

REVISIONS		
REV. NO.	DESCRIPTION	DATE
△	REVISED NOTE	03/03/2025

GENERAL CONSTRUCTION NOTES

- (C-150) SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE CITY OF BROKEN ARROW COMMUNITY DEVELOPMENT ENGINEERING SECTION SUPERVISOR AT 918-259-2400 EXT. 5452.
- (C-151) THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC.
- (C-152) ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
- (C-155) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES. THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:
 OKIE NOTIFICATION CENTER AT 811 OR 1 (800) 522 6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

PAY QUANTITY NOTES

- (TC-25) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE, AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THE PROJECT.

 ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE "A" LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.
- (TC-39) THE CONTRACTOR SHALL PROVIDE A PERSON, 24 HOURS A DAY, SEVEN DAYS A WEEK, AT THE CONSTRUCTION SITE TO MAINTAIN AND KEEP ALL TRAFFIC CONTROL DEVICES IN POSITION ANYTIME TRAFFIC IS DIRECTED AWAY FROM THE NORMAL TRAFFIC LANES OR ANYTIME THE ENGINEER DEEMS IT NECESSARY. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OTEA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.
- (TS-24) QUANTITY SHOWN INCLUDES 1410 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 1745 L.F. TRAFFIC STRIPE(MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.
- (TS-26) QUANTITY SHOWN INCLUDES 0 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 111 L.F. TRAFFIC STRIPE(MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.
- (TS-28) QUANTITY SHOWN INCLUDES 529 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.
- (TS-32) THE AMOUNT SHOWN IS AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING (TRAFFIC STRIPE) REMOVAL SHALL INCLUDE COST OF REMOVAL OF ARROWS, WORDS, AND SYMBOLS. THE PAVEMENT MARKING TO BE REMOVED SHALL BE CONSIDERED THERMOPLASTIC AND BID ACCORDINGLY.

 DURING REMOVAL OF EXISTING STRIPING AND REPLACEMENT WITH NEW STRIPING, PERMANENT STRIPING SHALL BE REPLACED WITHIN 48 HOURS AFTER OLD STRIPING IS REMOVED.
- (TL-39) FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE CONTACT THE FOLLOWING PRIOR TO INSTALLATION:
 UTILITY COMPANY.....AEP/PSO.
 CITY OF BROKEN ARROW.....GARY HARRIS AT (918) 259 7000 EXT. 7384
- (TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- (I) THE CONTROLLER(S) TO BE FURNISHED ON THIS PROJECT SHALL HAVE A NATURAL ALUMINUM FINISH AND HAVE VEHICLE ACTUATED SOLID STATE DIGITAL CONTROLLER(S) WITH VOLUME DENSITY FEATURES. THE CONTRACTOR SHALL FURNISH THE CONTROLLER(S) AND MOUNTING FRAMES AS FOLLOWS:

INTERSECTION	TYPE	CONFLICT & USER FLASH
E 121ST S (TUCSON ST) & S 3RD ST	8P	ALL RED

A COMPLETE 8-PHASE CONTROLLER AND CABINET IS TO BE FURNISHED FOR THIS PROJECT.

THE CONTROLLER WITH 2P - 4P CAPABILITY SHALL BE FURNISHED WITH 8 LOAD RECEPTACLE BAYS, CONTROLLER(S) WITH 5P - 8P CAPABILITY SHALL BE FURNISHED WITH 16 LOAD SWITCH RECEPTACLE BAYS. ALL CORRESPONDING RECEPTACLE WIRING IN THE CABINET AND FIELD WIRING SHALL BE INSTALLED FOR THE CONTROLLER AS REQUIRED EXCEPT FOR ADDITIONAL DETECTOR CONNECTING CABLES WHEN THE CONTROLLER IS EXPANDED. THE CONTROLLER(S) SHALL BE CAPABLE OF PERFORMING AS SHOWN ON PHASE & SEQUENCE DIAGRAMS, PEDESTRIAN ISOLATION SHALL BE PROVIDED IN THE CONTROLLER CABINET. ALL N.E.M.A. FUNCTIONS SHALL TERMINATE IN THE CONTROLLER CABINET. RIGHT TURN OVERLAPS, IF ANY, ARE TO BE HARDWIRED TO THE COMPATIBLE LEFT TURN PHASE.

CABINET SHALL HAVE A 120V RECEPTACLE INSTALLED INSIDE OF THE CABINET IN ADDITION TO OR IN LIEU OF A RECEPTACLE INSTALLED ON THE DOOR. ALSO, ALL CABINETS THAT ARE TO BE INSTALLED IN A SIGNAL INTERCONNECT SYSTEM SHALL HAVE A PULL- OUT COMPUTER SHELF AND DRAWER INSTALLED FOR LAPTOP USE AT THE CONTROLLER CABINET.

THE CONTROLLER TO BE USED ON THIS PROJECT SHALL BE A SAFETRAN ECONOLITE COBALT RACK MOUNT

CONTROLLER TO BE COMPATIBLE WITH THE SYSTEM CURRENTLY IN USE BY THE CITY. THE LOCAL CONTROLLER SOFTWARE SHALL MEET THE CITY OF BROKEN ARROW SPECIFICATIONS.

CABINET SHALL BE FURNISHED COMPLETE WITH ALL INTERNAL COMPONENTS NECESSARY TO PROVIDE FOR THE INSTALLATION OF ALL FIELD EQUIPMENT. ALL COMPONENTS OR FEATURES NOT SPECIFICALLY MENTIONED WHICH ARE REQUIRED FOR A FULLY FUNCTIONAL 8-PHASE CABINET SHALL BE INCLUDED.

THE CABINET SHALL HAVE THE FOLLOWING FEATURES AND EQUIPMENT. ALL ITEMS FURNISHED SHALL MEET THE CITY STANDARD CABINET SPECIFICATIONS DESIGNED FOR CONTROLLING IN FULL COMPLIANCE WITH THE 2009 CALTRANS TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATIONS (TEES):

TYPE ECONOLITE 332D CABINET MEETING THE CITY OF BROKEN ARROW SPECIFICATIONS. WITH ONE EMPTY RACK CONTAINING THREE ADJUSTABLE SHELVES.

CABINET TO BE WIRED AND CONFIGURED FOR AN EDI 2010 CONFLICT MONITOR, 2070E CONTROLLER, VIDEO DETECTION, AND OPTICOM.

16 LOAD BAYS.
 12 CHANNEL MONITOR.
 8 PHASES WITH 4 PEDESTRIAN MOVEMENTS AND 4 OVERLAPS.
 THERMOSTATICALLY CONTROLLED VENTILATION WITH PLEATED FILTER.
 CABINET EXTERIOR TO BE ANODIZED ALUMINUM, INTERIOR TO BE POWDER COATED WHITE.
 CABINET LIGHTS AND DOOR SWITCHES.
 DOUBLE DOORS FRONT AND BACK WITH THREE POINT POSITIVE LOCK SYSTEM, KEYED TO CORBIN #2.
 POLICE PANEL WITH ON/OFF AND AUTO/FLASH SWITCH AND MANUAL CONTROL OPERATION.
 EDI 2010 CONFLICT MONITOR WITH EXTENDED FEATURES OR APPROVED EQUAL.
 16 LOAD SWITCHES.
 6 FLASH TRANSFER RELAYS.
 4 PEDESTRIAN ISOLATORS MODEL 242.
 AUXILIARY OUTPUT FILES FOR AT LEAST 4 OVERLAPS.
 PREFORMED ALUMINUM ADAPTOR BASE OR BASES FOR MOUNTING THE BOTTOM OF THE CABINET 16" ABOVE THE FOUNDATION FLOOR.
 PDA-2 POWER SUPPLY.
 DUPLEX OUTLET WITH GFI PROTECTION,
 PULL-OUT DRAWER/SHELF.

INNOVATIVE TECHNOLOGIES HS-P SP-120-30A-RJ AC SUPPRESSOR OR APPROVED EQUAL. THIS UNIT TO CARRY THE FULL INTERSECTION LOAD. IT SHALL HAVE A 30 AMP CIRCUIT BREAKER BETWEEN THE HS-P SP-120-30A AND THE PUBLIC UTILITY SERVICE TO PROVIDE THE ABILITY TO DISCONNECT THE CONTROL CABINET FROM THE POWER SOURCE. IT SHOULD BE MOUNTED NEAR THE HS-P SP-120 FOR EASY ACCESS.

THE CABINET SHALL COME PREPARED FOR OPTICOM USING A 764 CARD. IT SHALL INCLUDE AT LEAST TWO RAILROAD PREEMPTION INPUTS AND 4 EMERGENCY VEHICLE PREEMPTION INPUTS.

A TERMINAL STRIP FOR DETECTOR CONNECTIONS TO THE OPTICOM 722 DETECTORS.

THE CABINET SHALL PROVIDE FOR THE USE OF VIDEO DETECTION AND SHALL COME WITH A VIDEO FILTER/POWER PANEL FOR VIDEO DETECTION. THE VIDEO FILTERS SHALL BE EDICO VIDEO FILTER CX06-BNCY OR CX06-M OR APPROVED EQUAL. INDIVIDUAL FUSE PROTECTION SHALL BE PROVIDED FOR EACH CAMERA.

