DH 1766 1-79
Form Use:
- Typical Section
- Plan Sheet
- Structure 8
- Special Drawings

FEDERAL ROAD REGION NO.	STATE	FEDERAL AID PROJECT NO.	TOTAL SHEETS	SHEET NO.
10	IDAHO	MG-7254(001)	127	87

18TH STREET & MAIN STREET
QUANTITIES

No.		
1.	1 each	8-PHASE (DUAL RING) TRAFFIC SIGNAL CONTROLLER, SOLID STATE, TRAFFIC ACTUATED, WITH 4 EMERGENCY VEHICLE PRE-EMPTION PHASES IN TYPE P-1 CABINET. TO BE TCT MODEL LMD-8811. CONTROLLER CABINET AND SERVICE CABINET TO BE PLACED ON A COMBINED TYPE P SIGNAL CONTROLLER CABINET AND SERVICE FOUNDATION. SIGNAL CONTROLLER AND CABINET SHALL MEET STATE OF IDAHO STANDARD SPECIFICATIONS. RAILROAD PRE-EMPTION CIRCUITRY SHALL MEET THE STANDARDS AND SPECIFICATIONS FOR THE IDAHO TRANSPORTATION DEPARTMENT.
2.	1 each	POLE, STEEL COMBINATION SIGNAL AND LIGHTING, HOT DIPPED GALVANIZED WITH BOLTED LUMINAIRE EXTENSION PER IDAHO TRANSPORTATION DEPARTMENT SPECIFICATION, ID-II-40-Y-3015. POLE B ON PLANS.
3.	1 each	POLE, STEEL COMBINATION SIGNAL AND LIGHTING, HOT DIPPED GALVANIZED WITH BOLTED LUMINAIRE EXTENSION PER IDAHO TRANSPORTATION DEPARTMENT SPECIFICATION, ~~ID-I-35-Y-3015.~~ POLE C ON PLANS.
4.	3 each	TRAFFIC SIGNAL, 12-INCH, ONE-WAY, THREE COLOR (RED, YELLOW, GREEN), ASTRO BRACKET MODEL NO. AB-116 FOR MAST ARM MOUNTING, 12-INCH TUNNEL VISOR, 5-INCH BACKPLATES, GLASS LENS, TO BE TRAFFIC CONTROL TECHNOLOGIES CATALOG NO. HSF83C300G OR APPROVED EQUAL. SIGNAL HEADS 6,7, AND 10.
5.	~~4 each~~	TRAFFIC SIGNAL, 12-INCH, ONE-WAY, THREE COLOR (RED, YELLOW LEFT ARROW, GREEN LEFT ARROW), ASTRO BRACKET MODEL NO. AB-116 FOR MAST ARM MOUNTING, 12-INCH TUNNEL VISOR, 5-INCH BACKPLATES, GLASS LENS. TO BE TRAFFIC CONTROL TECHNOLOGIES CATALOG NO. HSF83C311G OR APPROVED EQUAL. SIGNAL HEADS 1,5,9, AND 12.
6.	~~2 each~~	TRAFFIC SIGNAL, 12-INCH, ONE-WAY, THREE COLOR (RED, YELLOW, GREEN), STANDARD TERMINAL COMPARTMENT FOR SIDE POLE MOUNTING, AUTOMATIC SIGNAL CATALOG NO. A-802051B OR APPROVED EQUAL, 12-INCH TUNNEL VISOR, 5-INCH BACKPLATES, GLASS LENS. TO BE TRAFFIC CONTROL TECHNOLOGIES CATALOG NO. HSF83C300G OR APPROVED EQUAL. SIGNAL HEADS 8 AND 11.
7.	~~4 each~~	PEDESTRIAN SIGNAL, WALK/DON'T WALK, ONE-WAY, CLAM SHELL MOUNTED INDICATOR CONTROLS COMPANY CATALOG NO. 7092-11C-PHOG-OC3PLM-OSL069. SIGNAL HEADS ~~16~~,18,20, AND 22.
8.	4 each	PEDESTRIAN SIGNAL, WALK/DON'T WALK, ONE-WAY, CLAM SHELL MOUNTED SINGLE SECTION TO BE INDICATOR CONTROLS COMPANY CATALOG NO. 7092-11C-PHOG-OC3PRM-OSL069. SIGNAL HEADS 17, 19, 21, AND 23. MODIFY MOUNTING BRACKET FOR SIGNAL HEAD 23 TO PROVIDE PROPER VISIBILITY.
9.	4 each	EMERGENCY VEHICLE PRE-EMPTION INDICATOR, SIGNAL HEAD TO BE 12-INCH PEDESTRIAN SIGNAL SINGLE SECTION LUNAR WHITE GLASS LENS, TO BE SIMILAR TO A SINGLE VERTICAL SECTION OF AN ECONOLITE CATALOG NO. 54365G1G. TO BE MOUNTED ON AN ASTRO BRACKET MODEL AB-116 FOR MAST ARM MOUNTING. SIGNAL HEADS 24,25,26, AND 27.
10.	2 each	TYPE D FOUNDATION, ANCHOR BOLTS INCLUDED. POLES B AND C.
11.	4 each	PEDESTRIAN PUSH BUTTONS. TO BE DICK CAMPBELL STYLE "H" ASSEMBLY WITH REES MODEL 1372-412 BUTTON SWITCH PER IDAHO TRANSPORTATION DEPARTMENT STANDARD DRAWING I-6-B.
12.	8 each	DETECTOR, SOLID STATE UNIT, SELF TUNING. FOUR CHANNEL RACK MOUNTED SARASOTA 224 GP5.
13.	3 each	LUMINAIRES WITH INDIVIDUAL PHOTO ELECTRIC CELL, GE M-400A2 CUTOFF, POWER/DOOR LUMINAIRE 120-VOLT, ~~200~~ 250-WATT LU, INCLUDING LAMP CATALOG NO. M4AC2~~0~~5S1A2GMC32, M-C-III TYPE DISTRIBUTION. TO BE INSTALLED ON LUMINAIRE ARMS ON SIGNAL POLES A, B, AND C.
14.	1 each	JUNCTION BOX, PRE-CAST CONCRETE, 32 INCH X 36 INCH X 28 INCH, REINFORCED, TYPE D.
15.	~~17~~ 21 each	JUNCTION BOX, PRE-CAST CONCRETE, 18 INCH X 13 INCH X 15 INCH, REINFORCED, TYPE C.
16.	1 each	CLASS B SERVICE, TO BE MEYERS ELECTRIC PRODUCTS, INC. PEDESTAL SHALL BE A MEYER CATALOG NO. MEUGL-M100 ~~C/SS-ITD-MOD,~~ OR EQUAL (SHEET 96).
17.	1 each	LOOP DETECTOR INTERFACE CARD, RACK MOUNTED, WITH SERIAL CONNECTOR, SARASOTA CATALOG NO. SC1.
18.	6 each	FUSED CONNECTORS, TO BE BUSSMAN MANUFACTURING CATALOG NO. HEB-JW-RLC-J.
19.	—	MISCELLANEOUS ITEMS TO INCLUDE WIRE, CABLE, CONDUIT, AND MISCELLANEOUS HARDWARE.
20.	1 each	SYSTEM TEST AND PROGRAMMING ASSEMBLY, TO MEET SECTION 4.36 OF "FY 93 SPECIFICATION FOR 2 - 8 PHASE DIGITAL TRAFFIC CONTROLLER AND AUXILLLARY EQUIPMENT"

