

Oversight / NHS

FHWA FULL OVERSIGHT ☐ NO ☐ YESNATIONAL HIGHWAY SYSTEM ☐ NO ☒ YESDEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED AS Constructed

CONSTRUCTION PROJECT NO. C 0661-005

SH 66 SIGNALS FY 02

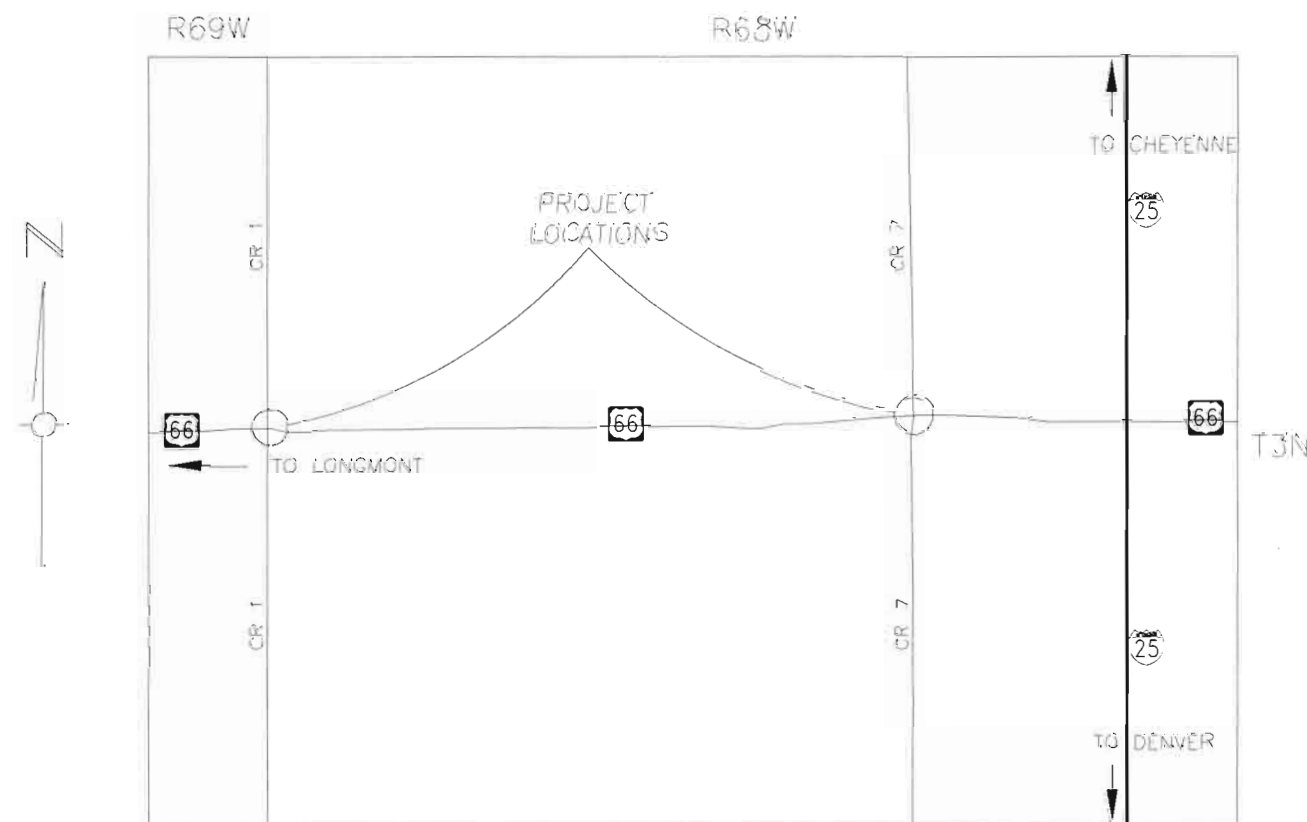
BOULDER & WELD COUNTY

Related Projects:

P. E. UNDER PROJECT:
Project Number: C R400-083
Project Code: 12692

TABULATION OF LENGTH AND DESIGN DATA

AVERAGE DESIGN DATA FOR WHOLE CORRIDOR	
2001 DESIGN TRAFFIC	ADT = 13,604 VPD DHW = 1,360 VPH
2021 DESIGN TRAFFIC	ADT = 22,245 VPD



SHEET NO.	INDEX OF SHEETS
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S-614-40 NEW & REVISED STANDARD

LOCATION MAP

NOT TO SCALE

Contract Information

Contractor:	W. L. Contractors, Inc.
Resident Engineer:	Doug Pearson
Project Engineer:	Nicole Upright
PROJECT STARTED:	ACCEPTED: 4/10/03
Comments:	

RJG

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No Revisions

Revised: 4/10/03

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Title Sheet

Designer:	Structure
Detailer:	Numbers
Sheet Subset:	Subset Sheets:

Project No./Code

C 0661-005

13984R

Sheet Number 1 of 18

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THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

COLORADO
DEPARTMENT OF TRANSPORTATION

STANDARD PLANS LIST
M & S STANDARDS
OCTOBER 1, 2000

1. MEASUREMENT AND PAYMENT OF TRAFFIC SIGNAL CONSTRUCTION ITEMS WILL CONFORM TO THE PROJECT SPECIFICATIONS.
2. VIDEO DETECTION EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. CAMERAS SHALL BE LOCATED ON LUMINAIRES.
3. TRAFFIC SIGNAL MATERIALS AND INSTALLATION SHALL COMPLY WITH "STATE OF COLORADO - STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION"; OCTOBER 2000. "STATE OF COLORADO - STANDARD PLANS"; THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"; THE "NATIONAL ELECTRIC CODE"; AND ALL LOCAL ORDINANCES AND REGULATIONS THAT APPLY, EXCEPT AS NOTED ON THESE PLAN OR SPECIAL PROVISIONS.
4. ALL ITEMS NOT SHOWN IN THE SUMMARY OF QUANTITIES SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF TRAFFIC SIGNALS AND WILL NOT BE PAID FOR SEPARATELY.
5. TRAFFIC SIGNAL POLE LOCATIONS SHALL BE FIELD VERIFIED BY CDOT TRAFFIC OPERATIONS, COBIE GARBISO, 970-350-2137, PRIOR TO SETTING THE FOUNDATIONS AND ORDERING THE SIGNAL POLES. APPROXIMATE POLE LENGTHS WILL BE 50 FEET. POLE LENGTHS SHALL BE FIELD VERIFIED BY CDOT BEFORE ORDERING.
6. TRAFFIC SIGNAL PULL BOXES SHALL NOT BE LOCATED IN HANDICAP RAMPS, PAVEMENT AREAS, OR SIDEWALKS OR IN LOCATIONS WHERE THEY COULD POSSIBLY BE CONSTRUCTED IN THE FUTURE.
7. NO EXCAVATION SHALL BE PERMITTED UNTIL UNDERGROUND UTILITIES HAVE BEEN LOCATED TO THE SATISFACTION OF ALL PARTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL AERIAL AND UNDERGROUND UTILITIES. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBERS COMPANIES. CALLS ORIGINATING OUTSIDE THE DENVER AREA USE 1-800-922-1987. FOR LOCATION OF CDOT UTILITIES CONTACT COBIE GARBISO AT 970-350-2137. ALL OTHER UTILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE COMPANY.
8. ALL QUANTITIES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY TO COMPLETE THE CONSTRUCTION SHOWN ON THESE PLANS.
9. ELECTRICAL DISCONNECT BOXES SHALL BE PROVIDED AT THE CONNECTION POINT OF EACH POWER SOURCE OR POINT OF SERVICE AS DIRECTED BY THE ENGINEER. BOXES SHALL BE WEATHER PROOF, NEMA TYPE CIRCUIT BREAKER ENCLOSURES, AND LOCKABLE.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL ELECTRIC UTILITY TO PROVIDE POWER (ELECTRICAL & PHONE SERVICE) TO THE SIGNAL SYSTEM.
11. EACH OVERHEAD VEHICLE SIGNAL HEAD SHALL HAVE A LOUVERED BACK PLATE, BLACK IN COLOR, INCLUDED IN THE SIGNAL HEAD COST.
12. ALL TRAFFIC SIGNAL FACES SHALL HAVE LED OPTICAL UNITS FOR ALL ASPECTS AS PER SECTION 713.11 OF THE STANDARD SPECIFICATIONS.
13. SIGNAL HEADS SHALL BE POLYCARBONATE AND YELLOW IN COLOR.
14. ALL PULL BOXES SHALL BE FLUSH WITH FINISHED GROUND SURFACE.
15. UNIFORM TRAFFIC CONTROL SHALL BE USED DURING THE ACTIVATION OF THE SIGNALS OR AT THE DIRECTION OF THE ENGINEER. COST OF UNIFORM TRAFFIC CONTROL SHALL BE PAID FOR BY CDOT. THE CONTRACTOR SHALL GIVE THE ENGINEER AT LEAST A 48 HOUR NOTICE PRIOR TO THE ACTIVATION OF THE SIGNALS.
16. ALL SIGNAL CABLE IS CONTINUOUS FROM CONNECTIONS MADE IN THE HANDHOLE COMPARTMENT OF SIGNAL POLE BASE TO THE TERMINAL COMPARTMENT IN THE CONTROLLER CABINET. SPLICING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.
17. UPON COMPLETION OF WORK, CONTRACTOR SHALL SUPPLY RECORD DRAWINGS, CORRECTED PLANS AND ANY OTHER ADDITIONAL DATA REQUIRED BY THE ENGINEER.
18. ALL CONDUITS SHALL HAVE A PULL ROPE LEFT IN THEM WHEN CONSTRUCTION IS COMPLETED. ALL CONDUIT UNDER ROADWAYS SHALL BE STEEL AND DIRECTIONALLY BORED. ALL OTHER CONDUIT SHALL BE SCHEDULE 80 PVC.
19. ALL PULL BOXES SHALL BE INCLUDED IN THE COST OF WIRING.
20. CONTRACTOR SHALL COMPLETE ALL WORK NECESSARY FOR THE OPERATION OF THE SYSTEM, AND SHALL CONTACT CDOT TRAFFIC OPERATIONS, COBIE GARBISO, 970-350-2137, TO SCHEDULE A COMPLIANCE INSPECTION. UPON COMPLETION OF THE INSPECTION, THE FIELD OPERATIONAL TESTING SHALL BEGIN. THE COMPLETE TRAFFIC SYSTEM SHALL BE FULLY OPERATIONAL AND FULLY TESTED AT THE COMPLETION OF THE PROJECT.
21. ANY REMAINING SOIL LEFT FROM DRILLED CAISSONS SHALL BE REMOVED FROM THE SITE AT THE COST OF THE CONTRACTOR AND SHALL NOT BE PAID FOR SEPERATELY.
22. ALL LUMINAIRES SHALL USE 15 FOOT ARMS WITH 250 WATT HIGH PRESSURE SODIUM LAMPS.
23. TRAFFIC CONTROLLER SHALL BE TYPE 170E WITH HC-11 PROCESSOR BOARD. TRAFFIC CONTROLLER CABINET SHALL BE 333SD AND INCLUDED IN THE COST OF THE CONTROLLER. ALL ELECTRONIC COMPONENTS IN 170E CONTROLLER GREATER THAN 14 PINS SHALL BE OF SOCKETED TYPE. CABINET FOUNDATIONS SHALL BE PREFABRICATED FIBERGLASS.
24. ALL CONDUCTORS SHALL BE COLOR-CODED AND PERMANENTLY TAGGED PER THE FOLLOWING SCHEDULE:
KEY-PHASE: COLOR OF SIGNAL LOAD CONDUCTOR, "CODE" (ON TAG AT EACH END OF CONDUCTOR)
 1. NORTHBOUND WELD COUNTY ROAD 7: , "X-CR-7 OFF"
 2. EASTBOUND SH-66: , "X-EB66"
 3. WESTBOUND SH-66: , "X-WB66"
 4. SOUTHBOUND WELD COUNTY ROAD 7: , "X-CR7"X = PHASE NUMBER
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL INAPPROPRIATE PAVEMENT MARKINGS AT CR 7 AND SHALL BE INCLUDED IN THE COST OF PAINT.
26. THE CONTRACTOR SHALL CONTACT CDOT TRAFFIC OPERATIONS, COBIE GARBISO (970-350-2137) TO INSTALL SIGNAL TIMINGS AFTER SIGNALS HAVE BEEN INSPECTED BY CDOT SIGNAL PERSONNEL AND PUT IN FLASH MODE.
27. THE COST OF PEDESTRIAN PUSH BUTTON DECALS SHALL BE INCLUDED WITHIN THE COST OF THE PUSH BUTTON ASSEMBLIES - 16 REQUIRED.
28. AT CR 7 & SH 66, THERE WILL BE APPROXIMATELY 3.67 TONS OF ASPHALT PATCHING @ 110 LBS./SQ. YD./IN. 200 FEET OF EXISTING RUMBLE STRIPS SHALL BE ROTOMILLED AT 1.5 INCHES DEEP, 24 INCHES WIDE. THIS STRIP SHALL ALSO BE CLEANED AND TACKED WITH EMULSIFIED ASPHALT. THESE ITEMS AND THE REMOVAL OF THE ROTOMILLED ASPHALT WILL NOT BE MEASURED NOR PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