ALL CABINET CONDUCTORS AND TERMINAL STRIPS SHALL BE LABELED. LABELS ATTACHED AT EACH END OF THE CONDUCTOR OR ALONG THE CONDUCTOR SHALL IDENTIFY THE CONDUCTOR.

SCHEMATICS FOR THE CABINET WIRING SHALL BE PROVIDED.

THE CABINET SHALL HAVE ALL INPUT DETECTION DEVICE. OUTPUTS PASS THROUGH A 3-POSITION SWITCH TO ALLOW FOR ISOLATION OF DEVICE OUTPUTS TO THE CONTROLLER. THIS IS TO PROVIDE FOR MANIPULATING THE OUTPUT OF ALL THE INPUT DEVICES. THE 3-POSITION SWITCHES SHALL HAVE AN ON POSITION (ENABLE NORMAL OPERATION) (UP), OFF POSITION (DISABLE INPUT) (CENTER), AND A TEST POSITION (PLACE MOMENTARY CALL) (DOWN). SWITCHES SHALL BE PANEL MOUNTED AT THE TOP OF THE RACK ABOVE THE CONTROLLER FOR EASY ACCESS WHILE BEING ABLE TO VIEW THE CONTROLLER DISPLAY. THE WIRE BUNDLE SHALL BE LONG ENOUGH TO ALLOW FOR MAINTENANCE OF THE SWITCH PANEL FOR SWITCH REPLACEMENT IF NECESSARY. SWITCHES SHALL BE LABELED FOR PHASES 1 THROUGH 8 AND PEDESTRIAN MOVEMENTS 2P, 4P, 6P, AND 8P.

ODD PHASE REDS, PED WALKS, AND PED DON'T WALKS SHALL HAVE SNUBBERS ATTACHED TO THE LOAD SWITCH OUTPUT TO PREVENT GOING TO FLASH FOR A RED, WALK, OR DON'T WALK OUT. THE SNUBBERS SHALL BE GE 42L1151 CAPACITORS RATED AT 1.5 MICROFARADS AT PLUS OR MINUS 5% TOLERANCE, 850VDC RATED, AND HIGH CURRENT OR EQUIVALENT.

A CABINET GUARD IS TO BE FURNISHED AND INSTALLED PER CABINET GUARD DETAIL SHEET INCLUDED IN THE PLANS. NOTE HORIZONTAL DIMENSIONS ARE TO BE ADJUSTED AS NECESSARY TO ASSURE ROOM FOR THE CABINETS, CABINET DOORS, AND WORK AREA WITHIN THE GUARDED AREA.

△ POLYMER CONCRETE PULL BOXES SHALL BE USED.

THIS PROJECT INVOLVES THE INSTALLATION OF VIDEO DETECTION SYSTEMS. THEREFORE, THE CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING :

- A SHELF-MOUNTED VIDEO PROCESSOR VEHICLE DETECTION SYSTEM INCLUDING ALL NECESSARY CABLES, HARNESS, MATERIAL, FITTINGS AND MISCELLANEOUS COMPONENTS NECESSARY TO PROVIDE A COMPLETE AND OPERATIONS SYSTEM AT ONE INTERSECTION.
- THE VIDEO CAMERAS AND PROCESSOR PROVIDED SHALL BE AN ITERIS VANTAGE NEXT SYSTEM CONSISTING OF NEXT CAMERAS AND SHELF MOUNT CCU, OR APPROVED EQUAL. RADAR DETECTION OR COMBINATION VIDEO/RADAR DETECTION CAMERA SHALL NOT BE USED.
- VIDEO POWER CABLE SHALL BE AS PER THE MANUFACTURER'S SPECIFICATIONS.
- VIDEO SHIELDED CAT6 CABLE SHALL BE WEATHER RESILIENT RATED FOR OUTDOOR APPLICATION.

(4) THE HAND HOLES AT THE BASE OF THE POLES SHALL BE PLACED AT 135 DEGREES CLOCKWISE FROM THE MOST ARMS IN ORDER TO AVOID CONFLICTS WITH THE PEDESTRIAN PUSH BUTTONS AND SIGNS THAT WILL BE INSTALLED IN THE FUTURE.

(9) RED, YELLOW AND GREEN LED TRAFFIC SIGNAL HEADS SHALL BE FURNISHED AND INSTALLED ON THIS PROJECT. THE LED TRAFFIC MODULES, LENSES, AND ALL ASSOCIATED MATERIAL AND EQUIPMENT SHALL CONFORM TO I.T.E. VEHICLE TRAFFIC CONTROL SIGNAL HEAD (VTCSH) STANDARDS IN EFFECT AT THE TIME THAT THE ORDER

- IS PLACED, LED HEADS SHALL BE CAPABLE OF OPERATING WITHOUT A REFLECTOR. THEY SHALL HAVE AN "INCANDESCENT" LOOK.
- (6) REFLECTIVE SHEETING SHALL BE EITHER 3M BRAND DG3 (SERIES 4000) SHEETING OR AN ASTM CLASS XI APPROVED EQUAL. COMPLETE INSTALLATION OF SIGN IS INCLUDED IN PAY ITEM.
- (7) PAY ITEM IS TO BRING POWER TO THE CONTROLLER CABINET FROM THE SERVICE POLE. CABLES SHALL BE WEATHER/SUNLIGHT RESILIENT MEETING ODOT MATERIAL STANDARD 738.
- (8) PAY ITEM FOR ELECTRICAL CONDUCTORS TO STREET LIGHT FIXTURES. CABLES SHALL CONFORM TO ODOT MATERIAL STANDARD 738.
- (9) CONTRACTOR SHALL PROVIDE POLARA 2-WIRE NAVIGATOR ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON OR APPROVED EQUAL. R10-3E PEDESTRIAN PUSH BUTTON SIGNS SHALL BE USED.
- (10) LED INTERNATIONAL HEADS DISPLAYING INCANDESCENT LOOKING FULLY ILLUMINATED SYMBOLS (WALKING PERSON AND UPRAISED HAND) SHALL BE REQUIRED ON THIS PROJECT. PEDESTRIAN HEADS SHALL ALSO BE COUNTDOWN-TYPE.
- (11) PAY ITEM IS TO RUN FROM THE PEDESTRIAN PUSH BUTTON TO THE CABINET.
- (12) THE PREEMPTION CONTROL SYSTEM SHALL INTERFACE WITH THE TRAFFIC CONTROLLER TO GIVE EMERGENCY VEHICLES APPROACHING THE INTERSECTION A GREEN WITH ALL OTHER INDICATIONS BEING RED. THE SYSTEM SHALL BE CAPABLE OF TWO PRIORITY LEVELS AND LOG THE LAST 100 EVENTS WITH TIME DATE STAMP. EMITTER SHALL BE SELECTABLE TO TRANSMIT UP TO 9999 VEHICLE CODES. ALL EQUIPMENT IN THE SYSTEM SHALL MEET NEMA ENVIRONMENTAL STANDARDS.

 THE MANUFACTURER OR MANUFACTURER'S REPRESENTATIVES SHALL PROVIDE ASSISTANCE TO THE CONTRACTOR OR AGENCY INSTALLING THE EQUIPMENT AS TO THE BEST LOCATION FOR THE DETECTOR PLACEMENT. ALL EQUIPMENT MUST BE PLAINLY MARKED AS TO THE MANUFACTURER OF THE EQUIPMENT TO PROVIDE CLEAR IDENTIFICATION AS TO THE MANUFACTURER'S MODEL AND SERIAL NUMBER OF EACH UNIT. NEMA CERTIFICATION AND TEST REPORTS SHALL BE PROVIDED UPON REQUEST BY THE ENGINEER.

