

I:\CITYAPPS\AUTOCAD\BLOCKS\SIGNAL--PLAN--LAYOUTS\COV SIGNALS, LIGHTING, AND COMMUNICATIONS PLAN CALLOUT BUBBLE NOTES.DWG 3/29/2024

INSTRUCTIONS FOR THE DESIGNER

- Only include bubble notes, legend, and abbreviations for items used in the project plans.
- Identify all items related to City owned signals, lighting, and communications.
- Variables are notated by (). The bubble on the plan sheet with the variable defined should not include the parenthesis.
- Instructions and notes for the designer are shown in the blue italics font within brackets [].
- Include sheet reference when calling out standard plans. Example: "SEE STD. PLANS T20-01 AND T20-02 ON SHEET D04".

ABBREVIATIONS

- # = NUMBER
X = NUMBER OF CABLES
PH = PHASE
T = TYPE
S = SIZE
G = AWG SIZE
PVC = POLYVINYLCHLORIDE, SCH. 80 PIPE
HDPE = HIGH DENSITY POLYETHYLENE PIPE
FLEX = POLYVINYLCHLORIDE FLEX CONDUIT
L = LENGTH
N = SIGN NAME, TYPE OR NUMBER
LAM = LUMINAIRE ARM MOUNT
MAM = MAST ARM MOUNT
FUT. = FUTURE
W = WATTAGE
CH = CHANNEL
SP = SPARE CONDUIT [Include on the top right corner of bubble.]
3 = 12"R-12"Y-12"G [Include the below descriptions on the leaderline.]
3L = 12"RLTA-12"YLTA-12"GLTA
3R = 12"RRTA-12"YRTA-12"GRTA
4L = 12"RLTA-12"YLTA-12"FYLTA-12"GLTA
5 = 12"R-12"Y-12"G-12"YRTA-12"GRTA
D = TYPE "D" TOP MOUNT FOR VEHICLE SIGNAL (SEE WSDOT STD. PLAN J-20.20) OR PEDESTRIAN SIGNAL (SEE WSDOT STD. PLAN J-20.16 AND J-75.10).
E = TYPE "E" SIDE MOUNT FOR PEDESTRIAN SIGNAL (SEE WSDOT STD. PLAN J-75.10)
L = TYPE "L" STD. PLUMBIZER ARM MOUNT (SEE WSDOT STD. PLAN J-75.20)
M = TYPE "M" ARM MOUNT FOR VEHICLE SIGNAL (SEE WSDOT STD. PLAN J-75.20)
AB = ADJUSTABLE BRACKET FOR VEHICLE SIGNAL. USE PELCO ASTRO-BRAC CLAMP KIT FOR PLUMBIZER, CABLE MOUNT AB-3053 OR APPROVED EQUAL. [If no tenon exists]
ABT = ADJUSTABLE BRACKET FOR VEHICLE SIGNAL. USE PELCO ASTRO-BRAC TENON MOUNT CLAMP KIT FOR PLUMBIZER. SEE STD. PLAN T20-12 [If tenon exists]
EX = RETAIN AND PROTECT EXISTING... [Verify salvage items with City staff. Include a construction note to specifically address any salvage items as applicable and the location for delivery and agency contact.]
RX = REMOVE EXISTING...
RR = REMOVE AND RELOCATE EXISTING...
RI = REINSTALL EXISTING...
AX = ABANDON EXISTING... [Allowed for conduit and foundations as approved by City staff.]

CONTROLLERS AND CABINETS

- C P INSTALL COV NEMA TYPE "P" CONTROLLER CABINET, FOUNDATION, AND Q-FREE XN-2 CONTROLLER WITH MAXTIME LOCAL SOFTWARE AND KINETIC SIGNALS CENTRAL SINGLE SITE LICENSE. SEE STD. PLANS T20-38BA, T20-38DA, T20-38EA, T20-42 SERIES, AND T20-44.
- C MSX INSTALL COV NEMA TYPE "MSX" CONTROLLER CABINET, FOUNDATION AND Q-FREE XN-2 CONTROLLER WITH MAXTIME LOCAL SOFTWARE AND KINETIC SIGNALS CENTRAL SINGLE SITE LICENSE. SEE STD. PLANS T20-38BB, T20-38DB, T20-38EB, T20-43 SERIES, AND T20-44.
- C HWK INSTALL COV NEMA TYPE "M" HAWK SIGNAL CABINET, FOUNDATION AND Q-FREE XN-2 CONTROLLER WITH MAXTIME LOCAL SOFTWARE AND KINETIC SIGNALS CENTRAL SINGLE SITE LICENSE. SEE STD. PLANS T20-38BB, T20-38DB, T20-38EB, T20-46 SERIES, AND T20-44.
- C CONTROLLER CABINET, SEE SIGNAL PLAN. [For use on a different plan sheet other than Signal Plan.]
- EX C RETAIN AND PROTECT EXISTING CONTROLLER CABINET.
- RX C REMOVE EXISTING CONTROLLER CABINET AND FOUNDATION. CONTACT CITY SIGNAL OPERATIONS, KEVAN BATTAN (360-771-6131) FOR REMOVAL OF SALVAGE EQUIPMENT TO INCLUDE: CONTROLLER, CONFLICT MONITOR, VIDEO EQUIPMENT, ETHERNET SWITCH...
- MMU INSTALL RENO A&E MMU2-1600GE CONFLICT MONITOR IN CONTROLLER CABINET. [Use with controller cabinet bubble note.]