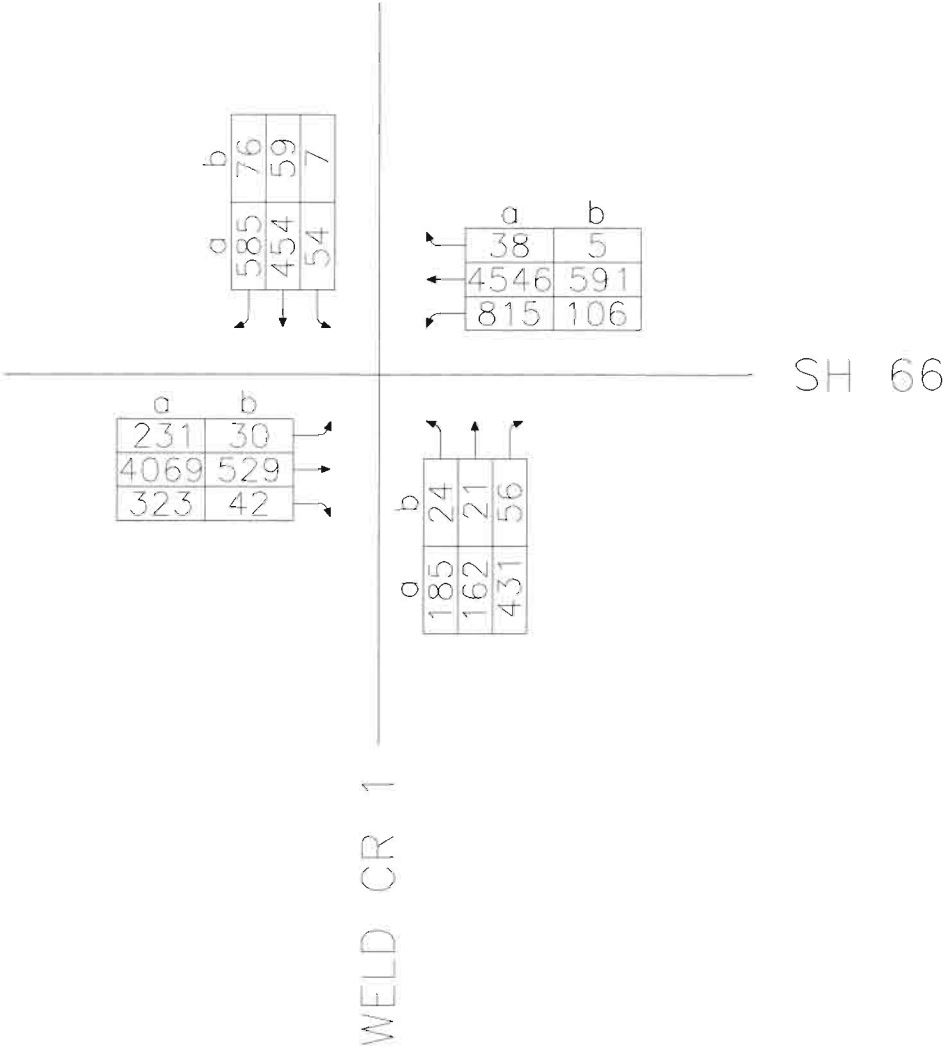
 Region 4	Colorado Department of Transportation		Computer File Information			Sheet Revisions		As Constructed		GENERAL NOTES		Project No./Code	
	1420 2nd Street Greeley, CO 80631 Phone: (970) 350-2121 FAX: (970) 350-2198		Creation Date: 3/18/02 Initials: SS					No Revisions: 4/10/03				C 0661-005	
			Last Modification Date: Initials:							13984R			
			Full Path:							Sheet Number 3 of 18			
			Drawing File Name:										
RJG		Acad Ver. R2000 Scale: N/A Units: ENGLISH											

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	CR 1		CR 7											PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.										PLAN	AS CONST.
			202	REMOVE LUMINAIRE	EA	2	2	1	0										3	2
			202	REMOVE GROUND SIGN	EA	4	6	2	4										6	10
			203	POT HOLING	HR		0	10	2										10	2
		613		1 1/2 INCH ELECTRICAL CONDUIT (PLASTIC) Deleted by 105	LF	60	0	80	0										140	0
		613		2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	60	159	80	259										140	418
		613		3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	15	26	15	24										30	50
		613		WIRING	LS	0.5	.5	0.5	.5										1	1
		613		LUMINAIRE HIGH PRESSURE SODIUM (250 WATT)	EA	4	4	4	4										8	8
		614		SIGN PANEL (CLASS I)	SF	40	39	23	26										63	65
		614		SIGN PANEL (CLASS II)	SF	18	18		0										18	18
		614		SIGN PANEL (CLASS III)	SF	46	60		0										46	60
		614		STEEL SIGN POST (2.5 INCH ROUND)(SLIPBASE SCHEDULE 80)	LF	44	48		0										44	48
		614		TRAFFIC SIGNAL FACE (12-12-12)	EA	12	14	8	8										20	22
		614		TRAFFIC SIGNAL FACE (12-12-12-12-12)	EA	6	4	3	4										9	8
		614		PEDESTRIAN PUSH BUTTON	EA	8	8	8	8										16	16
		614		FIRE PREEMPTION UNIT AND TIMER	EA	1	1	1	1										2	2
		614		INTERSECTION DETECTION SYSTEM (CAMERA)	EA	4	4	4	4										8	8
		614		SPAN WIRE CABLE	LF	440	440	370	410										810	800
		614		TRAFFIC SIGNAL-LIGHT SPAN WIRE POLE (12 INCH)	EA	4	4	4	4										8	8
		614		TRAFFIC SIGNAL CONTROLLER (TYPE 170E)	EA	1	1	1	1										2	2
		620		SANITARY FACILITY Deleted by 105	EA	1	0	1	0										2	0
		626		MOBILIZATION	LS	0.5	.5	0.5	.5										1	1
		627		PAVEMENT MARKING PAINT	GAL		0	20	3										20	3
		627		PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	SF	284	264	210	253										494	517
		630		FLAGGING	HR	600	400.3	600	0										1200	400.3
		630		TRAFFIC CONTROL INSPECTION	DAY	12	33	12	0										24	33
		630		TRAFFIC CONTROL MANAGEMENT	DAY	25	31	25	0										50	31
		630		CONSTRUCTION PANEL SIZE B	EA	14	10	14	16										28	26
		630		CONSTRUCTION PANEL SIZE C	EA	4	4	4	4										8	8
		630		TRAFFIC CONE	EA	75	0	75	39										150	39
		700		F/A MINOR CONTRACT REVISIONS	FA	0.5	0	0.5	0										1	0
		700		F/A OUT PILOT	FA	0.5	0	0.5	0										1	0
		700		F/A ON-THE-JOB TRAINEE	FA	0.5	0	0.5	0										1	0
		700		F/A EMERGING SMALL BUSINESS	FA	0.5	0	0.5	0										1	0
		700		F/A FURNISH & INSTALL ELECTRIC SERVICE	FA	0.5	13186.2	0.5	13344.2										1	26531.2
		700		F/A FURNISH & INSTALL PHONE SERVICE	FA	0.5	0	0.5	0										1	0

Colorado Department of Transportation		Computer File Information		Sheet Revisions		As Constructed		SUMMARY OF APPROXIMATE QUANTITIES		Project No./Code		
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		Last Modification Date:		Initials:						13984R		
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		Acad Ver. R2000		Scale: N/A		Units: ENGLISH						
						Revised: 4/10/03		Designer:		Structure Numbers:		
						Void:		Detailer:		Subtotal Sheets:		

TURNING MOVEMENT

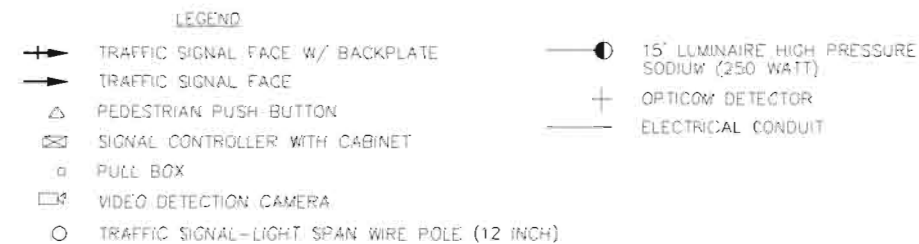
- a) 2001 AVERAGE ANNUAL DAILY TRAFFIC
b) 2001 DESIGN HOURLY VOLUME



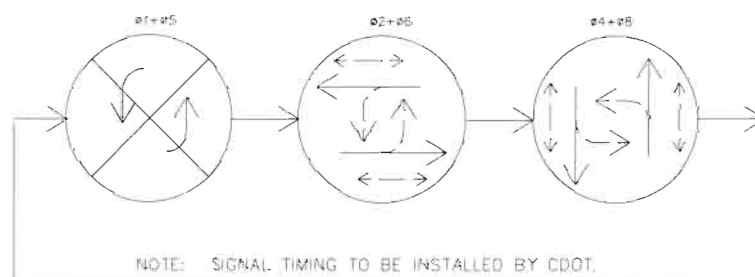
CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
48 HOURS PRIOR TO START OF
ANY UNDERGROUND WORK

