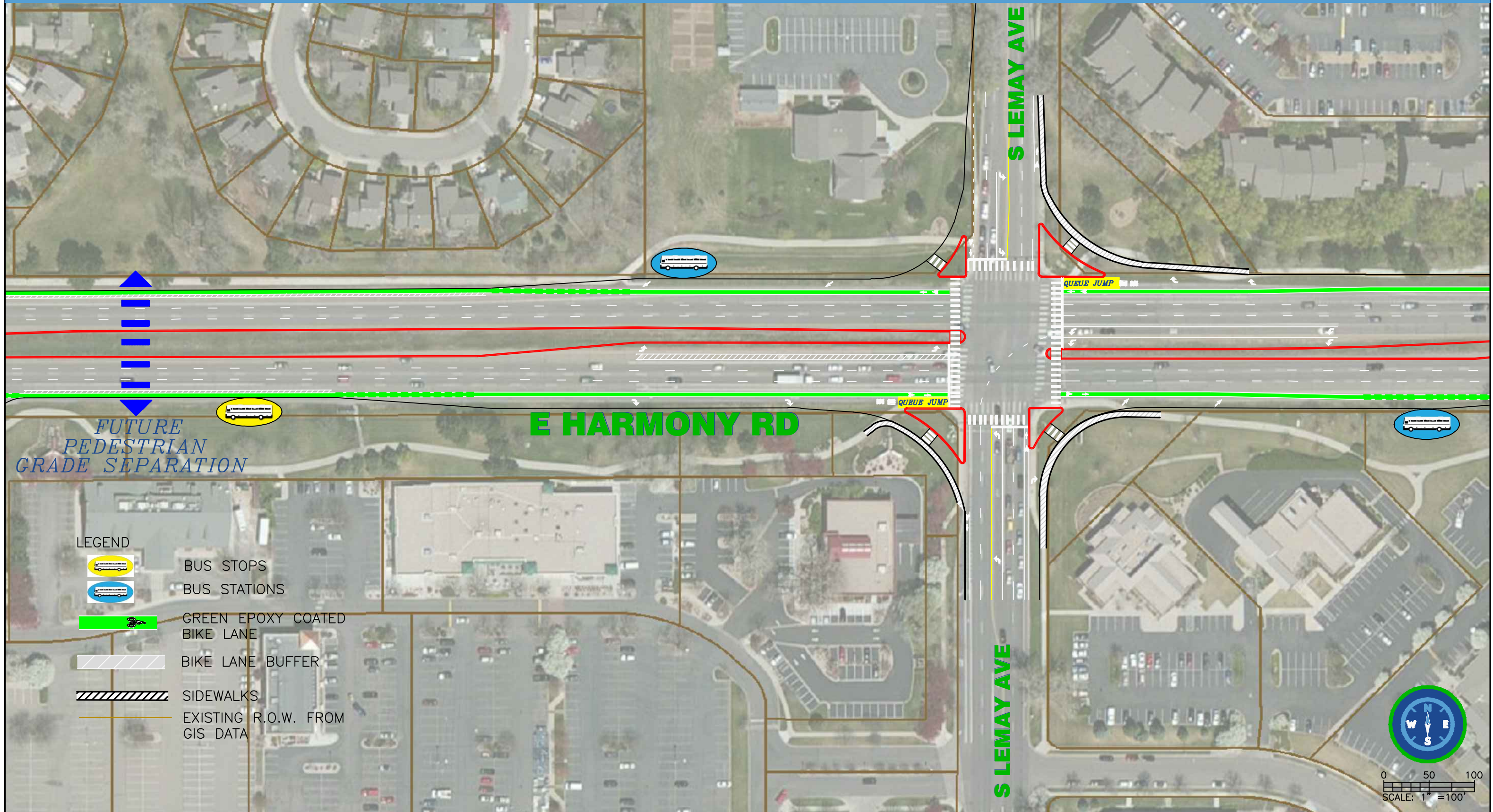
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Designer: RRF	Structure Numbers	
Detailer: JMD	Sheets: Concept 6 of 18	Sheet Number XX
Subset:		

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



LEGEND

-  BUS STOPS
-  BUS STATIONS
-  GREEN EPOXY COATED BIKE LANE
-  BIKE LANE BUFFER
-  SIDEWALKS
-  EXISTING R.O.W. FROM GIS DATA

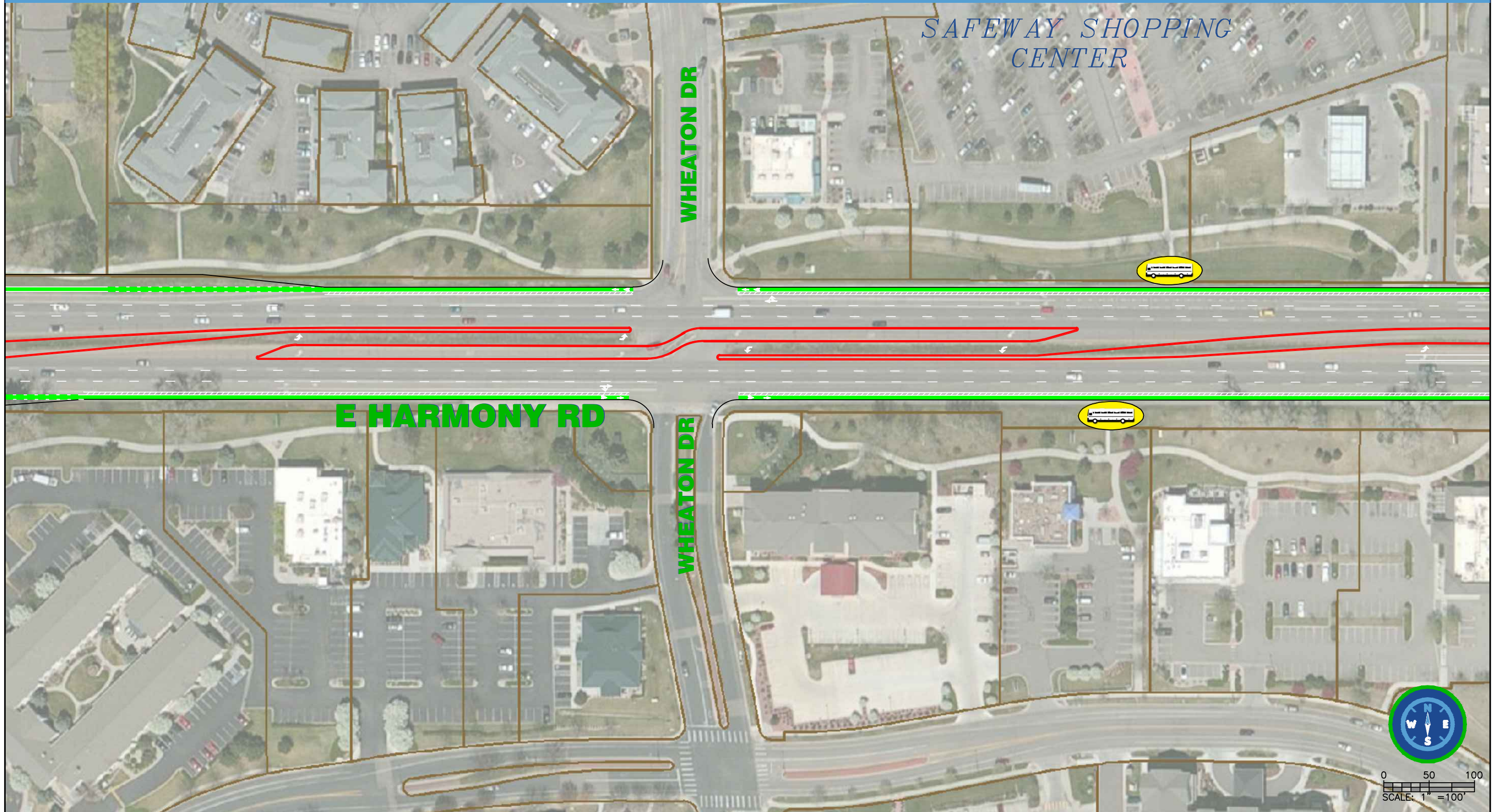
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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD	Sheets: Concept 7 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