REGISTERED PROFESSIONAL ENGINEER
5334
STATE OF IDAHO
BRUCE FREDERICK SCHAFER
3/11/92

ORIGINAL WORK PREPARED DECEMBER 1987 UNDER THE DIRECTION OF STANTON S. NUFFER, P.E. NO. 1881, DECEASED JULY 1991. MODIFICATIONS BY BRUCE F. SCHAFER, P.E. NO. 5334.

PROFESSIONAL ENGINEER
REGISTERED
1881
STATE OF IDAHO
STANTON S. NUFFER
12/2/87

I-15-7-A.1

FEDERAL ROAD REGION NO.	STATE	FEDERAL AID PROJECT NO.	TOTAL SHEETS	SHEET NO
10	IDAHO	MG-7254(001)	127	88

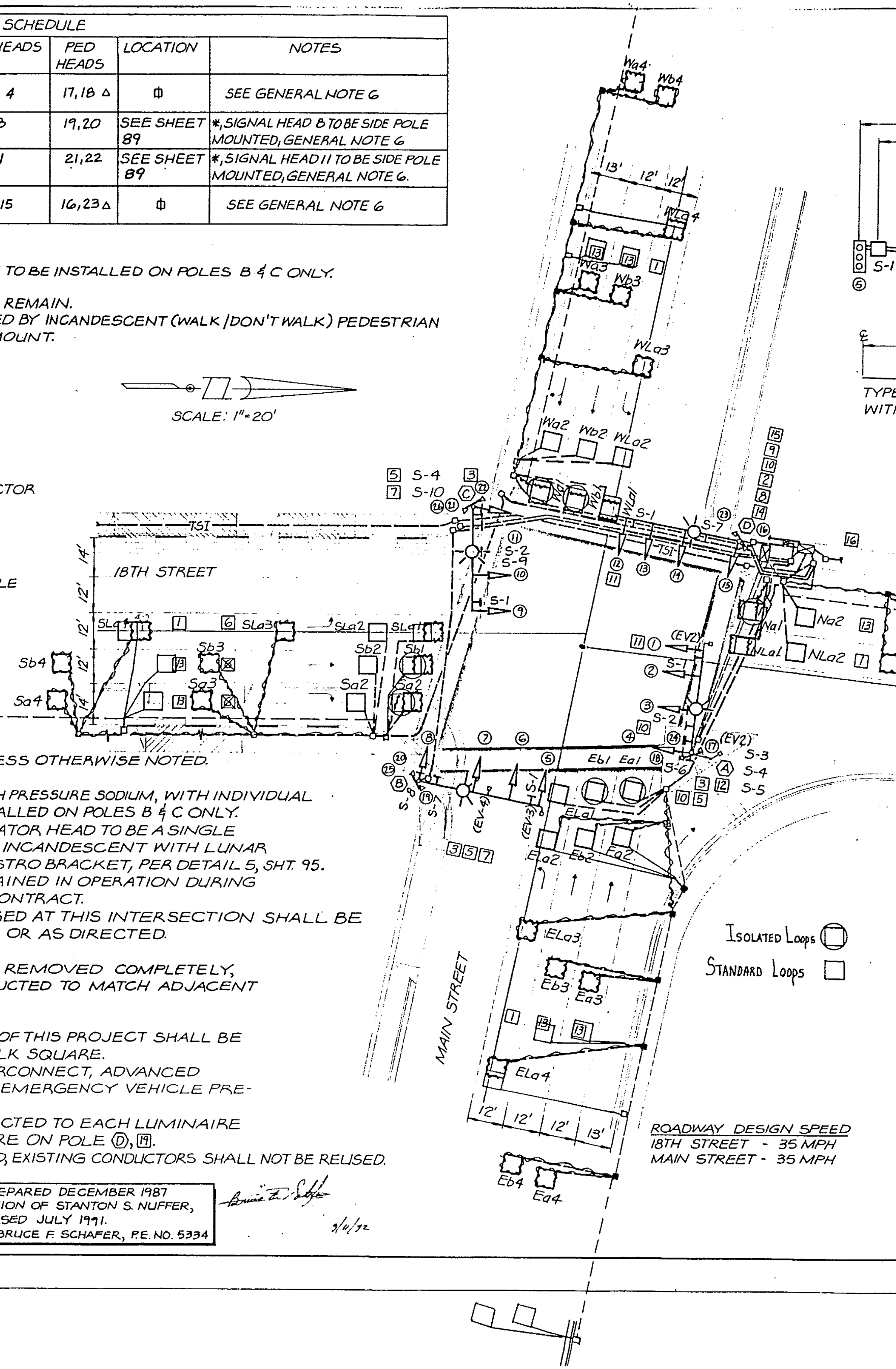
18TH STREET & MAIN STREET SIGNAL PLAN

POLE SCHEDULE

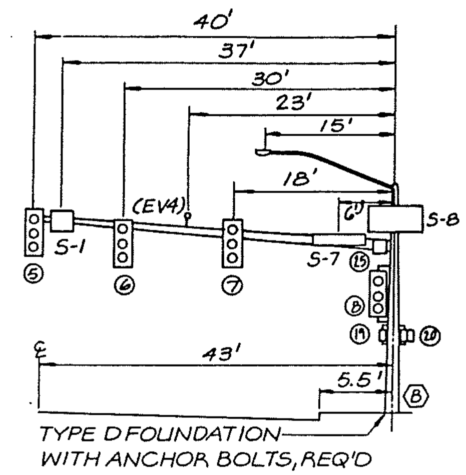
POLE	TYPE	FOUND-ATION	MAST ARM	LUMINAIRE ARM	SIGNAL HEADS ΦΦ	PED HEADS	LOCATION	NOTES
Ⓐ	Φ	Φ	Φ	Φ	1, 2, 3, 4	17, 18 Δ	Φ	SEE GENERAL NOTE 6
Ⓑ	ID-II-40-Y-3015	D	40'	15'	5, 6, 7, 8	19, 20	SEE SHEET 89	*, SIGNAL HEAD 8 TO BE SIDE POLE MOUNTED, GENERAL NOTE 6
Ⓒ	ID-I-35-Y-3015	D	35'	15'	9, 10, 11	21, 22	SEE SHEET 89	*, SIGNAL HEAD 11 TO BE SIDE POLE MOUNTED, GENERAL NOTE 6.
Ⓓ	Φ	Φ	Φ	Φ	12, 13, 14, 15	16, 23 Δ	Φ	SEE GENERAL NOTE 6