KNOWN UTILITIES

- WATER LEFT HAND WATER DISTRICT
TODD PETRY
PO BOX 210
NIWOT, CO 80544
PHONE: 303-530-4200
- WATER LONGS PEAK WATER DISTRICT
BARRY DYKES
9875 VERMILLION ROAD
LONGMONT, CO 80501
PHONE: 303-776-3847
- ELECTRIC UNITED POWER, INC
BILL MEIER
PO BOX 929
BRIGHTON, CO 80601
PHONE: 303-659-0551
- GAS/ELECTRIC XCEL ENERGY
MIKE IKELER
2655 N. 63RD STREET
BOULDER, CO 80301
PHONE: 303-938-2201
- TELEPHONE/FIBER OPTIC QWEST
LEN CROSS
12121 GRANT STREET
ROOM 501
THORTON, CO 80241
PHONE: 303-451-2983
- TELEPHONE/FIBER OPTIC AT&T BROADBAND
BILL BLAIR
434 KIMBARK STREET
LONGMONT, CO 80501
PHONE: 303-776-2108 EXT. 245
- CDOT REGION 4 TRAFFIC OPERATIONS
COBIE GARBISO
10601 HWY 34 BUSINESS RTE.
GREELEY, CO 80634
PHONE: 970-350-2137

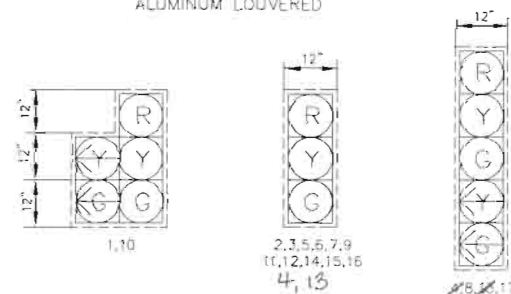


SIGNAL PHASING



SIGNAL HEADS

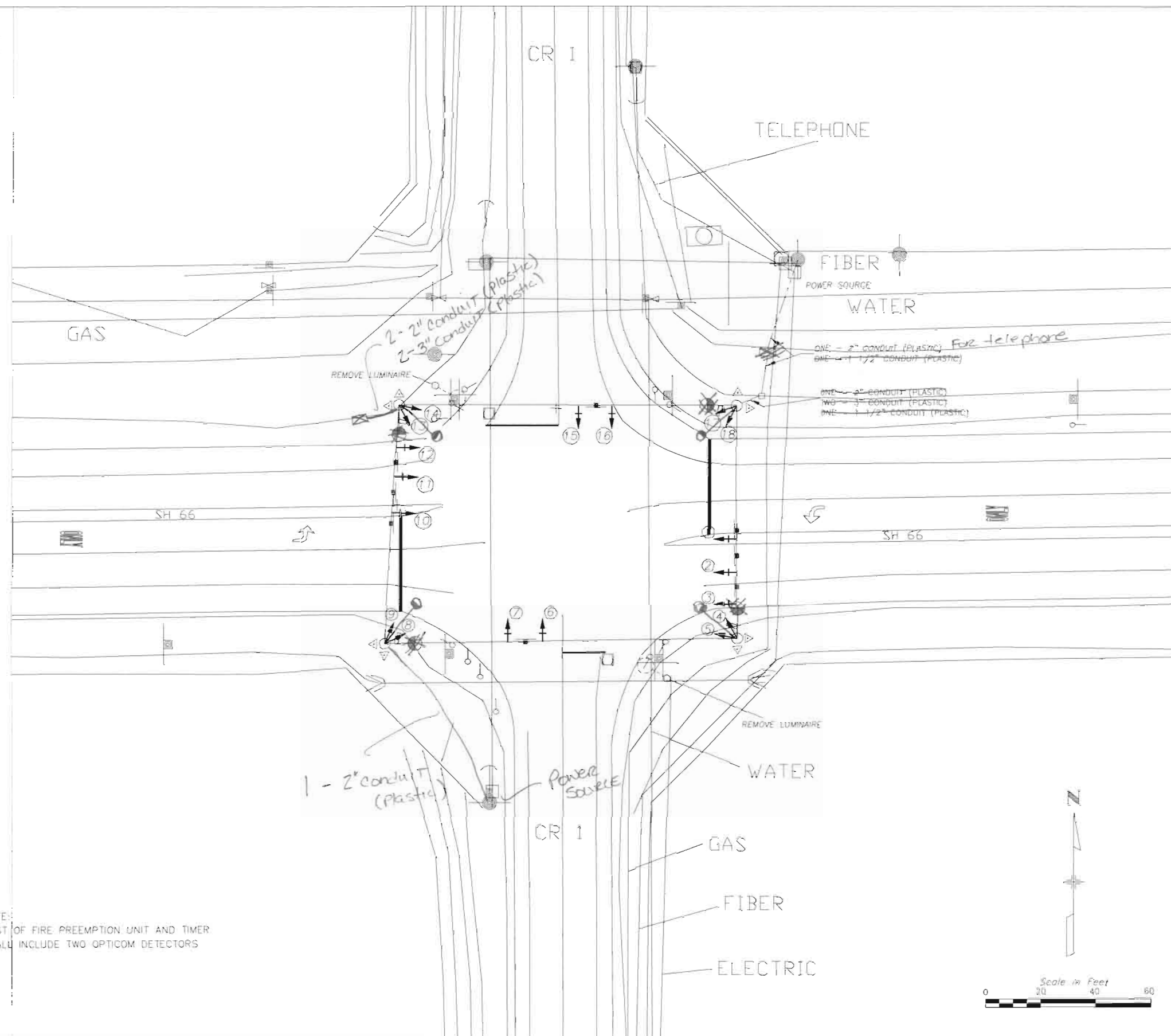
12" LED LENSES
5" (NOMINAL) BACKPLATES
ALUMINUM LOUVERED



TABULATION OF QUANTITIES

ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY
202	REMOVE LUMINAIRE	EA	10
613	1 1/2" ELECTRICAL CONDUIT (PLASTIC)	LF	680
613	2" ELECTRICAL CONDUIT (PLASTIC)	LF	68139
613	3" ELECTRICAL CONDUIT (PLASTIC)	LF	2526
613	WIRING	LS	0.5
613	LUMINAIRE HIGH PRESSURE SODIUM (250 WATT)	EA	4
614	TRAFFIC SIGNAL FACE (12-12-12)	EA	2214
614	TRAFFIC SIGNAL FACE (12-12-12-12-12)	EA	54
614	PEDESTRIAN PUSH-BUTTON	EA	8
614	FIRE PREEMPTION UNIT AND TIMER	EA	1
614	INTERSECTION DETECTION SYSTEM (CAMERA)	EA	4
614	SPAN WIRE CABLE	LF	440
614	TRAFFIC SIGNAL-LIGHT SPAN WIRE POLE (12 INCH)	EA	4
614	TRAFFIC SIGNAL CONTROLLER (TYPE 170E)	EA	1
700	FURNISH & INSTALL ELECTRICAL SERVICE	F/A	0.5
700	PHONE SERVICE	F/A	250

NOTE: COST OF FIRE PREEMPTION UNIT AND TIMER SHALL INCLUDE TWO OPTICOM DETECTORS



Colorado Department of Transportation



1420 2nd Street
Greeley, CO 80631
Phone: (970) 350-2121
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Region 4

RJG

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TRAFFIC SIGNAL PLAN FOR CR 1