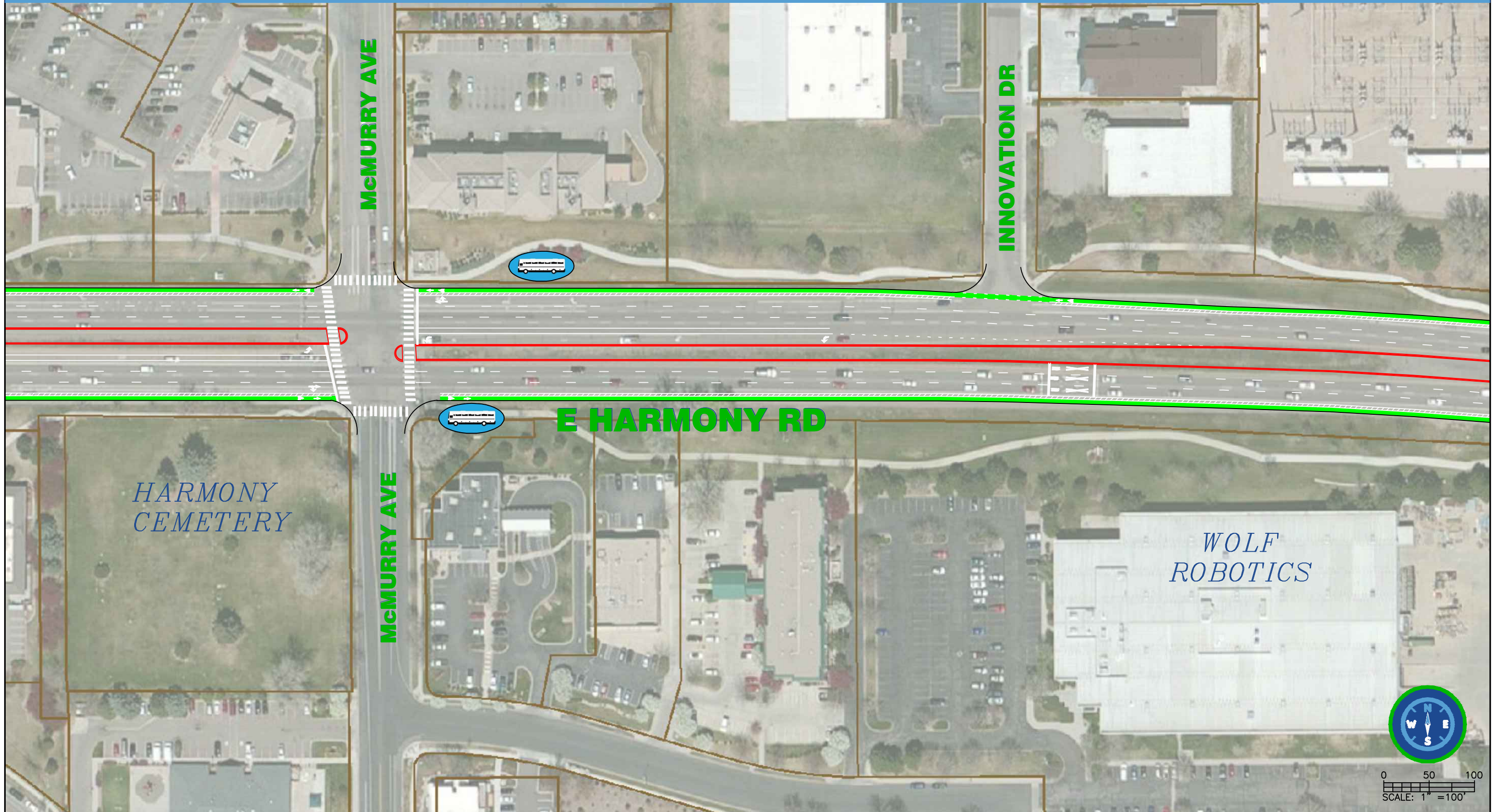
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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD	Sheets: Concept 8 of 18	Sheet Number XX
Subset:		

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 9 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



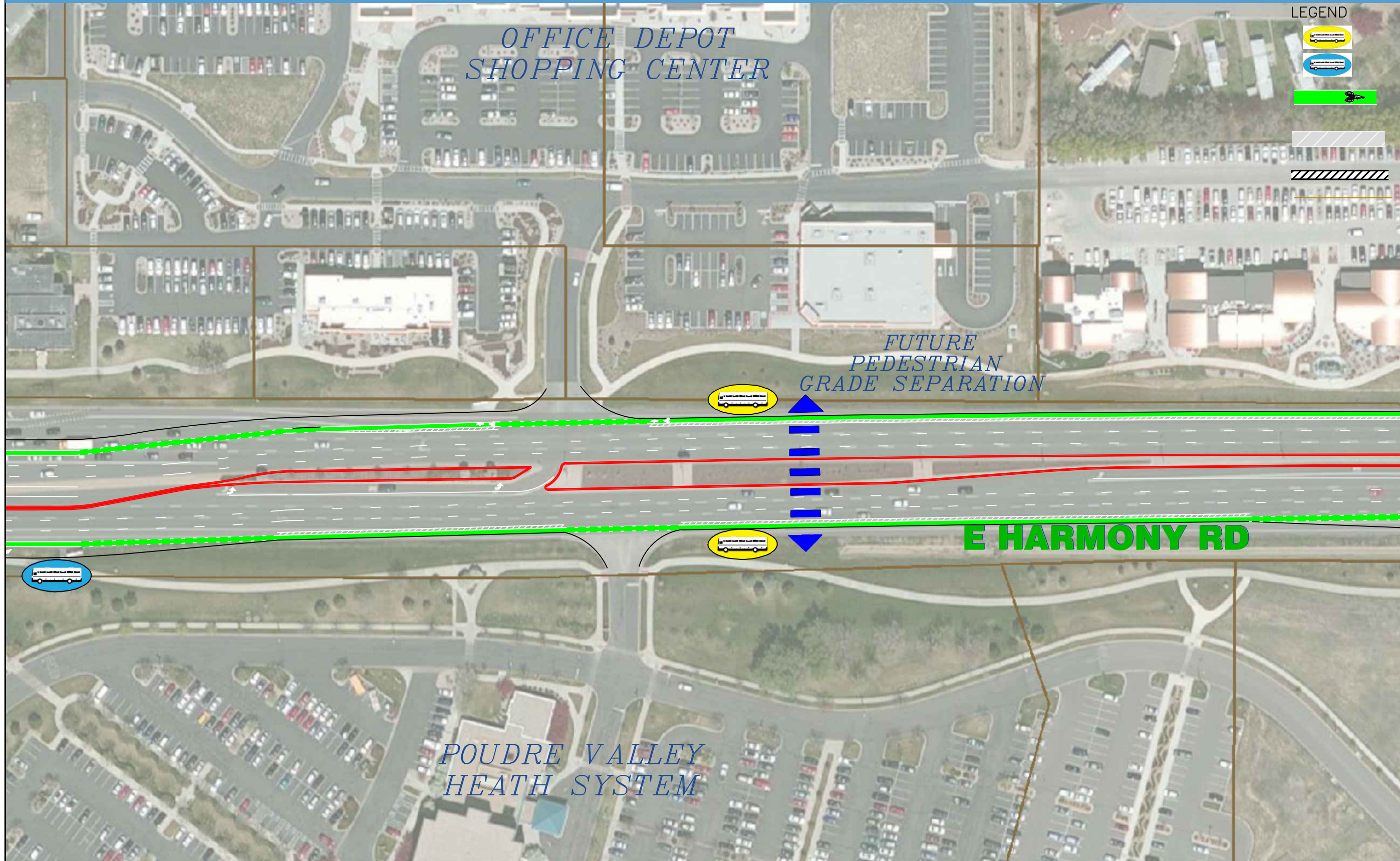
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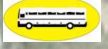