JUNCTION BOXES

- JB T INSTALL TYPE (T) JUNCTION BOX. WILL REQUIRE A 12" CONCRETE APRON WHERE NOT INSTALLED IN SIDEWALK. SEE WSDOT STD. PLANS J-40.10 AND J-40.30 [Use for Type 1, 2, and 8]
- EX JB RETAIN AND PROTECT EXISTING JUNCTION BOX.
- EX JB(T) RETAIN AND PROTECT EXISTING TYPE (T) JUNCTION BOX. [Identify box type if project is to perform work in it.]
- RX JB REMOVE EXISTING JUNCTION BOX.
- JB SP JUNCTION BOX, SEE SIGNAL PLAN. [For use on Illumination or Interconnect Plan to refer to a box already called out on the Signal Plan.]
- JB IL JUNCTION BOX, SEE ILLUMINATION PLAN. [For use on Signal or Interconnect Plan to refer to a box already called out on the Illumination Plan.]
- JB IC JUNCTION BOX, SEE INTERCONNECT PLAN. [For use on Signal or Illumination Plan to refer to a box already called out on the Interconnect Plan.]

POLES

- # POLE NUMBER (#) SHOWN, SEE SIGNAL POLE SCHEDULE.
- EX T RETAIN AND PROTECT EXISTING TYPE I SIGNAL POLE.
- EX PPB RETAIN AND PROTECT EXISTING PEDESTRIAN PUSHBUTTON POLE.
- EX PSS RETAIN AND PROTECT EXISTING PEDESTRIAN SIGNAL POLE.
- EX TSS RETAIN AND PROTECT EXISTING TRAFFIC SIGNAL POLE.
- RX I REMOVE EXISTING TYPE I SIGNAL POLE AND FOUNDATION.
- RX PPB REMOVE EXISTING PEDESTRIAN PUSHBUTTON POLE AND FOUNDATION.
- RX PSS REMOVE EXISTING PEDESTRIAN SIGNAL POLE AND FOUNDATION.
- RX TSS REMOVE EXISTING TRAFFIC SIGNAL POLE AND REMOVE THE TOP 2 FT. OF FOUNDATION.
- TSS T INSTALL TRAFFIC SIGNAL POLE, TYPE (T) AND FOUNDATION SEE STD. PLANS T20-01 THROUGH T20-04, T20-15, T20-16, AND WSDOT STD. PLANS J-20.11, J-20.16, J-20.20, J-21.10, J-21.15, J-21.20, AND J-26.10. [Use for Type 1, 2, and 3 poles]
- MA L INSTALL (L) FT MAST ARM. SEE STD. PLAN T20-01.
- LA L INSTALL (L) FT. LUMINAIRE ARM. SEE STD. PLAN T20-02.
- PPB INSTALL PEDESTRIAN PUSH BUTTON SIGNAL POLE AND FOUNDATION, SEE STD. PLANS T20-05, T20-16, AND WSDOT STD. PLANS J-20.10 AND J-20.11.
- RX MA REMOVE EXISTING MAST ARM.
- RX LA REMOVE EXISTING LUMINAIRE ARM.

SIGNALS

- V (PH) INSTALL VEHICLE SIGNAL WITH 12" LED INDICATIONS FOR PHASE (PH). MOUNT TYPE AND CONFIGURATION AS INDICATED ON THE LEADER LINE. ASSEMBLIES SHALL INCLUDE HOUSING, DOORS, 5" BACKPLATE AND TUNNEL VISORS. TO BE ALUMINUM POWDER COATED FLAT BLACK WITH STAINLESS STEEL HARDWARE.
- EX T INSTALL VEHICLE SIGNAL ON EXISTING TENON.
- EX V(PH) RETAIN AND PROTECT EXISTING VEHICLE SIGNAL FOR PHASE (PH).
- T INCLUDE TENON ON MAST ARM FOR FUTURE. SHALL BE COVERED WITH UV RESISTANT CAP.
- PS (PH) T INSTALL LED COUNTDOWN PEDESTRIAN SIGNAL FOR PHASE (PH). SEE STD. PLAN T20-09D.
- RX PS (PH) REMOVE EXISTING PEDESTRIAN SIGNAL FOR PHASE (PH).
- RX PS REMOVE EXISTING PEDESTRIAN SIGNAL(S). [Phase distinction is not needed if all or both are to be removed.]
- RX V(PH) REMOVE EXISTING VEHICLE SIGNAL FOR PHASE (PH). [Phase distinction is only needed if some signals are not to be removed.]
- RX V REMOVE EXISTING VEHICLE SIGNAL.