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2 of 5

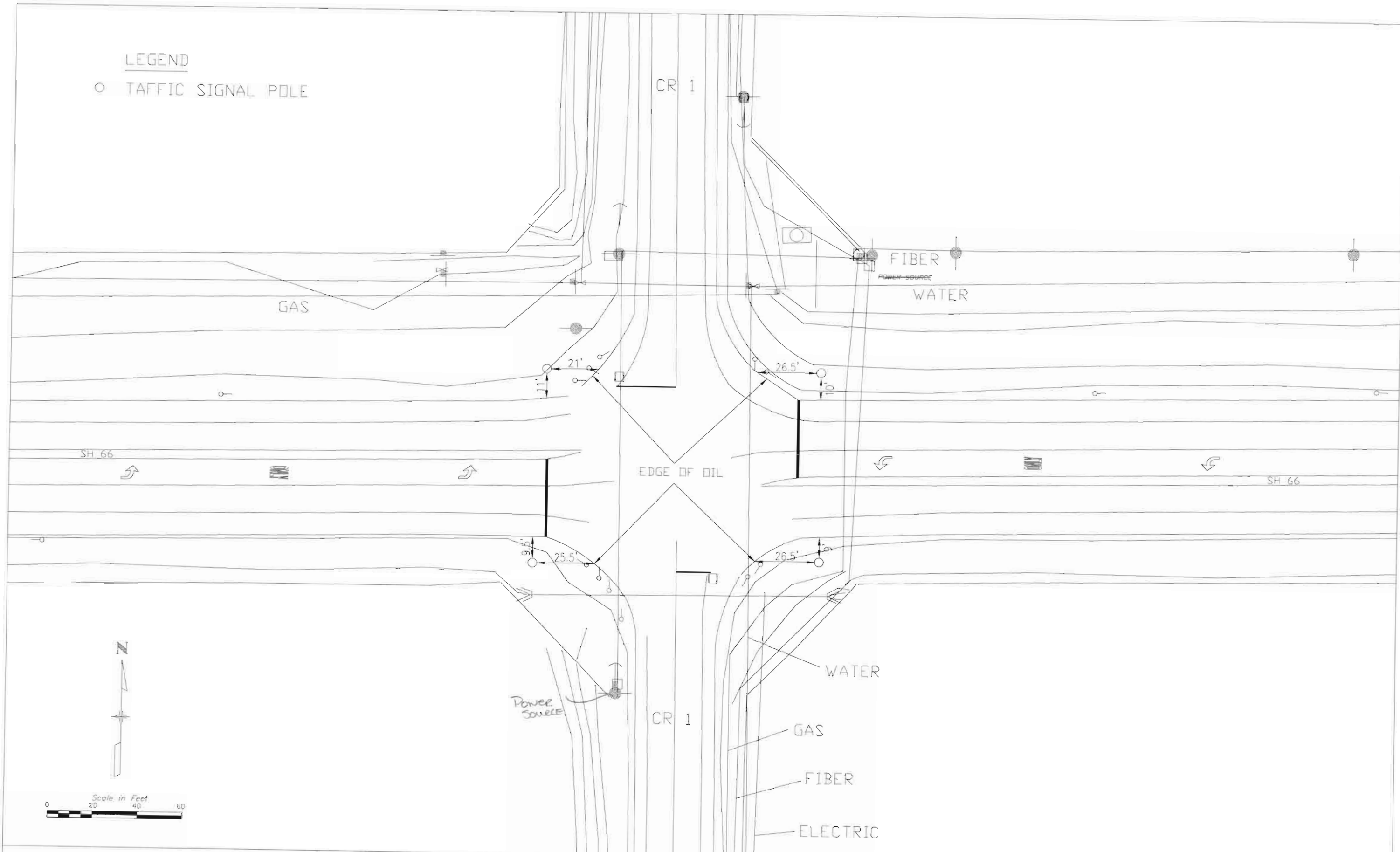
Project No./Code

C 0661-005

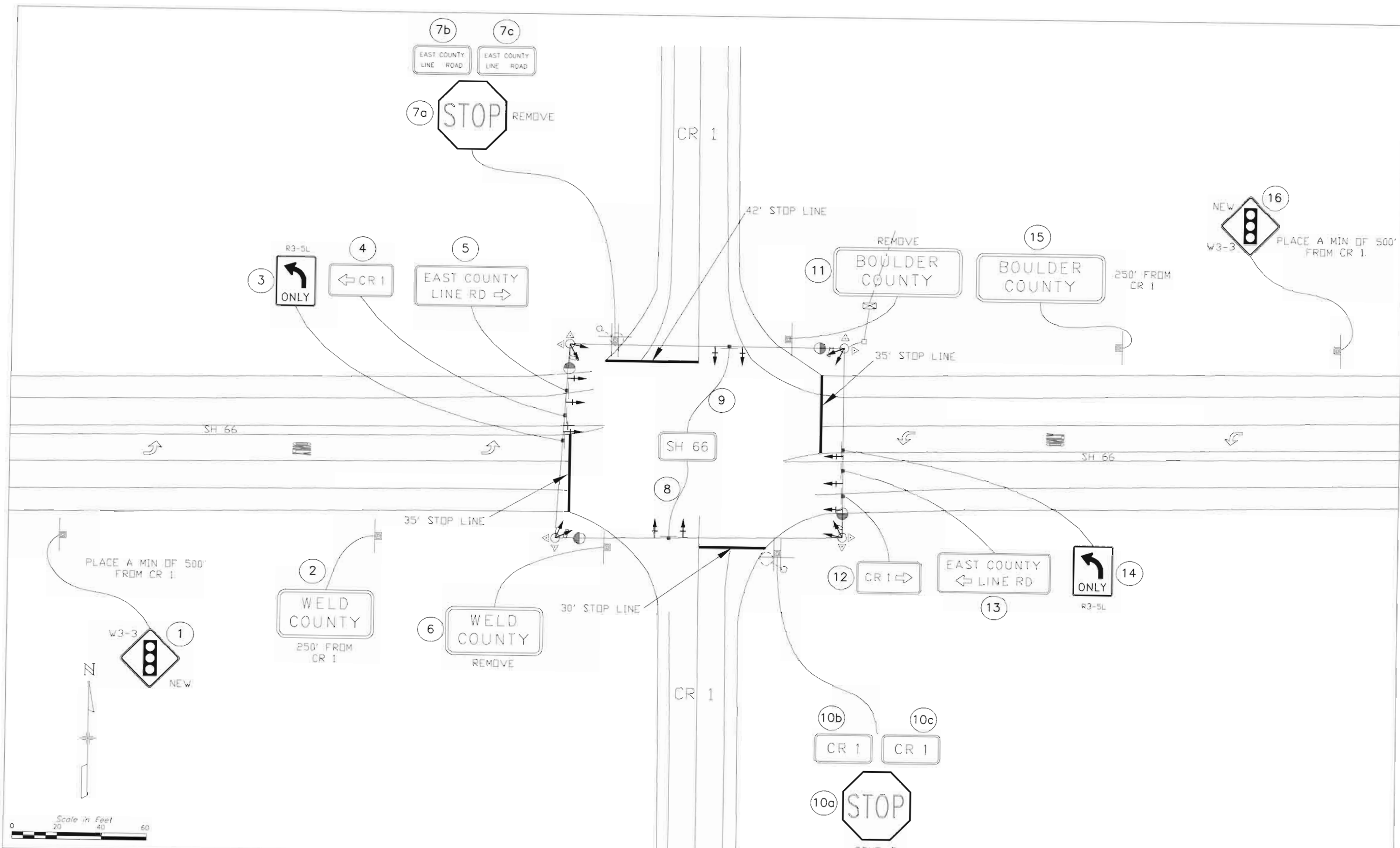
13984R

Sheet Number 6 of 18

LEGEND
 ○ TAFFIC SIGNAL POLE



Colorado Department of Transportation 1420 2nd Street Greeley, CO 80631 Phone: (970) 350-2121 FAX: (970) 350-2198 Region 4	Computer File Information		Sheet Revisions		As Constructed	SIGNAL POLE LOCATIONS FOR CR 1		Project No./Code
	Creation Date: 12/22/01	Initials: DPT			No Revisions:			C 0661-005
	Last Modification Date:	Initials:			Revised: 4/10/03	Designer:	Structure Numbers:	13984R
	Full Path:				Void:	Detailer:		
	Drawing File Name:					Sheet Subset:	Subset Sheets: 2 of 5	Sheet Number 7 of 18
	Acad Ver. R2000	Scale: 1:60	Units: ENGLISH					



 Colorado Department of Transportation 1420 2nd Street Greeley, CO 80631 Phone: (970) 350-2121 FAX: (970) 350-2198 Region 4	Computer File Information		Sheet Revisions		As Constructed		ROADWAY AND SIGNING PLAN FOR CR 1		Project No./Code	
	Creation Date: 12/22/01		Initials: DPT		No Revisions: 4/10/03		Designer:		C 0661-005	
	Last Modification Date:		Initials:		Revised:		Detailer:		13984R	
	Full Path:		Acad Ver. R2000		Void:		Sheet Subset:		Sheet Number 8 of 18	
	Drawing File Name:		Scale: 1:60		Units: ENGLISH		Structure Numbers		4 of 5	
RJC										

TABULATION OF PAVEMENT MARKINGS											
STATION	LOCATION	EDGE		LANE		CENTER	CHANNELIZING	CROSSWALK	STOP LINE	PVMT MARKING (ONLY) (SQ. FT.)	PVMT MARKING (ARROW) (SQ. FT.)
		WHITE SOLID 4 INCH	YELLOW SOLID 4 INCH	WHITE BROKEN 4 INCH	YELLOW BROKEN 4 INCH	WHITE SOLID 4 INCH	WHITE SOLID 8 INCH	WHITE SOLID 24 INCH	WHITE SOLID 24 INCH		
	NORTH LEG	-	-	-	-	-	-	-	42' 28'	-	-
	SOUTH LEG	-	-	-	-	-	-	-	30' 18'	-	-
	EAST LEG	-	-	-	-	-	-	-	35' 38'	-	-
	WEST LEG	-	-	-	-	-	-	-	35' 48'	-	-
	TOTALS								142' 132'		

NOTE: ALL STOP LINES SHALL BE PRE-FORMED THERMOPLASTIC

TABULATION OF SIGNS																			
SIGN NO.	SIGN CODE	LOCATION	SIGN PANEL SIZE (INCHES)	BACK-GROUND COLOR	REMOVE SIGN PANEL (EACH)	REMOVE GROUND SIGN (EACH)	NO. OF POSTS	POST TYPE (LIN. FT.)								LEGEND	SIGN PANEL (SQ. FT.)		
								P1 POST	P2 POST	W6x12	W6x15	W8x18	W8x21	W10x22	W10x26		W12x26	CLASS I	CLASS II
1	W3-3	EASTBOUND SH 66	36"x36"	YELLOW			1		14' 12"							SIGNAL AHEAD (SYMBOL)		9	
2	SPECIAL	EASTBOUND SH 66	36"x18" 60x30	GREEN			1		14' 12"							WELD COUNTY			45' 12.5
3	R3-5L	WESTBOUND SH 66	30"x36"	WHITE				MOUNT ON MAST ARM								(LEFT TURN)/ ONLY	7.5		
4	SPECIAL	WESTBOUND SH 66	48"x24" 48x18	GREEN				MOUNT ON MAST ARM								LA CR 1	8' 6"		
5	SPECIAL	WESTBOUND SH 66	84"x30"	GREEN				MOUNT ON MAST ARM								EAST COUNTY/LINE RD RA			17.5
6	SPECIAL	EASTBOUND SH 66	36"x18"	GREEN		1										WELD COUNTY			
7a	R1-1	SOUTHBND E CO LN RD	-	RED		1										STOP			
7b	SPECIAL	EASTBOUND SH 66	-	GREEN												EAST COUNTY LINE ROAD			
7c	SPECIAL	WESTBOUND SH 66	-	GREEN												EAST COUNTY LINE ROAD			
8	SPECIAL	EASTBOUND SH 66	36"x18" 48x18	GREEN				MOUNT ON MAST ARM								SH 66	45' 6"		
9	SPECIAL	WESTBOUND SH 66	36"x18" 48x18	GREEN				MOUNT ON MAST ARM								SH 66	45' 6"		
10a	R1-1	NORTHBOUND CR 1	-	RED		1										STOP			
10b	SPECIAL	EASTBOUND SH 66	-	GREEN												CR1			
10c	SPECIAL	WESTBOUND SH 66	-	GREEN												CR1			
11	SPECIAL	WESTBOUND SH 66	48"x18"	GREEN		1										BOULDER COUNTY			
12	SPECIAL	EASTBOUND SH 66	48"x24" 48x18	GREEN				MOUNT ON MAST ARM								CR 1 RA	8' 6"		
13	SPECIAL	EASTBOUND SH 66	84"x30"	GREEN				MOUNT ON MAST ARM								EAST COUNTY/ LA LINE RD			17.5
14	R3-5L	EASTBOUND SH 66	30"x36"	WHITE				MOUNT ON MAST ARM								(LEFT TURN)/ ONLY	7.5		
15	SPECIAL	WESTBOUND SH 66	48"x18" 60x30	GREEN			1		14' 12"							BOULDER COUNTY			8' 12.5
16	W3-3	WESTBOUND SH 66	36"x36"	YELLOW			1		14' 12"							SIGNAL AHEAD (SYMBOL)		9	
SIGN TOTALS						46			44' 48"								40	18	40

NOTE: NB CR1
SB CR1
POST LENGTHS ARE APPROXIMATE. EXACT LENGTHS TO BE DETERMINED BY THE CONTRACTOR IN THE FIELD.

Colorado Department of Transportation



Region 4

RJG

Computer File Information

Creation Date: 12/22/01	Initials: DPT
Last Modification Date:	Initials:
Full Path:	
Drawing File Name:	
Acad Ver: R2000	Scale: N/A
Units: ENGLISH	

Sheet Revisions

As Constructed

No Revisions:

Revised: 4/10/03

Void:

TABULATION OF SIGNS & PAVEMENT MARKINGS FOR CR1

Designer:	Structure Numbers
Detailer:	
Sheet Subset:	Subset Sheets: 5 of 5

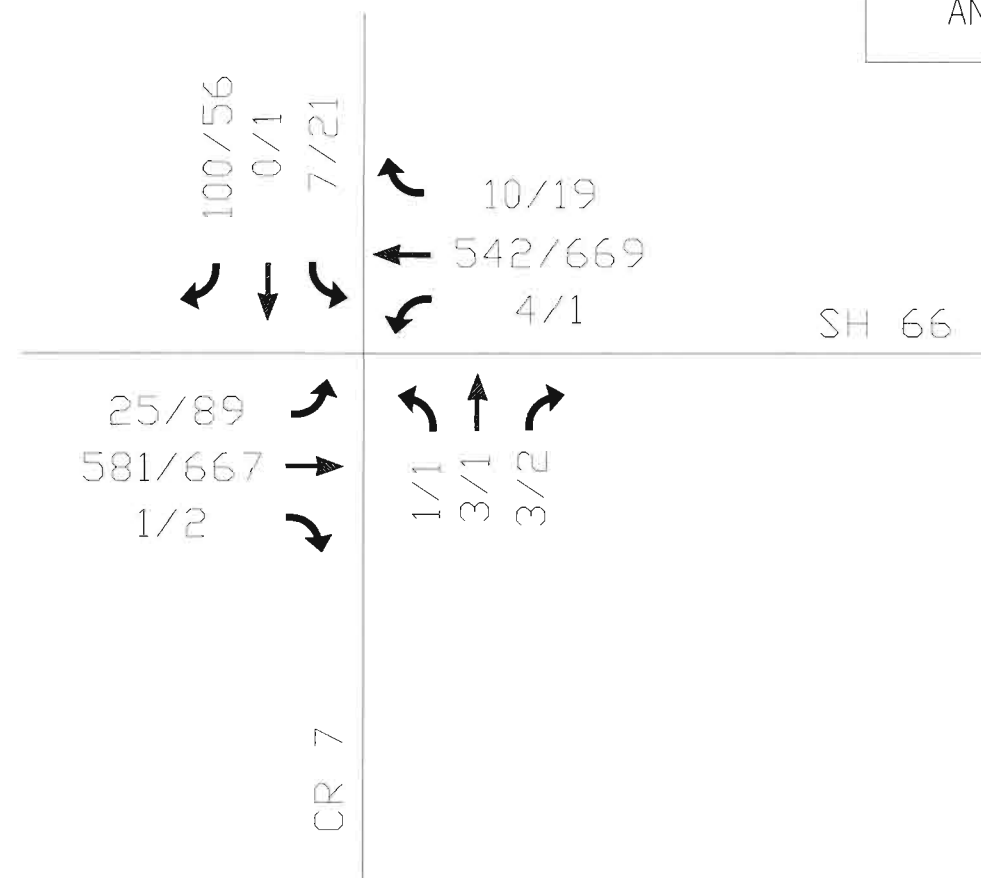
Project No./Code

C 0661-005

13984R

Sheet Number 9 of 18

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
48 HOURS PRIOR TO START OF
ANY UNDERGROUND WORK



2001 AM/PM PEAK HOUR TURNING MOVEMENT VOLUMES

KNOWN UTILITIES

WATER LONGS PEAK WATER DISTRICT
BARRY DYKES
9875 VERMILLION ROAD
LONGMONT, CO 80501
PHONE: 303-776-3847

WATER CENTRAL WELD COUNTY WATER DISTRICT
JOHN ZADEL
2235 2ND AVE
GREELEY, CO 80631
PHONE: 970-352-1284

ELECTRIC UNITED POWER, INC
BILL MEIER
PO BOX 929
BRIGHTON, CO 80601
PHONE: 303-659-0551

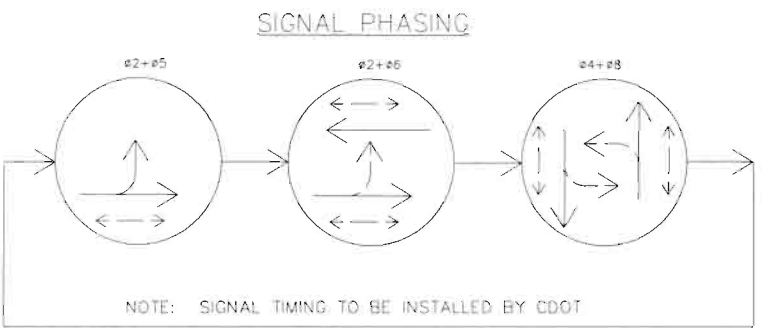
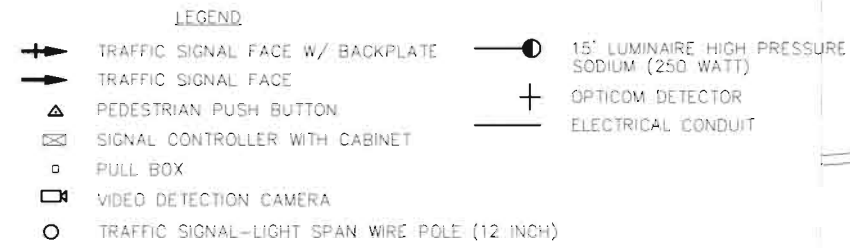
GAS/ELECTRIC XCEL ENERGY
MIKE IKELER
2655 N. 63RD STREET
BOULDER, CO 80301
PHONE: 303-938-2201

TELEPHONE/FIBER OPTIC QWEST
LEN CROSS
12121 GRANT STREET
ROOM 501
THORNTON, CO 80241
PHONE: 303-451-2983

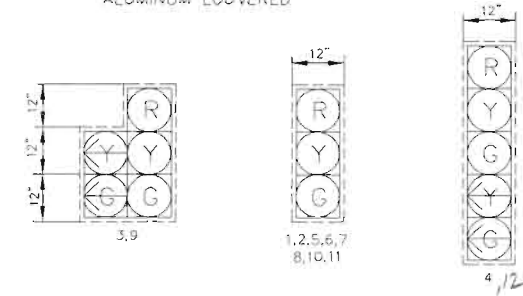
TELEPHONE/FIBER OPTIC AT&T BROADBAND
BILL BLAIR
434 KIMBARK STREET
LONGMONT, CO 80501
PHONE: 303-776-2108 EXT. 245

CDOT REGION 4 TRAFFIC OPERATIONS
COBIE GARBISO
10601 HWY 34 BUSINESS RTE.
GREELEY, CO 80634
PHONE: 970-350-2137

Colorado Department of Transportation  1420 2nd Street Greeley, CO 80631 Phone: (970) 350-2121 FAX: (970) 350-2198 Region 4	Computer File Information		Sheet Revisions		As Constructed		TURNING MOVEMENTS & KNOWN UTILITIES FOR CR 7		Project No./Code
	Creation Date: 11/12/01	Initials: RCP			No Revisions: 4/10/03		Designer:	Structure	C 0661-005
	Last Modification Date:	Initials:			Revised:		Detailer:	Numbers	
	Full Path:				Void:		Sheet Subset:	Subset Sheets: 1 of 6	Sheet Number 10 of 18
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	Acad Ver: R2000	Scale: N/A	Units: ENGLISH						