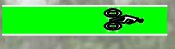
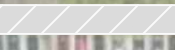

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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 10 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



- LEGEND**
-  BUS STOPS
 -  BUS STATIONS
 -  GREEN EPOXY COATED BIKE LANE
 -  BIKE LANE BUFFER
 -  SIDEWALKS
 -  EXISTING R.O.W. FROM GIS DATA

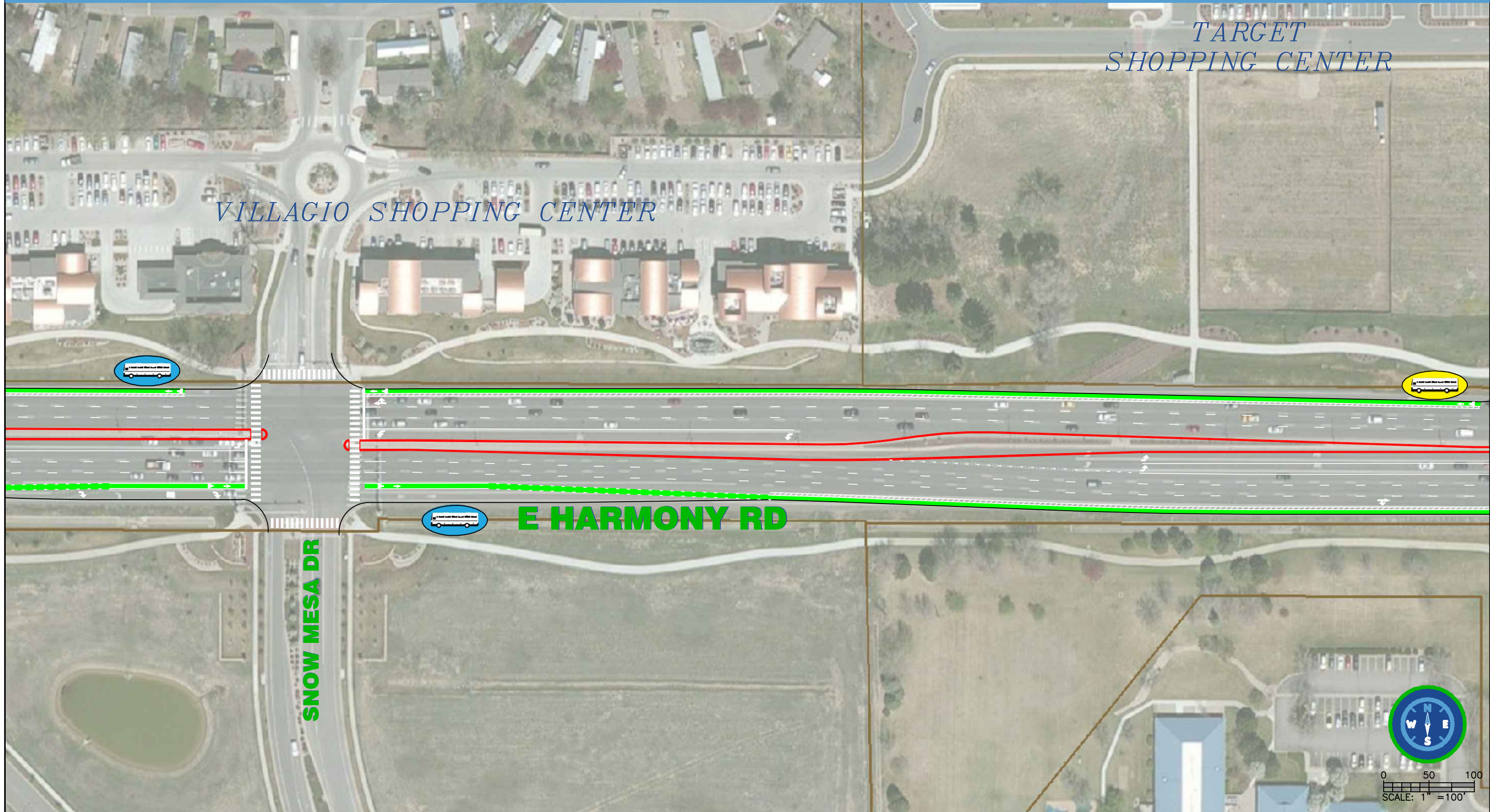
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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
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Detailer: JMD		
Subset:	Sheets: Concept 11 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



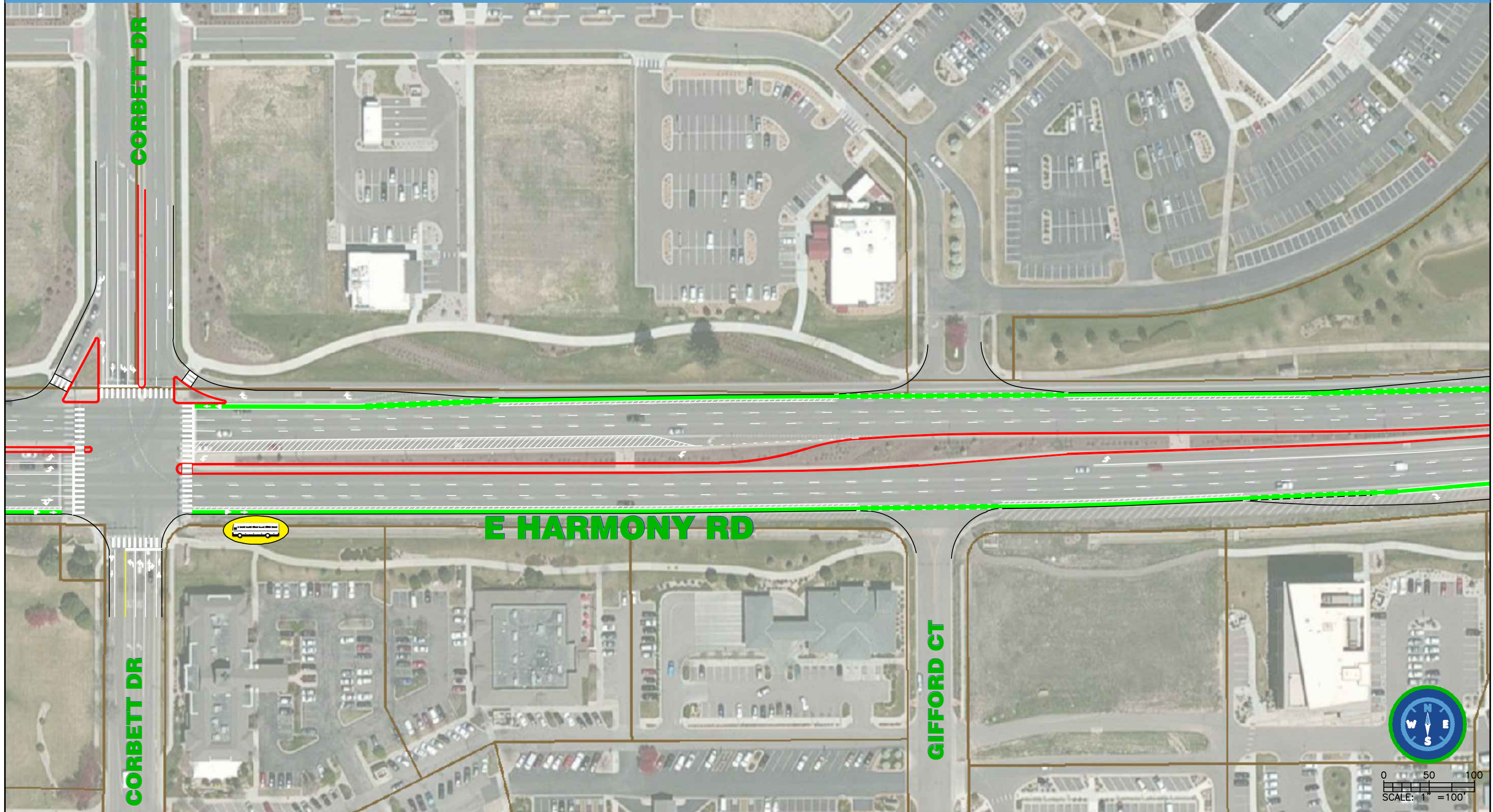
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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 12 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