CONDUITS

- S T INSTALL (S) INCH DIAMETER, (T) TYPE ELECTRICAL CONDUIT. LOCATION SHOWN AS APPROXIMATE ONLY. FINAL LOCATION TO BE DETERMINED IN FIELD AND SUBJECT TO THE APPROVAL OF CONSTRUCTION SERVICES PROJECT ENGINEER.
- HDD INSTALL CONDUIT BY HORIZONTAL DIRECTIONAL DRILLING. CHECK FOR ANY UNDERGROUND UTILITY CONFLICTS PRIOR TO DRILLING.
- CJ JOIN NEW CONDUIT TO EXISTING CONDUIT.
- EX FC S PROTECT EXISTING (S) INCH DIAMETER ELECTRICAL CONDUIT. [Identify size if work is to be performed in it.]
- AX FC ABANDON EXISTING CONDUIT. CONDUCTORS SHALL BE REMOVED.
- EX IC EXISTING INTERCONNECT CONDUIT. SEE INTERCONNECT/COMMUNICATIONS PLANS. [For use on Signal or Illumination Plan to refer to a conduit already called out on the Interconnect Plan.]
- IC INTERCONNECT CONDUIT. SEE INTERCONNECT/COMMUNICATIONS PLANS. [For use on Signal or Illumination Plan to refer to a conduit already called out on the Interconnect Plan.]
- EX IL EXISTING ILLUMINATION CONDUIT. SEE ILLUMINATION PLANS. [For use on Signal or Interconnect Plan to refer to a conduit already called out on the Illumination Plan.]
- IL ILLUMINATION CONDUIT. SEE ILLUMINATION PLANS. [For use on Signal or Interconnect Plan to refer to a conduit already called out on the Illumination Plan.]

WIRING

- # CONDUIT INCLUDES ADDITIONAL CONDUCTORS FOR FUTURE USE. [Include construction note to indicate additional unused conductors are included in the conduit.]
- EX W PROTECT EXISTING WIRING.
- RX W REMOVE EXISTING WIRING. [Include construction note to specify what is to be removed.]
- M G G INSTALL (X) CONTROL CABLES WITH (#) CONDUCTOR AWG. (G). [Ea. button requires 2 conductor. Ea. vehicle and pedestrian phase requires 5 conductor.]
- # G G INSTALL (#) AWG. (G) STRANDED COPPER CONDUCTORS (GROUNDING).
- # G G INSTALL (#) AWG. (G) STRANDED COPPER CONDUCTORS.
- # T G G INSTALL (#) LOCATE TONE WIRE. SHALL BE AWG. 12 OR 14 STRANDED COPPER WITH ORANGE OR YELLOW INSULATION. SHALL BE ELECTRICALLY CONTINUOUS THROUGH EACH JUNCTION BOX. ANY SPLICES TO BE MADE WITH GEL-FILLED WATER RESISTANT WIRE NUTS. [Conduits with no other conductors (i.e. empty or fiber optic) require a locate wire.]
- # CAT6 G G INSTALL (#) OF CAT6 CABLES.

FLIR DETECTION NOTES

- CAM FLIR INSTALL FLIR TRAFISENSE AI SENSOR WITH SUNSHIELD, PELCO MOUNTING POLE, AND HARDWARE PER STD. PLAN T20-37B. MOUNTING LOCATION SHALL BE APPROVED PRIOR TO INSTALLATION IN COORDINATION WITH THE FLIR VENDOR.
- BPL3 INSTALL FLIR T1 BPL3 BIU/SIU EDGE CARD MODULE, 15 PIN TO 15 PIN SDLC CABLE, AND 2-SLOT CARD RACK WITH 48V POWER SUPPLY, CT PART #2025-122. CONTRACTOR RESPONSIBLE TO SCHEDULE VENDOR AND CITY SIGNAL OPERATIONS (KEVAN BATTAN, 360-771-6131) FOR CABINET CONFIGURATION.
- 7B SDLC PROVIDE 2070-7B "SDLC INTERFACE" CARD. CITY SIGNAL OPERATIONS TECHNICIANS TO INSTALL IN EXISTING CONTROLLER. [If existing controller is 2070. Contact City Signal staff to determine.]

LOOP DETECTION [No new loop detection to be installed]

- EX LD RETAIN AND PROTECT EXISTING LOOP DETECTION.
- AX LD ABANDON EXISTING LOOP DETECTION.
- EX DLC RETAIN AND PROTECT EXISTING DETECTOR LOOP FEEDER CABLES.
- AX SO ABANDON EXISTING STUB-OUT CONDUIT.
- EX LW RETAIN AND PROTECT EXISTING LOOP WIRES.

OPTICOM GTT EV PREEMPTION

- PE CH INSTALL CHANNEL (CH) EMERGENCY VEHICLE PREEMPTION DETECTOR UNIT. SEE STD. PLAN T20-11A.
- PEF CH INSTALL CHANNEL (CH) EMERGENCY VEHICLE PREEMPTION FEEDER CABLE.
- RX PE REMOVE EXISTING PREEMPTION DETECTOR UNIT AND PLUG HOLE WITH THREADED PIPE AND CAP, OR THREADED PLUG.

OPTICOM GTT GPS FOR TSP

- PE GPS INSTALL OPTICOM MODEL 3100 GPS RADIO ANTENNA UNIT WITH NECESSARY ADDITIONAL EQUIPMENT IN CABINET. SEE STD. PLAN T20-11B. [Designer needs to verify if 768 AIP panel and sense wire harness are needed per the existing cabinet.]
- PE OC INSTALL OPTICOM 1070 5-PAIR GPS CABLE.

CAMERA - MISC.