 THE PREEMPTION CONTROL SYSTEM PROVIDED SHALL BE OPTICOM TO BE COMPATIBLE WITH THE CITY'S EXISTING SYSTEM.
- (14) OLD ODOT SIGNAL POLE STANDARD (PMAP1-1-00) AND FOUNDATION STANDARD (C FD1-1-0-1) SHALL BE USED FOR THIS PROJECT IN ORDER TO MATCH THE EXISTING POLES BEING USED IN THE CITY. ONE EXCEPTION IS THE LOWER HAND HOLE IS TO BE 36" FROM THE BOTTOM OF THE HAND HOLE TO THE BOTTOM OF THE BASE PLATE. ALL SIGNAL POLES, MAST ARM, PEDESTALS AND ASSEMBLIES SHALL BE POWDER COATED BLACK. ALL VISIBLE HARDWARE INCLUDING BRACKETS, MOUNTING HARDWARE, SUPPORTS, ELECTRICAL SERVICE HARDWARE, ETC. SHALL BE POWDER COATED BLACK.
- (15) LED ROADWAY LUMINAIRES SHALL BE FURNISHED ON THIS PROJECT. THE LUMINAIRES FURNISHED SHALL BE ROADSTAR MODEL GPLM-64L700N-W-G2-R3M-UNV-DMG-RCD-PH8-BK MANUFACTURED BY LUMEC, OR APPROVED EQUAL. THE LUMINAIRE COLOR SHALL BE BLACK.
- (16) VEHICLE HEADS SHALL HAVE YELLOW HOUSINGS, BLACK DOORS, AND BLACK VISORS.
- (17) PED HEADS SHALL HAVE YELLOW HOUSINGS.
- (18) CONTROLLER SHALL BE EQUIPPED WITH AN UNINTERRUPTIBLE POWER SUPPLY (UPS). IT SHALL PROVIDE 400 WATTS OF CONTINUOUS POWER FOR A MINIMUM OF 4 HOURS. THE UNIT SHALL INCLUDE BATTERIES, CABINET AND WIRING. THERE SHALL BE AN INTERCHANGEABLE HARD DISK THAT IS CAPABLE OF STORING AND RETRIEVING ALL ACTIVITY DATA SUCH AS TIME, DATE, AND DURATION OF EVENTS. THE SURGE PROTECTOR FURNISHED SHALL BE INNOVATIVE TECHNOLOGY MODE HS-P SP-120A-30A-RJ OR APPROVED EQUAL. THE UPS SHALL BE ALPHA BRAND PER CITY OF BROKEN ARROW REQUIREMENTS.
- (19) THE STREET NAME SIGNS FOR THIS PROJECT SHALL BE "CLEAN PROFILE" SINGLE SIDED INTERNALLY ILLUMINATED LED SIGNS BY SOUTHERN MANUFACTURING. THE SIGNS SHALL BE MOUNTED ON THE MAST ARM (NOT SUSPENDED) IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE PRICE BID FOR THIS ITEM SHALL INCLUDE ALL CONDUIT, CONNECTORS, WIRE AND INCIDENTAL EQUIPMENT TO MAKE THE SIGNS OPERATIONAL.

 THE BODY SHALL BE POWDER COATED BLACK. LEGEND DETAILS AND LAYOUT SHALL BE FURNISHED BY THE CITY SIGN SHOP. LETTERING AND BORDER ARE TO BE WHITE ON BLUE BACKGROUND. THE SIGNS SHALL HAVE A VIEWABLE DIMENSION OF 72"x24". A PHOTOCCELL SHALL BE PROVIDED ON EACH SIGN (2-HOLE COVER PLATE).
- (20) BACKPLATES SHALL MEET ODOT STANDARDS, EXCEPT THEY SHALL BE ALUMINUM RATHER THAN VACUUM FORMED PLASTIC WITH A DURABLE, FACTORY APPLIED, NON-REFLECTIVE FINISH (POWDER COATED, BAKED ENAMEL, OR OTHER FINISH APPROVED BY THE CITY) WITH LOUVERS IN THE BACKPLATE. ALL SIGNAL HEAD BACKPLATES SHALL HAVE RETRO-REFLECTIVE YELLOW BORDER.
- (21) THE NB/SB PUSH BUTTONS SHALL BE PROGRAMMED WITH THE FOLLOWING VERBAL MESSAGES:
 DURING FLASHING DON'T WALK AND STEADY DON'T WALK....
 "WAIT TO CROSS TUCSON STREET AT 3RD STREET"
 DURING WALK....
 * TUCSON STREET - WALK SIGN IS ON TO CROSS TUCSON STREET"
- THE EB/WB PUSH BUTTONS SHALL BE PROGRAMMED WITH THE FOLLOWING VERBAL MESSAGES:
 DURING FLASHING DON'T WALK AND STEADY DON'T WALK....
 "WAIT TO CROSS 3RD STREET AT TUCSON STREET"
 DURING WALK....
 * 3RD STREET - WALK SIGN IS ON TO CROSS 3RD STREET"
- (22) EXISTING LIGHT POLE ASSEMBLY LOCATED AT THE SW CORNER OF THE INTERSECTION INCLUDING POLE, LUMINAIRE ARM, LUMINAIRE AND ASSOCIATED WIRING SHALL BE REMOVED.
- (23) TWO SIGNAL AHEAD WARNING SIGNS W3-3 (36"x36") SHALL BE INSTALLED APPROXIMATELY 500' ADVANCE OF EASTBOUND AND WESTBOUND APPROACHES. SIGNS SHALL BE INSTALLED PER ODOT STANDARD PLANS SBS1-1, SSP1-1, AND GMST-1.
- (24) SCHOOL INGRESS AND EGRESS MOVEMENTS SHALL BE MAINTAINED DURING SCHOOL DROP-OFF AND PICK-UP TIMES. SEE STANDARD SPECIFICATIONS OR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

PAY QUANTITIES

0300 TRAFFIC				
ITEM	DESCRIPTION	REF.	UNIT	TOTAL
802(B) 0324	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED		LF	100
802(B) 0332	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED		LF	300
802(C) 0435	3" PVC HIGH DENSITY PE PIPE - BORED		LF	840
803(A) 1220	PULL BOX (SIZE II)	(2)	EA	4
804(A) 2200	STRUCTURAL CONCRETE		CY	7.7
804(B) 2300	REINFORCING STEEL		LB	1160
805(A) 3244	(PL) REMOVAL OF GROUND MOUNTED SIGNS		LSUM	1
805(A) 3228	(PL)REMOVAL OF LIGHT POLE	(22)	EA	1
806(A) 4248	32' MH POLE 35' TS & 10' LMA (G.STL.)	(4, 14)	EA	1
806(A) 4252	32' MH POLE 40' TS & 10' LMA (G.STL.)	(4, 14)	EA	1
806(A) 4256	32' MH POLE 45' TS & 10' LMA (G.STL.)	(4, 14)	EA	1
806(A) 4264	32'MH POLE, 55' TS & 10' LMA (G.STL.)	(4, 14)	EA	1
806(B) 4408	10' MTG. HT. TS PED. POLE (G.STL.)	(14)	EA	4
809(A) 7200	ROADWAY LUMINAIRE	(15)	EA	4
810(A) 8200	SERVICE POLE	(TL-35)	EA	1
811 9125	1/C NO. 6 ELECT. COND.	(TP-1)(7)	LF	840
811 9130	1/C NO. 10 ELECT. COND.	(TP-1)(8)	LF	1874
825 8100	TRAFFIC SIGNAL CONTROLLER ASSEMBLY	(1, 18)	EA	1
828 0100	(PL) DETECTION SYSTEM (VIDEO)	(3)	LSUM	1
830 2100	PEDESTRIAN PUSHBUTTON	(9, 21)	EA	8
831 3116	1WAY 2SEC. ADJ. PED SIG. HD. S-20	(10, 17)	EA	8
831 3120	1WAY 3SEC. ADJ. SIG. HD. S-6	(5, 16)	EA	7
831 3144	1WAY 4SEC. ADJ. SIG. HD. S-13	(5, 16)	EA	4
831 3156	1WAY 5SEC. ADJ. SIG. HD. S-19	(5, 16)	EA	1
833 5100	BACKPLATE	(20)	EA	12
834(A) 6205	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1)	LF	370
834(A) 6210	7/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1)	LF	305
834(A) 6235	21/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1)	LF	775
834(B) 6300	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE	(TP-1)(11)	LF	1550
840(B) 0300	E.P.S OPTICAL DETECTOR	(12)	EA	4
840(C) 0400	E.P.S OPTICAL DETECTOR CABLE	(TP-1)(12)	LF	445
840(D) 0500	E.P.S 2 CHANNEL PHASE SELECTOR	(12)	EA	2
850(C) 1400	MAST ARM MOUNTED SIGN (ALUM.)	(6)	SF	55
850(A) 1200	SHEET ALUMINUM SIGNS	(6, 23)	SF	18
851(C) 2415	2" SQUARE TUBE POST	(23)	LF	24
890 1100	(PL)TRAFFIC ITEMS (ILLUMINATED STREET NAME SIGNS)	(19)	LSUM	1
856(A) 8200	TRAFFIC STRIPE(MULTI-POLY.)(4" WIDE)	(TS-24)	LF	3155
856(A) 8208	TRAFFIC STRIPE(MULTI-POLY.)(8" WIDE)	(TS-26)	LF	111
856(A) 8216	TRAFFIC STRIPE(MULTI-POLY.)(24" WIDE)	(TS-28)	LF	529
856(B) 8304	TRAFFIC STRIPE(MULTI-POLY.)(ARROWS)		EA	14
857(F) 9700	PAVEMENT MRKNG.REMOVAL(TRAF.STRP)	(TS-32)	LF	2603
880(J) 7110	CONSTRUCTION TRAFFIC CONTROL	(TC-25), 24	LSUM	1

Mar/13/2025
 CITY OF BROKEN ARROW
**NO EXCEPTIONS
 TAKEN**

**Submitted
 March 12, 2025**

Jimmie A. Sitz
 JIMMIE A. SITZ, P.E. NO. 17377
 C.A. NO. 9325



03-03-2025
 DATE

DATE	REVISIONS

12/12/2024



E. 121ST ST. S. (E. TUCSON ST.)
 AND S. 3RD ST. INTERSECTION

**SIGNAL PAY QUANTITIES
 AND NOTES**

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
	HORZ. --	JAS	02/20/2025	MA
VERT. --	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:	SHEET <u>01</u> OF <u>07</u>		PROJECT NO. 24002	

PUSH BUTTON NOTE:

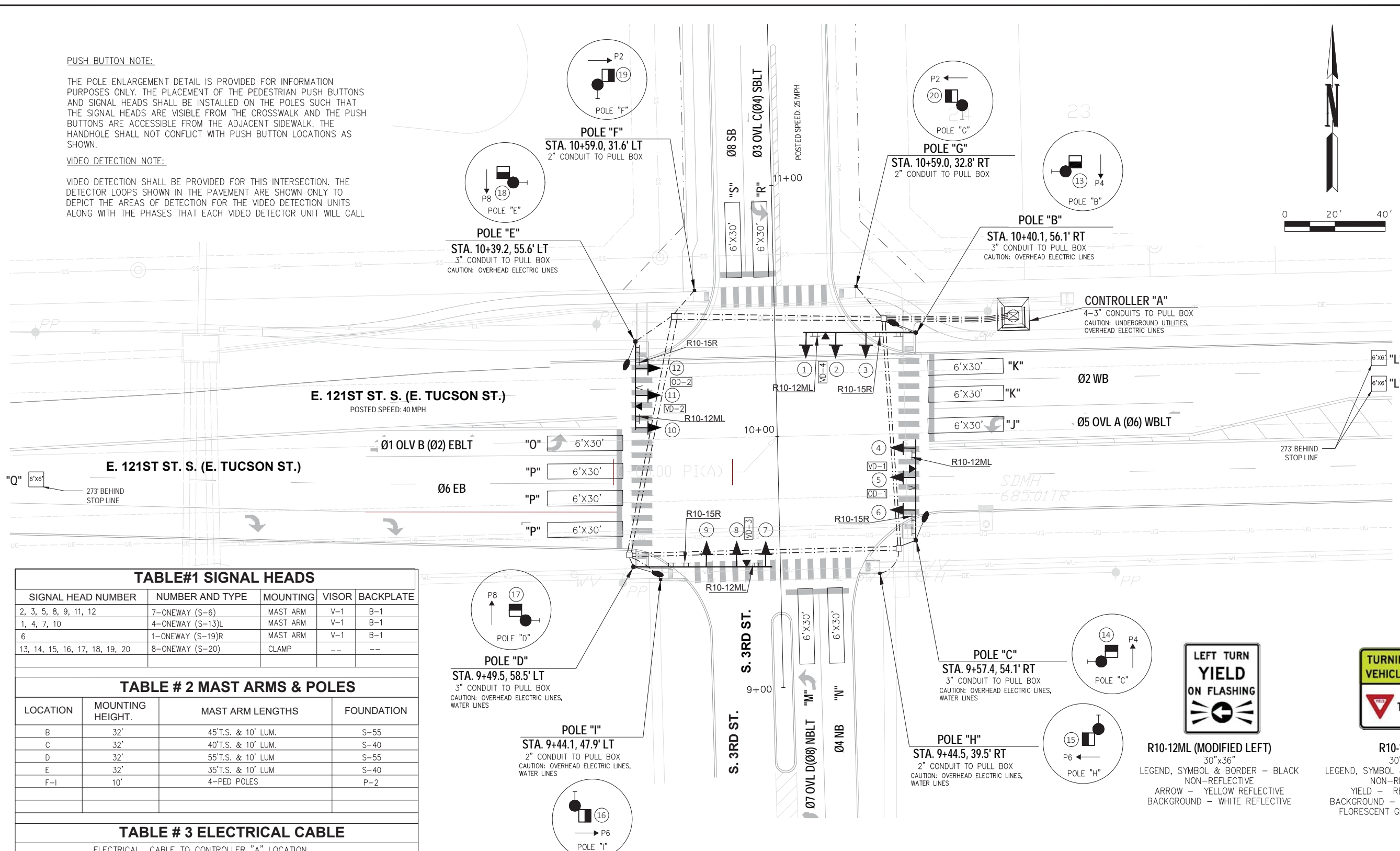
THE POLE ENLARGEMENT DETAIL IS PROVIDED FOR INFORMATION PURPOSES ONLY. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE ACCESSIBLE FROM THE ADJACENT SIDEWALK. THE HANDHOLE SHALL NOT CONFLICT WITH PUSH BUTTON LOCATIONS AS SHOWN.

VIDEO DETECTION NOTE:

VIDEO DETECTION SHALL BE PROVIDED FOR THIS INTERSECTION. THE DETECTOR LOOPS SHOWN IN THE PAVEMENT ARE SHOWN ONLY TO DEPICT THE AREAS OF DETECTION FOR THE VIDEO DETECTION UNITS ALONG WITH THE PHASES THAT EACH VIDEO DETECTOR UNIT WILL CALL

LEGEND	
-----	1 1/2" ELEC. CONDUIT
-----	2" ELEC. CONDUIT
-----	3" ELEC. CONDUIT
-----	4" ELEC. CONDUIT
-----	EXISTING CONDUIT
□	SIZE II PULL BOX
⊠	EXISTING PULL BOX
○	SIZE III PULL BOX
▲	SERVICE POLE
⊠	CONTROLLER
→	PEDESTRIAN PUSH BUTTON
⊠	WALK AND DON'T WALK
⊠	SIGNAL HEAD WITH BACKPLATE
⊠	LUMINAIRE WITH MAST ARM
>	OPTICAL DETECTOR
▼	VIDEO DETECTION
TT	STREET NAME SIGN
⊠	MAST ARM WITH POLE
○	SIGNAL HEAD NO.
⊠	MAST ARM & POLE WITH ABOVE SYMBOLS
⊠	DETECTOR LOOP/VIDEO DETECTION AREA

Mar/13/2025
CITY OF BROKEN ARROW
**NO EXCEPTIONS
TAKEN**



TABLE#1 SIGNAL HEADS

SIGNAL HEAD NUMBER	NUMBER AND TYPE	MOUNTING	VISOR	BACKPLATE
2, 3, 5, 8, 9, 11, 12	7-ONEWAY (S-6)	MAST ARM	V-1	B-1
1, 4, 7, 10	4-ONEWAY (S-13)L	MAST ARM	V-1	B-1
6	1-ONEWAY (S-19)R	MAST ARM	V-1	B-1
13, 14, 15, 16, 17, 18, 19, 20	8-ONEWAY (S-20)	CLAMP	--	--

TABLE # 2 MAST ARMS & POLES

LOCATION	MOUNTING HEIGHT	MAST ARM LENGTHS	FOUNDATION
B	32'	45'T.S. & 10' LUM.	S-55
C	32'	40'T.S. & 10' LUM.	S-40
D	32'	55'T.S. & 10' LUM	S-55
E	32'	35'T.S. & 10' LUM	S-40
F-I	10'	4-PED POLES	P-2

TABLE # 3 ELECTRICAL CABLE

ELECTRICAL CABLE TO CONTROLLER "A" LOCATION							
B-21C/2C	C-21C/2C	D-21C/2C	E-21C/2C	F-5C/2C	G-5C/2C	H-5C/2C	I-5C/2C

DATE	REVISIONS

Submitted
March 12, 2025

I HEREBY CERTIFY THAT THESE CONTRACT DOCUMENTS COMPLY WITH THE ADOPTED ORDINANCES, SUBDIVISION REGULATIONS, ENGINEERING DESIGN CRITERIA, CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE CITY OF BROKEN ARROW. LIKEWISE, THESE DOCUMENTS COMPLY WITH ALL APPLICABLE STATE RULES AND REGULATIONS, SUCH AS OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ), AND FEDERAL LAWS AND RULES, SUCH AS UNITED STATES ARMY CORPS OF ENGINEERS (USACE) AND FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