* TYPE "H" PEDESTRIAN PUSHBUTTON ASSEMBLY TO BE INSTALLED ON POLES B & C ONLY.
Φ EXISTING TRAFFIC SIGNAL POLE
ΦΦ EXISTING SIGNAL HEADS ②, ③, ④, ⑬, ⑭, AND ⑮ TO REMAIN.
Δ EXISTING PEDESTRIAN HEADS TO BE REPLACED BY INCANDESCENT (WALK/DON'T WALK) PEDESTRIAN HEADS, ON A 12-TERMINAL CLAMSHELL MOUNT.

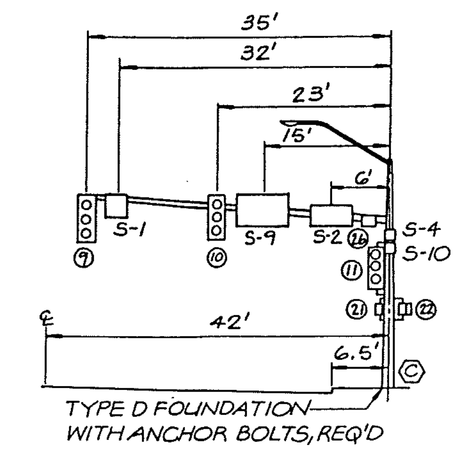
LEGEND:
- ☐1 CONSTRUCTION NOTE
- Ⓐ SIGNAL POLE
- ⑤ SIGNAL HEAD NUMBER
- □ NEW JUNCTION BOX
- ■ EXISTING JUNCTION BOX
- S TRAFFIC SIGN
- (EVI) EMERGENCY VEHICLE PRE-EMPTION DETECTOR (EVI) PHASE
- --- NEW CONDUIT
- ⊠ SIGNAL CONTROLLER (NEW)
- SIGNAL CONTROLLER (EXISTING)
- SERVICE CABINET (PEDESTAL)
- SCC SIGNAL CONTROLLER COMMUNICATIONS CABLE 6PR STRANDED NO. 19 WIRE PER IMSA 39-2
- --- EXISTING CONDUIT
- TSI TRAFFIC SIGNAL COMMUNICATION SYSTEM CABLE IN CONDUIT WITH PRE-EMPTION INTERCONNECT CABLE INCLUDED IN PORTIONS OF INTERCONNECT CONDUIT. SEE SHEET 94.



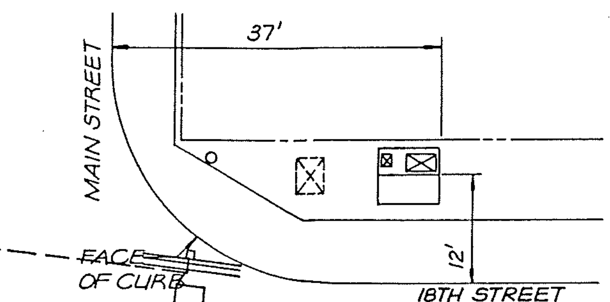
ROADWAY DESIGN SPEED
18TH STREET - 35 MPH
MAIN STREET - 35 MPH



DETAIL B
NTS



DETAIL C
NTS



DETAIL D

GENERAL NOTES:
1. ALL JUNCTION BOXES SHALL BE TYPE C UNLESS OTHERWISE NOTED.
2. SEE SHEET 91 FOR SIGN TABLE.
3. ALL LUMINAIRES TO BE 200 WATT, 120 VOLT, HIGH PRESSURE SODIUM, WITH INDIVIDUAL PHOTOELECTRIC CELL. LUMINAIRES TO BE INSTALLED ON POLES B & C ONLY.
4. EMERGENCY VEHICLE PRE-EMPTION INDICATOR HEAD TO BE A SINGLE SECTION 12-INCH PEDESTRIAN TYPE HEAD, INCANDESCENT WITH LUNAR WHITE LENSE AND MOUNTED ON A VEPED ASTRO BRACKET, PER DETAIL 5, SHT. 95.
5. EXISTING TRAFFIC SIGNAL SHALL BE MAINTAINED IN OPERATION DURING NON-WORKING HOURS THROUGHOUT THE CONTRACT.
6. ALL EXISTING SIGNAL EQUIPMENT, SALVAGED AT THIS INTERSECTION SHALL BE DELIVERED TO CITY OF LEWISTON SHOPS OR AS DIRECTED.
7. ALL ABANDONED FOUNDATIONS SHALL BE REMOVED COMPLETELY, BACKFILLED, COMPACTED, AND RECONSTRUCTED TO MATCH ADJACENT MATERIAL..
8. ALL EXISTING SIDEWALK DISTURBED AS PART OF THIS PROJECT SHALL BE REPLACED ON A MINIMUM OF ONE SIDEWALK SQUARE.
9. SEE SHEET 94 FOR TRAFFIC SIGNAL INTERCONNECT, ADVANCED EMERGENCY VEHICLE PRE-EMPTION, AND EMERGENCY VEHICLE PRE-EMPTION INTERCONNECT.
10. 2-NO. 8 THW GAUGE WIRE SHALL BE CONNECTED TO EACH LUMINAIRE FROM SERVICE CABINET, EXCEPT LUMINAIRE ON POLE Ⓓ, ☐19.
11. THE ENTIRE INTERSECTION IS TO BE REWIRED, EXISTING CONDUCTORS SHALL NOT BE REUSED.