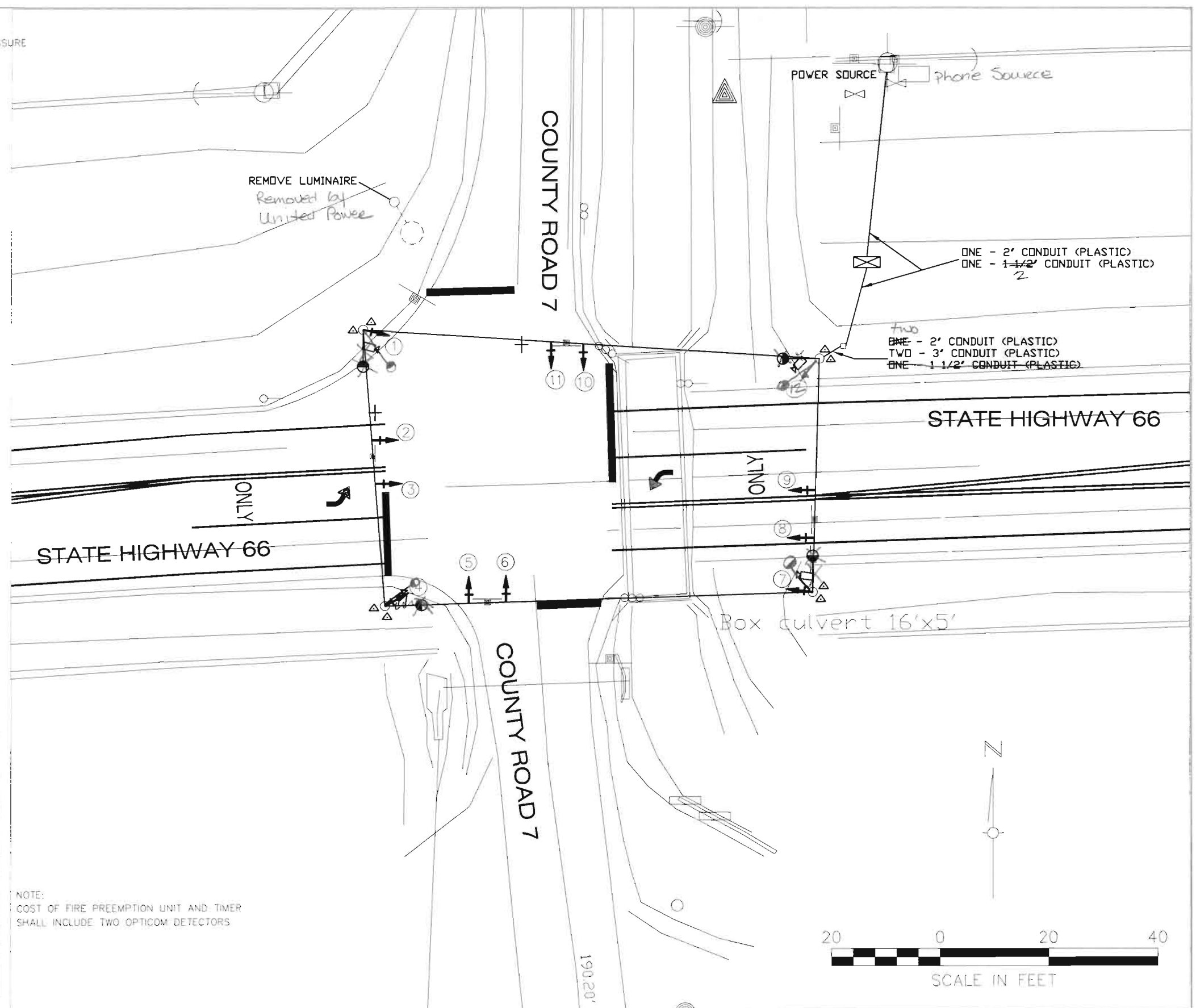


SIGNAL HEADS
 12" LED LENSES
 5" (NOMINAL) BACKPLATES
 ALUMINUM LOUVERED

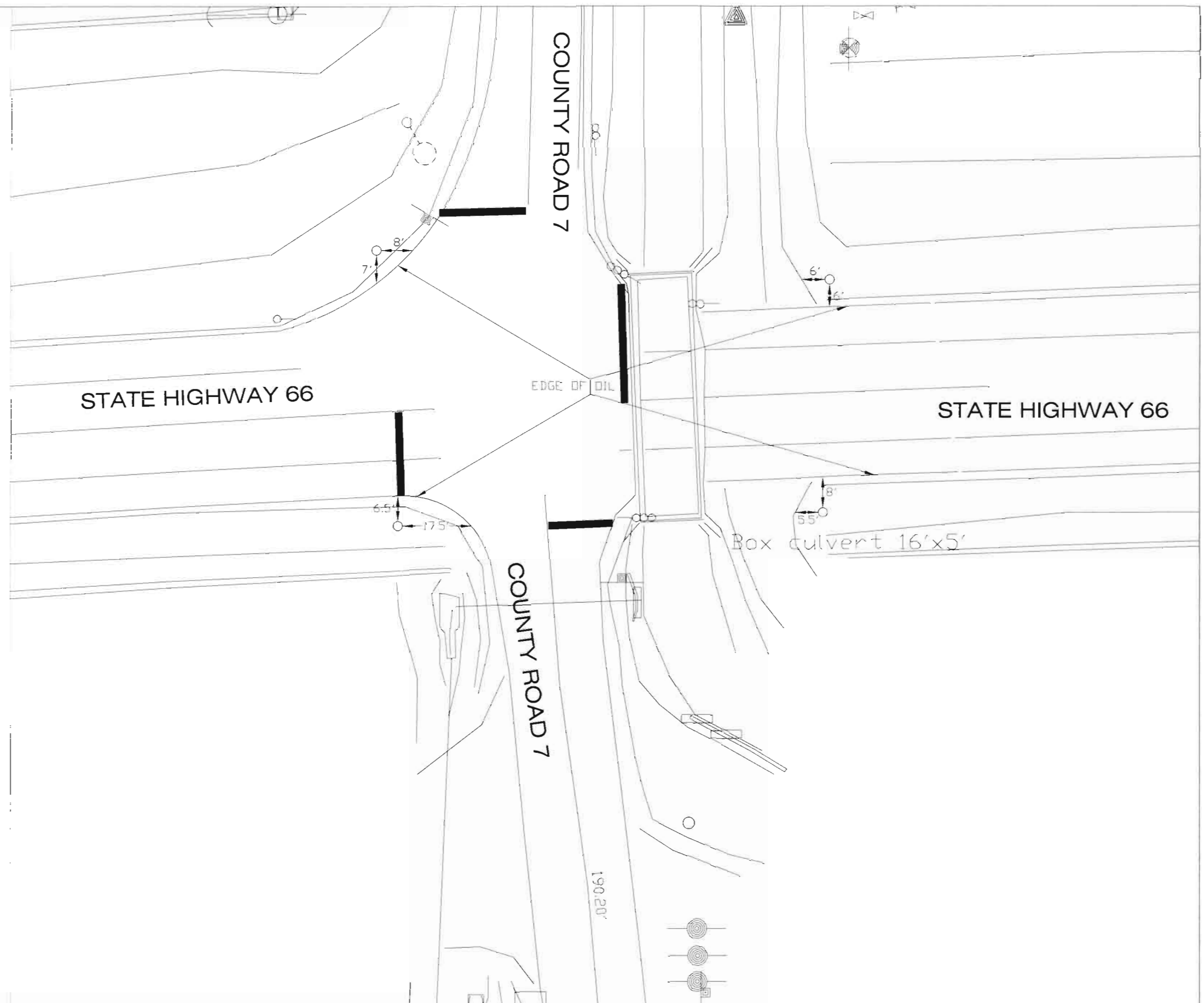
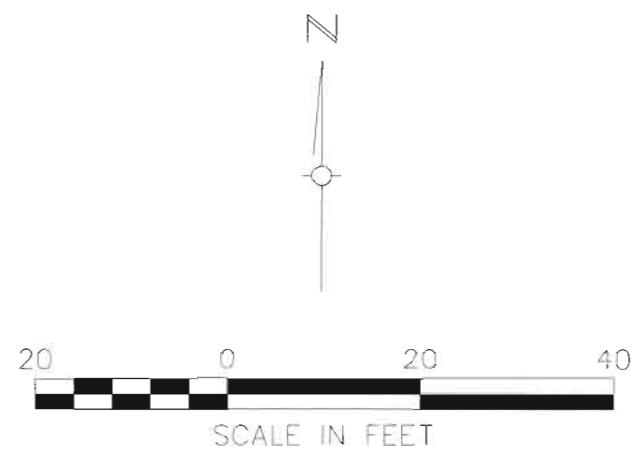


TABULATION OF QUANTITIES			
ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY
202	REMOVE LUMINAIRE	EA	10
613	1 1/2" ELECTRICAL CONDUIT (PLASTIC)	LF	20
613	2" ELECTRICAL CONDUIT (PLASTIC)	LF	20
613	3" ELECTRICAL CONDUIT (PLASTIC)	LF	24
613	WIRING	LS	0.5
613	LUMINAIRE-HIGH PRESSURE SODIUM (250 WATT)	EA	4
614	TRAFFIC SIGNAL FACE (12-12-12)	EA	8
614	TRAFFIC SIGNAL FACE (12-12-12-12-12)	EA	2
614	PEDESTRIAN PUSH BUTTON	EA	8
614	FIRE PREEMPTION UNIT AND TIMER	EA	1
614	INTERSECTION DETECTION SYSTEM (CAMERA)	EA	4
614	SPAN WIRE CABLE	LF	40
614	TRAFFIC SIGNAL-LIGHT SPAN WIRE POLE (12 INCH)	EA	4
614	TRAFFIC SIGNAL CONTROLLER (TYPE 170E)	EA	1
700	FURNISH & INSTALL ELECTRICAL SERVICE	F/A	0.5
700	PHONE SERVICE	F/A	0

NOTE:
 COST OF FIRE PREEMPTION UNIT AND TIMER
 SHALL INCLUDE TWO OPTICOM DETECTORS

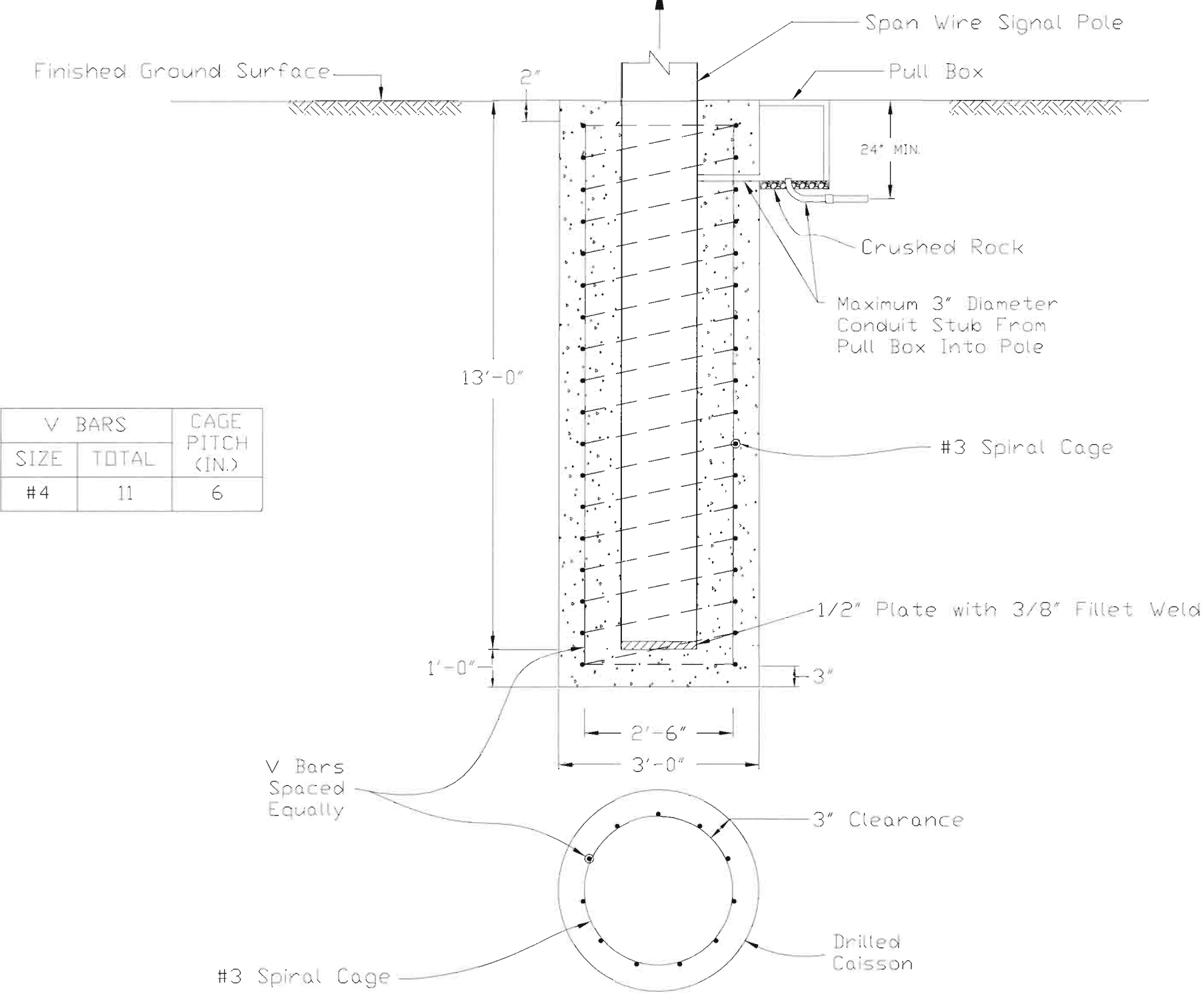


LEGEND
 ○ TRAFFIC SIGNAL POLE

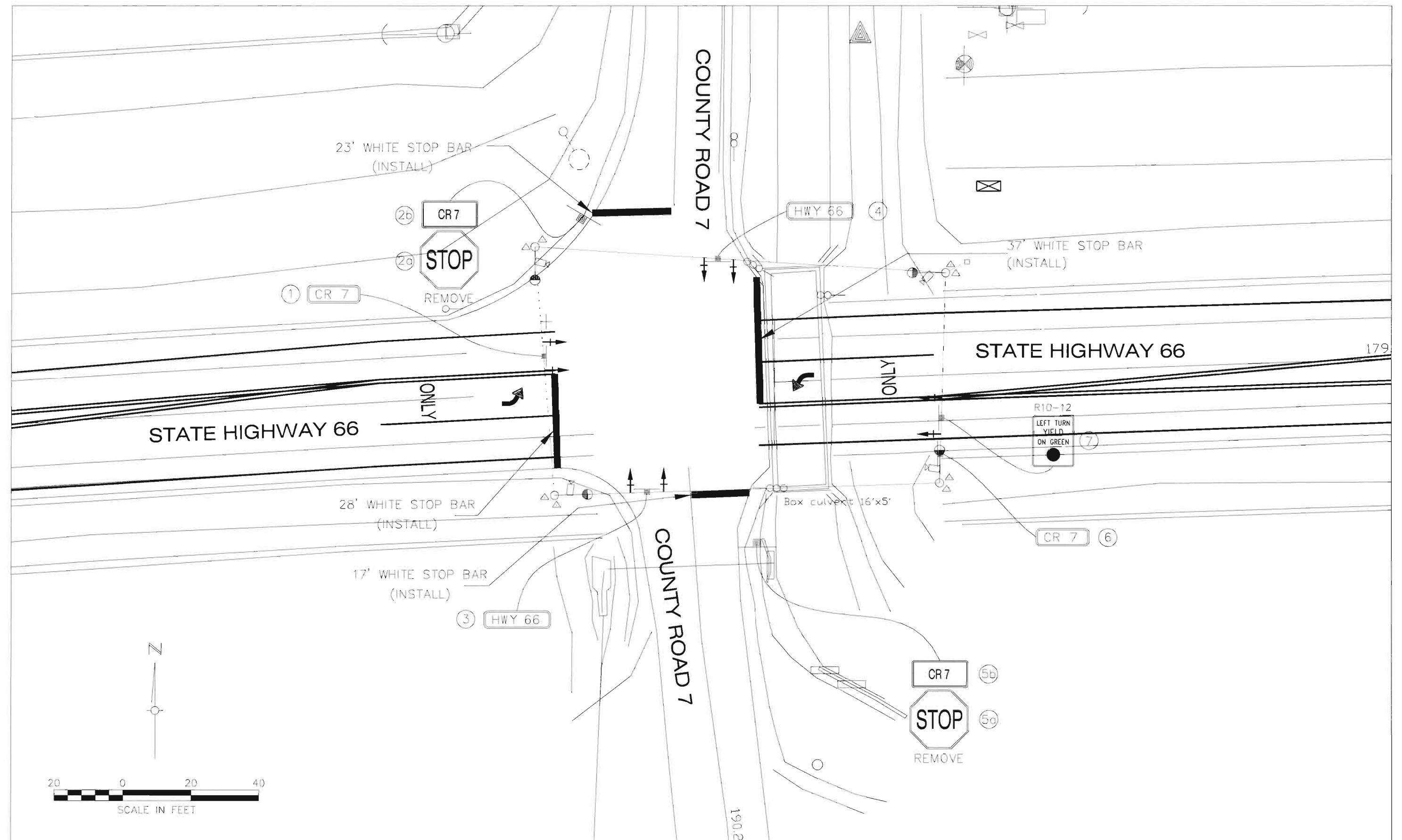


Colorado Department of Transportation		Computer File Information		Sheet Revisions		As Constructed		SIGNAL POLE LOCATIONS		Project No./Code		
 1420 2nd Street Greeley, CO 80631 Phone: (970) 350-2121 FAX: (970) 350-2198 Region 4		Creation Date: 11/12/01 Initials: RCP		○ ○ ○ ○ ○			No Revisions: 4/10/03		FOR CR 7		C 0661-005	
RJG		Last Modification Date: Initials:					Revised:		Designer:		Structure Numbers	
		Full Path:							Detailer:			
		Drawing File Name:							Sheet Subset:		Subset Sheets: 3 of 6	
		Acad Ver. R2000 Scale: 1:20 Units: ENGLISH					Void:				Sheet Number 12 of 18	