Jimmie A. Sitz
JIMMIE A. SITZ, P.E. NO. 17877
C.A. NO. 9325



02-22-2025
DATE

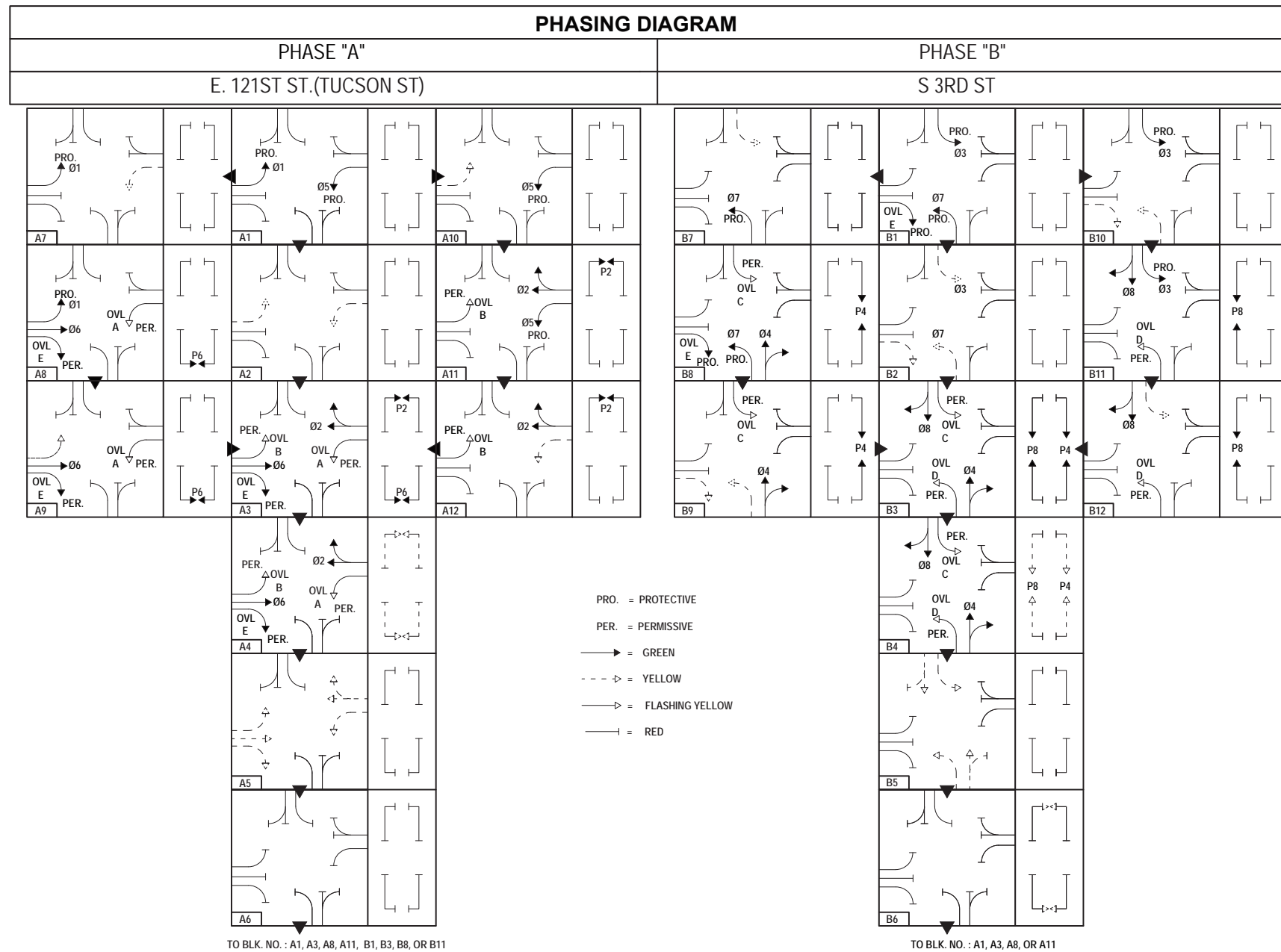
12/12/2024



E. 121ST ST. S. (E. TUCSON ST.)
AND S. 3RD ST. INTERSECTION

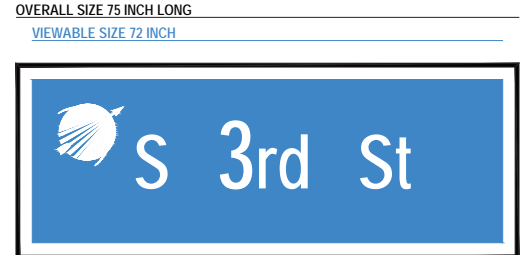
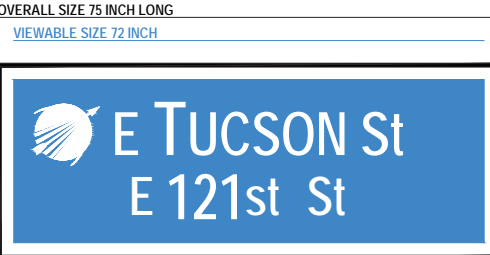
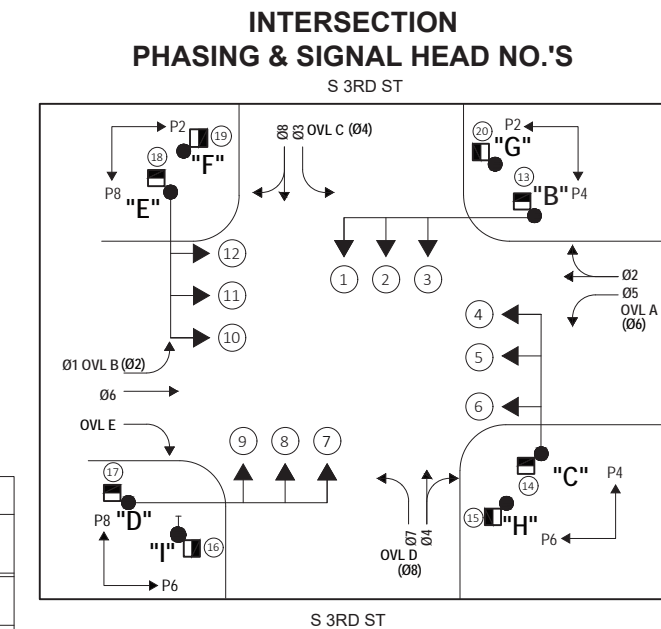
SIGNAL PLAN

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
	HORZ. --	JAS	02/20/2025	MA
VERT. --	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:	SHEET 02 OF 07		PROJECT NO. 24002	



SEQUENCE CHART

DIRECTION	BLOCK NO.	PHASE																										
		05 OVL A	02	07 OVL D	04	01 OVL B	06	01 OVL E	03 OVL C	08	P2	P4	P6	P8														
		SIGNAL HEAD NO.														10	11,12	1	2,3	4	5	6	7	8,9	19,20	13,14	15,16	17,18
01, 05 ROW	A1	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
01, 05 CL	A2	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
02, OVL A, 06, OVL B P2, P6 ROW	A3	←	G	←	R	←	G	←	G	←	R	←	R	←	R	W	DW	W	DW									
02, OVL A, 06, OVL B ROW & P2, P6 CL	A4	←	G	←	R	←	G	←	G	←	R	←	R	←	R	FDW	DW	FDW	DW									
02, OVL A, 06, OVL B CL	A5	←	Y	←	R	←	Y	←	Y	←	R	←	R	←	R	DW	DW	DW	DW									
ALL RED	A6	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
01 ROW & 05 CL	A7	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
01, 06, OVL A, & P6 ROW	A8	←	R	←	R	←	G	←	G	←	R	←	R	←	R	DW	DW	W	DW									
06, P2 ROW & 01 CL	A9	←	R	←	R	←	Y	←	G	←	R	←	R	←	R	DW	DW	W	DW									
05 ROW & 01 CL	A10	←	R	←	R	←	Y	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
02, OVL B, 05 & P2 ROW	A11	←	G	←	R	←	G	←	R	←	R	←	R	←	R	W	DW	DW	DW									
02, OVL B, P2 ROW & 05 CL	A12	←	G	←	R	←	Y	←	R	←	R	←	R	←	R	W	DW	DW	DW									
03, 07 ROW	B1	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
03, 07 CL	B2	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
04, OVL C, 08, OVL D, P4, P8 ROW	B3	←	R	←	Y	←	G	←	R	←	R	←	Y	←	G	DW	W	DW	W									
04, OVL C, 08, OVL D ROW & P4, P8 CL	B4	←	R	←	Y	←	G	←	R	←	R	←	Y	←	G	DW	FDW	DW	FDW									
04, OVL C, 08, OVL D CL	B5	←	R	←	Y	←	R	←	R	←	R	←	Y	←	R	DW	DW	DW	DW									
ALL RED	B6	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
07 ROW & 03 CL	B7	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
07, 04, OVL C & P4 ROW	B8	←	R	←	R	←	G	←	R	←	R	←	R	←	R	DW	W	DW	DW									
04, OVL C, P4 ROW & 07 CL	B9	←	R	←	R	←	G	←	R	←	R	←	R	←	R	DW	W	DW	DW									
03 ROW & 07 CL	B10	←	R	←	R	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	DW									
03, 08, OVL D & P8 ROW	B11	←	R	←	Y	←	R	←	R	←	R	←	R	←	R	DW	DW	DW	W									
08, OVL D, P8 ROW & 03 CL	B12	←	R	←	Y	←	R	←	R	←	R	←	Y	←	R	DW	DW	DW	W									
FLASHING OPERATION	-	←FR	FR	←FR	FR	←FR	FR	←FR	FR	←FR	FR	←FR	FR	←FR	FR	-	-	-	-									



SUMMARY OF MAST ARM MOUNTED SIGNS

MESSAGE	POLE LOCATION	NO. OF SIGN	LENGTH (IN.)	HEIGHT (IN.)	SIGN AREA (SQ.FT.)	TOTAL SIGN AREA (SQ.FT.)
E Tucson St E 121st St	B, D	2	72	24	12.00	24.00
S 3rd St	C, E	2	72	24	12.00	24.00
R10-12ML	B, C, D, E	4	30	36	7.50	30.00
R10-15 (R)	B, C, D, E	4	30	30	6.25	25.00
TOTAL						103.00

STREET NAME SIGNS WHITE ON BLUE

DATE	REVISIONS

Submitted
March 12, 2025

Mar/13/2025
CITY OF BROKEN ARROW
**NO EXCEPTIONS
TAKEN**

JIMMIE A. SITZ, P.E. NO. 17817
 C.A. NO. 9325
 02-22-2025
 DATE

12/12/2024



E. 121ST ST. S. (E. TUCSON ST.)
AND S. 3RD ST. INTERSECTION

SIGNAL DETAIL

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
HORZ. --	JAS	02/20/2025	MA	01/15/2025
VERT. --	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:	SHEET 03	PROJECT NO. 24002		
	OF 07			