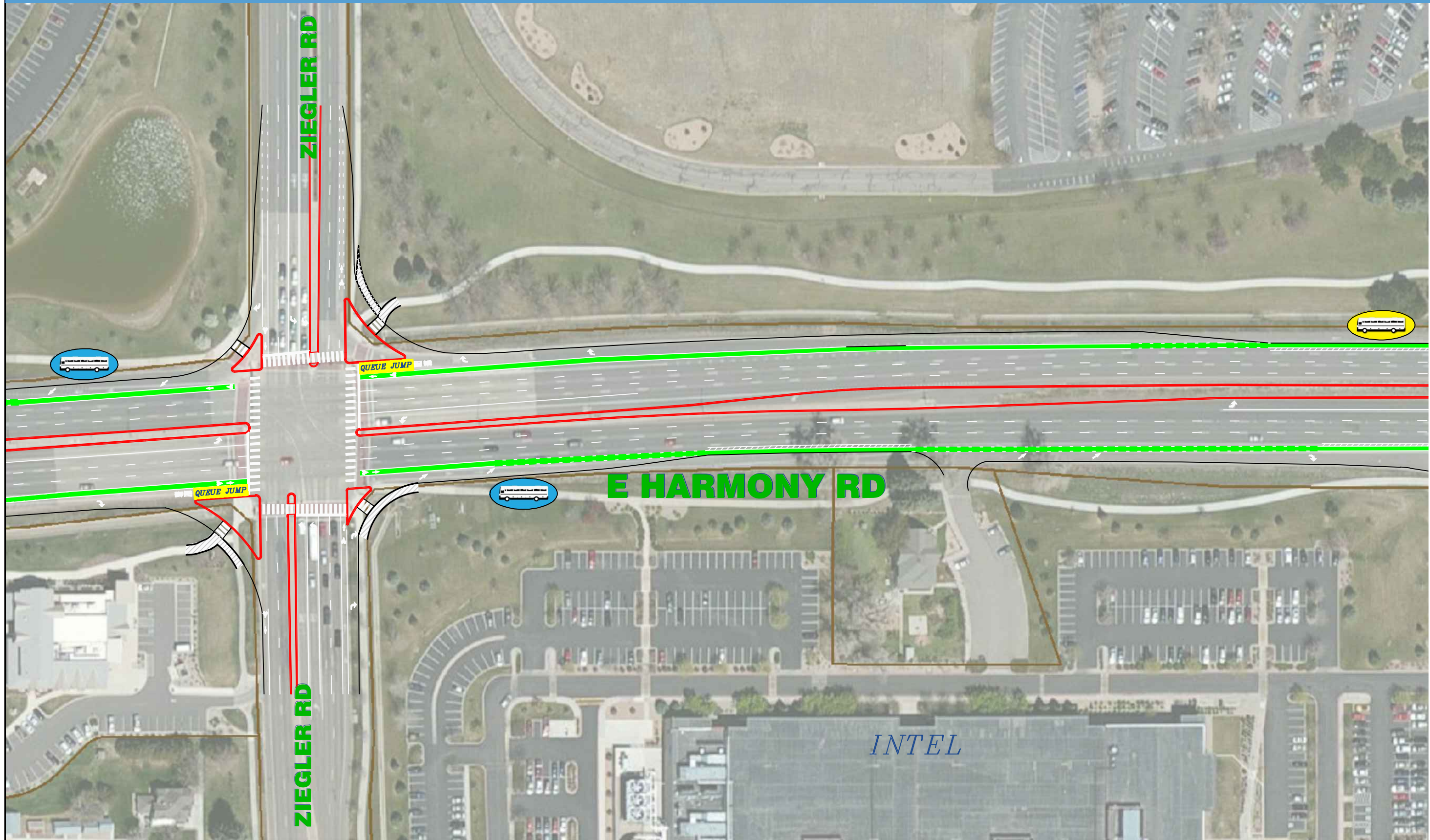
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Designer: RRF	Structure Numbers	
Detailer: JMD	Sheets: Concept 13 of 18	Sheet Number XX
Subset:		

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



Print Date: 5/31/2013
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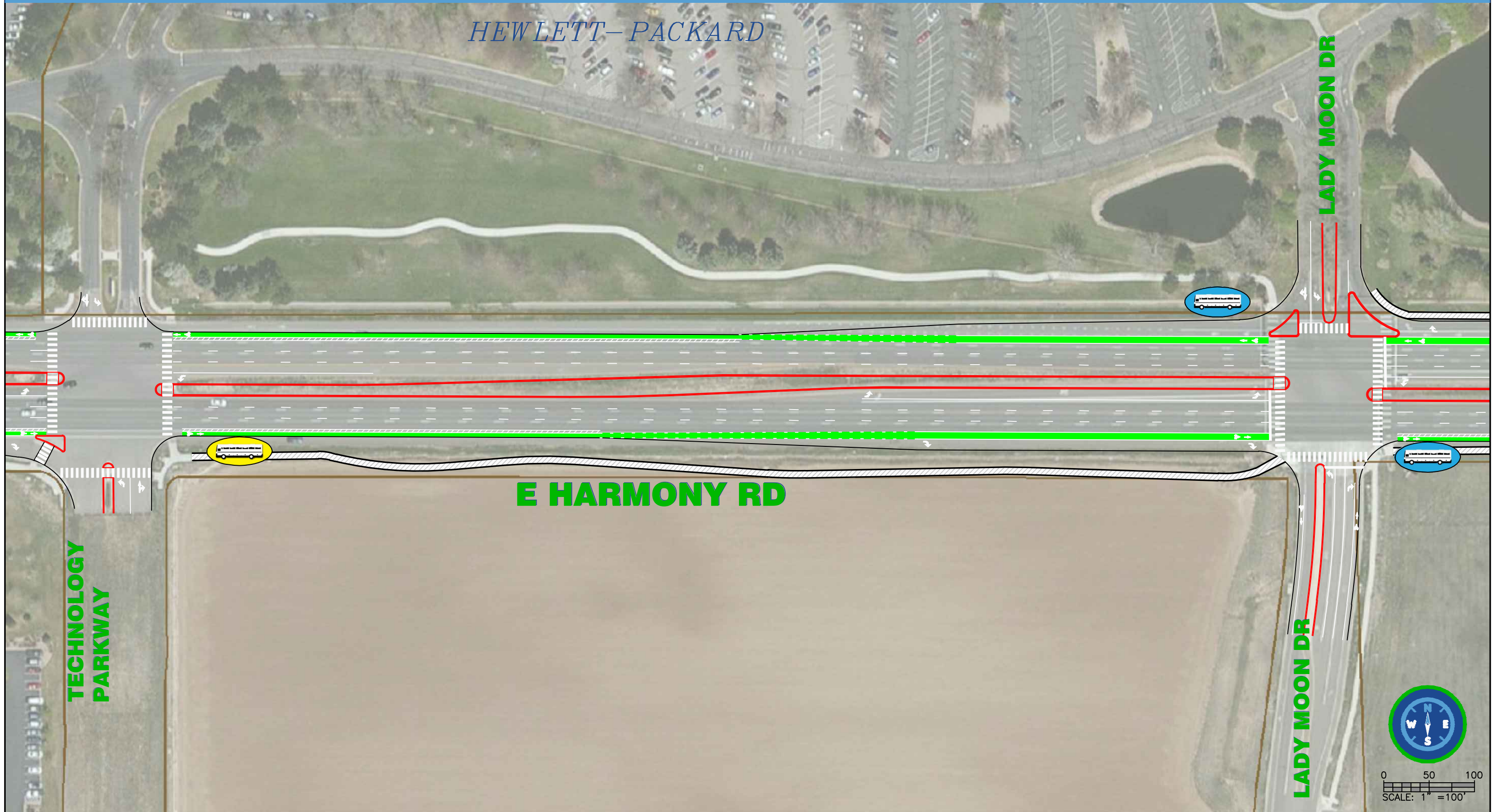
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Harmony Road ENHANCED TRAVEL CORRIDOR
Alternatives Analysis

HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 14 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR

HEWLETT-PACKARD

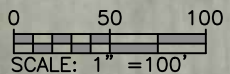


**TECHNOLOGY
PARKWAY**

E HARMONY RD

LADY MOON DR

LADY MOON DR



Print Date: 5/31/2013
 File Name: 11184-01 Harmony Rd Corridor.dwg
 Horizontal Scale: 1:100

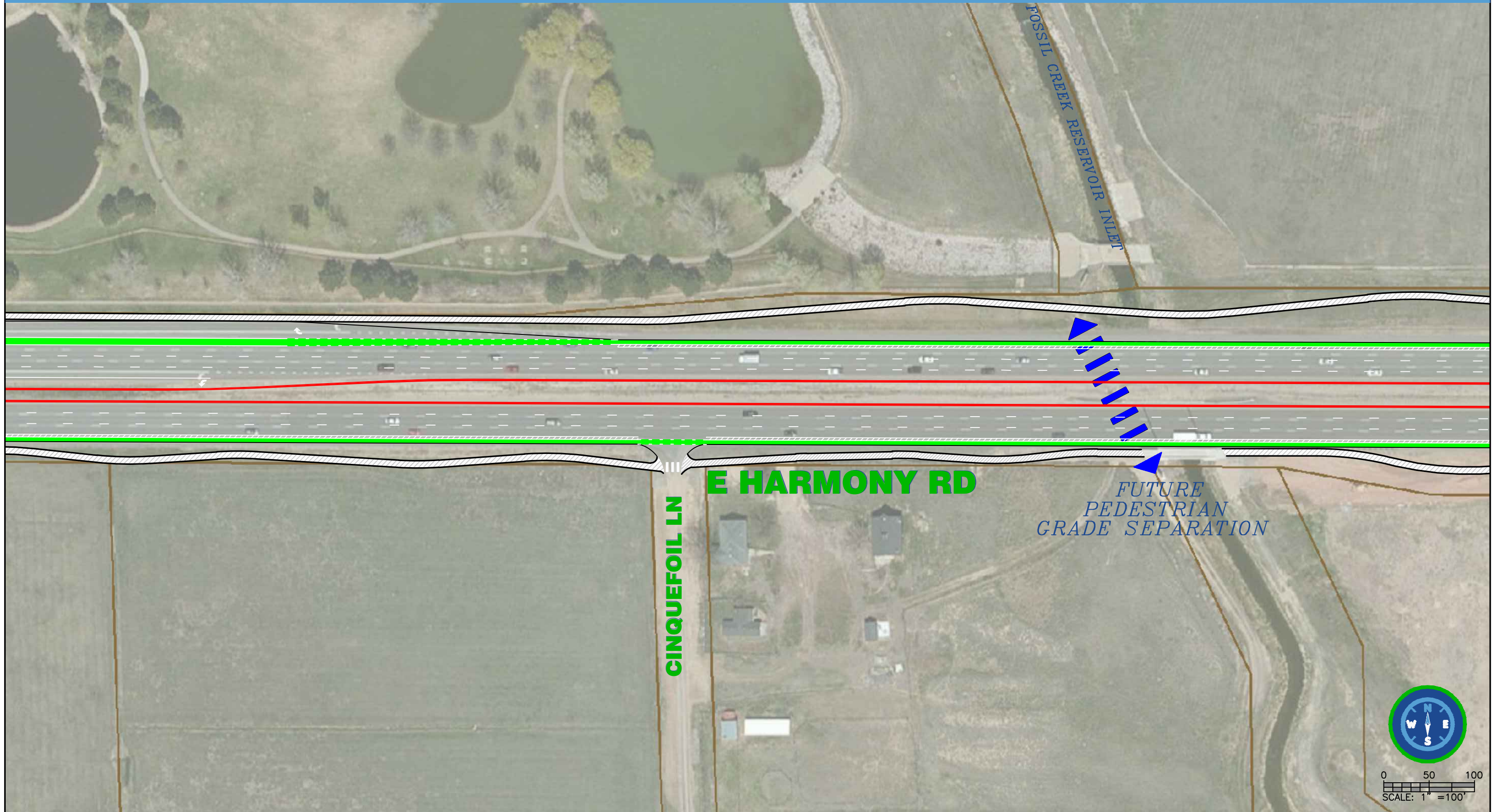
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Harmony Road ENHANCED TRAVEL CORRIDOR
Alternatives Analysis

HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD	Sheets: Concept 15 of 18	Sheet Number XX
Subset:		

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



Print Date: 5/31/2013
 File Name: 11184-01 Harmony Rd Corridor.dwg
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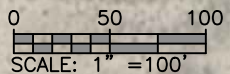
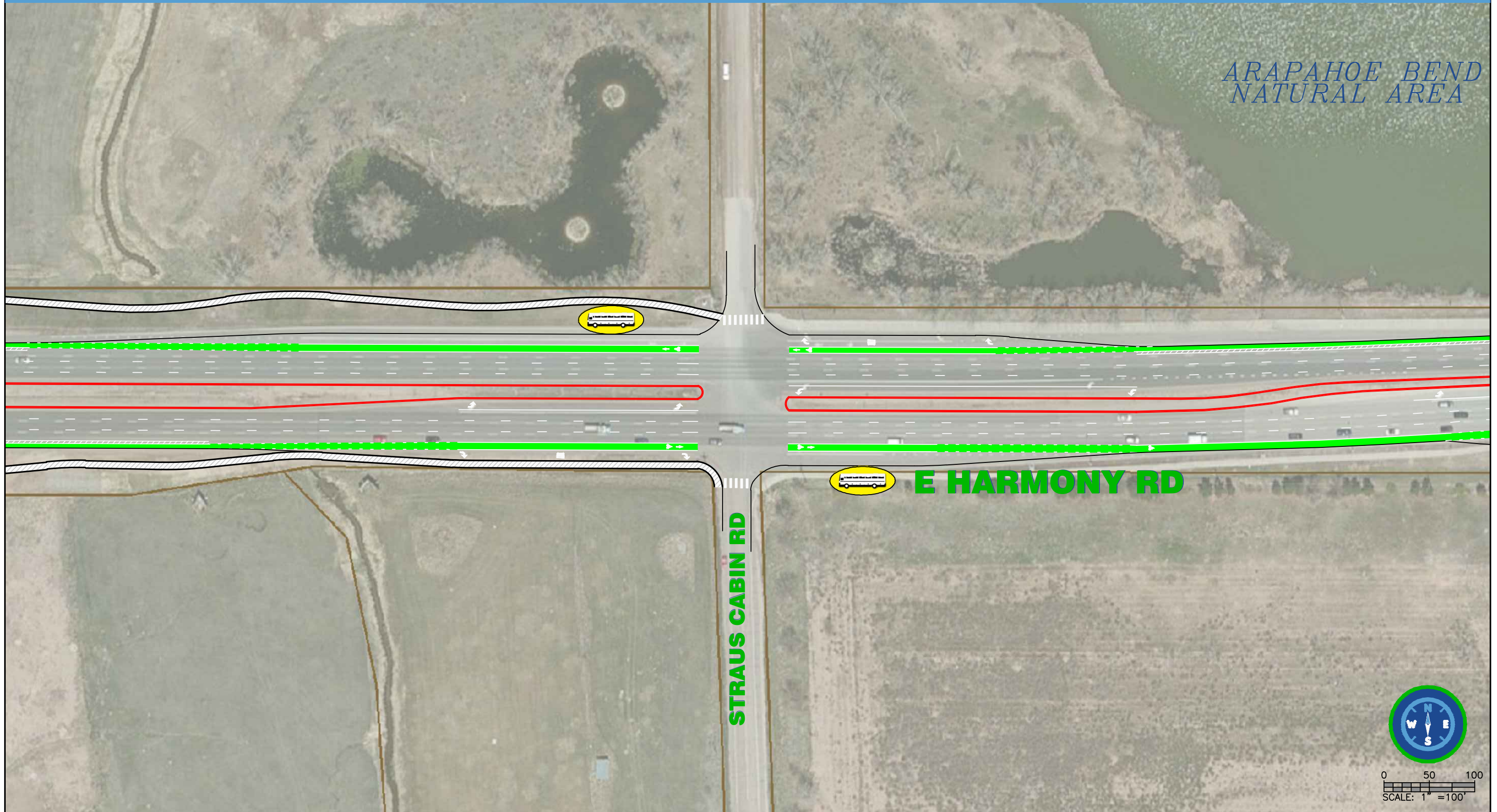
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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 16 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR

ARAPAHOE BEND
NATURAL AREA



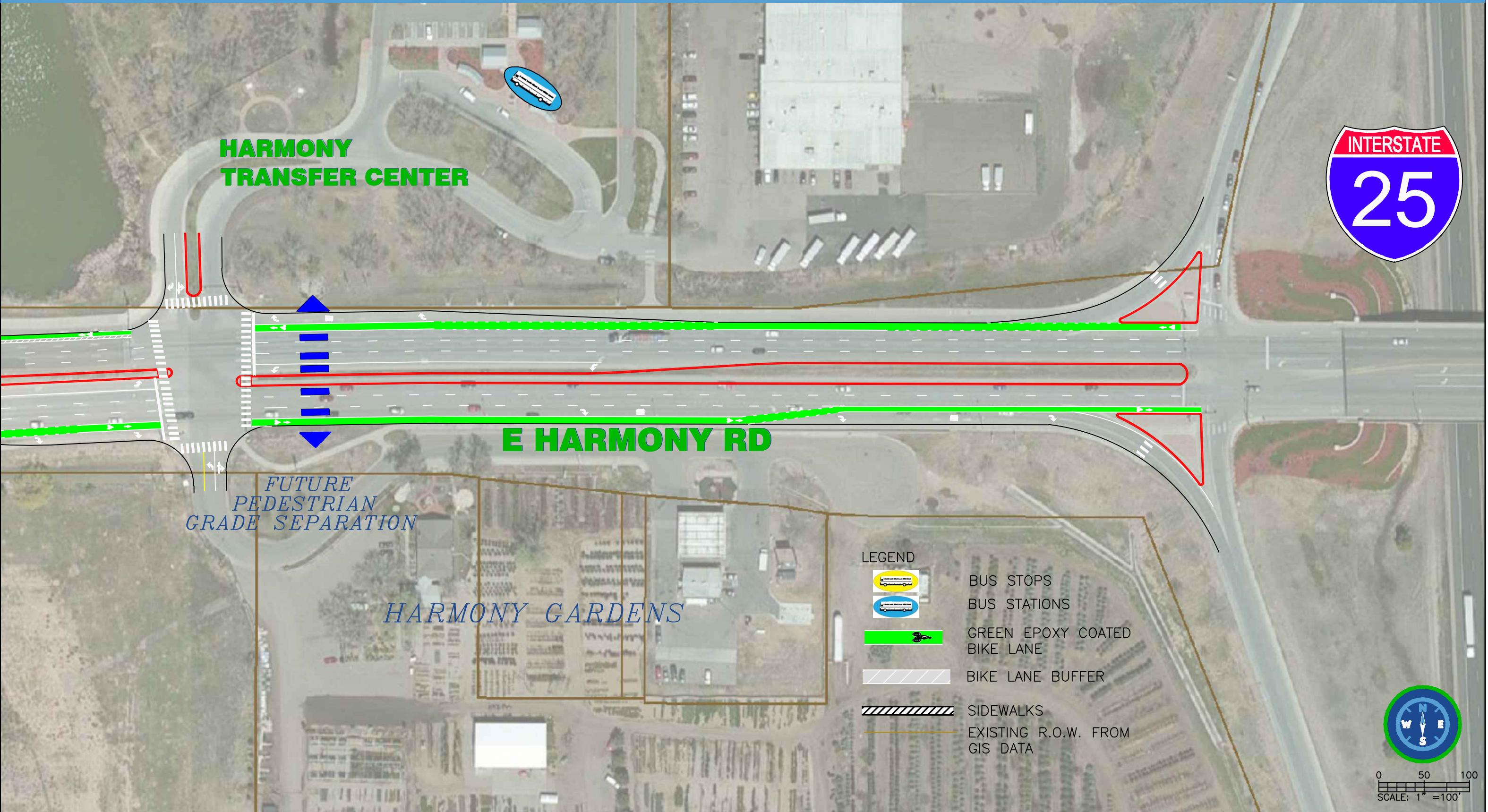
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Harmony Road ENHANCED TRAVEL CORRIDOR
Alternatives Analysis

HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 17 of 18	Sheet Number XX

HARMONY ROAD ENHANCED TRAVEL CORRIDOR



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HARMONY ROAD ENHANCED TRAVEL CORRIDOR		11184-01
Designer: RRF	Structure Numbers	
Detailer: JMD		
Subset:	Sheets: Concept 18 of 18	Sheet Number XX

**OPINION OF PROBABLE COST**

In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Engineers Estimate of Probable Cost - Shields Street to East Side of College Avenue
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11184-01

Harmony Road ETC Master Plan

<i>Shields to College</i>				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	0.15	\$394
REMOVAL OF SIDEWALK	SY	\$8.50	150	\$1,275
REMOVAL OF CURB AND GUTTER	LF	\$4.50	400	\$1,800
REMOVAL OF ASPHALT MAT	SY	\$2.50	700	\$1,750
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	570	\$7,980
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	125	\$2,125
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	275	\$41,250
CONCRETE SIDEWALK	SY	\$32.50	1650	\$53,625
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	8000	\$80,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	0	\$0
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	9350	\$60,775
MEDIAN LANDSCAPING	SF	\$10.00	23000	\$230,000
BIKE LANE W/ BUFFER	MILE	\$20,000.00	0.00	\$0
BIKE LANE W/O BUFFER	MILE	\$15,000.00	1.95	\$29,250
BUS STATION	LS	\$150,000.00	2	\$300,000
BUS STOP	LS	\$20,000.00	4	\$80,000
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	1	\$2,000,000
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	0	\$0
TRAFFIC SIGNALIZATION (Mason Street & College Avenue)	LS	Varies	NA	\$167,700

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:**\$3,057,924**

Project Construction Bid Items Subtotal	% Multiplier		Cost	
	Project Quantity			
Contingencies	% of A	30.0%	\$917,377	A
Utilities	% of A+B	1.0%	\$39,753	B
Drainage	% of A+B	1.0%	\$39,753	D
Signing and Striping	% of A+B	1.0%	\$39,753	E
Construction Signing & Traffic Control	% of A+B	5.0%	\$198,765	F
Lighting	% of A+B	2.0%	\$79,506	G
Mobilization	% of A+B	2.0%	\$79,506	H
Total of Construction Bid Items	Sum of A to H		\$4,452,000	I
Design Engineering	% of I	8.0%	\$356,160	J
Construction Engineering	% of I	6.0%	\$267,120	K
Total Opinion of Probable Cost	Sum of I to K		\$5,075,280	

**OPINION OF PROBABLE COST**

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Engineers Estimate of Probable Cost - East Side of College Avenue. To West Side of Lemay Ave.