CONSTRUCTION NOTES:
1. INSTALL 6'X6' DETECTOR LOOPS PER LOOP SPACING PLAN B, IDAHO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING ~~I-5.~~ TD-20
2. INSTALL NEW SIGNAL CONTROLLER PER SPECIFICATIONS ON NEW BASE WITH NEW TYPE "P" SIGNAL CONTROLLER CABINET PER DETAIL D, THIS SHEET.
3. MOUNT MODEL 205 EMERGENCY VEHICLE PRE-EMPTION DETECTOR, PER DETAIL 1, ON MINI ASTRO BRACKET, AT LOCATION NOTED ON MAST ARM LOADING CHART.
4. NEW CONTROLLER CABINET AND NEW CLASS B SERVICE CABINET TO BE INSTALLED ON A COMBINED FOUNDATION.
5. ALL PRE-EMPTION INDICATION WIRING TO BE 2-NO. 14 THW WIRE, SIGNAL CABLE.
6. ~~ALL DETECTORS INSTALLED IN THIS LANE SHALL CONFORM TO IDAHO TRANSPORTATION DEPARTMENT STANDARD DRAWING I-5, METHOD C.~~
7. SEE DETAIL B FOR POLE B, DETAIL C FOR POLE C, THIS SHEET.
8. LUMINAIRE FOR SIGNAL POLE D SHALL CONTINUE TO BE SERVICED OVERHEAD.
9. LIGHTING CIRCUITS #1 (POLES A & C) AND #2 (POLE B) SHALL BE UN-METERED. EACH LIGHT CIRCUIT BREAKER SHALL BE 15 AMPERE.
10. INTERCEPT CONDUITS FOR EXISTING POLES A AND D. SET NEW JUNCTION BOXES AND CONNECT NEW CONDUIT RUNS FOR THESE POLES.
11. SIGNAL HEADS ① & ⑫ TO BE SALVAGED AND REPLACED WITH NEW HEADS.
12. MOUNT MODEL 205 EMERGENCY VEHICLE PRE-EMPTION DETECTOR 12" BELOW TOP OF POLE DIRECTED TOWARD NORTHWEST, PER DETAIL 1, SHEET 95, FOR SIDE OF POLE MOUNT (EV2).
13. INSTALL 6'x6' DETECTOR LOOPS PER LOOP SPACING PLAN C, IDAHO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING ~~I-5.~~ TD-20
14. NEW SERVICE TO BE EXTENDED FROM EXISTING POWER POLE IN THE NORTHWEST QUADRANT OF THE INTERSECTION, APPROX. 30' TO NEW SERVICE CABINET.
15. INSTALL TYPE D JUNCTION BOX AS LAST JUNCTION BOX FOR SIGNAL CONTROLLER BEFORE SIGNAL CONTROLLER.
16. ~~RAILROAD PRE-EMPTION CONDUIT TO BE REROUTED TO NEW SIGNAL CONTROLLER CABINET, VIA NEW TYPE C JUNCTION BOX. REPLACE OLD RAILROAD PRE-EMPTION WIRING WITH NEW RAILROAD PRE-EMPTION WIRING, FROM NEW CONTROLLER CABINET TO EXISTING RAILROAD TERMINATION POINT.~~ INSTALL RAILROAD PRE-EMPTION CONDUIT, WIRING, AND TYPE C JUNCTION BOX FROM NEW SIGNAL CONTROLLER CABINET TO EXISTING RAILROAD CONTROL HOUSE. COORDINATE INSTALLATION WITH RAILROAD.

ORIGINAL WORK PREPARED DECEMBER 1987 UNDER THE DIRECTION OF STANTON S. NUFFER, P.E. NO. 1881, DECEASED JULY 1991.
MODIFICATIONS BY BRUCE F. SCHAFER, P.E. NO. 5334

Bruce F. Schafer
9/11/92

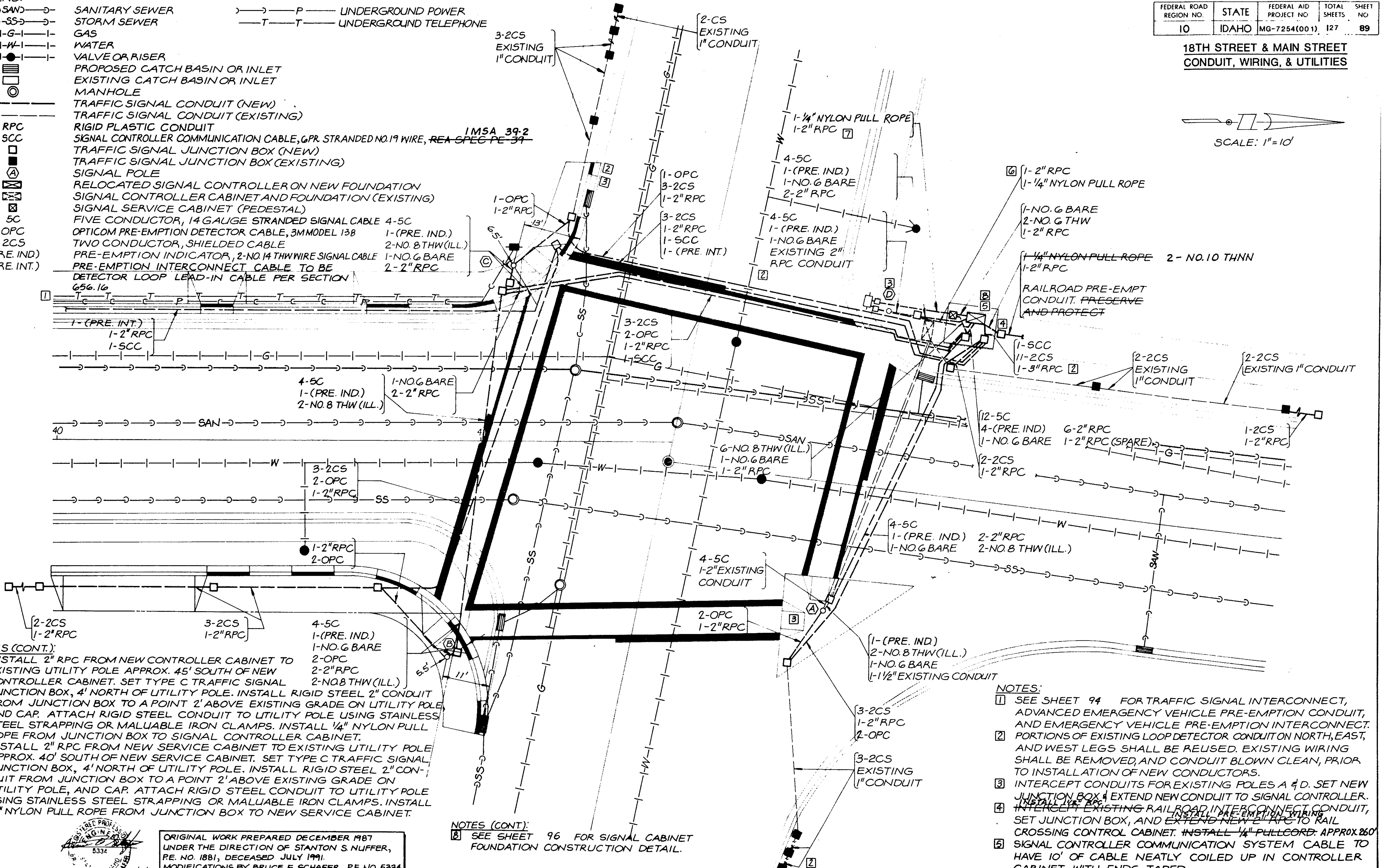
FEDERAL ROAD REGION NO.	STATE	FEDERAL AID PROJECT NO.	TOTAL SHEETS	SHEET NO.
10	IDAHO	MG-7254(001)	127	89