12/12/2024

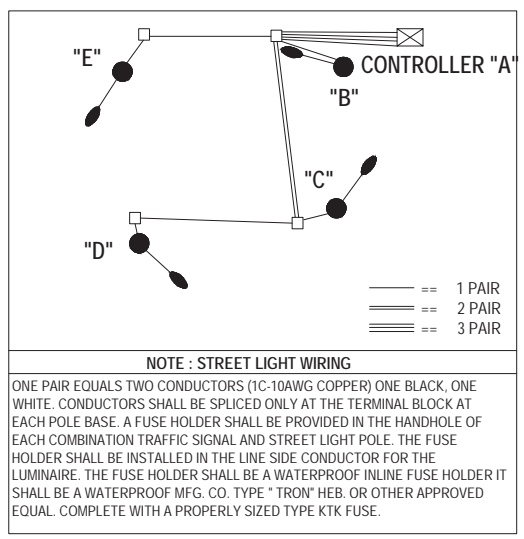
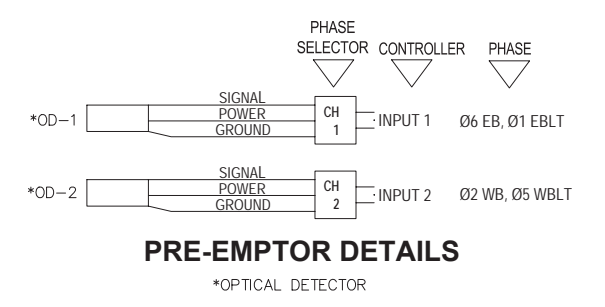
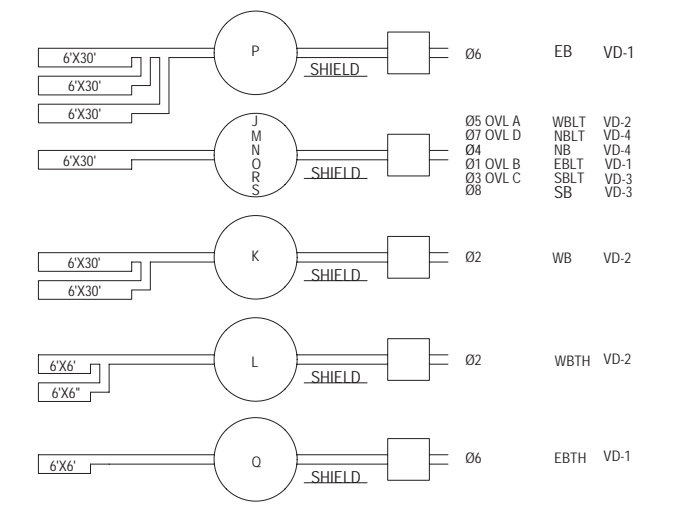
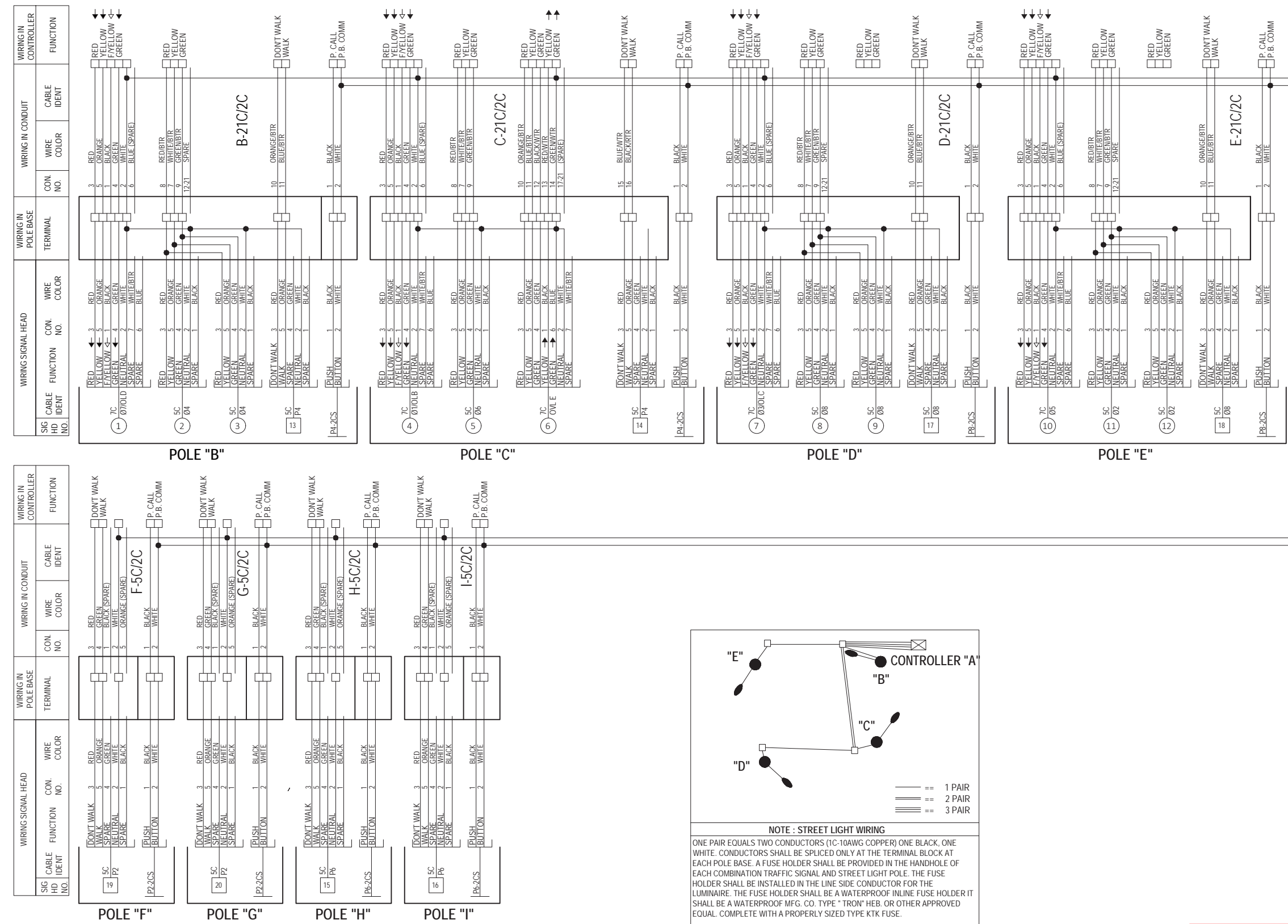


E. 121ST ST. S. (E. TUCSON ST.) AND S. 3RD ST. INTERSECTION

SIGNAL WIRING DIAGRAM

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
HORZ. --	JAS	02/20/2025	MA	01/15/2025
VERT. --	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:	SHEET 04	PROJECT NO. 24002		
	OF 07			