- PTZ INSTALL PTZ VIDEO MONITORING CAMERA AND MOUNT. TO BE AXIS Q6075E WITH 256MB SD ON-BOARD MEMORY. MOUNT TO BE 8 FT 2-SECTION CANDY CANE STYLE. SEE STD. PLAN T20-37F. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SYSTEM IS OPERATIONAL PRIOR TO THE SIGNAL TURN ON. THIS INCLUDES COORDINATING WITH VENDOR AND CITY SIGNAL OPERATIONS STAFF (KEVAN BATTAN, 360-771-6131) TO VERIFY INSTALLATION AND CONFIGURATION IN CABINET IS OPERATIONAL. [Use CAT6]
- EX CAM RETAIN AND PROTECT EXISTING CAMERA.
- RX CAM REMOVE EXISTING CAMERA. [Verify salvage items with City staff. Include a construction note to specifically address any salvage items as applicable and the location for delivery and agency contact.]
- RX COAX REMOVE EXISTING UNUSED COAX CABLE.

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SERVICE AND POWER CONNECTION

- CONNECT TO POWER SOURCE. COORDINATE SERVICE CONNECTION WITH CLARK PUBLIC UTILITIES.
[Usually we would add the contact information once the permit process has been started.]
- COIL WIRE AT BASE OF POLE.
- COIL 10’ OF 350 AL–TX AT BASE OF TRANSFORMER #_____.
- INSTALL SIZE (S)” HDPE RISER WITH WEATHER CAP.
- INSTALL UED6 SECONDARY PEDESTAL ASSEMBLY. COORDINATE WITH CLARK PUBLIC UTILITIES FOR FINAL PLACEMENT LOCATION.
- INSTALL SERVICE CABINET AND FOUNDATION. SEE STD. PLANS T20–39A, T20–39B, T20–39C, AND T20–41. IF FOUNDATION COMBINED WITH CONTROLLER, SEE STD. PLANS T20–38EA AND T20–38EB. SERVICE CABINET SHOULD BE INSTALLED ON THE LEFT SIDE OF THE CONTROLLER CABINET SUCH THAT FRONT DOORS OPEN AWAY FROM EACH OTHER.
- RETAIN AND PROTECT EXISTING SERVICE CABINET.
- REMOVE EXISTING SERVICE CABINET AND FOUNDATION.
- INSTALL AND SET CPU–APPROVED METER.

PUSH BUTTONS

- INSTALL ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTON STATION FOR PHASE (PH). SHALL BE POLARA 2–WIRE, EQUIPPED WITH LOCATOR TONE, TACTILE ARROW, AUDIO MESSAGES, AND TOUCHLESS CAPABILITY. HEIGHT FROM FLAT LANDING TO CENTER OF TACTILE ARROW SHALL BE A MIN. OF 42” AND MAX. OF 48”. SEE STD. PLANS T20–09B, T20–09E, T20–10A, T20–47 AND WSDOT STD. PLAN J–20.26. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH CITY CONSTRUCTION SERVICES PROJECT ENGINEER IN DETERMINING IF EXTENSION ARMS ARE REQUIRED AND IF SO WHAT SIZE.
- INSTALL PUSHBUTTON EXTENSION, LENGTH (L). SEE STD. PLAN T20–09E. IT IS THE CONTRACTOR’S RESPONSIBILITY TO COORDINATE WITH THE CITY PROJECT ENGINEER TO DETERMINE IF EXTENSION ARM IS NECESSARY AND WHAT SIZE. FIELD VERIFY LENGTH PRIOR TO ORDERING. BUTTONS WITH REACH UNDER 10 INCHES MAY NOT REQUIRE EXTENSION ARMS. THE MAX. PROTRUSION FROM CANE–ABLE GROUND SURFACE IS 4 INCHES.
- INSTALL PEDESTRIAN PUSHBUTTON FOR PHASE (PH) ON ”H” MOUNT WITH INSTRUCTION SIGNS. BUTTON SHALL BE REES STYLE POLARA BULLDOG. HEIGHT FROM FLAT LANDING TO CENTER OF BUTTON SHALL BE A MIN. OF 42” AND MAX. OF 48”.
[Only allowed in special cases.]
- INSTALL POLARA APS NAVIGATOR CCU, TERMINATION PANEL, AND SENSE WIRE HARNESS. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH VENDOR TO CONFIGURE SYSTEM AND HAVE OPERATIONAL PRIOR TO SIGNAL INSPECTION AND TURN–ON.
[Include with controller cabinet bubble.]
- INSTALL POLARA ADAPTOR FOR MOUNTING TWO APS BUTTON STATIONS ON ONE 4” DIA. POLE OR APPROVED EQUAL.
- REMOVE EXISTING PHASE PEDESTRIAN PUSHBUTTON(S).
[Phase distinction is not needed if all or both are to be removed.]
- REMOVE EXISTING PEDESTRIAN PUSHBUTTON FOR PHASE (PH).
- INSTALL BICYCLE PUSHBUTTON AND INSTRUCTION SIGN FOR PHASE (PH).
[Specific button to be determined by City. Include sign detail.]