11184-01

Harmony Road ETC Master Plan

College to Lemay				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	1.5	\$3,938
REMOVAL OF SIDEWALK	SY	\$8.50	1100	\$9,350
REMOVAL OF CURB AND GUTTER	LF	\$4.50	3100	\$13,950
REMOVAL OF ASPHALT MAT	SY	\$2.50	0	\$0
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	1800	\$25,200
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	800	\$13,600
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	1780	\$267,000
CONCRETE SIDEWALK	SY	\$32.50	2800	\$91,000
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	8400	\$84,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	2400	\$34,800
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	11650	\$75,725
MEDIAN LANDSCAPING	SF	\$10.00	35000	\$350,000
BIKE LANE W/ BUFFER	MILE	\$20,000.00	0.67	\$13,348
BIKE LANE W/O BUFFER	MILE	\$15,000.00	0.80	\$12,000
BUS STATION	LS	\$150,000.00	2	\$300,000
BUS STOP	LS	\$20,000.00	3	\$60,000
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	1	\$2,000,000
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	10000	\$195,000
TRAFFIC SIGNALIZATION (JFK Parkway & Boardwalk Drive)	LS	Varies	NA	\$286,150

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:**\$3,835,061**

	% Multiplier		Cost	
Project Construction Bid Items Subtotal	Project Quantity		\$3,835,061	A
Contingencies	% of A	30.0%	\$1,150,518	B
Utilities	% of A+B	1.0%	\$49,856	C
Drainage	% of A+B	1.0%	\$49,856	D
Signing and Striping	% of A+B	1.0%	\$49,856	E
Construction Signing & Traffic Control	% of A+B	5.0%	\$249,279	F
Lighting	% of A+B	2.0%	\$99,712	G
Mobilization	% of A+B	2.0%	\$99,712	H
Total of Construction Bid Items	Sum of A to H		\$5,584,000	I
Design Engineering	% of I	8.0%	\$446,720	J
Construction Engineering	% of I	6.0%	\$335,040	K
Total Opinion of Probable Cost	Sum of I to K		\$6,365,760	



Building and Enhancing Communities

OPINION OF PROBABLE COST

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Engineers Estimate of Probable Cost - Lemay Avenue Intersection

11084-01

Harmony Road ETC Master Plan

<i>Lemay Intersection</i>				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	2.3	\$6,038
REMOVAL OF SIDEWALK	SY	\$8.50	1000	\$8,500
REMOVAL OF CURB AND GUTTER	LF	\$4.50	1000	\$4,500
REMOVAL OF ASPHALT MAT	SY	\$2.50	600	\$1,500
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	2500	\$35,000
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	1900	\$32,300
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	4200	\$630,000
CONCRETE SIDEWALK	SY	\$32.50	1250	\$40,625
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	2600	\$26,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	4200	\$60,900
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	15000	\$97,500
MEDIAN LANDSCAPING	SF	\$10.00	27300	\$273,000
BIKE LANE W/ BUFFER	MILE	\$20,000.00	0.00	\$0
BIKE LANE W/O BUFFER	MILE	\$15,000.00	0.43	\$6,491
BUS STATION	LS	\$150,000.00	2	\$300,000
BUS STOP	LS	\$20,000.00	0	\$0
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	0	\$0
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	32000	\$624,000
TRAFFIC SIGNALIZATION	LS	Varies	NA	\$26,000

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:

\$2,172,354

Project Construction Bid Items Subtotal	% Multiplier		Cost	
	Project Quantity		\$2,172,354	A
Contingencies	% of A	30.0%	\$651,706	B
Utilities	% of A+B	2.0%	\$56,481	C
Drainage	% of A+B	4.0%	\$112,962	D
Signing and Striping	% of A+B	1.0%	\$28,241	E
Construction Signing & Traffic Control	% of A+B	5.0%	\$141,203	F
Lighting	% of A+B	2.0%	\$56,481	G
Mobilization	% of A+B	2.0%	\$56,481	H
Total of Construction Bid Items	Sum of A to H		\$3,276,000	I
Design Engineering	% of I	8.0%	\$262,080	J
Construction Engineering	% of I	6.0%	\$196,560	K
Total Opinion of Probable Cost	Sum of I to K		\$3,734,640	



Building and Enhancing Communities

OPINION OF PROBABLE COST

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Engineers Estimate of Probable Cost - East Side of Lemay Ave. to West Side of Timberline Road

11184-01

Harmony Road ETC Master Plan

Lemay to Timberline				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	1.15	\$3,019
REMOVAL OF SIDEWALK	SY	\$8.50	0	\$0
REMOVAL OF CURB AND GUTTER	LF	\$4.50	700	\$3,150
REMOVAL OF ASPHALT MAT	SY	\$2.50	1400	\$3,500
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	1600	\$22,400
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	640	\$10,880
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	1450	\$217,500
CONCRETE SIDEWALK	SY	\$32.50	0	\$0
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	8200	\$82,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	6800	\$98,600
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	25000	\$162,500
MEDIAN LANDSCAPING	SF	\$10.00	74250	\$742,500
BIKE LANE W/ BUFFER	MILE	\$20,000.00	1.34	\$26,894
BIKE LANE W/O BUFFER	MILE	\$15,000.00	0.00	\$0
BUS STATION	LS	\$150,000.00	2	\$300,000
BUS STOP	LS	\$20,000.00	2	\$40,000
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	1	\$2,000,000
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	0	\$0
TRAFFIC SIGNALIZATION (McMurray Avenue)	LS	Varies	NA	\$35,050

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:

\$3,747,993

Project Construction Bid Items Subtotal	% Multiplier		Cost	
	Project Quantity			
Contingencies	% of A	30.0%	\$1,124,398	A
Utilities	% of A+B	1.0%	\$48,724	B
Drainage	% of A+B	1.0%	\$48,724	C
Signing and Striping	% of A+B	1.0%	\$48,724	D
Construction Signing & Traffic Control	% of A+B	5.0%	\$243,620	E
Lighting	% of A+B	2.0%	\$97,448	F
Mobilization	% of A+B	2.0%	\$97,448	G
Total of Construction Bid Items	Sum of A to H		\$5,457,000	H
Design Engineering	% of I	8.0%	\$436,560	I
Construction Engineering	% of I	6.0%	\$327,420	J
Total Opinion of Probable Cost	Sum of I to K		\$6,220,980	K



Building and Enhancing Communities

OPINION OF PROBABLE COST

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Engineers Estimate of Probable Cost - Timberline Road Intersection

11084-01

Harmony Road ETC Master Plan

<i>Timberline Intersection</i>				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	1.75	\$4,594
REMOVAL OF SIDEWALK	SY	\$8.50	600	\$5,100
REMOVAL OF CURB AND GUTTER	LF	\$4.50	2900	\$13,050
REMOVAL OF ASPHALT MAT	SY	\$2.50	7200	\$18,000
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	12000	\$168,000
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	2000	\$34,000
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	4800	\$720,000
CONCRETE SIDEWALK	SY	\$32.50	700	\$22,750
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	3800	\$38,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	4500	\$65,250
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	2000	\$13,000
MEDIAN LANDSCAPING	SF	\$10.00	69500	\$695,000
BIKE LANE W/ BUFFER	MILE	\$20,000.00	0.28	\$5,682
BIKE LANE W/O BUFFER	MILE	\$15,000.00	0.47	\$7,102
BUS STATION	LS	\$150,000.00	2	\$300,000
BUS STOP	LS	\$20,000.00	3	\$60,000
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	0	\$0
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	20000	\$390,000
TRAFFIC SIGNALIZATION	LS	Varies	NA	\$306,200

