# CITY OF TULSA - TULSA, OKLAHOMA
# ROUTE 66 AERO
# BUS RAPID TRANSIT STATIONS
# LINK TULSA - TRAFFIC SIGNAL UPGRADE

City of Tulsa Project No: 2035X001Z, Phase 2

Build Grant/LINK Traffic Signal Upgrade

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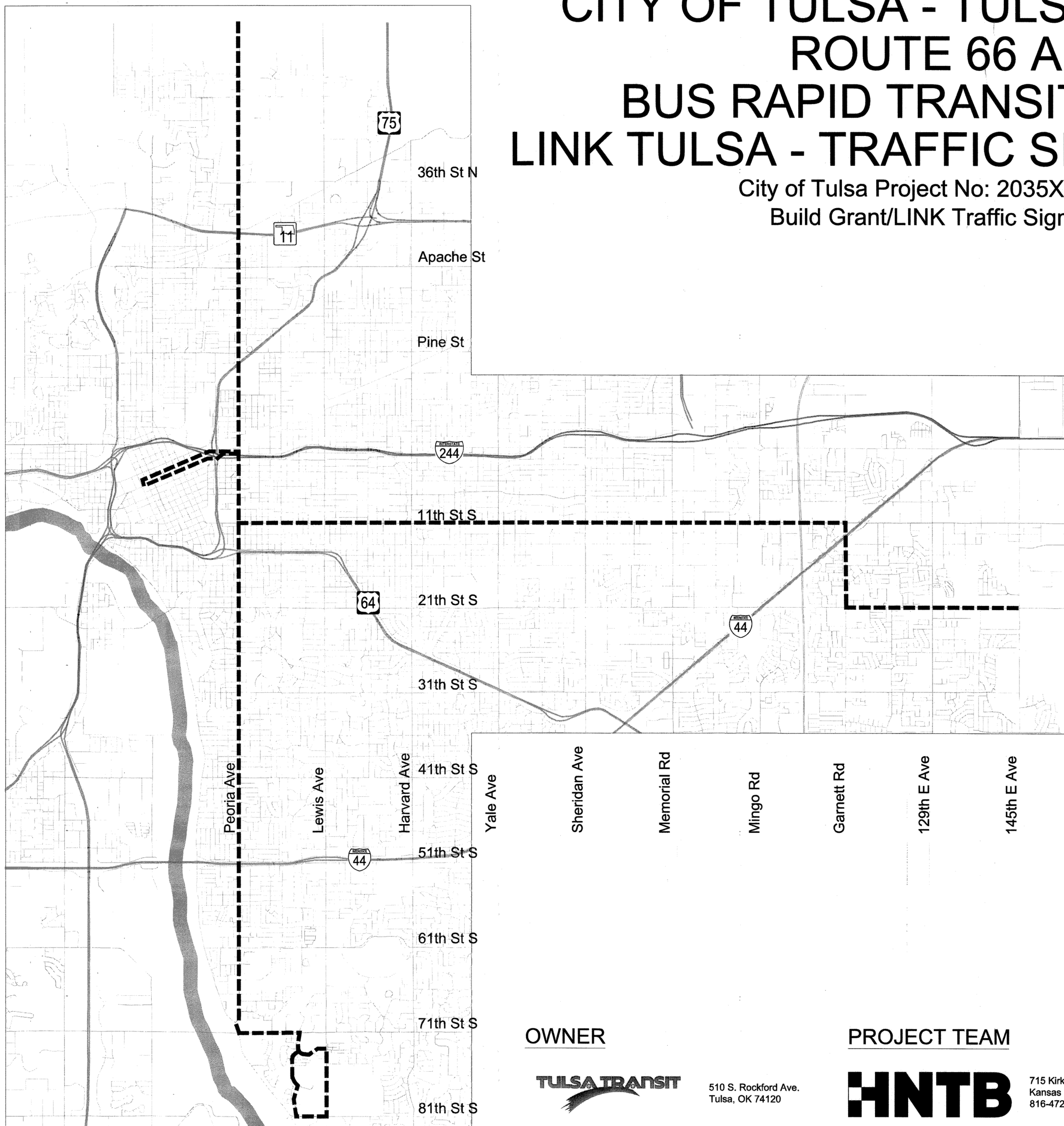


PROJECT LOCATION MAP

N

Scale: NTS

## OWNER


TULSA TRANSIT
510 S. Rockford Ave.
Tulsa, OK 74120

City of Tulsa — A New Kind of Energy.
175 E. 2nd St.
Tulsa, OK 74103


## PROJECT TEAM


HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL ENGINEERS | ARCHITECTS
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588


ENTIRE PROJECT IS WITHIN THE CORPORATE AND URBAN LIMITS OF THE CITY OF TULSA

CITY OF TULSA MAP

Scale: 1" = 3 MILES

REGISTERED PROFESSIONAL ENGINEER — PAUL D HUNTER 18692 — OKLAHOMA — 6/13/22

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| COVER SHEET | | | |
|---|---|---|---|
| REVISION | BY | DATE | APPROVED: |
| | | | CITY ENGINEER |
| | | | DATE: 06/13/2022 |

SHEET 1 OF 82 SHEETS

# GENERAL CONSTRUCTION NOTES:

1. Work on this project shall conform to all applicable codes, standards, regulations and requirements enforced by all authorities having jurisdiction, including but not limited to:
   - National Electrical Code (NEC)
   - Life Safety Code (NFPA 101)
   - Occupational Safety and Health Administration (OSHA)
   - All City of Tulsa Standards
   - Specifications, and Traffic Operations Approved Products List

2. The contractor is responsible for notifying the engineer of all knowledge of possible conflicts or discrepancies between requirements of these construction documents and applicable codes, standards, regulations, etc. prior to beginning construction.

3. The contractor shall pay all permit charges and fees related to electrical work. The contractor shall arrange for required inspections and pay all inspection fees associated with the work. The contractor is responsible for coordinating all inspections required by the City.

4. The contractor has exclusive responsibility for construction means and techniques including compliance with all regulations governing safety and health of workers and the public in the vicinity of construction.

5. Except as stated herein, all work shall comply with the City of Tulsa standards and specifications.

6. The contractor shall determine the exact location of all utilities before commencing work in each area. The contractor is fully responsible for any and all damages which might result from his failure to locate and preserve any and all utilities.

7. The contractor shall give the notification center of Oklahoma One-Call System, Inc. notice of excavation no sooner than ten days nor later than 48 hours, excluding Saturdays, Sundays, and legal holidays, prior to the commencement of work. Phone 1-800-522-6543.

8. The contractor shall coordinate with the fiber optic and curb ramp contractors (Project Number 2035X001Z Phase 1 and Project Number 2035X001Z Phase 3) on installation of conduit and fiber optic cable into the new signal cabinets and construction of the new curb ramps.

9. All equipment, cabinet enclosures, signal poles, etc. must be properly grounded in accordance with the NEC. A continuous equipment grounding conductor shall be installed throughout all circuit runs, conduits and wireways and shall be properly bonded.

10. A bare copper ground conductor shall be installed in conduit.

11. The contractor shall work in cooperation with the City of Tulsa to establish, install, maintain, and operate complete, adequate, and safe traffic controls during the entire construction period. All flagmen, barricades, and traffic control devices shall be approved by the field engineering representative.

12. Construction signage shall be installed in a manner approved by the engineer, in accordance with chapter VI of the Manual on Uniform Traffic Control Devices, current edition, and applicable ODOT standard drawings. The contractor shall provide a proposed traffic control plan for approval by the engineer prior to beginning work.

13. Local and through traffic shall be maintained through the project at all times.

14. All public and private streets and drives shall be accessible at all times.

15. Reflectorized sheeting on signs and barricades shall be of a cubic prismatic type and shall meet the specifications established for ASTM D 4956-01 Type IX retroreflective sheeting. Reflectorized sheeting on drums and tube channelizers shall be of a high-intensity type and shall meet the specifications established and ASTM D 4956-01 Type III retroreflective sheeting.

16. The contractor shall install all signal supports, cabinets, and pedestrian pushbuttons to meet the reqirements outlined in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities" (ADAAG).

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

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Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

General Construction Notes

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
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| PLAN SCALE: | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | BS | 7/22 |
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| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
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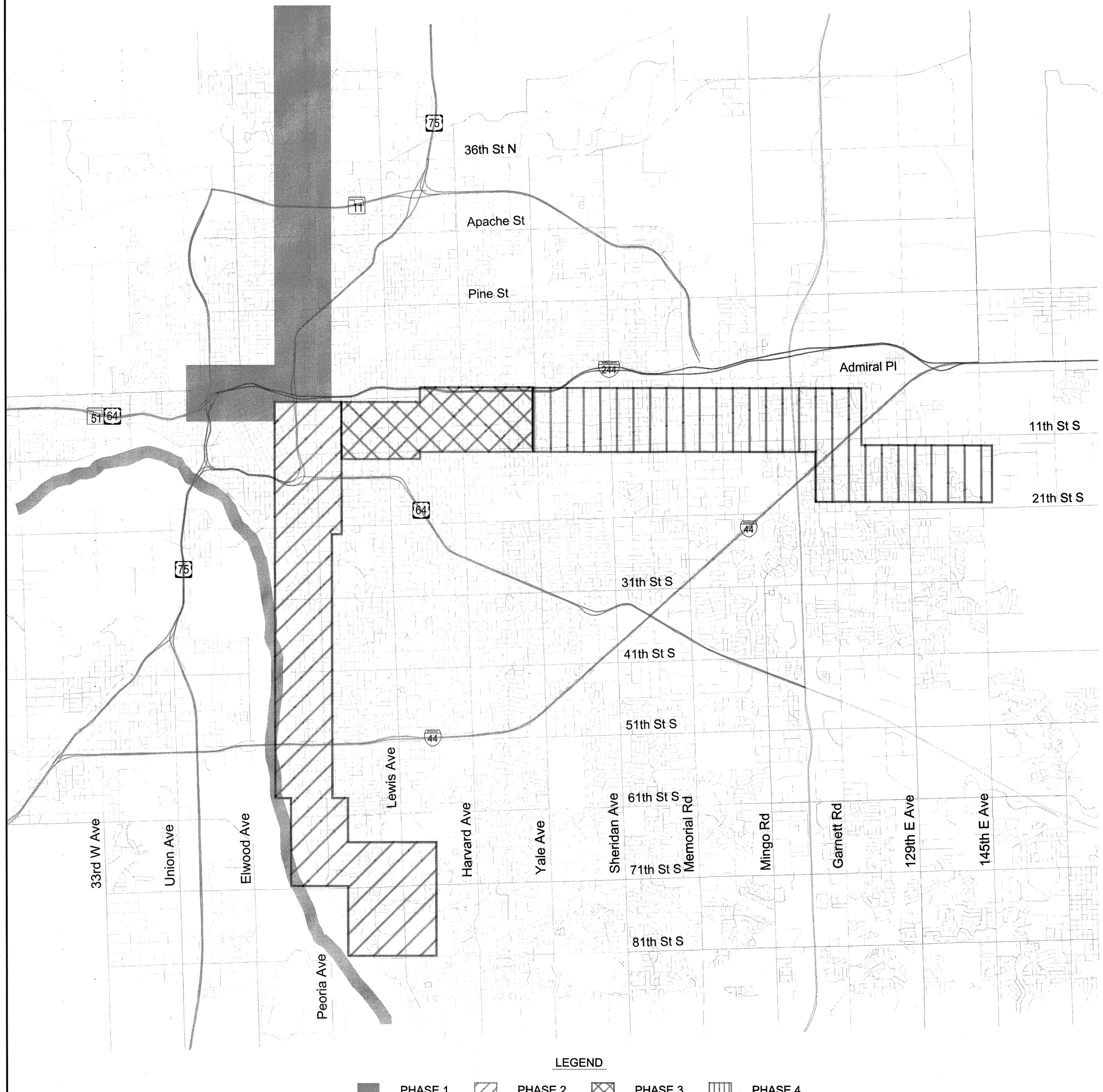
APPROVED:

CITY ENGINEER

DATE: 06/13/2022




# TRAFFIC SIGNAL CONSTRUCTION NOTES:

1. The Contractor shall be responsible for maintaining the existing traffic signal in a proper working condition during construction as directed by the Traffic Engineer and for following the requirements of COT 626 Traffic Signal Construction and Operation. The Contractor shall not place new traffic signals into operation until they have been permitted, inspected and approved by City of Tulsa traffic signal inspectors, and the City of Tulsa Traffic Operations has contacted the utility company to set up billing. Traffic signals shall only be put into operation on Tuesdays, Wednesdays, and Thursdays. All traffic materials shall meet the requirements of COT 627 Pre-Qualification for Traffic Operations Materials or as directed by the Traffic Engineer. Contractors shall meet the requirements of COT 628 Signal and Lighting Project Contractor Experience Requirements.