18TH STREET & MAIN STREET CONDUIT, WIRING, & UTILITIES

SCALE: 1" = 10'

LEGEND:

Symbol	Description
—SAN—	SANITARY SEWER
—SS—	STORM SEWER
—G—	GAS
—W—	WATER
—●—	VALVE OR RISER
(symbol)	PROPOSED CATCH BASIN OR INLET
(symbol)	EXISTING CATCH BASIN OR INLET
◎	MANHOLE
——	TRAFFIC SIGNAL CONDUIT (NEW)
– – –	TRAFFIC SIGNAL CONDUIT (EXISTING)
RPC	RIGID PLASTIC CONDUIT
SCC	SIGNAL CONTROLLER COMMUNICATION CABLE, 6PR. STRANDED NO. 19 WIRE, ~~REA SPEC PE-39~~ IMSA 39-2
□	TRAFFIC SIGNAL JUNCTION BOX (NEW)
■	TRAFFIC SIGNAL JUNCTION BOX (EXISTING)
Ⓐ	SIGNAL POLE
(symbol)	RELOCATED SIGNAL CONTROLLER ON NEW FOUNDATION
(symbol)	SIGNAL CONTROLLER CABINET AND FOUNDATION (EXISTING)
⊠	SIGNAL SERVICE CABINET (PEDESTAL)
5C	FIVE CONDUCTOR, 14 GAUGE STRANDED SIGNAL CABLE
OPC	OPTICOM PRE-EMPTION DETECTOR CABLE, 3M MODEL 138
2CS	TWO CONDUCTOR, SHIELDED CABLE
(PRE. IND.)	PRE-EMPTION INDICATOR, 2-NO. 14 THW WIRE SIGNAL CABLE
(PRE. INT.)	PRE-EMPTION INTERCONNECT CABLE TO BE
	DETECTOR LOOP LEAD-IN CABLE PER SECTION 656.16
—P—	UNDERGROUND POWER
—T—	UNDERGROUND TELEPHONE



NOTES (CONT.):

6 INSTALL 2" RPC FROM NEW CONTROLLER CABINET TO EXISTING UTILITY POLE APPROX. 45' SOUTH OF NEW CONTROLLER CABINET. SET TYPE C TRAFFIC SIGNAL JUNCTION BOX, 4' NORTH OF UTILITY POLE. INSTALL RIGID STEEL 2" CONDUIT FROM JUNCTION BOX TO A POINT 2' ABOVE EXISTING GRADE ON UTILITY POLE AND CAP. ATTACH RIGID STEEL CONDUIT TO UTILITY POLE USING STAINLESS STEEL STRAPPING OR MALUABLE IRON CLAMPS. INSTALL ¼" NYLON PULL ROPE FROM JUNCTION BOX TO SIGNAL CONTROLLER CABINET.

7 INSTALL 2" RPC FROM NEW SERVICE CABINET TO EXISTING UTILITY POLE APPROX. 40' SOUTH OF NEW SERVICE CABINET. SET TYPE C TRAFFIC SIGNAL JUNCTION BOX, 4' NORTH OF UTILITY POLE. INSTALL RIGID STEEL 2" CONDUIT FROM JUNCTION BOX TO A POINT 2' ABOVE EXISTING GRADE ON UTILITY POLE, AND CAP. ATTACH RIGID STEEL CONDUIT TO UTILITY POLE USING STAINLESS STEEL STRAPPING OR MALUABLE IRON CLAMPS. INSTALL ¼" NYLON PULL ROPE FROM JUNCTION BOX TO NEW SERVICE CABINET.

NOTES (CONT.):

8 SEE SHEET 96 FOR SIGNAL CABINET FOUNDATION CONSTRUCTION DETAIL.

NOTES:

1 SEE SHEET 94 FOR TRAFFIC SIGNAL INTERCONNECT, ADVANCED EMERGENCY VEHICLE PRE-EMPTION CONDUIT, AND EMERGENCY VEHICLE PRE-EMPTION INTERCONNECT.

2 PORTIONS OF EXISTING LOOP DETECTOR CONDUIT ON NORTH, EAST, AND WEST LEGS SHALL BE REUSED. EXISTING WIRING SHALL BE REMOVED, AND CONDUIT BLOWN CLEAN, PRIOR TO INSTALLATION OF NEW CONDUCTORS.

3 INTERCEPT CONDUITS FOR EXISTING POLES A & D. SET NEW JUNCTION BOX & EXTEND NEW CONDUIT TO SIGNAL CONTROLLER.

4 ~~INTERCEPT EXISTING~~ INSTALL 1½" RPC. INSTALL PRE-EMPTION WIRING RAILROAD INTERCONNECT CONDUIT, SET JUNCTION BOX, AND ~~EXTEND NEW~~ 2" RPC TO RAIL CROSSING CONTROL CABINET. ~~INSTALL ¼" PULLCORD.~~ APPROX. 260'

5 SIGNAL CONTROLLER COMMUNICATION SYSTEM CABLE TO HAVE 10' OF CABLE NEATLY COILED UP IN CONTROLLER CABINET WITH ENDS TAPED.