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:

\$2,865,728

Project Construction Bid Items Subtotal	% Multiplier		Cost	
	Project Quantity		\$2,865,728	
Contingencies	% of A	30.0%	\$859,718	B
Utilities	% of A+B	2.0%	\$74,509	C
Drainage	% of A+B	4.0%	\$149,018	D
Signing and Striping	% of A+B	1.0%	\$37,254	E
Construction Signing & Traffic Control	% of A+B	5.0%	\$186,272	F
Lighting	% of A+B	2.0%	\$74,509	G
Mobilization	% of A+B	2.0%	\$74,509	H
Total of Construction Bid Items	Sum of A to H		\$4,322,000	I
Design Engineering	% of I	8.0%	\$345,760	J
Construction Engineering	% of I	6.0%	\$259,320	K
Total Opinion of Probable Cost	Sum of I to K		\$4,927,080	



Building and Enhancing Communities

OPINION OF PROBABLE COST

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Engineers Estimate of Probable Cost - East Side of Timberline Road to West Side of Ziegler Road

11184-01

Harmony Road ETC Master Plan

Timberline to Ziegler				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	0.5	\$1,313
REMOVAL OF SIDEWALK	SY	\$8.50	0	\$0
REMOVAL OF CURB AND GUTTER	LF	\$4.50	2000	\$9,000
REMOVAL OF ASPHALT MAT	SY	\$2.50	2200	\$5,500
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	4875	\$68,250
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	350	\$5,950
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	790	\$118,500
CONCRETE SIDEWALK	SY	\$32.50	0	\$0
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	2800	\$28,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	6200	\$89,900
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	14000	\$91,000
MEDIAN LANDSCAPING	SF	\$10.00	42000	\$420,000
BIKE LANE W/ BUFFER	MILE	\$20,000.00	0.75	\$14,962
BIKE LANE W/O BUFFER	MILE	\$15,000.00	0.47	\$7,102
BUS STATION	LS	\$150,000.00	2	\$300,000
BUS STOP	LS	\$20,000.00	2	\$40,000
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	1	\$2,000,000
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	0	\$0
TRAFFIC SIGNALIZATION (Snow Mesa and Corbett)	LS	Varies	NA	\$52,000

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:

\$3,251,477

Project Construction Bid Items Subtotal	% Multiplier		Cost	A
	Project Quantity			
Contingencies	% of A	30.0%	\$975,443	B
Utilities	% of A+B	1.0%	\$42,269	C
Drainage	% of A+B	1.0%	\$42,269	D
Signing and Striping	% of A+B	1.0%	\$42,269	E
Construction Signing & Traffic Control	% of A+B	5.0%	\$211,346	F
Lighting	% of A+B	2.0%	\$84,538	G
Mobilization	% of A+B	2.0%	\$84,538	H
Total of Construction Bid Items	Sum of A to H		\$4,734,000	I
Design Engineering	% of I	8.0%	\$378,720	J
Construction Engineering	% of I	6.0%	\$284,040	K
Total Opinion of Probable Cost	Sum of I to K		\$5,396,760	



Building and Enhancing Communities

OPINION OF PROBABLE COST

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Engineers Estimate of Probable Cost - Ziegler Road Intersection

11184-01

Harmony Road ETC Master Plan

Ziegler Intersection				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	0.75	\$1,969
REMOVAL OF SIDEWALK	SY	\$8.50	360	\$3,060
REMOVAL OF CURB AND GUTTER	LF	\$4.50	400	\$1,800
REMOVAL OF ASPHALT MAT	SY	\$2.50	2600	\$6,500
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	2400	\$33,600
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	700	\$11,900
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	1450	\$217,500
CONCRETE SIDEWALK	SY	\$32.50	350	\$11,375
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	3600	\$36,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	6000	\$87,000
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	8225	\$53,463
MEDIAN LANDSCAPING	SF	\$10.00	40700	\$407,000
BIKE LANE W/ BUFFER	MILE	\$20,000.00	0.05	\$947
BIKE LANE W/O BUFFER	MILE	\$15,000.00	0.52	\$7,813
BUS STATION	LS	\$150,000.00	2	\$300,000
BUS STOP	LS	\$20,000.00	0	\$0
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	0	\$0
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	20000	\$390,000
TRAFFIC SIGNALIZATION	LS	Varies	NA	\$297,150

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:

\$1,867,076

Project Construction Bid Items Subtotal	% Multiplier		Cost	A
	Project Quantity			
Contingencies	% of A	30.0%	\$560,123	B
Utilities	% of A+B	2.0%	\$48,544	C
Drainage	% of A+B	4.0%	\$97,088	D
Signing and Striping	% of A+B	1.0%	\$24,272	E
Construction Signing & Traffic Control	% of A+B	5.0%	\$121,360	F
Lighting	% of A+B	2.0%	\$48,544	G
Mobilization	% of A+B	2.0%	\$48,544	H
Total of Construction Bid Items	Sum of A to H		\$2,816,000	I
Design Engineering	% of I	8.0%	\$225,280	J
Construction Engineering	% of I	6.0%	\$168,960	K
Total Opinion of Probable Cost	Sum of I to K		\$3,210,240	

**OPINION OF PROBABLE COST**

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Engineers Estimate of Probable Cost - East Side of Ziegler Road to I-25
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Harmony Road ETC Master Plan
11184-01

<i>Ziegler to I-25</i>				
ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	COST
CLEARING AND GRUBBING	ACRE	\$2,625.00	1.65	\$4,331
REMOVAL OF SIDEWALK	SY	\$8.50	0	\$0
REMOVAL OF CURB AND GUTTER	LF	\$4.50	0	\$0
REMOVAL OF ASPHALT MAT	SY	\$2.50	8050	\$20,125
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$14.00	26500	\$371,000
AGGREGATE BASE COURSE (CLASS 6)	TON	\$17.00	1050	\$17,850
HOT MIX ASPHALT (GRADING SX) (75) (PG 76-28)	TON	\$150.00	3350	\$502,500
CONCRETE SIDEWALK	SY	\$32.50	6900	\$224,250
CURB AND GUTTER TYPE 2 (SECTION I-M)	LF	\$10.00	10000	\$100,000
CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$14.50	12400	\$179,800
MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$6.50	70000	\$455,000
MEDIAN LANDSCAPING	SF	\$10.00	210000	\$2,100,000
BIKE LANE W/ BUFFER	MILE	\$20,000.00	0.91	\$18,182
BIKE LANE W/O BUFFER	MILE	\$15,000.00	1.33	\$19,886
BUS STATION	LS	\$150,000.00	3	\$450,000
BUS STOP	LS	\$20,000.00	4	\$80,000
PEDESTRIAN GRADE SEPARATION	LS	\$2,000,000.00	2	\$4,000,000
ROW COST + 30% FOR ACQUISITION	SF	\$19.50	0	\$0
TRAFFIC SIGNALIZATION (Lady Moon & Harmony Transfer Center)	LS	Varies	NA	\$144,660

PROJECT CONSTRUCTION BID ITEMS SUBTOTAL:

\$8,687,584

Project Construction Bid Items Subtotal	% Multiplier		Cost	
	Project Quantities		\$8,687,584	A
Contingencies	% of A	30%	\$2,606,275	B
Utilities	% of A+B	2.0%	\$225,877	C
Drainage	% of A+B	4.0%	\$451,754	D
Signing and Striping	% of A+B	1%	\$112,939	E
Construction Signing & Traffic Control	% of A+B	5%	\$564,693	F
Lighting	% of A+B	2%	\$225,877	G
Mobilization	% of A+B	2%	\$225,877	H
Total of Construction Bid Items	Sum of A to H		\$13,101,000	I
Design Engineering	% of I	8%	\$1,048,080	J
Construction Engineering	% of I	6%	\$786,060	K
Total Opinion of Probable Cost	Sum of I to K		\$14,935,140	