2. The contractor shall obtain the necessary permits for electrical inspection on all signal and lighting work per COT Specification 626 Traffic Signal Construction and Operation. Use the address provided by City of Tulsa Traffic Operations. These addresses will need to be verified for all traffic signal service locations.

3. The contractor shall be responsible for the replacement of all existing traffic signs and markings removed or damaged as part of this project. All signs and posts provided shall be new and undamaged and shall meet the requirements of COT Specification 608 Traffic Signs.

4. All traffic materials removed shall be handled per COT Specification 625 Removal of Traffic Items.

5. Construct one phase at a time only.

6. Substantial completion of Phase 1 must be agreed upon by the Engineer before Phase 2 can begin. This applies to all phases.

7. Phases must be completed in numerical order.

8. Any traffic control setup utilized for this work shall follow Oklahoma Department of Transportation traffic control standards.

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

N

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**Build Grant/ LINK Traffic Signal Upgrades**

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

**Traffic Signal Construction Phasing**

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
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| PLAN SCALE: | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | KB | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
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APPROVED:

CITY ENGINEER

DATE: 06/13/2022

# TRAFFIC SIGNAL PAY ITEM NOTES:

1. 602 Conduits
   All conduit ends that are stubbed up above footings, in pull boxes, and in controller cabinets shall be reamed and bushings shall be installed prior to installing any wires.

2. 603 Signal Pole Footings: (Use for all signal and lighting pole foundations)
   Pole foundations shall be constructed according to the applicable requirements of ODOT Standard Specifications for Drilled Shaft Foundations as directed by the Traffic Engineer.

3. 610 Traffic Signal Controller Cabinet Assembly: (Use for standard signal cabinet installations - modify controller type and cabinet type to fit signal design)
   The traffic signal controller provided shall be an Econolite ATC Cobalt Controller in a 332 signal cabinet.

   Conflict Monitor shall be an 18 Channel EDI 2018ECLIP or approved equal. An Ethernet port shall be provided on the front panel. The Ethernet port shall be electrically isolated from the MMU electronics and shall provide minimum of 1500 Vrms isolation. The connecter shall be an RJ-45 eight pin connector. An HTML based capability shall be provided in the monitor to configure the network parameters of the MMU Ethernet port using a standard HTML browser. All display indicators shall be mounted on the front panel of the Signal Monitor and shall be water clear, T-1 package, Super Bright type LEDs. All fault LEDs shall be red except the PWR indicator which shall be green. A separate Red, Yellow and Green indicator shall be provided for each channel.

   Include 2-19"rack shelves, that are Chatsworth Products part number 10758-701 or approved equal, in addition to what is outlined in COT 610 specification. Racks shall be designed to hold small peripheral equipment in a central location. Each shelf typically holds two units and allows a convenient cable run down the inside of the rack channel. Rack shall hold equipment up to 17.35"W x 9.82"D and made of strong, lightweight aluminum that can support up to 50 lb.

4. 610 Traffic Signal Controller Cabinet Assembly:
   The Contractor shall deliver the signal cabinet fully wired and ready for installation to the COT Traffic Operations Division for inspection and approval prior to installation. COT will notify the contractor of any deficiencies or approve the cabinet within two weeks per COT Specification 610 for Traffic Signal Controller Cabinet Assemblies.

5. 613 Audible Pedestrian Push Button:
   The Audible push buttons provided shall be Polara INS2 with either a shelf mount control unit or a Card Rack/300 Series Control Unit. Push buttons shall be installed on poles such that the push buttons are installed within 10 inches maximum from the edge of the level, all-weather surface (sidewalk landing) and within 10 feet maximum and no closer than 30 inches from the face of the curb at ramps. Push buttons are to be mounted on the side of the pole closest to the corresponding crosswalk. When push buttons are located within 10 feet of each other, audible voice messages shall be used. The push buttons shall be factory programmed with the following verbal messages:

   **During Flashing Don't Walk and Steady Don't Walk:**
   **"Wait to cross (Street Name A) at (Street Name B)"**
   **During Walk:**
   **"(Street Name A) Walk sign is on to cross (Street Name A)"**

6. 614 LED Traffic Signal Heads:
   Hinges shall be located to the left side for 4-section signal heads.

   "This pay item shall include (63) 4-section backplates. All backplates provided on this project shall be aluminum, with a durable, factory-applied, non-reflective black finish (powder coated, baked enamel, or other style as approved by the Traffic Engineer) with louvers in the backplate." A 2 inch wide strip of fluorescent yellow retro-reflective tape, Type IX, shall be used at the front perimeter of the backplates.

7. 614 Pedestrian Signal Heads:
   The Pedestrian Signal Heads provided shall be Eagle 16"Pedestrian Signal Head or approved equal. All pedestrian signal heads shall be installed on the poles such that the signal heads are visible from the crosswalk.

8. 620 Video Detection:
   The video cameras provided shall meet the specifications for the Econolite Autoscope Vision cameras or approved equal. The video cameras provided shall detect vehicles, bicycles, and motorcycles on a roadway by processing video images that provide vehicle presence, traffic flow data, event alarms, and full-motion video for real-time traffic control and management systems. Video Detection Systems Materials for this bid shall also meet the following requirements:

   Video Detection Systems shall include all materials including video cameras, video cards, communications cards, cabling, and other materials as necessary to make video detection fully operational at an intersection.

   Video detection cameras shall use a three-wire system, not coaxial, utilizing Broadband Over Power Lines (BPL). Three-wire cameras are intended to be used to reduce interference in the system.

   Video detection cameras shall also be IP-addressable.

| BID ITEM | SPEC NO. | BID ITEM DESCRIPTION | UNIT | PAY ITEM NOTE | Quantity |
|---|---|---|---|---|---|
| 1 | 601 | PULL BOX SIZE II | EA | | 2 |
| 2 | 601 | PULL BOX SIZE III | EA | | 1 |
| 3 | 601 | PULL BOX SIZE III (CONTINGENCY) | EA | | 26 |
| 4 | 602 | 3" HDPE SCH 40 CONDUIT (TRENCH) | LF | 1 | 90 |
| 5 | 602 | 3" HDPE SCH 40 CONDUIT (DIRECTION BORE) | LF | 1 | 250 |
| 6 | 602 | 3" HDPE SCH 40 CONDUIT (DIRECTION BORE) (CONTINGENCY) | LF | 1 | 2998 |
| 7 | 603 | SIGNAL POLE FOOTING (24" F-1) | EA | 2 | 34 |
| 8 | 608 | TRAFFIC SIGNS | SF | | 398 |
| 9 | 610 | TRAFFIC SIGNAL CONTROLLER CABINET ASSEMBLY | EA | 3,4 | 12 |
| 10 | SPECIAL | TRAFFIC SIGNAL CONTROLLER REPLACEMENT (COBALT) | EA | | 14 |
| 11 | 611 | 4#14 TRAFFIC SIGNAL ELECTRICAL CABLE | LF | | 2980 |
| 12 | 611 | 20#14 TRAFFIC SIGNAL ELECTRICAL CABLE | LF | | 5822 |
| 13 | 611 | 7#14 TRAFFIC SIGNAL ELECTRICAL CABLE | LF | | 14108 |
| 14 | 611 | 2#14 SHIELDED ELECTRICAL CONDUCTOR | LF | | 2970 |
| 15 | SPECIAL | CAT 6 ETHERNET CABLE | LF | | 1350 |
| 16 | 612 | CABINET BASE, APRON AND GUARD | EA | | 12 |
| 17 | 613 | AUDIBLE PEDESTRIAN PUSH BUTTON STATION AND SIGN | EA | 5 | 145 |
| 18 | 613 | AUDIBLE PEDESTRIAN PUSH BUTTONS CONFIGURATION/PROGRAMMING DEVICE | EA | 5 | 23 |
| 19 | 613 | AUDIBLE PEDESTRIAN PUSH BUTTONS CONTROL CARD/UNIT | EA | 5 | 23 |
| 20 | 614 | LED 3 SECTION TRAFFIC SIGNAL HEAD (#36) | EA | 6 | 7 |
| 21 | SPECIAL | LED 4 SECTION TRAFFIC SIGNAL HEAD (S-13)L | EA | 6 | 50 |
| 22 | SPECIAL | CONFLICT MONITOR (18 CHANNEL EDI 2018 ECLIP) | EA | | 25 |
| 23 | 614 | LED ICC PEDESTRIAN HEAD (#33) | EA | 7 | 120 |
| 24 | 615 | BASE COVERS | EA | | 34 |
| 25 | 617 | TEN FOOT PEDESTAL POLE | EA | | 34 |
| 26 | 620 | VIDEO DETECTION SYSTEM | EA | 8 | 10 |
| 27 | 622 | WIRELESS TRAFFIC SIGNAL COMMUNCIATIONS SYSTEM | EA | 9 | 3 |
| 28 | 625 | REMOVAL OF TRAFFIC ITEMS | EA | 10 | 27 |
| 29 | 626 | TRAFFIC SIGNAL MAINTENANCE | HR | 11 | 540 |
| 30 | 626 | TRAFFIC SIGNAL MODIFICATIONS FROM LANE CLOSURES (PER SIGNALIZED INTERSECTION) | EA | 11 | 27 |
| 31 | SPECIAL | COMMUNICATION SWITCH (DYMEC KY-3170EM4) | EA | | 15 |
| 32 | SPECIAL | FIBER OPTIC JUMPERS | EA | | 54 |
| 33 | SPECIAL | PAN TILT ZOOM (PTZ) CAMERA | EA | 12 | 5 |
| 34 | SPECIAL | TRAFFIC CONTROL | EA | | 27 |

9. 622 Wireless Traffic Signal Communications System:
   Ethernet cable used for wireless signal communications shall be industrial grade shielded CAT 6, rated for outdoor use, unless otherwise specified in the project plans. Shielding shall be riser rated, polyolefin insulation shield bonded to an oil resistant and sun resistant PVC jacket. This pay item shall include approximately (75) linear feet of CAT 6 cable installed from the controller to the signal pole. Excess cable should be stored in the hand hole of the signal pole and in pull boxes. Use caution when working with CAT 6 cable not to bend or crimp the cable.

10. 625 Removal of Traffic Items:
    This pay item includes the removal and delivery of the following equipment to the City of Tulsa Traffic Operations shop at 3801 N. Harvard Avenue, which is to remain the property of the City of Tulsa. Traffic signal items include; multi-sided galvanized traffic signal poles, signal heads, pedestrian heads and push buttons, back plates, controller cabinet assembly, cabinet guard, undamaged pull box lids, mast arm signs, astro-brackets, span wire equipment and any other traffic signal equipment removed except for the pull boxes, conduit and wire which shall become the property of the contractor. The price bid shall include the removal of all footings below ground level or as directed by the engineer. Footings, green arm poles, and all other signal poles other than the multi-sided poles are to become the property of the contractor.

11. 626 Traffic SIgnal Maintenance and Signal Modifications for Lane Closures:
    This pay item is an estimated quantity to be used as deemed necessary by the engineer.