COMMUNICATIONS AND INTERCONNECT

- PROVIDE AND INSTALL WIRELESS RADIO WITH INTEGRATED ANTENNA FACING GRID AZIMUTH (AZ). INCLUDE P.O.E. ADAPTOR AND CAT6 CABLE BETWEEN THE CABINET AND RADIO. RADIO SHALL BE THE ENCOM MODEL E–LITE–450. CONTRACTOR TO DELIVER RADIO TO CITY OPERATIONS FOR PROGRAMMING PRIOR TO INSTALLATION.
[Use CAT5E/CAT6]
- PROVIDE AND INSTALL COMMUNICATIONS EQUIPMENT PER SCHEDULE.
[Use for calling out equipment to be installed in cabinet, e.g. Ethernet switch, FDU, etc.]
- PROVIDE AND INSTALL WSDOT 334 ITS CABINET, RISER, AND FOUNDATION. REFER TO STD. PLAN T22–02A AND WSDOT STD. PLAN J–12.15.
- RETAIN AND PROTECT EXISTING COMMUNICATIONS CABINET.
- RETAIN AND PROTECT EXISTING FIBER OPTIC SPLICE VAULT.
- RETAIN AND PROTECT EXISTING FIBER OPTIC TERMINATION CABINET AND FOUNDATION.
- INSTALL FIBER OPTIC CABLE WITH (N) SINGLE MODE FIBERS.
- RETAIN AND PROTECT EXISTING CABLE WITH (N) SINGLE MODE FIBERS.
- REMOVE EXISTING CABLE WITH (N) SINGLE MODE FIBERS (X=JURISDICTION).
[Jurisdiction is only needed in specific situations.]

RECTANGULAR RAPID FLASHING BEACON

- INSTALL AC POWERED RECTANGULAR RAPID FLASHING BEACON DOUBLE SIDED COMPLETE ASSEMBLY. SEE STD. PLANS T23–02A AND T23–02B.
- INSTALL (X) CONTROL CABLES WITH (#) CONDUCTOR AWG. (G).
[Use 4/C #18 for two back to back light bars.]
- INSTALL RRFB CONTROL UNIT, AC POWERED.
[Install on pole nearest to service.]
- INSTALL AUDIBLE PEDESTRIAN PUSH BUTTON STATION FOR RRFB SYSTEM. USE POLARA IDX WITH TOUCHLESS ACTUATION. TACTILE ARROW SHALL POINT TOWARD CROSSING.
- INSTALL SERVICE/CONTACTOR CABINET AND FOUNDATION FOR RRFB. INTERNAL PHOTOCELL SHOULD BE USED. INCLUDE TWO 15A BREAKERS FOR RRFB CIRCUITS. SEE STD. PLAN T23–02C.
[There are a number of Polara and Pelco details that are included with all rrfb detail sheets;
 - AP–1095–GLV anchor bolt cage, 13” bolt circle. (Pelco).*
 - PB–5334 (PB–5334–NL–1S–GL–PNC) base assembly (Pelco).*
 - PB–5102 (PB–5201–L–PXX) pole, 4” 8 NPT toe SCH 80, spun alum. (Pelco).]*
- NEW SIGN ASSEMBLY (SIGN TYPE) MOUNTED ON PROPOSED RRFB POLE, SEE LEGEND. SEE WSDOT STD. PLAN G–30.10 FOR SIGN MOUNTING.
[Signs mounted as part of a RRFB system should be installed by the electrical contractor. Include sign legend and associated sign standard plans on the RRFB plans.]

SIGNS *[Include sign legend and necessary details for overhead mounted signs.]*

- INSTALL OVERHEAD SIGN (#) ON MAST ARM. SEE STD. PLAN T20–08 AND/OR WSDOT STD. PLAN G–30.10.
- INSTALL STREET NAME SIGN (N) ON MAST ARM. SEE STD. PLAN T20–07
SIGN LEGEND AS FOLLOWS:
1 = MAJOR STREET NAME
2 = MINOR STREET NAME
- REMOVE EXISTING OVERHEAD SIGN.
- REMOVE EXISTING STREET NAME SIGN.

MISC. CALLOUT BUBBLES

- PROTECT EXISTING POWER POLE.
- PROPOSED UTILITY POLE. TO BE INSTALLED BY OTHERS.
- PROTECT EXISTING TELEPHONE MANHOLE/VAULT.
- PROTECT EXISTING TELEPHONE/FIBER CONDUIT.