ORIGINAL WORK PREPARED DECEMBER 1987 UNDER THE DIRECTION OF STANTON S. NUFFER, P.E. NO. 1881, DECEASED JULY 1991. MODIFICATIONS BY BRUCE F. SCHAFER, P.E. NO. 5334

REGISTERED PROFESSIONAL ENGINEER 5334 — 2/11/92

TS-19 TS-19

ORIGINAL WORK PREPARED DECEMBER 1987
UNDER THE DIRECTION OF STANTON S. NUFFER,
P.E. NO. 1881, DECEASED JULY 1991.
MODIFICATIONS BY BRUCE F. SCHAFER, P.E. NO. 5334

REGISTERED PROFESSIONAL ENGINEER — BRUCE FREDERICK SCHAFER — 5334 — STATE OF IDAHO
3/11/92

FEDERAL ROAD REGION NO.	STATE	FEDERAL AID PROJECT NO.	TOTAL SHEETS	SHEET NO.
10	IDAHO	MG-7254(001)	127	90

18TH STREET & MAIN STREET – WIRING DIAGRAM

NOTES:
1. PRE-EMPTION INTERCONNECT BETWEEN INTERSECTIONS OF 18TH & MAIN AND 18TH & G. SEE SHEET 94.
2. INSTALL 1 #10 THWN GREEN LOOP TEST CONDUCTOR UNSPLICED FROM LAST JUNCTION BOX ON EACH APPROACH TO SIGNAL CONTROLLER CABINET.

TO SERVICE: N, L1 — AC-, AC+, GND — POWER

VEHICLE

R, ←Y, ←G, AC-	V1-1, V1-2, V1-3, V1-6	Φ1 HEAD 1
R, Y, G, AC-	V2-1, V2-2, V2-3, V2-6	Φ2 HEADS 10, 11
R, ←Y, ←G, AC-	V3-1, V3-2, V3-3, V3-6	Φ3 HEAD 12
R, Y, G, AC-	V4-1, V4-2, V4-3, V4-6	Φ4 HEADS 6, 7, 8
R, ←Y, ←G, AC-	V5-1, V5-2, V5-3, V5-6	Φ5 HEAD 9
R, Y, G, AC-	V6-1, V6-2, V6-3, V6-6	Φ6 HEADS 2, 4
R, ←Y, ←G, AC-	V7-1, V7-2, V7-3, V7-6	Φ7 HEAD 5
R, Y, G, AC-	V8-1, V8-2, V8-3, V8-6	Φ8 HEADS 13, 14, 15

PEDESTRIAN

DW, W, AC-, PB, LC	P2-1, P2-2, P2-6, P2-5, P2-4	Φ2 HEADS 22, 23
DW, W, AC-, PB, LC	P4-1, P4-2, P4-6, P4-5, P4-4	Φ4 HEADS 20, 21
DW, W, AC-, PB, LC	P6-1, P6-2, P6-6, P6-5, P6-4	Φ6 HEADS 18, 19
DW, W, AC-, PB, LC	P8-1, P8-2, P8-6, P8-5, P8-4	Φ8 HEADS 16, 17

LOOPS

D1-1, D1-2	Φ1 SLa
D2-1, D2-2	Φ2 Na
D3-1, D3-2	Φ3 ELa
D4-1, D4-2, D4-3	Φ4 Wa, Wb
D4-4	
D5-1, D5-2	Φ5 NLa
D6-1, D6-2, D6-3, D6-4	Φ6 Sa, Sb
D7-1, D7-2	Φ7 WLa
D8-1, D8-2, D8-3, D8-4	Φ8 Ea, Eb

PRE-EMPT INDICATOR HEADS

EV4, Φ1Φ7 HEAD 25	EV3, Φ3Φ8 HEAD 27	EV2, Φ2Φ5 HEAD 26	EV1, Φ6Φ1 HEAD 24	P83	P63	P43	P23

PRE-EMPT

EV4-3, EV4-2, EV4-1	EV3-3, EV3-2, EV3-1	EV2-3, EV2-2, EV2-1	EV1-3, EV1-2, EV1-1
Φ1Φ7 EV4	Φ3Φ8 EV3	Φ2Φ5 EV2	Φ6Φ1 EV1

[1]

Φ8 16 — PB-1 DW, PB-2 W, PB-3 AC-, PB-5 PB, PB-4 LC — PUSHBUTTON

Φ8 & Φ3 PRE-EMPT 27

DETECTOR LOOPS [2]: D4-1, D4-2 Φ4 Wa; D4-3, D4-4 Φ4 Wb; D7-1, D7-2 Φ7 WLa

Φ4 21 — P4-1 DW, P4-2 W, P4-6 AC-, P4-5 PB, P4-4 LC — PUSHBUTTON

22 Φ2 — P2-1 DW, P2-2 W, P2-6 AC-, P2-5 PB, P2-4 LC — PUSHBUTTON

POLE C

POLE D

PUSHBUTTON: P2-4 LC, P2-5 PB, P2-6 AC-, P2-2 W, P2-1 DW — 23 Φ2

DETECTOR LOOPS [2]: D5-1, D5-2 Φ5 NLa; D2-1, D2-2 Φ2 Na

Φ2 & Φ5 PRE-EMPT 26

V2-1, V2-2, V2-3, V2-6 Φ2 — R, Y, G, AC- — 11, 10

L3, L2, L1 — EV1-3, EV1-2, EV1-1 — Φ6 & Φ1

V5-1, V5-2, V5-3, V5-6 Φ5 — R, ←Y, ←G, AC- — 9

Sa Φ6, Sb Φ6, SLa Φ1 — D6-1, D6-2, D6-3, D6-4, D1-1, D1-2 — DETECTOR LOOPS [2]