12. SPECIAL PROVISION Pan-Tilt-Zoom (PTZ) Cameras:
    This pay item includes a high-speed dome camera with progressive scan and 35X Zoom meeting the specifications of the Q6055E Network Dome Camera (or approved equal). Payment for this item shall also include the cost of housing, mounting hardware, and other appurtenances to make the PTZ operational. Power over Ethernet.

REGISTERED PROFESSIONAL ENGINEER
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OKLAHOMA
6/13/22

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811
1-800-522-OKIE
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Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Pay Item Notes

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
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| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
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| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZZW | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8.22 DESIGN MANAGER | | |
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APPROVED:
CITY ENGINEER
DATE: 06/13/2022

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 84 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 28 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 106 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 302 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 17 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 2 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | 2 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |


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SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTON/SIGNAL HEAD |
| - | SWC | PED PUSH BUTTON/SIGNAL HEAD |

SIGNAL DIAGRAMS

16"

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 5-6 | 2 - #33 ICC | CLAMP | N/A | N/A |

CALL OKIE 811

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E 50th Street N & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
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PLAN SCALE: 1" = 20'

PROFILE SCALE:

HORIZONTAL:

VERTICAL

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| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | | 7/22 |
| FIELD MGR. | | 7/22 |

RECOMMENDED: HAS 8.2.2
DESIGN MANAGER

APPROVED:

CITY ENGINEER

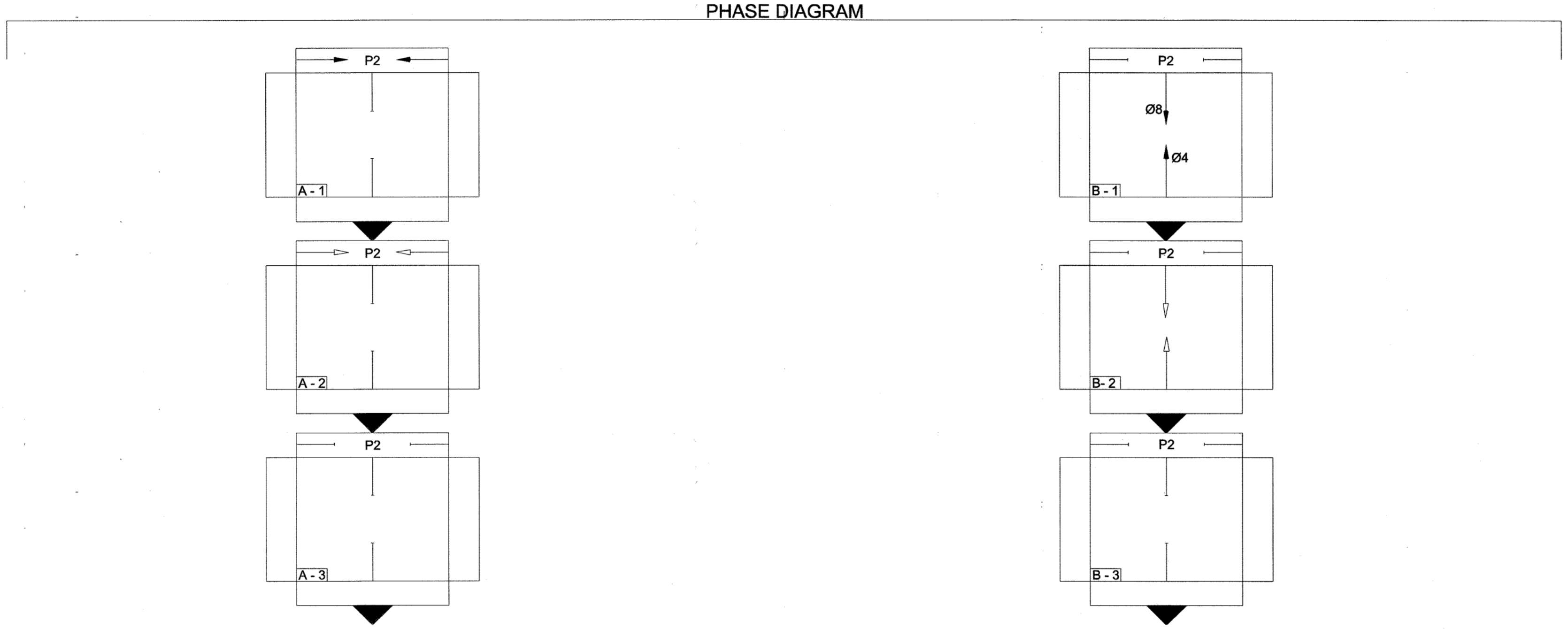
FILE: DRAWING:

DATE: 06/13/2022

ATLAS PAGE NO:

SHEET 5 OF 96 SHEETS

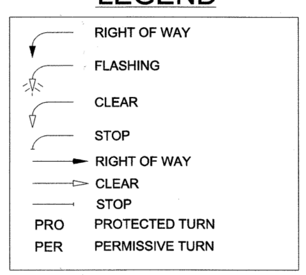
PHASE DIAGRAM

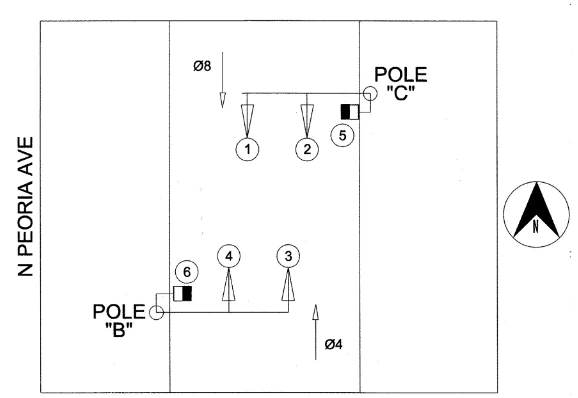



## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE Ø4 | PHASE Ø8 | PHASE P2 |
|---|---|---|---|---|
| | | SIGNAL HEAD NO. 1 + 2 | SIGNAL HEAD NO. 3 + 4 | SIGNAL HEAD NO. 5 + 6 |
| A 1 | P2 ROW | R | R | W |
| A 2 | P2 CL | R | R | FDW |
| A 3 | ALL RED | R | R | DW |
| | | | | |
| B 1 | Ø4, Ø8 ROW | G | G | DW |
| B 2 | Ø4, Ø8 CL | Y | Y | DW |
| B 3 | ALL RED | R | R | DW |
| | FLASHING RED | FR | FR | BLK |

## LEGEND




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Phasing
E 50th Street N & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
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REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA 6/13/22

| REVISION | BY | DATE |
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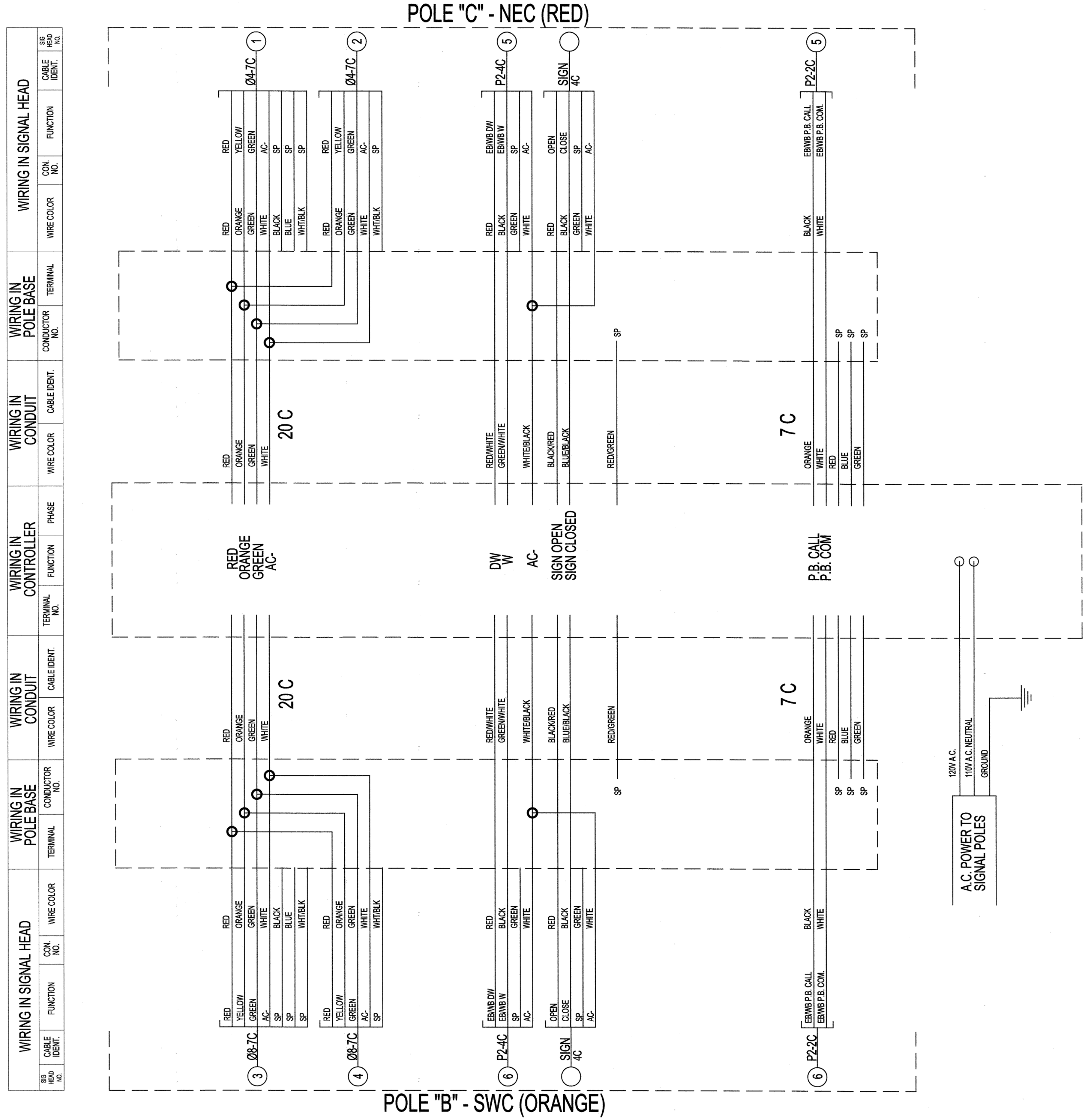
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | BB | 7/22 |
| | FIELD MGR. | ZZm | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

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|---|---|
| **Build Grant/ LINK Traffic Signal Upgrades** | |
| PROJECT NUMBER: 2035X001Z Phase 2 | |
| PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT | |
| **Intersection Wiring**<br>**E 50th Street N & N Peoria Avenue** | |
| HNTB<br>715 Kirk Dr.<br>Kansas City, MO 64105<br>816-472-1201 | BKL<br>1623 E. 6th St.<br>Tulsa, OK 74120<br>918-835-9588 |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

| REVISION | BY | DATE | PLAN SCALE: | | | | APPROVED: |
|---|---|---|---|---|---|---|---|
| | | | NTS | DRAWN | | | |
| | | | | DESIGNED | | | |
| | | | | SURVEY | | | |
| | | | PROFILE SCALE: | PROJ. MGR. | RF | 6/22 | |
| | | | HORIZONTAL: | LEAD ENGR. | | 7/22 | |
| | | | | FIELD MGR. | | 7/22 | |
| | | | VERTICAL | RECOMMENDED: HRS 8.22<br>DESIGN MANAGER | | | CITY ENGINEER |
| | | | FILE: | DRAWING: | | | DATE: 06/13/2022 |
| | | | ATLAS PAGE NO: | | | | SHEET 7 OF 82 SHEETS |

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## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