SAME AS S-614-40 (1 OF 7)



SPAN WIRE POLE DETAIL

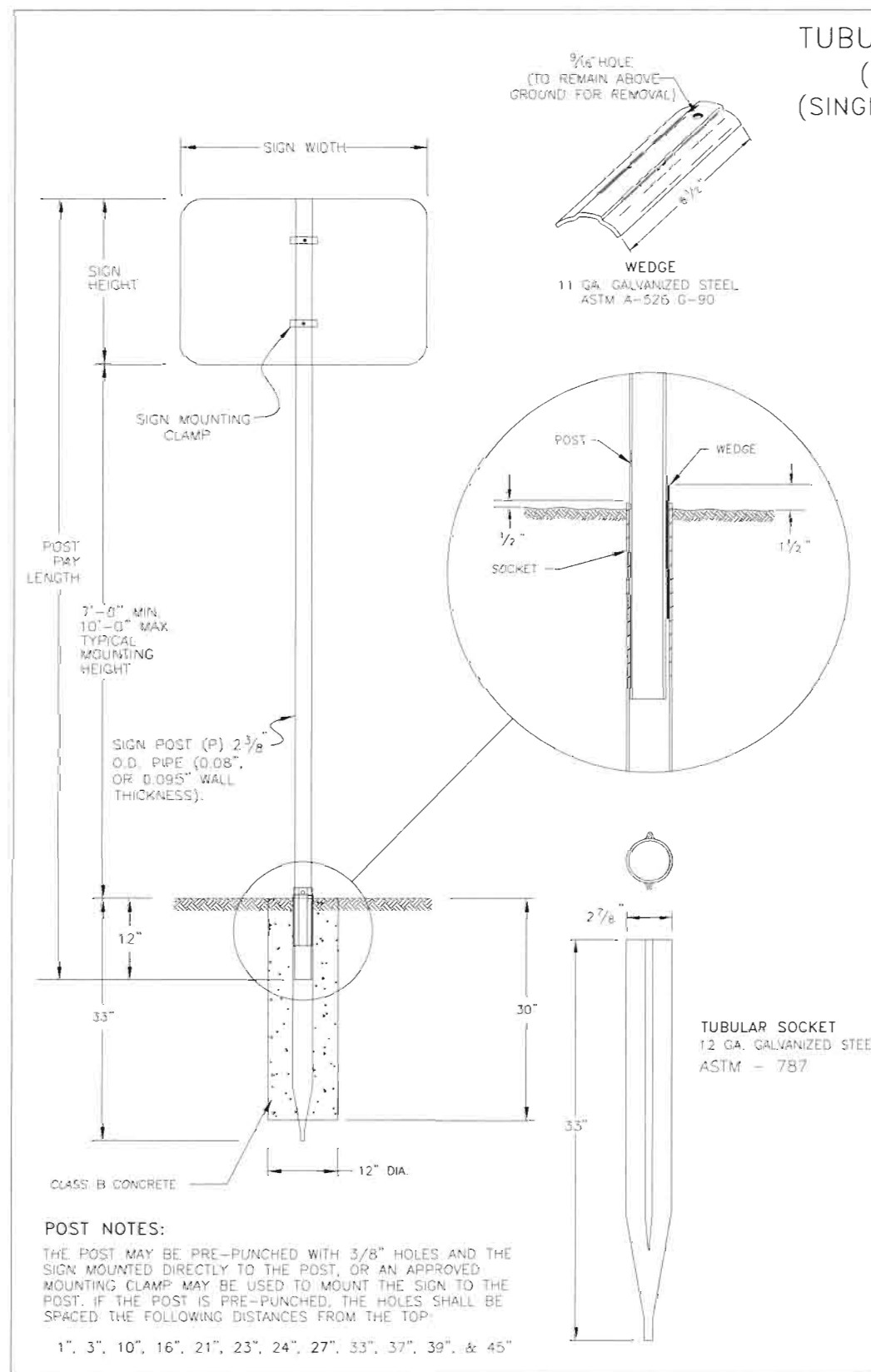


TABULATION OF PAVEMENT MARKINGS											
STATION	LOCATION	EDGE		LANE		CENTER	CHANNELIZING	CROSSWALK	STOP LINE	PVMT MARKING (ONLY) (SQ. FT.)	PVMT MARKING (ARROW) (SQ. FT.)
		WHITE SOLID 4 INCH	YELLOW SOLID 4 INCH	WHITE BROKEN 4 INCH	YELLOW SOLID 4 INCH	WHITE SOLID 4 INCH	WHITE SOLID 8 INCH	WHITE SOLID 24 INCH	WHITE SOLID 24 INCH		
	NORTH LEG	-	-	-	-	-	-	-	27' 23"	-	-
	SOUTH LEG	-	-	-	-	-	-	-	16' 27"	-	-
	EAST LEG	223' 50"	-	-	219' 00"	-	37' 50"	-	28' 37"	22.5	15.5
	WEST LEG	216' 25"	-	-	183' 00"	-	40' 50"	-	33' 28"	22.5	15.5
	TOTALS	441' 00"			402' 00"		77' 00"		104' 25"	45.0	31.0

NOTE: ALL STOP LINES, ARROWS, AND "ONLY" SHALL BE PRE-FORMED THERMOPLASTIC

TABULATION OF SIGNS																			
SIGN NO.	SIGN CODE	LOCATION	SIGN PANEL SIZE (INCHES)	BACK-GROUND COLOR	REMOVE SIGN PANEL (EACH)	REMOVE GROUND SIGN (EACH)	NO. OF POSTS	POST TYPE (LIN. FT.)								LEGEND	SIGN PANEL (SQ. FT.)		
								P POST	P2 POST	W6x12	W6x15	W8x18	W8x21	W10x22	W10x26		W12x26	CLASS I	CLASS II
1	SPEC	WESTBOUND SH 66	36 X 18	GREEN				MOUNT ON SPAN WIRE									CR 7	4.5	
2a	SPEC	SOUTHBOUND CR 7	-	RED		1											STOP		
2b	SPEC	SOUTHBOUND CR 7	-	GREEN													CR 7		
3	SPEC	SOUTHBOUND CR 7	36 X 18 48x18	GREEN				MOUNT ON SPAN WIRE									HWY 66	6.45	
4	SPEC	NORTHBOUND CR 7	36 X 18 48x18	GREEN				MOUNT ON SPAN WIRE									HWY 66	6.45	
5a	SPEC	NORTHBOUND CR 7	-	RED		1											STOP		
5b	SPEC	NORTHBOUND CR 7	-	GREEN													CR 7		
6	SPEC	EASTBOUND SH 66	36 X 18	GREEN				MOUNT ON SPAN WIRE									CR 7	4.5	
7	R10-12	EASTBOUND SH 66	24 X 30	WHITE				MOUNT ON SPAN WIRE									LEFT TURN YIELD ON GREEN BALL	5	
SIGN TOTALS						42												25	

NOTE: POST LENGTHS ARE APPROXIMATE. EXACT LENGTHS TO BE DETERMINED BY THE CONTRACTOR IN THE FIELD.



TUBULAR STEEL POSTS
(SOCKET SYSTEM)
(SINGLE OR DOUBLE POST)

SIGNPOST SELECTION GUIDE

SIGN POST SELECTION GUIDE		SIGN WIDTH (FT) / MOUNTING HEIGHT (FT)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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SIGN HEIGHT (FT)	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	***																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

GENERAL NOTES:

- SIGN POSTS SHALL BE COLD FORMED STEEL WITH A MINIMUM YIELD STRENGTH OF 55 KSI. POST COLOR SHALL BE GALVANIZED.
- STEEL TUBE SIGN SUPPORTS SHALL BE INSTALLED UNDER THE SUPERVISION OF AN ON-SITE INDIVIDUAL TRAINED BY THE MANUFACTURER OF THE SUPPORTS. PRIOR TO INSTALLATION OF THE SIGN SUPPORTS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER WRITTEN CERTIFICATION FROM THE MANUFACTURER THAT THE INDIVIDUAL SUPERVISING THE INSTALLATION HAS BEEN TRAINED TO PROPERLY INSTALL THE SUPPORTS. UPON COMPLETION OF SIGN SUPPORT INSTALLATION, THE CONTRACTOR SHALL SUBMIT WRITTEN CERTIFICATION, SIGNED BY THE TRAINED INSTALLER, THAT THE SUPPORTS WERE INSTALLED ACCORDING TO THE MANUFACTURER'S REQUIREMENTS.
- SIGNS AND POSTS SHALL INCLUDE ALL HARDWARE NECESSARY FOR COMPLETE INSTALLATION. POST TYPE P SHALL BE PAID FOR AS 614 STEEL SIGN POST (2 INCH ROUND), LIN. FT.
- SIGNS BETWEEN 37" AND 60" WIDTH WITH ONE POST INSTALLATION REQUIRE 1 SIGN SUPPORT BRACKET IN ADDITION TO THE BACKING ZEE REQUIREMENTS.
- MULTIPLE SIGNS MAY USE THE U SIGN SUPPORT BRACKET.
- FOR BACKING ZEE REQUIREMENTS AND DETAILS, SEE COLORADO STANDARD PLANS S-614-3 AND S-614-4.
- CLASS B CONCRETE MAY BE SUBSTITUTED WITH A COMPRABLE PRODUCT THAT MEETS SPECIFICATIONS AS NOTED IN THE STANDARD SPECIFICATIONS.