17 Φ6 — PG-1 DW, PG-2 W, PG-3 AC-, PG-5 PB, PG-4 LC — PUSHBUTTON

POLE B

V4-6, V4-3, V4-2, V4-1 — AC- G Y R — Φ4 8 7 6

V7-6, V7-3, V7-2, V7-1 — AC- G→ Y→ R — Φ7 5

PUSHBUTTON: LC P4-4, PB P4-5, AC- P4-6, W P4-2, DW P4-1 — 20 Φ4

L3, L2, L1 — EV4-3, EV4-2, EV4-1 — Φ4 & Φ7

25 — Φ4 & Φ7 PRE-EMPT

L3, L2, L1 — EV3-3, EV3-2, EV3-1 — Φ3 & Φ8

[2] ELa Φ3 D3-1, D3-2; Eb Φ8 D8-1, D8-2; Ea Φ8 D8-3, D8-4 — DETECTOR LOOPS

POLE A

VI-6, VI-3, VI-2, VI-1 — AC- G Y R — Φ1 — 1

V6-6, V6-3, V6-2, V6-1 — AC- G Y R — Φ6 — 2 3 4

EV2-3, EV2-2, EV2-1 — L3, L2, L1 — Φ2 & Φ5

24 — Φ6 & Φ1 PRE-EMPT

PUSHBUTTON: LC PG-4, PB PG-5, AC- PG-6, W PG-2, DW PG-1 — 18 Φ6

PUSHBUTTON: LC P8-4, PB P8-5, P8-6 AC-, P8-2 W, P8-1 DW — 17 Φ8

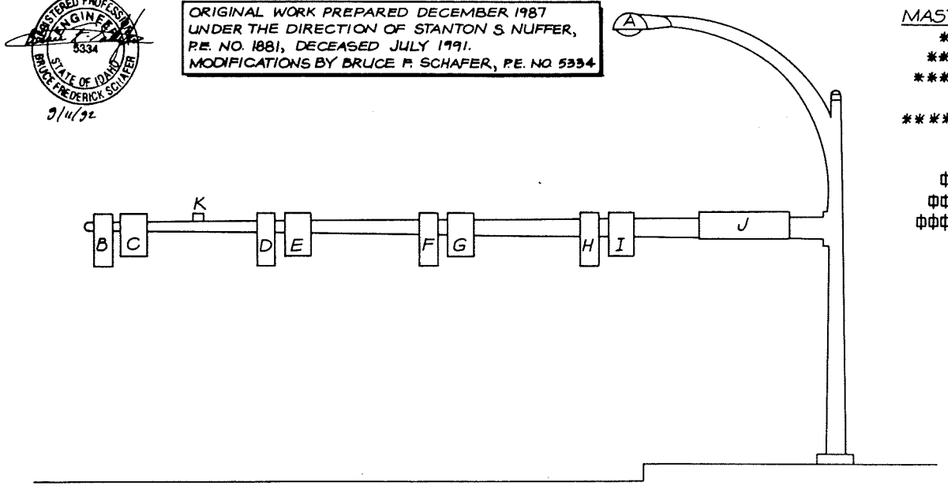
EV2-3, EV2-2, EV2-1 — L3, L2, L1 — Φ2 & Φ5

[1]

REGISTERED ENGINEER — 1881 — STATE OF IDAHO — STANTON S. NUFFER

REGISTERED PROFESSIONAL ENGINEER 5334 STATE OF IDAHO BRUCE FREDERICK SCHAFER
9/11/92

ORIGINAL WORK PREPARED DECEMBER 1987
UNDER THE DIRECTION OF STANTON S. NUFFER,
P.E. NO. 1881, DECEASED JULY 1991.
MODIFICATIONS BY BRUCE F. SCHAFER, P.E. NO. 5334

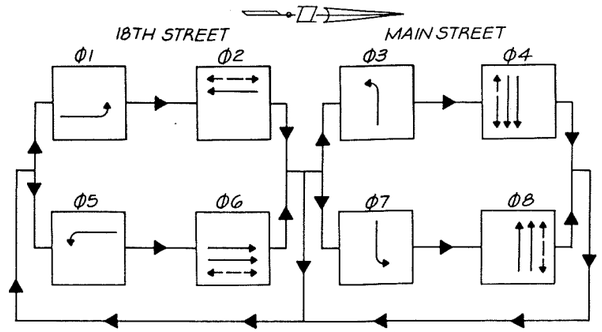


MAST ARM LOADING CHART NOTES:

* SEE GENERAL NOTE 10, SHEET 71 , AND DETAIL 5, SHEET 95.
** WITHIN 6" OF MAST ARM END, INSTALL PER DETAIL NO. 1
*** MOUNTED BELOW TOP OF POLE, ON SIDE OF POLE. SEE DETAIL 1, SHEET 95.
**** LOCATION OF SIGNS, SIGNAL, PRE-EMPTION INDICATOR, AND DETECTOR MEASURE FROM MAST ARM POLE ATTACHMENT TO CENTER OF UNIT ATTACHED.
Φ EXISTING POLE
ΦΦ SIGN S-9
ΦΦΦ PRE-EMPT DETECTOR FOR EV4 (Φ4 & Φ7) TO BE MOUNTED 23' FROM MAST ARM ATTACHMENT PLATE PER DETAIL NO. 1. PRE-EMPT DETECTOR FOR EV3 (Φ3 & Φ8) TO BE MOUNTED PER **

FEDERAL ROAD REGION NO.	STATE	FEDERAL AID PROJECT NO.	TOTAL SHEETS	SHEET NO.
10	IDAHO	MG-7254(001)	127	91

18TH STREET & MAIN STREET PHASING



PHASING OF SIGNAL

MAST ARM LOADING CHART ****

POLE	MAST ARM	LUMINAIRE ARM A	SIGNAL HEAD B	30"x36" SIGN C	SIGNAL HEAD D	30"x36" SIGN E	SIGNAL HEAD F	30"x36" SIGN G	SIGNAL HEAD H	PRE-EMPT INDICATOR HEAD*	STREET NAME SIGN J	PRE-EMPT DETECTOR K
A Φ										1'-3"		**
B	40'	15'-0"	40'-0"	37'-0"	30'-0"	—	18'-0"	—	—	1'-3"	6'-0"	ΦΦΦ
C	35'	15'-0"	35'-0"	25'-0"	23'-0"			15'-0" ΦΦ		1'-3"	6'-0"	**
D Φ										1'-3"		