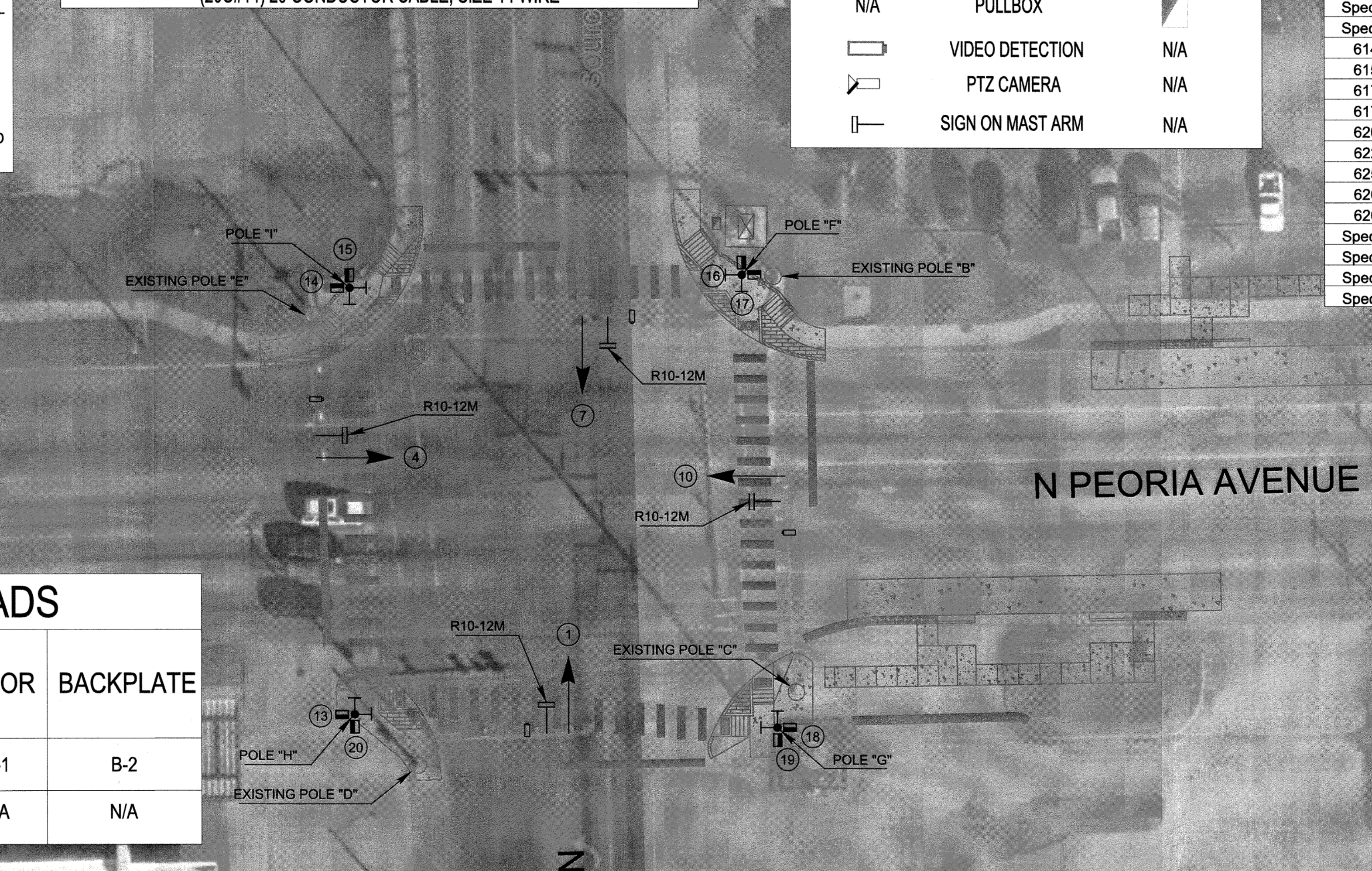
| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 112 |
| 603 | Signal Pole Footing (24" F-1) | EA | 4 |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 250 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 272 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 206 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | 4 |
| 617 | Ten Foot Pedestal Pole | EA | 4 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

## SIGNAL DIAGRAMS

12" (S-13)L

16" #33 (ICC)

## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| F | 10' | N/A | F - 1 |
| G | 10' | N/A | F - 1 |
| H | 10' | N/A | F - 1 |
| I | 10' | N/A | F - 1 |

CALL OKIE

-10' 0' 10' 20'
SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Plan
E 46th Street N & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

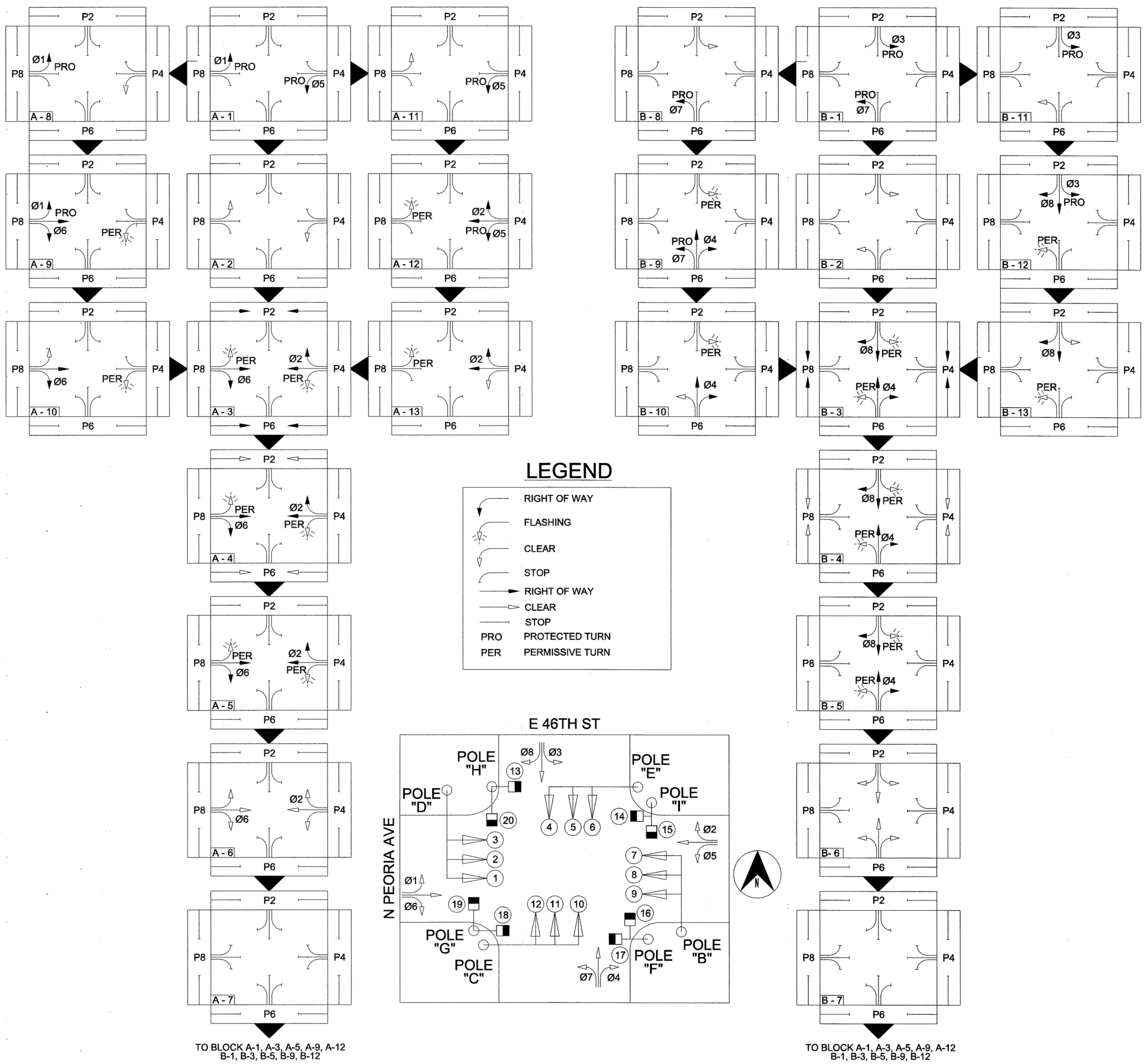
| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | | 7/22 |
| FIELD MGR. | | 7/22 |
| RECOMMENDED: | HAS | 8-22 |
| DESIGN MANAGER | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

FILE: DRAWING:
ATLAS PAGE NO:

SHEET 8 OF 96 SHEETS

## PHASE DIAGRAM



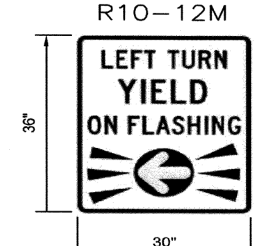

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | Ø7 | Ø4 | Ø1 | Ø6 | Ø3 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 + 3 | 4 | 5 + 6 | 7 | 8 + 9 | 10 | 11 + 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, ROW | G | R | R | R | G | R | R | R | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, CL | Y | R | R | R | Y | R | R | R | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | FY | G | R | R | FY | G | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | FY | G | R | R | FY | G | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | FY | G | R | R | FY | G | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | Y | Y | R | R | Y | Y | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | Y | R | R | R | G | R | R | R | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 ROW | FY | R | R | R | G | G | R | R | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | FY | R | R | R | Y | G | R | R | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | G | R | R | R | Y | R | R | R | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | G | G | R | R | FY | R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | Y | G | R | R | FY | R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7 ROW | R | R | G | R | R | R | G | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7 CL | R | R | Y | R | R | R | Y | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | R | R | FY | G | R | R | FY | G | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | R | R | FY | G | R | R | FY | G | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | R | R | FY | G | R | R | FY | G | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | R | R | Y | Y | R | R | Y | Y | DW | DW | DW | DW |
| B 7 | ALL RED | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| B 8 | Ø7 ROW & Ø3 CL | R | R | G | R | R | R | Y | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7 ROW | R | R | G | G | R | R | FY | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7 CL | R | R | Y | G | R | R | FY | R | DW | DW | DW | DW |
| B 11 | Ø3 ROW & Ø7 CL | R | R | Y | R | R | R | G | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8 ROW | R | R | FY | R | R | R | G | G | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 CL | R | R | FY | R | R | R | Y | G | DW | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | FR | FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10–12M




REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E 46th Street N & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
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| | | |

PLAN SCALE: NTS

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | LSB | 7/22 |
| FIELD MGR. | ZMW | 7/22 |
| RECOMMENDED: | HAS | 8·22 |
| DESIGN MANAGER | | |

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FILE: DRAWING:

ATLAS PAGE NO:

DATE: 06/13/2022

SHEET 9 OF 82 SHEETS

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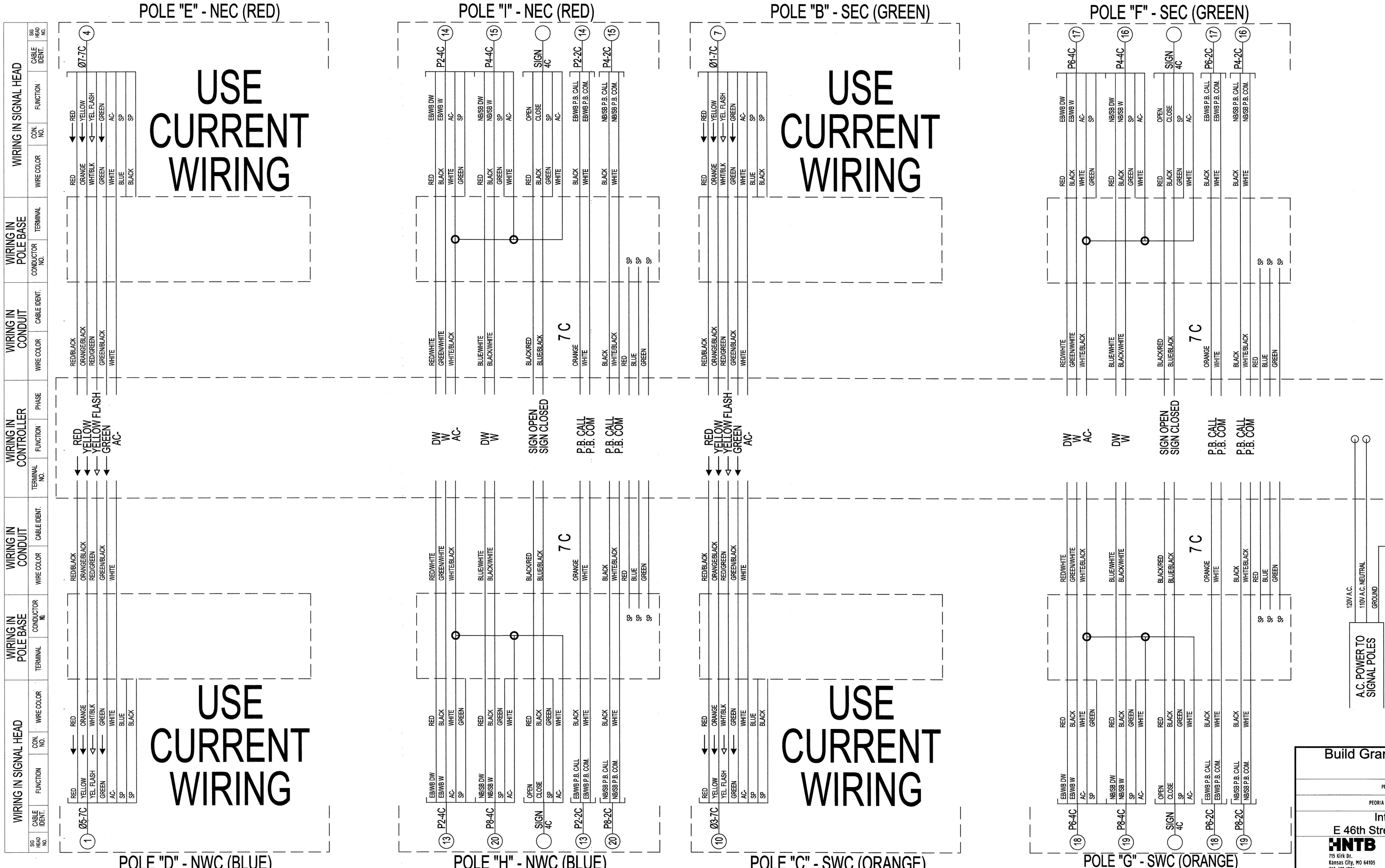



Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
E 46th Street N & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: NTS
PROFILE SCALE:
HORIZONTAL:
VERTICAL
FILE:
ATLAS PAGE NO:

DRAWN
DESIGNED
SURVEY
PROJ. MGR. RF 6/22
LEAD ENGR. DB 7/22
FIELD MGR. ZW 7/22
RECOMMENDED: HAS 8-22
DESIGN MANAGER
DRAWING:

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

SHEET 10 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

BEFORE YOU DIG
811
CALL OKIE

## SIGNAL NOTES:

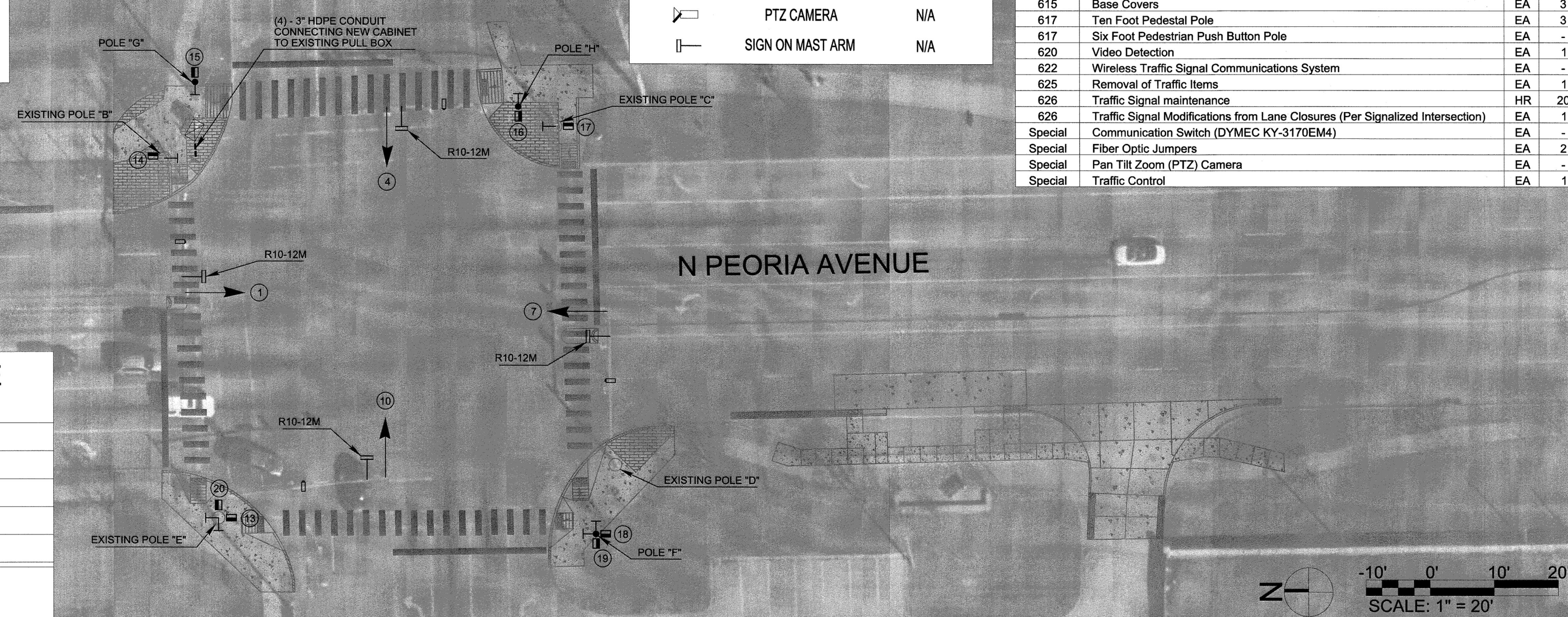
1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 115 |
| 603 | Signal Pole Footing (24" F-1) | EA | 3 |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 186 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 596 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1323 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 142 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | 3 |
| 617 | Ten Foot Pedestal Pole | EA | 3 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |



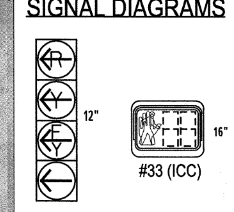

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

SIGNAL DIAGRAMS




## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| F, G, H | 10' | N/A | F - 1 |

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E Apache Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | | 7/22 |
| | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8.22<br>DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

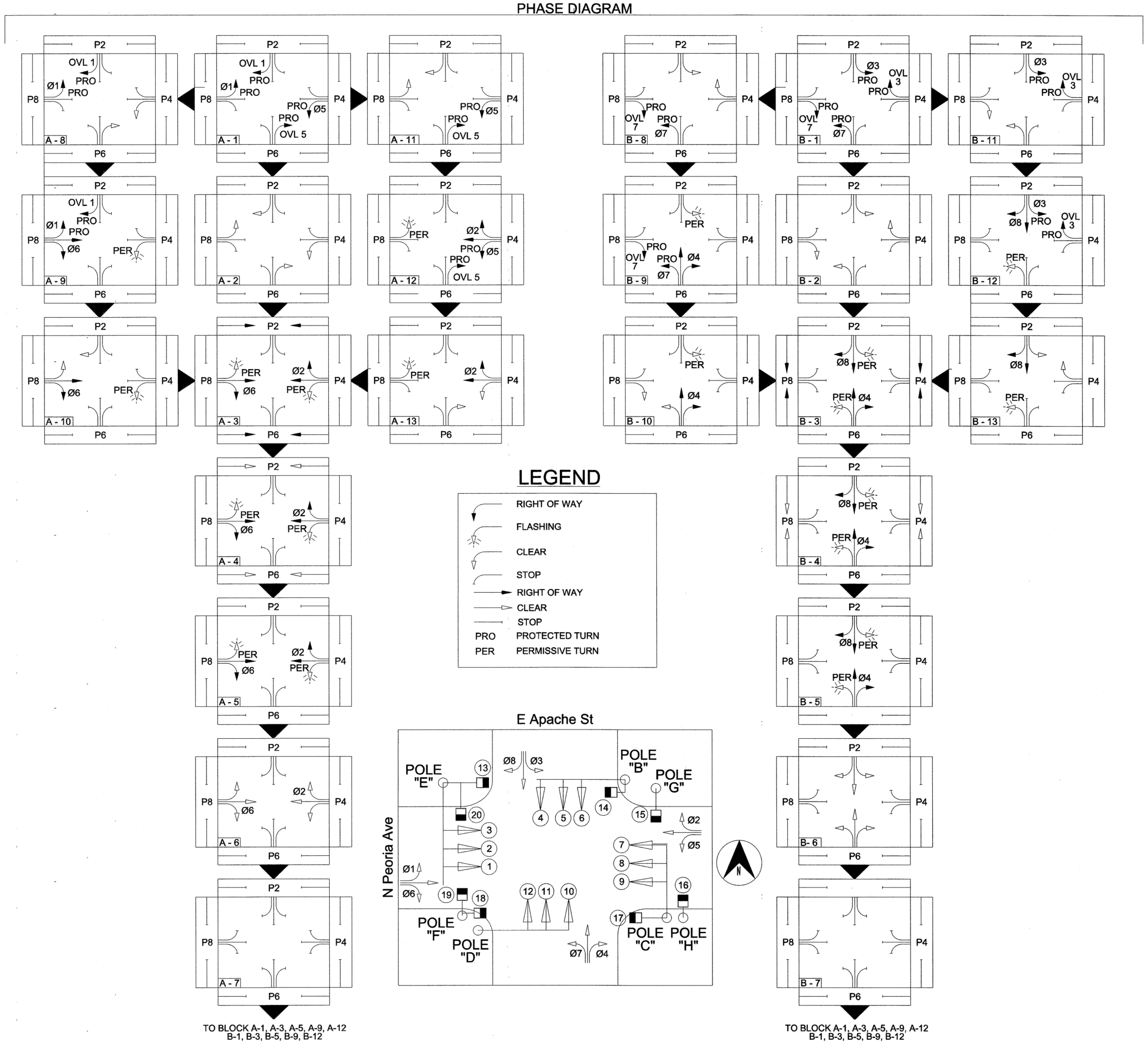
APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 11 OF 96 SHEETS