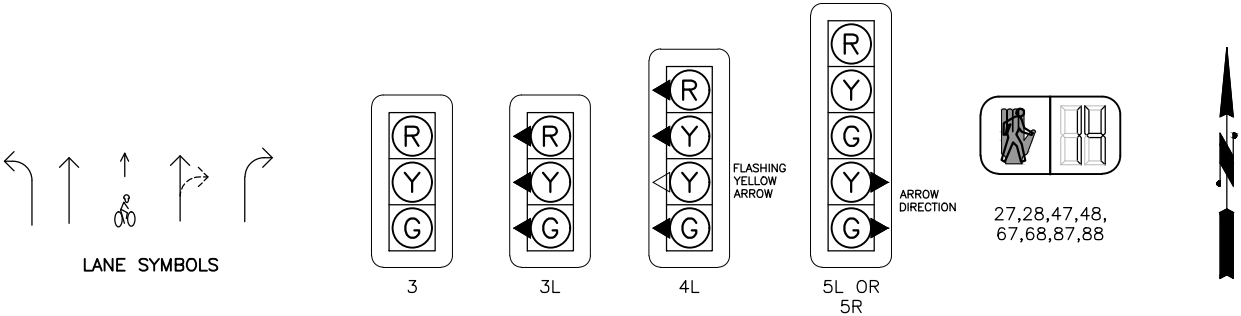
STREET LIGHTING

- ILLUMINATION POLE STANDARD. SEE POLE SCHEDULE.
- RETAIN AND PROTECT EXISTING LUMINAIRE ARM.
- EXISTING PHOTO CELL.
- REMOVE EXISTING LUMINAIRE ARM.
- REMOVE AND RELOCATE EXISTING LUMINAIRE ARM TO NEW POWER POLE.
- INSTALL LIGHT POLE STANDARD TYPE (T). SEE STD. PLANS T21–02, T21–04, T21–06 TO T21–13, T21–16, AND WSDOT STD. PLAN J–28.30.
- PROTECT AND RETAIN EXISTING STREET LIGHT TYPE (T).
[It may not be necessary to identify the Type.]
- INSTALL (W) WATT LED STREET LIGHT. FIXTURES SHALL BE PER_____
*[The specific fixture(s) to be used must be specified in a table or construction note. In general the fixtures are as follows:
Neighborhoods/local = Leotek 19W (100W HPS equiv.), Part # GCJ0–15H–MV–WW–2R–GY–390–BBL–PCR7–WL
Arterials/Collectors = Leotek 82W (200HPS equiv.), Part # GCM2–30H–MV–WW–2R–GY–850–BBL–PCR7–WL
Signals/crosswalks = Leotek 149W (400W HPS equiv.), Part# GCL2–60G–MV–NW–2S–GY–750–BBL–PCR7–WL
Specify to include SC shorting cap if to be controlled by single photocell
City Materials List includes other manufacturer options.]*
- REMOVE EXISTING LED FIXTURE AND RETURN TO CITY OPERATIONS CENTER. COORDINATE WITH KEVAN BATTAN (360)771–6131. PROTECT STREET LIGHT POLE AND WIRING.
- INSTALL PHOTO ELECTRIC CONTROL RELAY (RIPLEY 6390LL–BK) WITH TWISTLOCK RECEPTICLE (INTERMATIC K122) ON NORTH SIDE OF POLE. USE 3/4” CONDUIT LB GALV. STEEL WITH MIN. 1” CLEARANCE TO POLE. INSTALL 18’ TO 30’ FROM GROUND.
- REMOVE EXISTING HPS STREET LIGHT FIXTURE.
- STREET LIGHT POLE. SEE ILLUMINATION PLANS.
[For use on Signal or Interconnect Plan to refer to a pole already called out on the Illumination Plan.]
- INSTALL (N) PAIR #14 CONDUCTORS FOR FUTURE STREET LIGHT DIMMING/BRIGHTENING CIRCUIT. EACH PAIR TO INCLUDE PURPLE AND GRAY CONDUCTOR.
[1 pair to each fixture. Include with conduit bubble.]
- INSTALL THREE (3) #14 CONDUCTORS FOR PHOTOCELL CONTROL. SHALL INCLUDE BLACK, WHITE AND RED CONDUCTORS.
[Include with conduit bubble between service and photocell.]
- [The following Construction Notes are related to the dimming/brightening circuit and traffic signal.]*
- STREET LIGHT DIMMING CIRCUIT PAIRS TO BE LEFT UN–TERMINATED IN CONTROLLER CABINET BASE. PROVIDE MINIMUM 6–FEET OF SLACK.
[Include with cabinet bubble.]
- STREET LIGHT DIMMING CIRCUIT CONDUCTORS TO BE SPLICED INTO PURPLE AND GRAY CONDUCTORS CONNECTED TO ONE OF THE DRIVERS IN THE FIXTURE. CONDUCTORS TO BE ZIP TIED TO MOUNTING CLAMP INSIDE FIXTURE FOR STRAIN RELIEF.
[Include with fixture bubble.]
- [The following Construction Notes are related to the dimming/brightening circuit and RRFB.]*
- STREET LIGHT DIMMING CIRCUIT PAIRS TO BE LEFT UN–TERMINATED IN RRFB CONTROLLER CABINET. PROVIDE MINIMUM 2–FEET OF SLACK.
[Include with cabinet bubble.]
- STREET LIGHT DIMMING CIRCUIT CONDUCTORS TO BE SPLICED INTO PURPLE AND GRAY CONDUCTORS CONNECTOR TO ONE OF THE DRIVERS IN THE FIXTURE. CONDUCTORS TO BE ZIP TIED TO MOUNTING CLAMP INSIDE FIXTURE FOR STRAIN RELIEF.
[Include with fixture bubble.]
- COUNT INCLUDES ADDITIONAL PAIR FOR CONTACT CLOSURE BETWEEN RRFB CONTROLLERS AND DIMMING CIRCUIT.
[Include with conduit bubble.]