SIGNAL SEQUENCE CHART

PHASE	HEAD NUMBER 1	2,4	5	6,7,8	9	10,11	12	13,14,15	16,17	18,19	20,21	22,23	24	25	26	27
Φ1	← G	R	R	R	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
	← Y	R	R	R	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
Φ2	R	R	R	R	R	G	R	R	DW	DW	DW	W	OFF	OFF	OFF	OFF
	R	R	R	R	R	G	R	R	DW	DW	DW	FDW	OFF	OFF	OFF	OFF
	R	R	R	R	R	Y	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
Φ3	R	R	R	R	R	R	← G	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
	R	R	R	R	R	R	← Y	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
Φ4	R	R	R	G	R	R	R	R	DW	DW	W	DW	OFF	OFF	OFF	OFF
	R	R	R	G	R	R	R	R	DW	DW	FDW	DW	OFF	OFF	OFF	OFF
	R	R	R	Y	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
Φ5	R	R	R	R	← G	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
	R	R	R	R	← Y	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
	R	R	R	R		R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
Φ6	R	G	R	R	R	R	R	R	DW	W	DW	DW	OFF	OFF	OFF	OFF
	R	G	R	R	R	R	R	R	DW	FDW	DW	DW	OFF	OFF	OFF	OFF
	R	Y	R	R	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
Φ7	R	R	← G	R	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
	R	R	← Y	R	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
	R	R		R	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
Φ8	R	R	R	R	R	R	R	G	W	DW	DW	DW	OFF	OFF	OFF	OFF
	R	R	R	R	R	R	R	G	FDW	DW	DW	DW	OFF	OFF	OFF	OFF
	R	R	R	R	R	R	R	Y	DW	DW	DW	DW	OFF	OFF	OFF	OFF
FLASHING	R	R	R	R	R	R	R	R	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
EV1	← G	G	R	R	R	R	R	R	DW	DW	DW	DW	ON	OFF	OFF	OFF
Φ6 & Φ1	← Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
EV2	R	R	R	R	← G	G	R	R	DW	DW	DW	DW	OFF	OFF	ON	OFF
Φ2 & Φ5	R	R	R	R	← Y	Y	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF
EV3	R	R	R	R	R	R	← G	G	DW	DW	DW	DW	OFF	OFF	OFF	ON
Φ8 & Φ3	R	R	R	R	R	R	← Y	Y	DW	DW	DW	DW	OFF	OFF	OFF	OFF
EV4	R	R	← G	G	R	R	R	R	DW	DW	DW	DW	OFF	ON	OFF	OFF
Φ4 & Φ7	R	R	← Y	Y	R	R	R	R	DW	DW	DW	DW	OFF	OFF	OFF	OFF

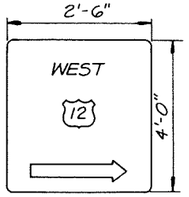
G = GREEN
R = RED
Y = YELLOW
←G = GREEN ARROW (LEFT TURN)
←Y = YELLOW ARROW (LEFT TURN)
W = WALK (WALKING MAN, INT'L SYMBOL)
FDW = FLASHING DON'T WALK (FLASHING HAND, INT'L SYMBOL)
DW = DON'T WALK (SOLID HAND, INT'L SYMBOL)
EV = EMERGENCY VEHICLE PRE-EMPT

SIGN TABLE △

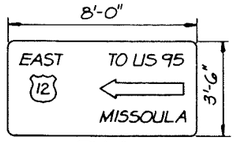
NUMBER	QUANTITY	DESIGNATION	SIGN SIZE	NOTES
S-1	4	R-10-10L	24"x 30"	"LEFT TURN SIGNAL"
S-2 △△	2	D3-A	72" x 16"	MAIN STREET
S-3 △△	1	R3-5R	30" x 36"	↱ ONLY
S-4	2	R14-1	24" x 18"	"TRUCK ROUTE" △△
S-5	1	MG-6R (W)	21" x 15"	↳
S-6	1	EX-1	△△△	△△△
S-7	2	D3-A	72"x 16"	18TH STREET
S-8	1	GUIDE SIGN	36"x54"	SEE DETAIL 2, SHEET 95.
S-9	1	EX-2	△△△	△△△
S-10	1	MG-6L (W)	21" x 15"	↰

SIGN BLANKS TO BE AFFIXED TO MAST ARM THROUGH THE USE OF STAINLESS STEEL BAND-IT MATERIAL AND BRACKETS.
△ EXISTING SIGNS TO BE REPLACED WITH NEW SIGNS. ALL EXISTING SIGNS TO BE SALVAGED TO DISTRICT 2 IDAHO TRANSPORTATION DEPARTMENT.

△△ S-2 SIGN TO BE RELOCATED IN BETWEEN SIGNAL HEADS 3 & 4. INSTALL S-3 SIGN 5' FROM MAST ARM BOLT CONNECTION TO POLE.
△△△ EX-1, AND EX-2 SIGNS TO MATCH EXISTING SIGNS, WITH REFLECTORIZED ENGINEER'S GRADE SHEETING ON ALUMINUM SIGN BLANK. NEW SIGN TO HAVE SAME COLORS AS EXISTING SIGNS. EX-1 AND EX-2 REPLACEMENT SIGNS TO BE FURNISHED BY IDAHO TRANSPORTATION DEPARTMENT.



EX-1



EX-2

OVERLAY DESIGNATION	COMPOSITE	75-21	BASE B		
	OVERLAY	75-21	BASE A		
PROJ NO	SCREEN				
CONTRACT					

FEDERAL ROAD REGION NO.	STATE	FEDERAL AID PROJECT NO.	TOTAL SHEETS	SHEET NO.
10	IDAHO	MG-7254(001)	127	92

18TH STREET & MAIN STREET
RAILROAD PRE-EMPTION PHASING

3/11/92

RAILROAD PRE-EMPT CIRCULATE

SIGNAL SEQUENCE CHART

	PHASE	HEAD NUMBER 1	2,4	5	6,7,8	9	10,11	12	13,14,15	16,17	18,19	20,21	22,23	24	25	26	27	
CLEAR-ANCE	Φ2 & Φ5 ←→	R R	R R	R R	R R	← G ← Y	G Y	R R	R R	DW DW	DW DW	DW DW	DW DW	OFF OFF	OFF OFF	OFF OFF	OFF OFF	
	Φ1 ↱	← G ← Y	R R	R R	R R	R R	R R	R R	R R	DW DW	DW DW	DW DW	DW DW	OFF OFF	OFF OFF	OFF OFF	OFF OFF	
	Φ2 ←→	R R R	R R R	R R R	R R R	R R R	G G Y	R R R	R R R	DW DW DW	DW DW DW	DW DW DW	W FDW DW	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	
	Φ3 ↰	R R	R R	R R	R R	R R	R R	← G ← Y	R R	DW DW	DW DW	DW DW	DW DW	OFF OFF	OFF OFF	OFF OFF	OFF OFF	
	Φ4 ↑↓	R R R	R R R	R R R	G G Y	R R R	R R R	R R R	R R R	DW DW DW	DW DW DW	W FDW DW	DW DW DW	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	
	Φ5 ←	R R R	R R R	R R R	R R R	← G ← Y	R R R	R R R	R R R	DW DW DW	DW DW DW	DW DW DW	DW DW DW	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	
	Φ8 ↑↑	R R R	R R R	R R R	R R R	R R R	R R R	R R R	G G Y	W FDW DW	DW DW DW	DW DW DW	DW DW DW	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	OFF OFF OFF	

G = GREEN
R = RED
Y = YELLOW

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