## PHASE DIAGRAM



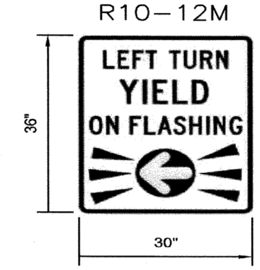

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | OVL 3 | Ø7 | Ø4 | OVL 5 | Ø1 | Ø6 | OVL 7 | Ø3 | Ø8 | OVL 1 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, OVL 1, OVL 5 ROW | ←G | R | R | ←R | R | R / G→ | ←G | R | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, OVL 1, OVL 5 CL | ←Y | R | R | ←R | R | R / Y→ | ←Y | R | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←FY | G | R | ←R | R | R | ←FY | G | R | ←R | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←FY | G | R | ←R | R | R | ←FY | G | R | ←R | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←FY | G | R | ←R | R | R | ←FY | G | R | ←R | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←Y | Y | R | ←R | R | R | ←Y | Y | R | ←R | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | R | ←R | R | R | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| A 8 | Ø1, OVL 1 ROW & Ø5, OVL 5 CL | ←Y | R | R | ←R | R | R / Y→ | ←G | R | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 9 | Ø1, Ø6, OVL 1 ROW | ←FY | R | R | ←R | R | R | ←G | G | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1, OVL 1 CL | ←FY | R | R | ←R | R | R | ←Y | G | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 11 | Ø5, OVL 5 ROW & Ø1, OVL 1 CL | ←G | R | R | ←R | R | R / G→ | ←Y | R | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 12 | Ø2, Ø5, OVL 5 ROW | ←G | G | R | ←R | R | R / G→ | ←FY | R | R | ←R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5, OVL 5 CL | ←Y | G | R | ←R | R | R / Y→ | ←FY | R | R | ←R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7, OVL 3, OVL 7 ROW | ←R | R | R / G→ | ←G | R | R | ←R | R | R / G→ | ←G | R | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7, OVL 3, OVL 7 CL | ←R | R | R / Y→ | ←Y | R | R | ←R | R | R / Y→ | ←Y | R | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ←R | R | R | ←FY | G | R | ←R | R | R | ←FY | G | R | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | ←R | R | R | ←FY | G | R | ←R | R | R | ←FY | G | R | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ←R | R | R | ←FY | G | R | ←R | R | R | ←FY | G | R | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ←R | R | R | ←Y | Y | R | ←R | R | R | ←Y | Y | R | DW | DW | DW | DW |
| B 7 | ALL RED | ←R | R | R | ←R | R | R | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| B 8 | Ø7, OVL 7 ROW & Ø3, OVL 3 CL | ←R | R | R / Y→ | ←G | R | R | ←R | R | R / G→ | ←Y | R | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7, OVL 7 ROW | ←R | R | R | ←G | G | R | ←R | R | R / G→ | ←FY | R | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7, OVL 7 CL | ←R | R | R | ←Y | G | R | ←R | R | R / Y→ | ←FY | R | R | DW | DW | DW | DW |
| B 11 | Ø3, OVL 3 ROW & Ø7, OVL 7 CL | ←R | R | R / G→ | ←Y | R | R | ←R | R | R / Y→ | ←G | R | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8, OVL 3 ROW | ←R | R | R / G→ | ←FY | R | R | ←R | R | R | ←G | G | R | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 OVL 3 CL | ←R | R | R / Y→ | ←FY | R | R | ←R | R | R | ←Y | G | R | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | FR | ←FR | FR | FR | ←FR | FR | FR | ←FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10–12M




PAUL D. HUNTER 18692 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E Apache Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | [illegible] | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

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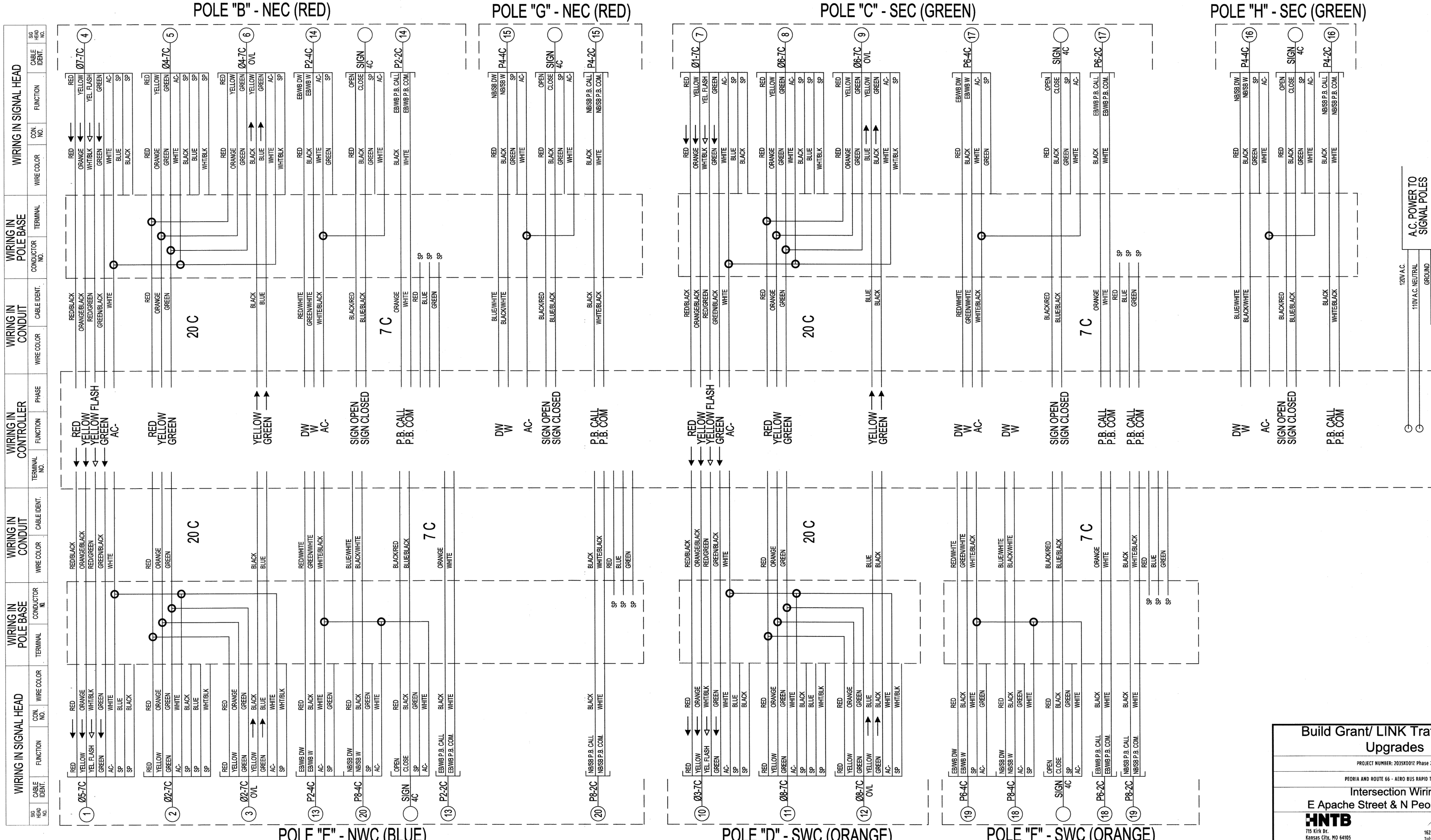
DATE: 06/13/2022

SHEET 12 OF 82 SHEETS




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E Apache Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

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|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | AB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZBM | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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DATE: 06/13/2022

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

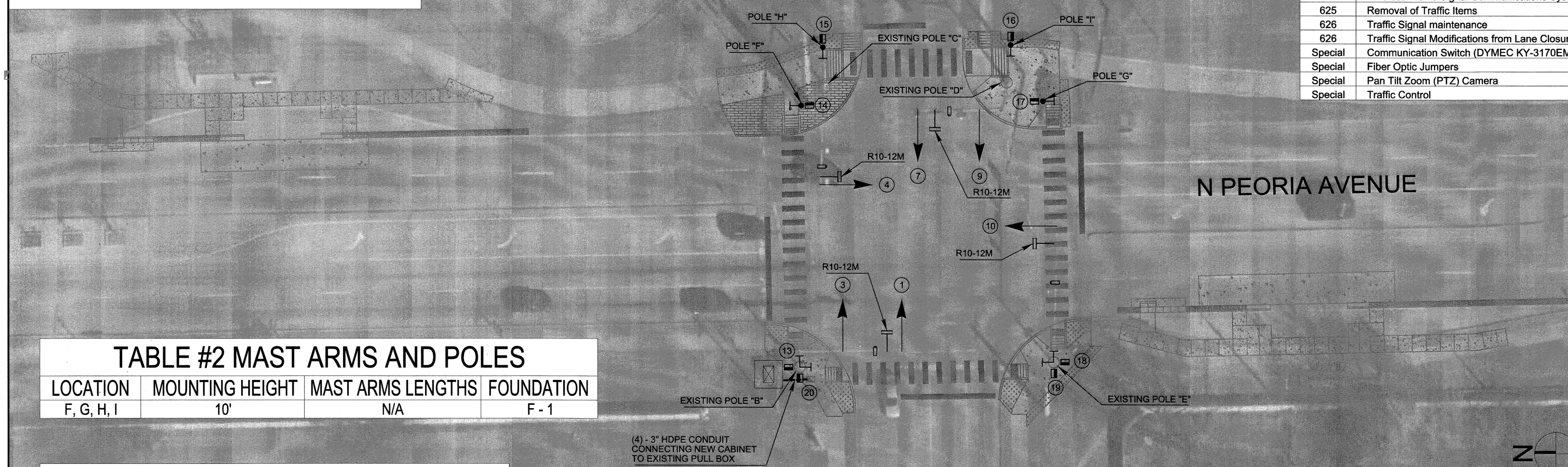
| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 110 |
| 603 | Signal Pole Footing (24" F-1) | EA | 4 |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 185 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 509 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1124 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 141 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | 2 |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | 4 |
| 617 | Ten Foot Pedestal Pole | EA | 4 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| F, G, H, I | 10' | N/A | F - 1 |

N

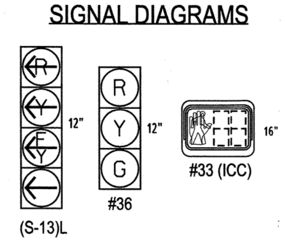
-10' 0' 10' 20'

SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

### SIGNAL DIAGRAMS




## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 3, 9 | 2 - #36 (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER
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18692
OKLAHOMA
6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E Virgin Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
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| | | | |
|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | AF | 6/22 |
| | LEAD ENGR. | LSB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZZM | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8·22<br>DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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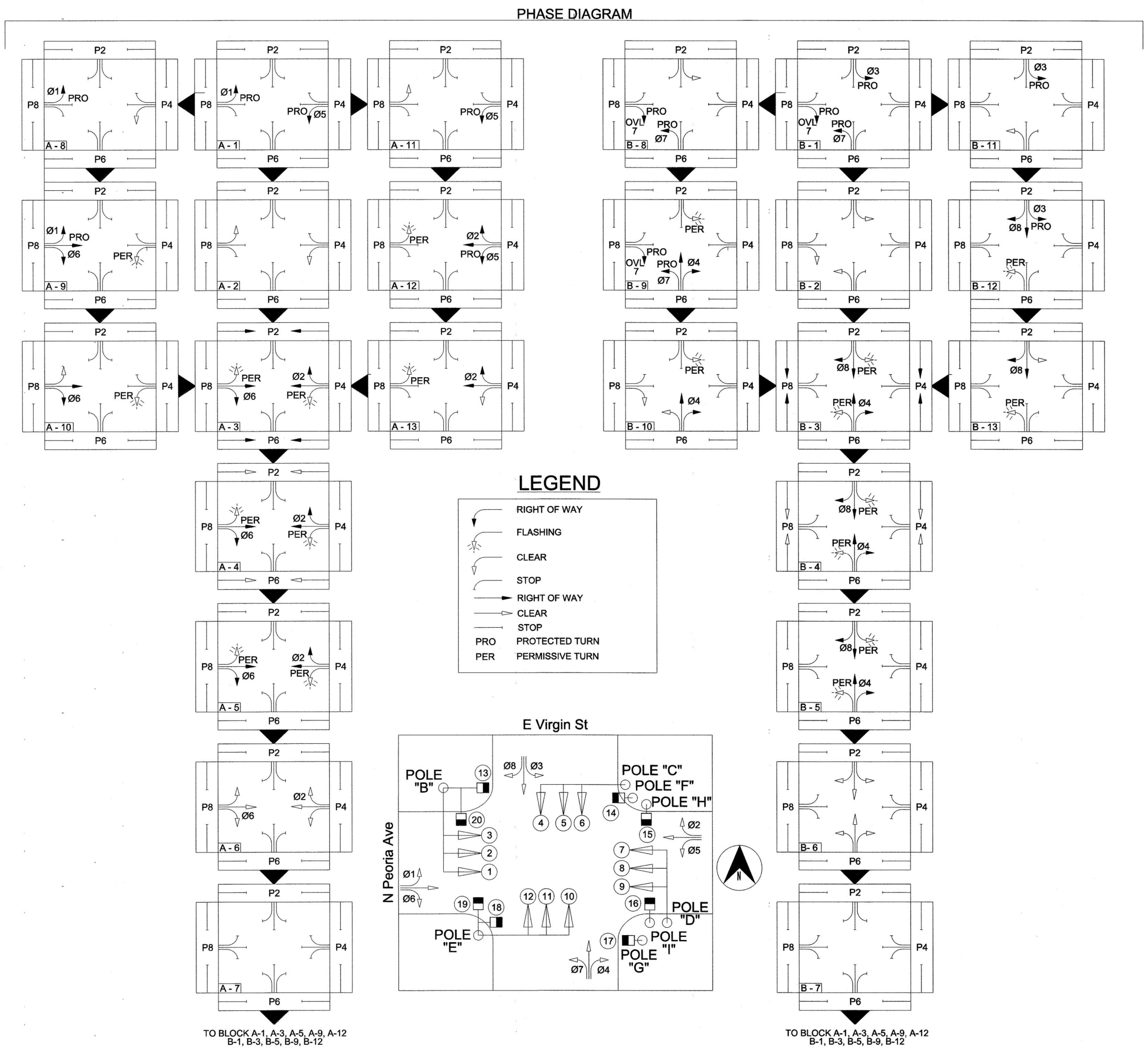
CITY ENGINEER