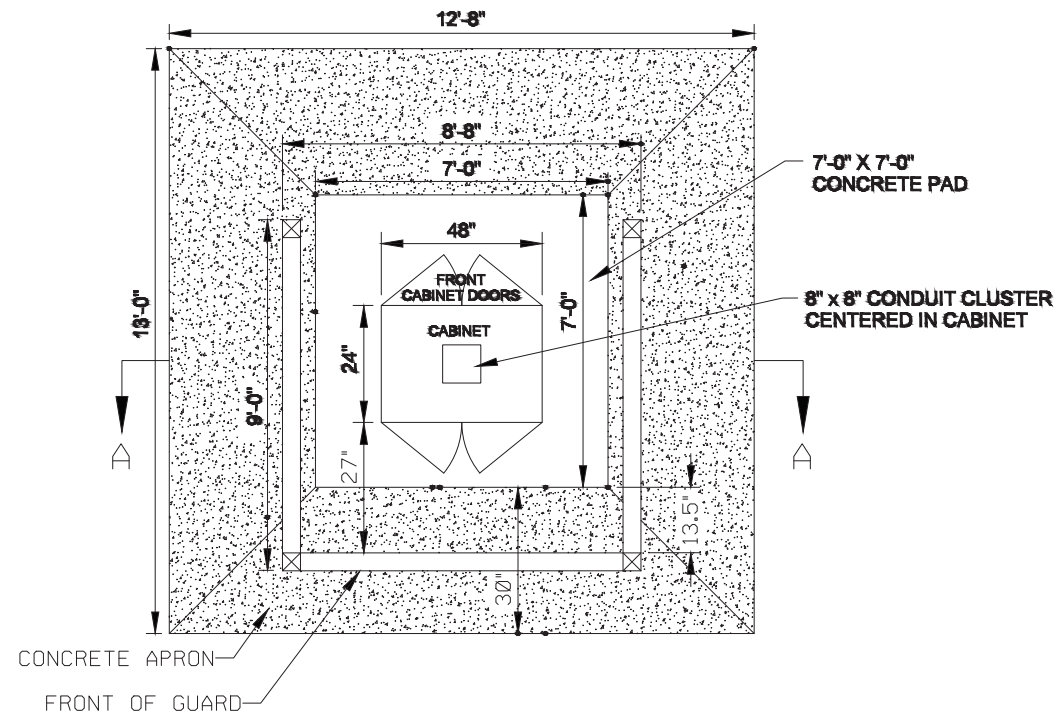
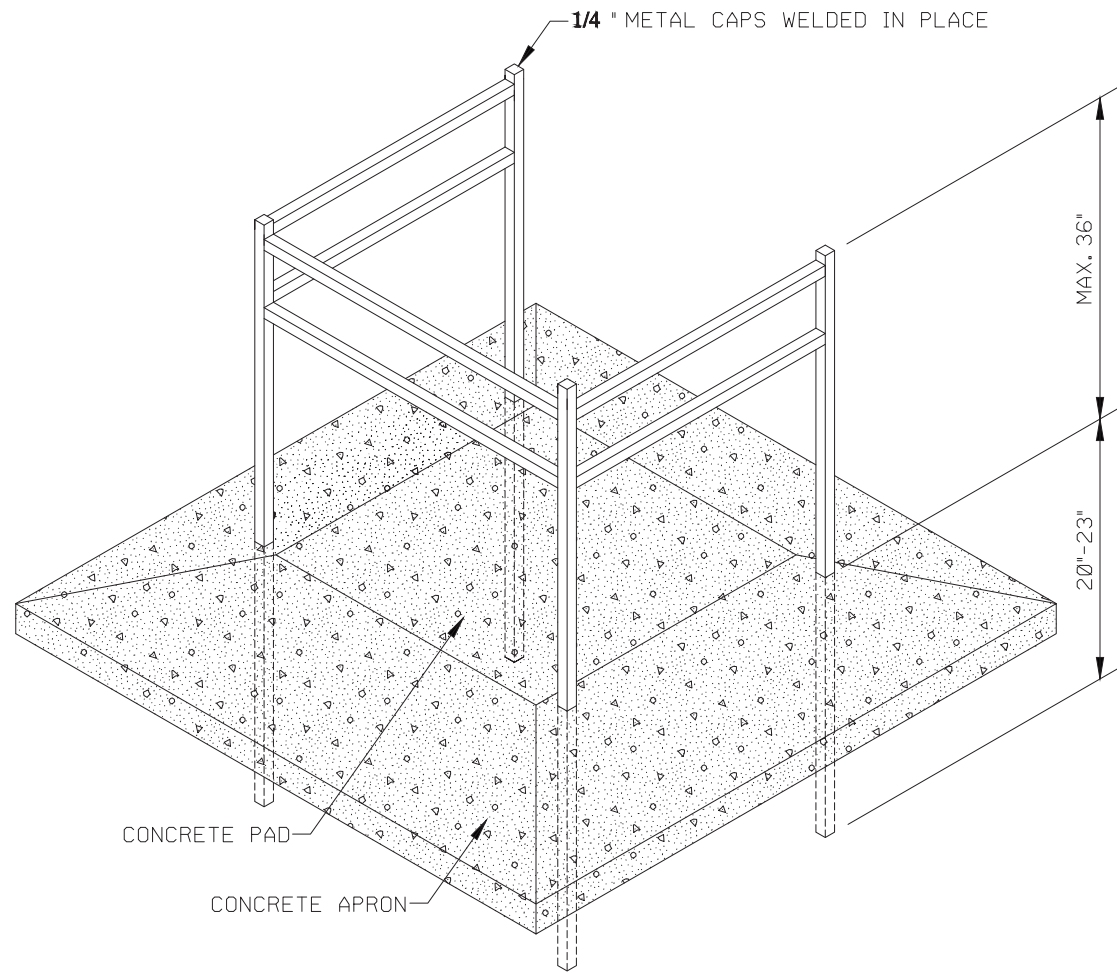
DATE	REVISIONS



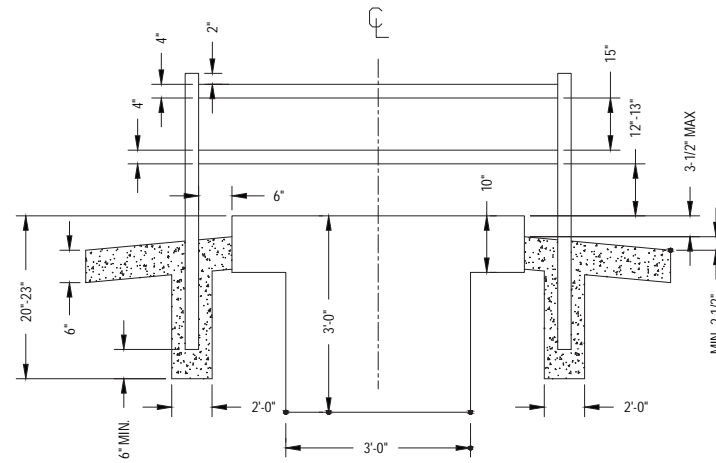
Submitted March 12, 2025

Mar/13/2025
CITY OF BROKEN ARROW
NO EXCEPTIONS TAKEN

Jimmie A. Sitz
JIMMIE A. SITZ, P.E. NO. 17877
C.A. NO. 9325
02-22-2025
DATE



PLACEMENT TOP VIEW - CABINET GUARD



**SECTION A-A
PLACEMENT FRONT VIEW**

NOTE: HORIZONTAL DIMENSIONS MUST BE CHECKED AND ADJUSTED BY CONTRACTOR AS NECESSARY TO ASSURE THAT THE CONTROLLER CABINET AND BATTERY BACKUP CABINET DOORS HAVE ROOM TO OPEN AND A PERSON HAS ROOM TO WORK WITHIN GUARDED AREA. GUARD SHALL NOT BE SMALLER THAN 8'-8"X9'-0", AS SHOWN. APRON TO BE FORMED AND FINISHED CONCRETE.

NOTES:

1. TOLERANCE OF CABINET GUARD SHALL BE $\frac{1}{4}$ " MEASURED FROM DIAGONAL. HORIZONTAL MEMBERS SHALL BE PLUMB AND LEVEL. GUARD SHALL BE CENTERED AROUND CONTROLLER BASE.
2. LOCATION AND ORIENTATION OF CABINET AND CABINET GUARD TO BE APPROVED BY THE GENERAL SERVICES SUPERINTENDENT PRIOR TO INSTALLATION.
3. GUARD TO BE FABRICATED FROM 4" SCHEDULE 80 SQUARE STEEL TUBING.
4. COMPLETED CABINET GUARD SHALL BE PAINTED WITH TWO COATS OF "BRONZE" RUSTOLEUM EXTERIOR PAINT, OR APPROVED EQUAL.

DATE	REVISIONS

Mar/13/2025
CITY OF BROKEN ARROW
**NO EXCEPTIONS
TAKEN**

**Submitted
March 12, 2025**

Jimmie A. Sitz
JIMMIE A. SITZ, P.E. NO. 17377
C.A. NO. 9325

02-22-2025
DATE



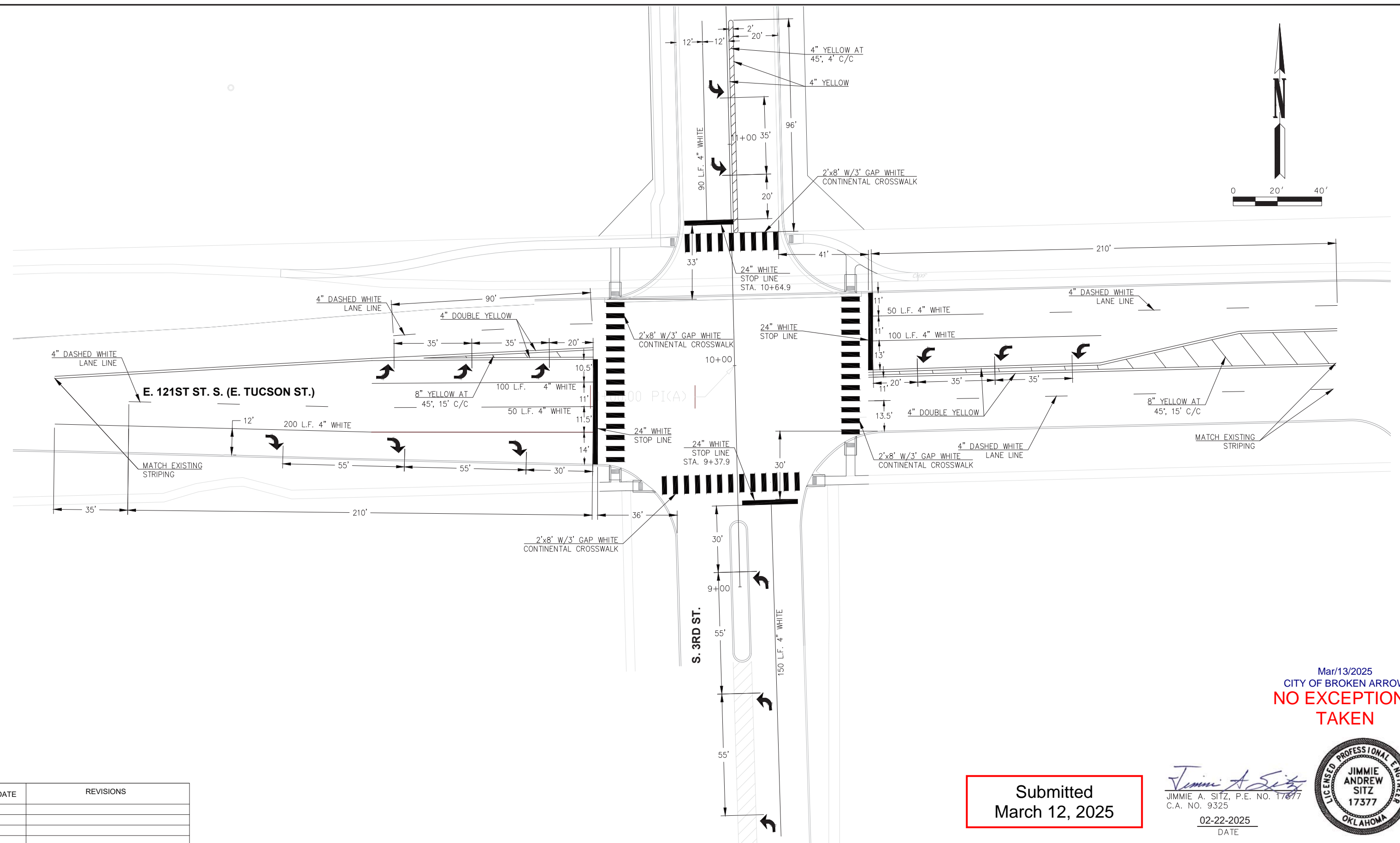
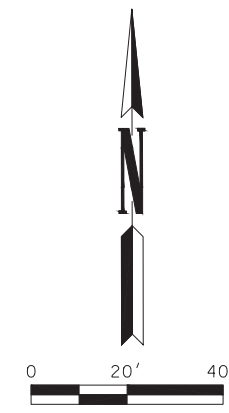
12/12/2024