*** SIZES NOT USED. REFER TO COLORADO STANDARD PLANS SECTION 614 FOR LARGER SIGN SUPPORTS.

MAXIMUM ALLOWABLE MOMENT PER POST:

P (2", 2.375" OD) 1.46 KIP FT
P2 (2 1/2", 2.875" OD, SCHEDULE 80) 4.68 KIP FT

CHART NOTES:

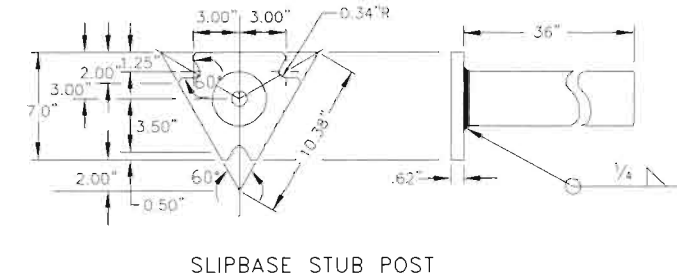
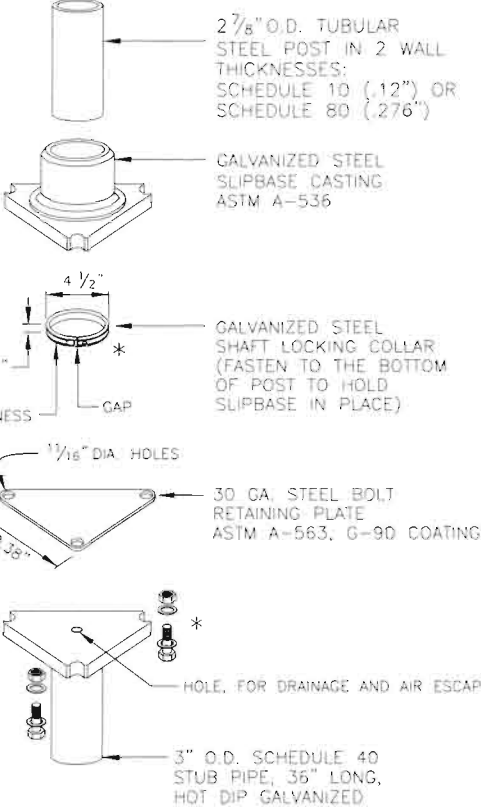
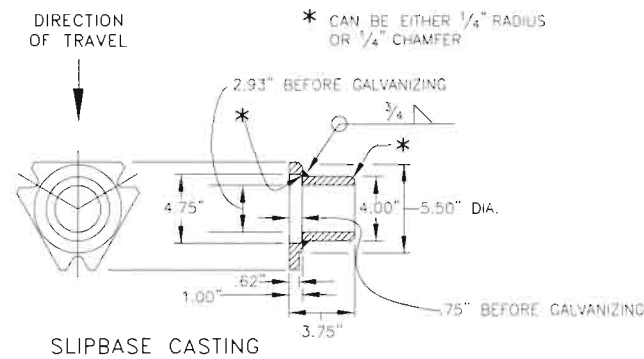
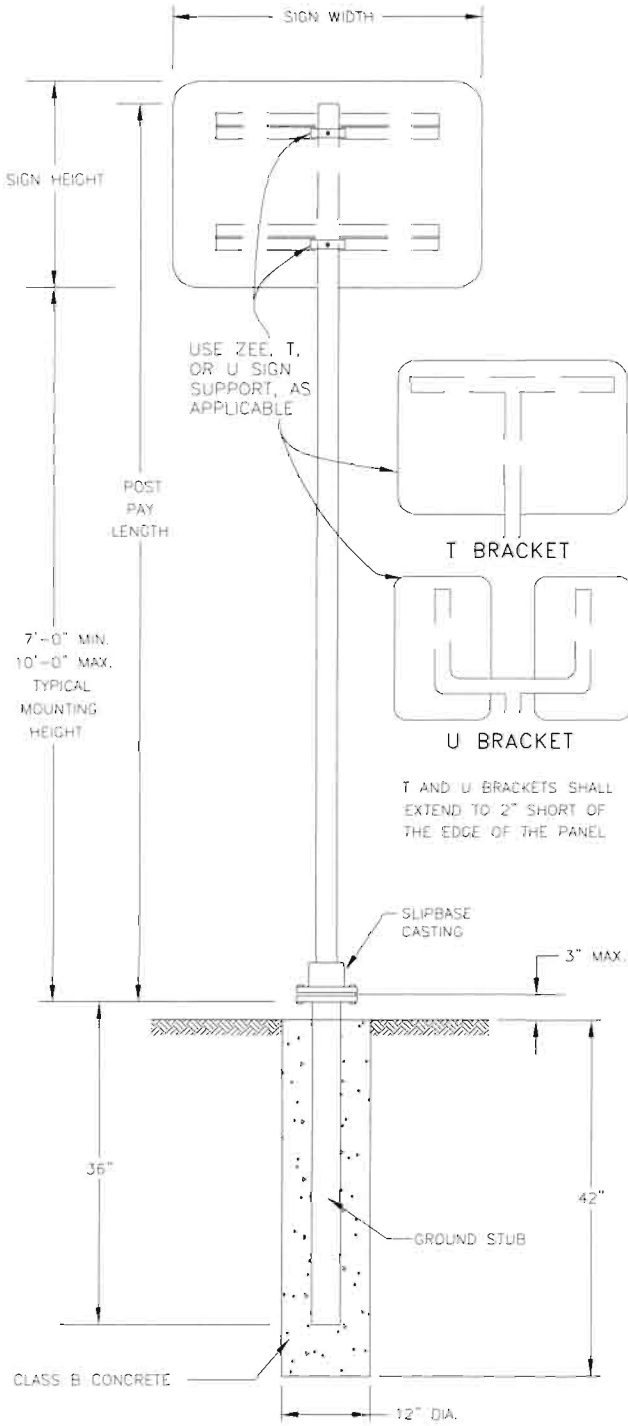
- WIND LOAD DESIGN = 80 MPH.
- TYPICAL POST MOUNTING HEIGHTS FROM GROUND TO BOTTOM OF SIGN PANEL ARE 7, 8, 9, 10 FEET.
- FOR SIGNS MOUNTED ON TWO POSTS, MINIMUM DISTANCE BETWEEN POSTS SHALL BE 2 FEET AND MAXIMUM DISTANCE SHALL BE 8 FEET. MAXIMUM DISTANCE FROM POST TO EDGE OF SIGN PANEL(S) SHALL BE 0 TO 4 INCHES. WHEN BACKING ZEES ARE USED, POSTS SHALL BE INSTALLED WITH A MINIMUM OF 2" FROM EDGE OF THE BACKING ZEE.

COLORADO
DEPARTMENT OF TRANSPORTATION

ISSUED BY
TRANS SAFETY &
TRAFFIC ENGR BRANCH
REG 4, JAN 2002

GROUND MOUNTED
SIGN SUPPORT DETAILS
SHEET 1 OF 2 (ENGLISH)

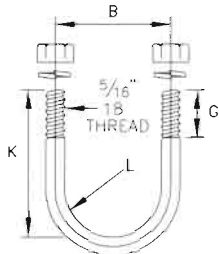
TUBULAR STEEL POSTS
(WITH SLIPBASE)
(SINGLE OR DOUBLE POST)



STANDARD PIPE SIZE	A	B	C	D	E	F	G	K	L	R ₁	R ₂
2	3 3/4	2 3/4	1 1/2	1 1/8	1/2	3/16	1	2 11/16	1 7/32	1 1/4	1 3/16
2 1/2	4 1/4	3 1/4	2	1 1/4	1/2	1/4	1	3 3/16	1 15/32	1 1/2	1 7/16

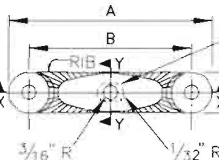
DIMENSIONS FOR MOUNTING CLAMP

PIPE CLAMP CASTING
PIPE CLAMP CASTING SHALL BE ASTM B26 OR B108 ALUMINUM ALLOY A444.0-T4 OR 356.0-F. ALL SIGN MOUNTING CLAMP PARTS NOT MADE FROM ALUMINUM SHALL BE GALVANIZED STEEL IN CONFORMANCE WITH ASTM A153 OR STAINLESS STEEL.

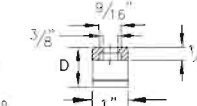
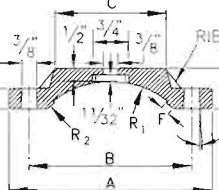


U-BOLT TO BE MADE IN ACCORDANCE WITH STANDARD MANUFACTURING PROCEDURE. 9/32" OR 5/16" DIAMETER STOCK IS PERMISSIBLE. AMERICAN STANDARD REGULAR SEMI-FINISHED HEX NUTS AND SPRING LOCKWASHERS.

U-BOLT



SLOT TO HOLD HEAD OF 3/8" HEX HEAD BOLT. THE BOLT SHALL BE 1 1/4" LONG, WITH FULL THREADS, A MEDIUM WASHER, AND GALVANIZED STEEL OR ALUMINUM SELF-LOCKING HEX HEAD NUT. THE BOLT HEAD MUST NOT TURN IN THE SLOT.



SECTION X-X

SECTION Y-Y

MOUNTING CLAMP FOR SOCKET OR SLIPBASE

- GENERAL NOTES:
- SIGNS AND POSTS SHALL INCLUDE THE FOOTING, SLIPBASE, AND ALL HARDWARE NECESSARY FOR COMPLETE INSTALLATION. POST TYPE P1 AND P2, INCLUDING T AND U MOUNTINGS, SHALL BE PAID FOR AS 614 STEEL SIGN POST (2.5 INCH ROUND)(SLIPBASE) AND (2.5 INCH ROUND)(SLIPBASE SCH. 80), LIN. FT.
 - ALSO SEE NOTES 1, 2, 4, 5, 6, AND CHART NOTES ON PAGE 1

COLORADO
DEPARTMENT OF TRANSPORTATION
ISSUED BY
TRANS SAFETY &
TRAFFIC ENGR BRANCH
JANUARY 1, 2000
GROUND MOUNTED
SIGN SUPPORT DETAILS
SHEET 2 OF 2 (ENGLISH)

1420 2nd Street
Greeley, CO 80631
Phone: (970) 350-2121
FAX: (970) 350-2198

REGION 4

RJG

Computer File Information	
Creation Date:	Initials:
Last Modification Date:	Initials:
Full Path:	
Drawing File Name:	
Acad Ver. R2000	Scale: N/A Units: ENGLISH

Sheet Revisions	

As Constructed	
No. Revisions:	4/10/03
Revised:	
Void:	

GROUND MOUNTED SIGN SUPPORT DETAILS	
Designer:	
Detailer:	
Sheet Subset:	Subset Sheets: 2 of 2

Project No./Code	
C 0661-005	
13984R	
Sheet Number:	17 of 18

SIGN CODE	CONTRACT ITEM	SIGN PANEL SIZE	PANEL SIZE			OTHER DEVICES		
				B	C	ITEM	UNITS	PLAN
W20-1	ROAD/WORK/AHEAD	48"x48"		48		FLAGGING	HR	400 1200
W20-7a	FLAGGER SYMBOL	48"x48"		4		TRAFFIC CONTROL INSPECTION	DAY	3324
W20-5a	RIGHT/SHOULDER/CLOSED	48"x48"		42		TRAFFIC CONTROL MANAGEMENT	DAY	3150
W20-4	ONE LANE/ROAD/AHEAD	48"x48"		2		TRAFFIC CONE	EA	39 150
W9-1R/L	R-L/LANE/ENDS	48"x48"		40				
R52-4	BEGIN/FINES/DOUBLED/FOR/SPEEDING	48"x60"			4			
R52-5	END/FINES/DOUBLED/FOR/SPEEDING	48"x60"			4			
R2-1	SPEED LIMIT 60	36"x48"		20				
R2-1	SPEED LIMIT 50 45	36"x48"		2				
R2-1	SPEED LIMIT 35	36"x48"		20				
G20-10	THANK YOU	48"x48"		4				
SIGN TOTALS				2628	8			
W20-1 ROAD WORK 1/2 mile 240				4				

NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ROAD APPROACHES DURING ALL PHASES OF CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
2. THE TRAFFIC CONTROL ITEMS LISTED ABOVE ARE ONLY FOR ONE SITE. IF MORE THAN ONE SITE IS USED BY TRAFFIC CONTROL, THE CONTRACTOR SHALL PAY FOR IT AT HIS OWN COST.
3. ANY DELINEATORS REMOVED DURING THE CONSTRUCTION PROCESS SHALL BE REPLACED AT THE COST OF THE CONTRACTOR.