DATE: 06/13/2022

SHEET 14 OF 96 SHEETS



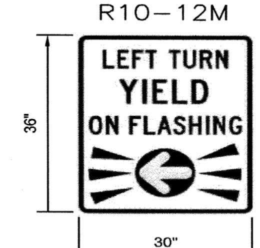

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE Ø5 | Ø2 | Ø7 | Ø4 | Ø1 | Ø6 / OVL7 | Ø3 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. 1 | 2 + 3 | 4 | 5 + 6 | 7 | 8 + 9 | 10 | 11 + 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, ROW | ←G | R | ←R | R | ←G | R | ←R | R | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, CL | ←Y | R | ←R | R | ←Y | R | ←R | R | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←FY | G | ←R | R | ←FY | G | ←R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←FY | G | ←R | R | ←FY | G | ←R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←FY | G | ←R | R | ←FY | G | ←R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←Y | Y | ←R | R | ←Y | Y | ←R | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | ←R | R | ←R | R | ←R | R | DW | DW | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | ←Y | R | ←R | R | ←G | R | ←R | R | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 ROW | ←FY | R | ←R | R | ←G | G | ←R | R | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | ←FY | R | ←R | R | ←Y | G | ←R | R | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | ←G | R | ←R | R | ←Y | R | ←R | R | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | ←G | G | ←R | R | ←FY | R | ←R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | ←Y | G | ←R | R | ←FY | R | ←R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7, OVL 7 ROW | ←R | R | ←G | R | ←R | R / ←G | ←G | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7, OVL 7 CL | ←R | R | ←Y | R | ←R | R / ←Y | ←Y | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ←R | R | ←Y | Y | ←R | R | ←Y | Y | DW | DW | DW | DW |
| B 7 | ALL RED | ←R | R | ←R | R | ←R | R | ←R | R | DW | DW | DW | DW |
| B 8 | Ø7, OVL 7 ROW & Ø3 CL | ←R | R | ←G | R | ←R | R / ←G | ←Y | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7, OVL 7 ROW | ←R | R | ←G | G | ←R | R / ←G | ←FY | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7, OVL 7 CL | ←R | R | ←Y | G | ←R | R / ←Y | ←FY | R | DW | DW | DW | DW |
| B 11 | Ø3 ROW & Ø7 CL | ←R | R | ←Y | R | ←R | R | ←G | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8 ROW | ←R | R | ←FY | R | ←R | R | ←G | G | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 CL | ←R | R | ←FY | R | ←R | R | ←Y | G | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | ←FR | FR | ←FR | FR | ←FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10–12M

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REGISTERED PROFESSIONAL ENGINEER
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

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918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| PLAN SCALE: NTS | DRAWN | | |
|---|---|---|---|
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | | 7/22 |
| | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS 8.22 | |
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| ATLAS PAGE NO: | | | |

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SHEET 15 OF 82 SHEETS

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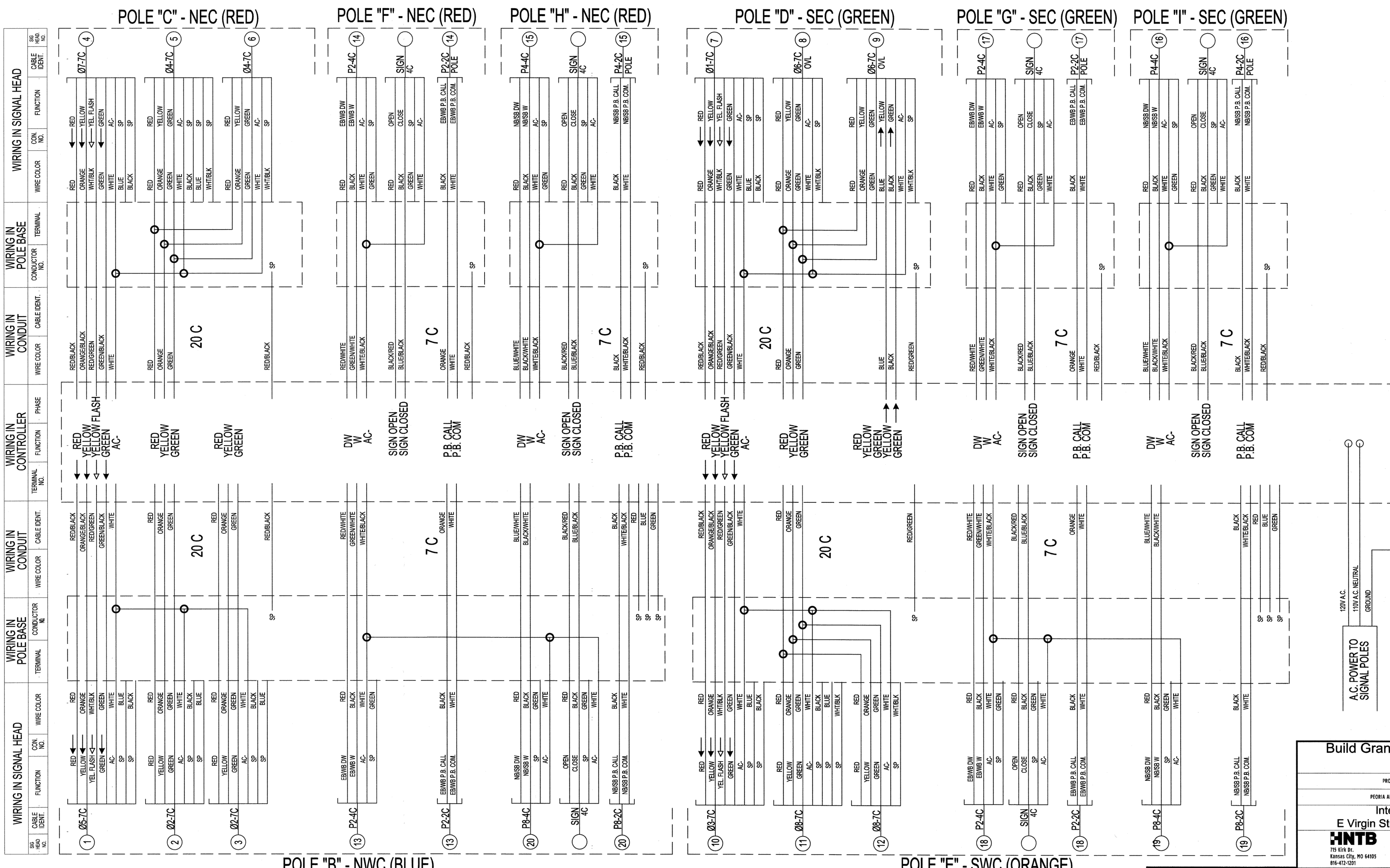


Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
E Virgin Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
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| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: | HAS | 8-22 |
| | DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
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SHEET 16 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
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18602
OKLAHOMA
6/13/22

811 CALL OKIE

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

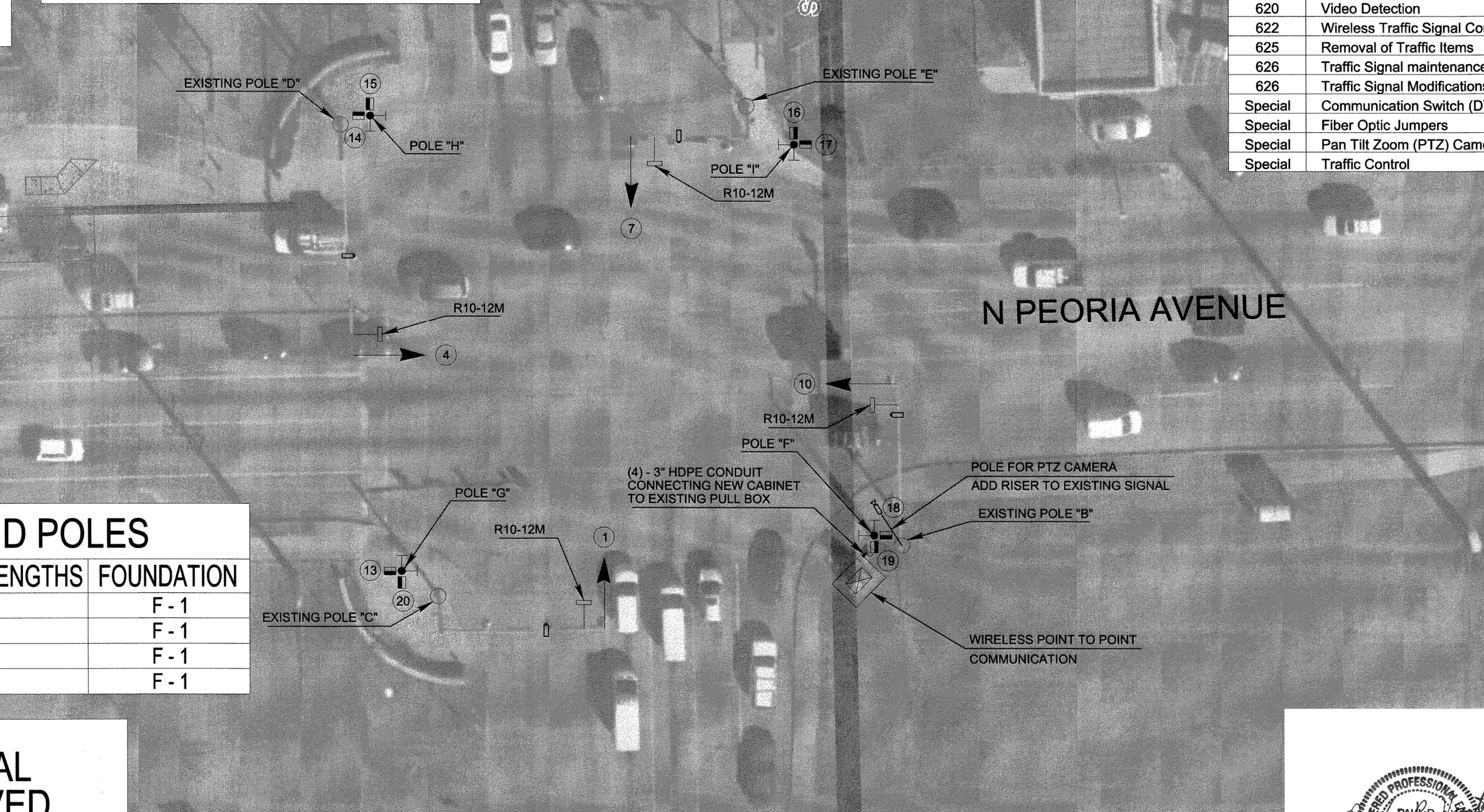
| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 148 |
| 603 | Signal Pole Footing (24" F-1) | EA | 4 |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 240 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 574 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1236 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 196 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | 4 |
| Special | LED 4 section traffic signal head (S-13L) | EA | 1 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 8 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | 4 |
| 617 | Ten Foot Pedestal Pole | EA | 4 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | 1 |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | 1 |
| Special | Traffic Control | EA | 1 |