E. 121ST ST. S. (E. TUCSON ST.)
AND S. 3RD ST. INTERSECTION

**CABINET GUARD
DETAIL**

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
HORZ. --	JAS	02/20/2025	MA	01/15/2025
VERT. --	REVIEWED	DATE	APPROVED	DATE
DRAWING NAME:	SHEET 05	PROJECT NO. 24002		
	OF 07			



Mar/13/2025
 CITY OF BROKEN ARROW
**NO EXCEPTIONS
 TAKEN**

Jimmie A. Sitz
 JIMMIE A. SITZ, P.E. NO. 17877
 C.A. NO. 9325



Submitted
 March 12, 2025

02-22-2025
 DATE

DATE	REVISIONS

12/12/2024



E. 121ST ST. S. (E. TUCSON ST.)
 AND S. 3RD ST. INTERSECTION

STRIPING PLAN

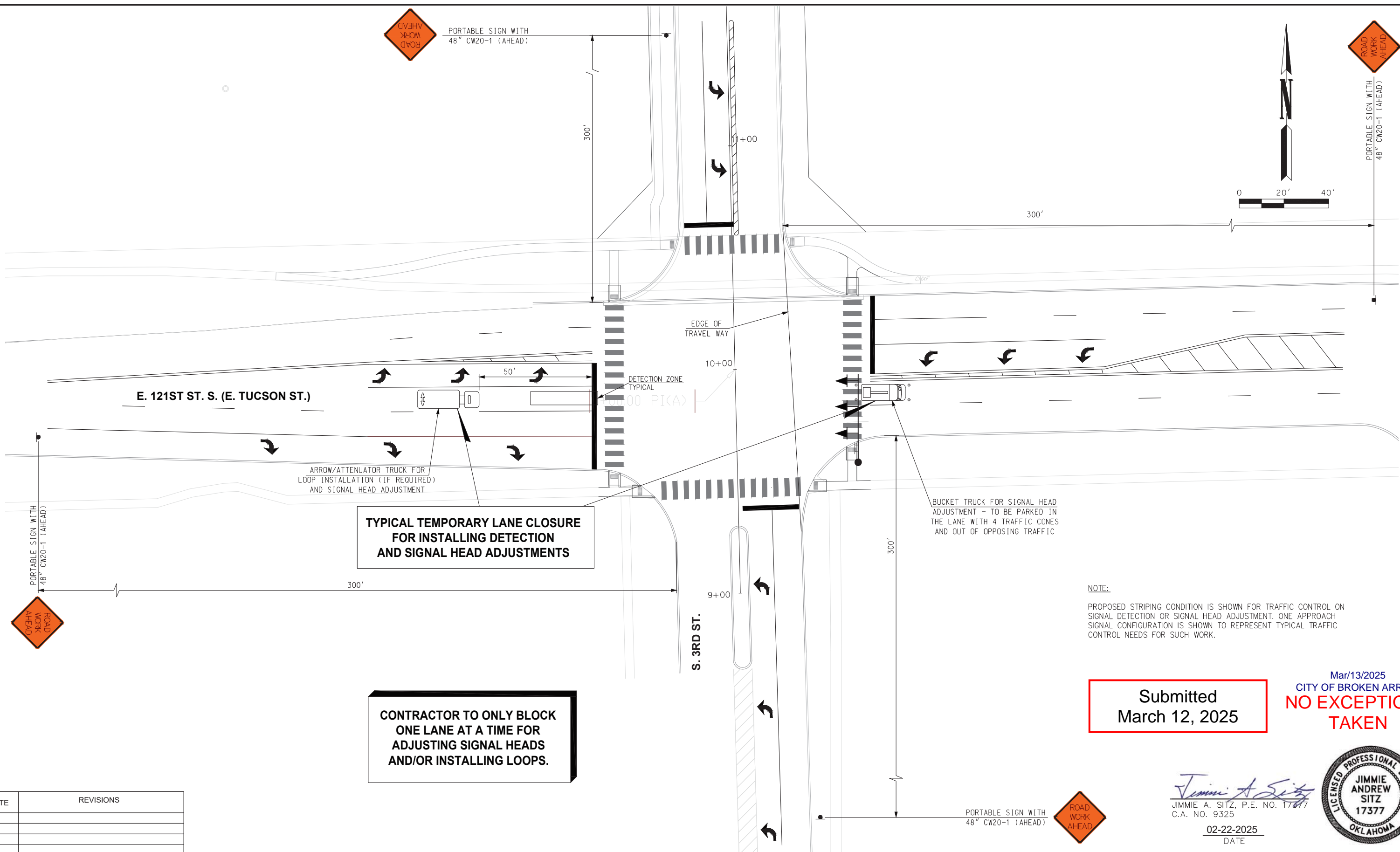
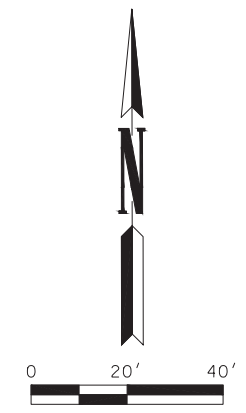
PROFILE SCALE: HORZ. -- VERT. --	DESIGN	DATE	DRAFTED	DATE
	JAS	02/20/2025	MA	01/15/2025
DRAWING NAME:	REVIEWED	DATE	APPROVED	DATE
	SHEET 06 OF 07			PROJECT NO. 24002



PORTABLE SIGN WITH 48" CW20-1 (AHEAD)



PORTABLE SIGN WITH 48" CW20-1 (AHEAD)



E. 121ST ST. S. (E. TUCSON ST.)

EDGE OF TRAVEL WAY

DETECTION ZONE TYPICAL

ARROW/ATTENUATOR TRUCK FOR LOOP INSTALLATION (IF REQUIRED) AND SIGNAL HEAD ADJUSTMENT

TYPICAL TEMPORARY LANE CLOSURE FOR INSTALLING DETECTION AND SIGNAL HEAD ADJUSTMENTS

BUCKET TRUCK FOR SIGNAL HEAD ADJUSTMENT - TO BE PARKED IN THE LANE WITH 4 TRAFFIC CONES AND OUT OF OPPOSING TRAFFIC

NOTE:

PROPOSED STRIPING CONDITION IS SHOWN FOR TRAFFIC CONTROL ON SIGNAL DETECTION OR SIGNAL HEAD ADJUSTMENT. ONE APPROACH SIGNAL CONFIGURATION IS SHOWN TO REPRESENT TYPICAL TRAFFIC CONTROL NEEDS FOR SUCH WORK.

CONTRACTOR TO ONLY BLOCK ONE LANE AT A TIME FOR ADJUSTING SIGNAL HEADS AND/OR INSTALLING LOOPS.

Submitted March 12, 2025

Mar/13/2025 CITY OF BROKEN ARROW NO EXCEPTIONS TAKEN

Jimmie A. Sitz
JIMMIE A. SITZ, P.E. NO. 17377
C.A. NO. 9325



02-22-2025 DATE

DATE	REVISIONS

12/12/2024



E. 121ST ST. S. (E. TUCSON ST.) AND S. 3RD ST. INTERSECTION

TYPICAL SIGNAL TRAFFIC CONTROL

PROFILE SCALE:	DESIGN	DATE	DRAFTED	DATE
	JAS	02/20/2025	MA	01/15/2025
HORIZ. --	REVIEWED	DATE	APPROVED	DATE
VERT. --				
DRAWING NAME:	SHEET 07 OF 07	PROJECT NO. 24002		