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TRAFFIC SIGNAL AND LIGHTING POLE SCHEDULE																																	
STATIONING AND OFFSET ALONG SE 1ST ST.	POLE TYPE	POLE #	DIMENSIONS (FT.) (Z)												WIND LOAD AREA (FT ²) (X)(Y)										(X)(Y)(Z) TOTAL (FT ³)	FOUNDATION DEPTH (FT.)			TOP OF FOUNDATION ELEVATION	COMMENTS			
			A SIG	B SIGN	C SIG	D SIG	E SIG	F SNS	G SIG	H HT	J LUM ARM	K LUM HT	L PE	PE GPS	PTZ	RDO	FLIR	A	B	C	D	E	F	G		K	3' RD.	4' RD.					
20+49.87, 31.58' RT.	II	1	36	—	26	14	—	11	—	20	30	15	19	—	—	—	31	11.6*	—	9.2	9.2	—	14.5	—	—	895	6	6	296.26	FOUNDATION DEPTH BASED ON 2500 PSF ALLOWABLE BEARING PRESSURE.(1)			
20+40.90, 34.91' RT.	PS	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	296.21	SEE STD. PLAN T20-16 ON SHEET D06			
19+43.75, 30.20' RT.	III	3	53	—	42	30	—	18	—	20	30	15	37	—	—	—	47	11.6*	—	9.2	9.2	—	9	—	—	1,547	9	7	296.68	FOUNDATION DEPTH BASED ON 2500 PSF ALLOWABLE BEARING PRESSURE.(1)			
19+52.74, 35.28' RT.	PPB	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	296.29	SEE STD. PLAN T20-16 ON SHEET D06			
19+57.80, 42.18' RT.	PPB	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	296.16	SEE STD. PLAN T20-16 ON SHEET D06			
19+46.72, 32.31' LT.	III	6	30	—	24	13	—	11	—	20	30	15	21	—	16	—	27	11.6*	—	9.2	9.2	—	14.5	—	—	787	7	6	297.06	FOUNDATION DEPTH BASED ON 2500 PSF ALLOWABLE BEARING PRESSURE.(1)			
19+57.77, 40.83' LT.	PPB	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	296.42	SEE STD. PLAN T20-16 ON SHEET D06			
19+65.50, 38.37' LT.	PS	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	296.30	SEE STD. PLAN T20-16 ON SHEET D06			
20+48.57, 27.39' LT.	III	9	50	—	43	32	—	10	19	20	30	15	26	13	—	12	46	11.6*	—	9.2	9.2	—	14.5	14.1**	—	1,860	9	7	296.14	FOUNDATION DEPTH BASED ON 2500 PSF ALLOWABLE BEARING PRESSURE.(1)			
20+33.00, 37.81' LT.	PPB	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	296.65	SEE STD. PLAN T20-16 ON SHEET D06			
20+36.80, 40.23' LT.	PS	11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	296.71	SEE STD. PLAN T20-16 ON SHEET D06			

* FUTURE 4 SECTION FLASHING YELLOW SIGNAL HEAD.
** FUTURE 5 SECTION RIGHT TURN SIGNAL HEAD.
*** R3-5R RIGHT TURN ONLY SIGN 30"x36".
(1) ALLOWABLE BEARING PRESSURE IS ASSUMED. CONTRACTOR TO FIELD VERIFY. SEE COV STD. PLAN T20-15 AND WSDOT STD. PLAN J-26.10.

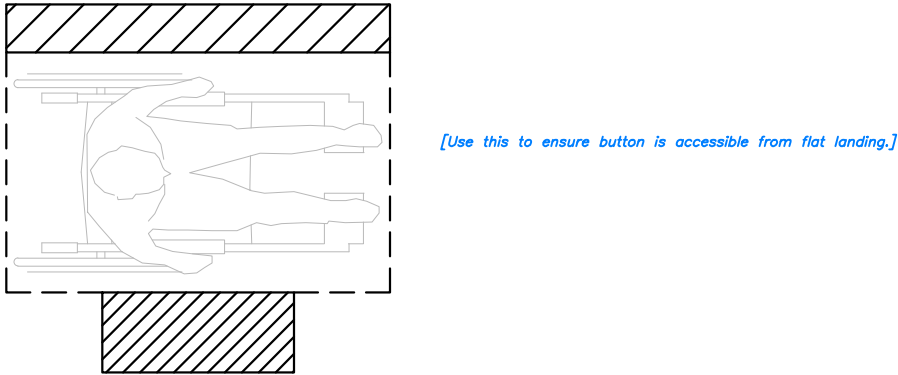
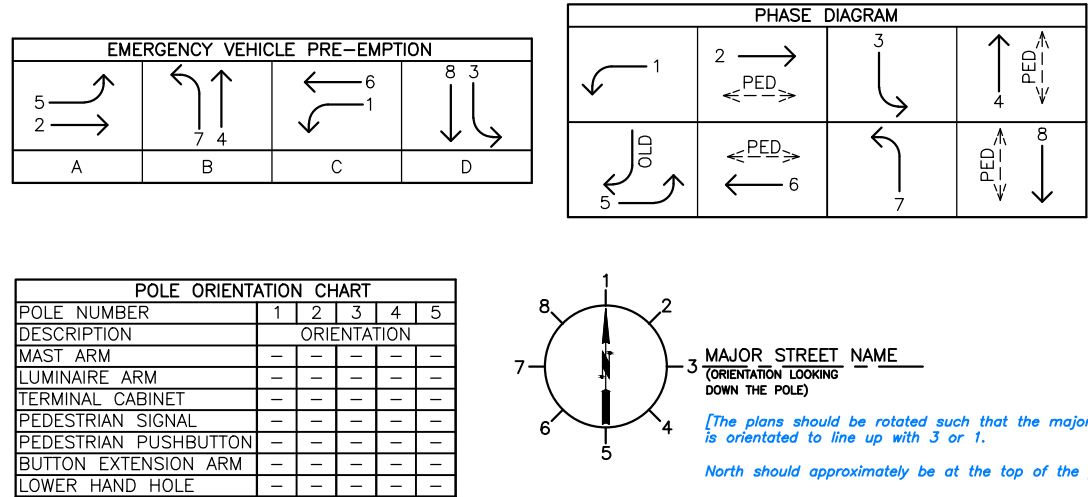


SE 1/4 SEC. 24, T2N, R1E, W.M.

[Quarter section(s), Township and Range to be put on each design sheet (not detail sheets).]

ID #60

[Signal ID # shall be assigned prior to design and located at the lower right corner just outside of the sheet count area.]



CONSTRUCTION NOTES [Include note only when applicable.]

ITEMS LISTED TO BE SALVAGED SHALL BE DELIVERED TO THE CITY OPERATIONS, CONTACT KEVAN BATTAN 360-772-6131 48 HOURS IN ADVANCED TO COORDINATE DELIVERY TIME AND SPECIFIC LOCATION.

PRIOR TO EXCAVATION FOR ANY OF THE SIGNAL POLES, POTHOLE AREA FOR ANY UNDERGROUND UTILITY CONFLICTS. SOME MAY BE DIRECT BURY.

CONTRACTOR IS RESPONSIBLE TO COORDINATE ANY SIGNAL SHUT DOWN OR SIGNAL EQUIPMENT REMOVAL WITH THE CITY CONSTRUCTION SERVICES PROJECT MANAGER AND KEVAN BATTAN OF CITY SIGNAL OPERATIONS (360)772-6131.

ALL UNUSED HOLES IN SIGNAL AND LIGHTING STANDARDS SHALL BE PLUGGED PER APPROVED METHODS. USE STAINLESS STEEL THREADED PLUGS AND/OR 3-PIECE KNOCKOUT SEALS. SMOOTH-HEADED BOLTS SHALL BE USED AT LOCATIONS ADJACENT TO PEDESTRIAN PATHWAYS.

CONTRACTOR IS RESPONSIBLE TO INSTALL AND MAINTAIN APPROPRIATE SIZED CONDUIT PLUGS IN ALL CONDUITS ENDS IN JUNCTION BOXES WITH WORK. CONTRACTOR RESPONSIBLE TO PROTECT EXISTING CONDUITS FROM DEBRIS DURING CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE TO INSTALL A POLYESTER PULL LINE/MULETAPE WITH MIN. 1,250 LB. PULL STRENGTH IN NEW CONDUITS AND EXISTING CONDUITS WITH WORK BEING PERFORMED.

ALL CONDUITS WITH NO COPPER CONDUCTORS SHALL HAVE TONE WIRE PER SPECS. THIS INCLUDES NEW CONDUITS AND EXISTING CONDUITS WITH WORK BEING PERFORMED. TONE WIRE TO BE ELECTRICALLY CONTINUOUS THROUGH JUNCTION BOXES. ANY SPLICES IN TONE WIRE TO BE MADE USING WATER-RESISTANT WIRE NUTS.

SIDEWALK PANELS REMOVED OR DISTURBED FOR JUNCTION BOX REMOVAL, REPLACEMENT, OR INSTALLATION SHALL BE REPLACED IN THEIR ENTIRETY. NO PARTIAL REPLACEMENT IS ALLOWED.

THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING JUNCTION BOXES WITH A CURRENT STD. BOX OF EQUIVALENT SIZE, IF DESIRABLE FOR EASE OF CONDUIT INSTALLATION.

THE CONTRACTOR HAS THE OPTION TO CAPTURE AND REUSE THE EXISTING STUB-OUT CONDUIT. EXTEND USING NEW CONDUIT OF EXISTING TYPE.

CAUTION SHOULD BE TAKEN WHEN SIDEWALK AND CURB ARE REMOVED AND REPLACED TO PROTECT LOOP DETECTION STUB-OUT CONDUIT.

EXISTING LOOP WIRES SHALL BE CUT IN THE JUNCTION BOX PRIOR TO PAVEMENT REMOVAL/GRIND SO AS TO AVOID DAMAGE TO THE OTHER CABLES IN THE JUNCTION BOX.

ALL CONDUCTORS SHALL BE RE-LABELLED AT THE POLE AND AT THE CABINET TO REFLECT THE CURRENT PHASING.

PUSHBUTTON MOUNTING EXTENSION ARMS MAY BE REQUIRED FOR EACH BUTTON STATION. SEE STD. PLAN T20-09E. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE CITY CONSTRUCTION SERVICES PROJECT ENGINEER TO DETERMINE IF ANY EXTENSION ARMS ARE NECESSARY AND THE SIZE. BUTTONS WITH REACH UNDER 10 INCHES MAY NOT REQUIRE EXTENSION ARMS. THE MAX. PROTRUSION FROM A CANE-ABLE GROUND SURFACE IS 4 INCHES.

ALL UNUSED TENONS SHALL BE CAPPED WITH UV RESISTANT CAP.

CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE VENDOR IN SCHEDULING FOR INSTALLATION, CONFIGURATION, AND PROGRAMMING APS PUSHBUTTON SYSTEM, FLIR THERMAL DETECTION SYSTEM, AND PTZ CAMERA SYSTEM PRIOR TO SIGNAL INSPECTION AND SIGNAL TURN ON. COORDINATE WITH THE VENDORS A MINIMUM 10 WORKING DAYS IN ADVANCE.

THE SPECIFIC FOUNDATION USED FOR TYPE 1 AND TYPE PPB POLES IS CONTINGENT ON THE PROXIMITY TO THE FACE OF THE CURB.