SCALE: 1" = 20'

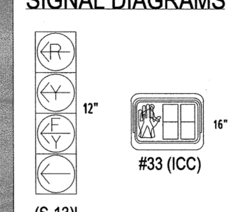
## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| F | 10' | N/A | F - 1 |
| G | 10' | N/A | F - 1 |
| H | 10' | N/A | F - 1 |
| I | 10' | N/A | F - 1 |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

## SIGNAL DIAGRAMS




## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

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REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E Pine Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | BSb | 7/22 |
| FIELD MGR. | | 7/22 |
| RECOMMENDED: | HAS | 8-22 |

DESIGN MANAGER

APPROVED:

CITY ENGINEER

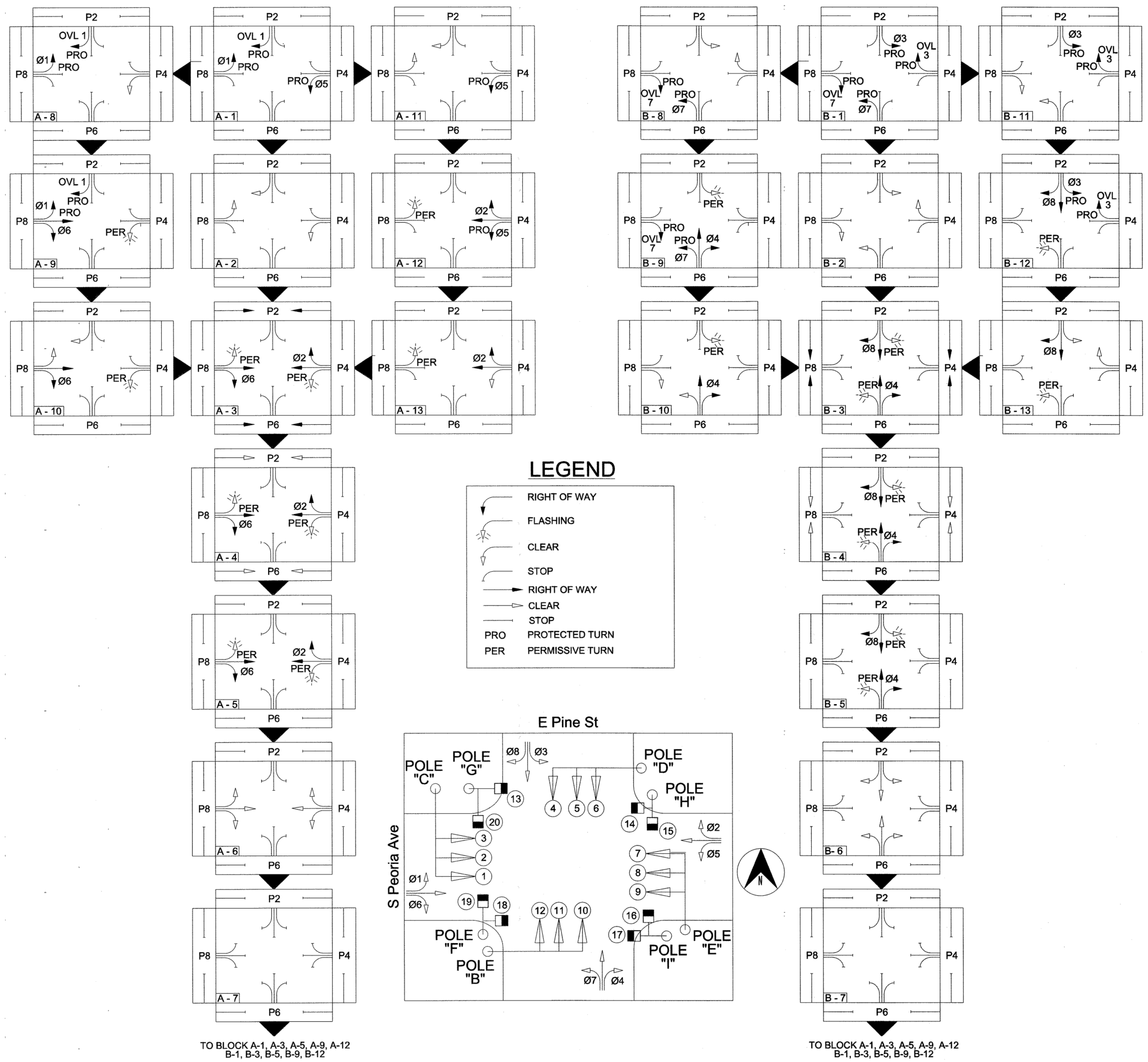
DATE: 06/13/2022

FILE: DRAWING:

ATLAS PAGE NO:

SHEET 17 OF 96 SHEETS

## PHASE DIAGRAM



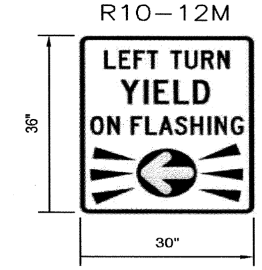

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | OVL 3 | Ø7 | Ø4 | Ø1 | Ø6 | OVL 7 | Ø3 | Ø8 | OVL 1 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 | 3 | 4 | 5 + 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, OVL 1 ROW | G | R | R | R | R | G | R | R | R | R | R / G | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, OVL 1 CL | Y | R | R | R | R | Y | R | R | R | R | R / Y | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | FY | G | R | R | R | FY | G | R | R | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | FY | G | R | R | R | FY | G | R | R | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | FY | G | R | R | R | FY | G | R | R | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | Y | Y | R | R | R | Y | Y | R | R | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | R | R | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| A 8 | Ø1, OVL 1 ROW & Ø5 CL | Y | R | R | R | R | G | R | R | R | R | R / G | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 OVL 1 ROW | FY | R | R | R | R | G | G | R | R | R | R / G | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1, OVL 1 CL | FY | R | R | R | R | Y | G | R | R | R | R / Y | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1, OVL 1 CL | G | R | R | R | R | Y | R | R | R | R | R / Y | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | G | G | R | R | R | FY | R | R | R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | Y | G | R | R | R | FY | R | R | R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7, OVL 3, OVL 7 ROW | R | R | R / G | G | R | R | R | R / G | G | R | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7, OVL 3, OVL 7 CL | R | R | R / Y | Y | R | R | R | R / Y | Y | R | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | R | R | R | FY | G | R | R | R | FY | G | R | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW P4, P8 CL | R | R | R | FY | G | R | R | R | FY | G | R | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | R | R | R | FY | G | R | R | R | FY | G | R | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | R | R | R | Y | Y | R | R | R | Y | Y | R | DW | DW | DW | DW |
| B 7 | ALL RED | R | R | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| B 8 | Ø7, OVL 7 ROW Ø3, OVL 3 CL | R | R | R / Y | G | R | R | R | R / G | Y | R | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7, OVL 7 ROW | R | R | R | G | G | R | R | R / G | FY | R | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW Ø7, OVL 7 CL | R | R | R | Y | G | R | R | R / Y | FY | R | R | DW | DW | DW | DW |
| B 11 | Ø3, OVL 3 ROW Ø7, OVL 7 CL | R | R | R / G | Y | R | R | R | R / Y | G | R | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8, OVL 3 ROW | R | R | R / G | FY | R | R | R | R | G | G | R | DW | DW | DW | DW |
| B 13 | Ø8 ROW Ø3 OVL 3 CL | R | R | R / Y | FY | R | R | R | R | Y | G | R | DW | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | FR | FR | FR | FR | FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10–12M




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E Pine Street & N Peoria Avenue

REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA
6/13/22

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

CALL OKIE

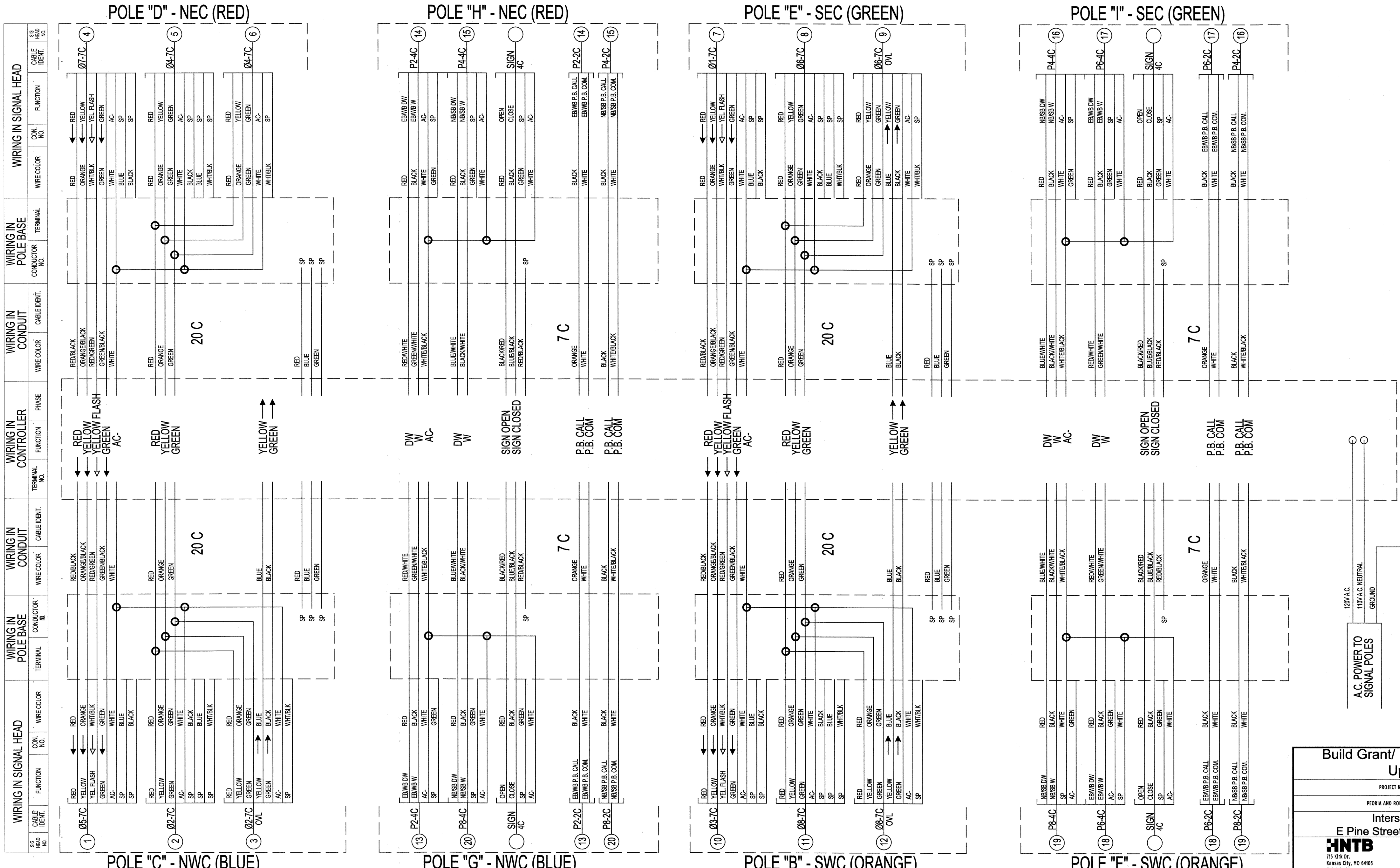
| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | KSB | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: HMS 8.22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E Pine Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: NTS

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | | 7/22 |
| FIELD MGR. | | 7/22 |
| RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

FILE:

DRAWING:

ATLAS PAGE NO:

SHEET 19 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

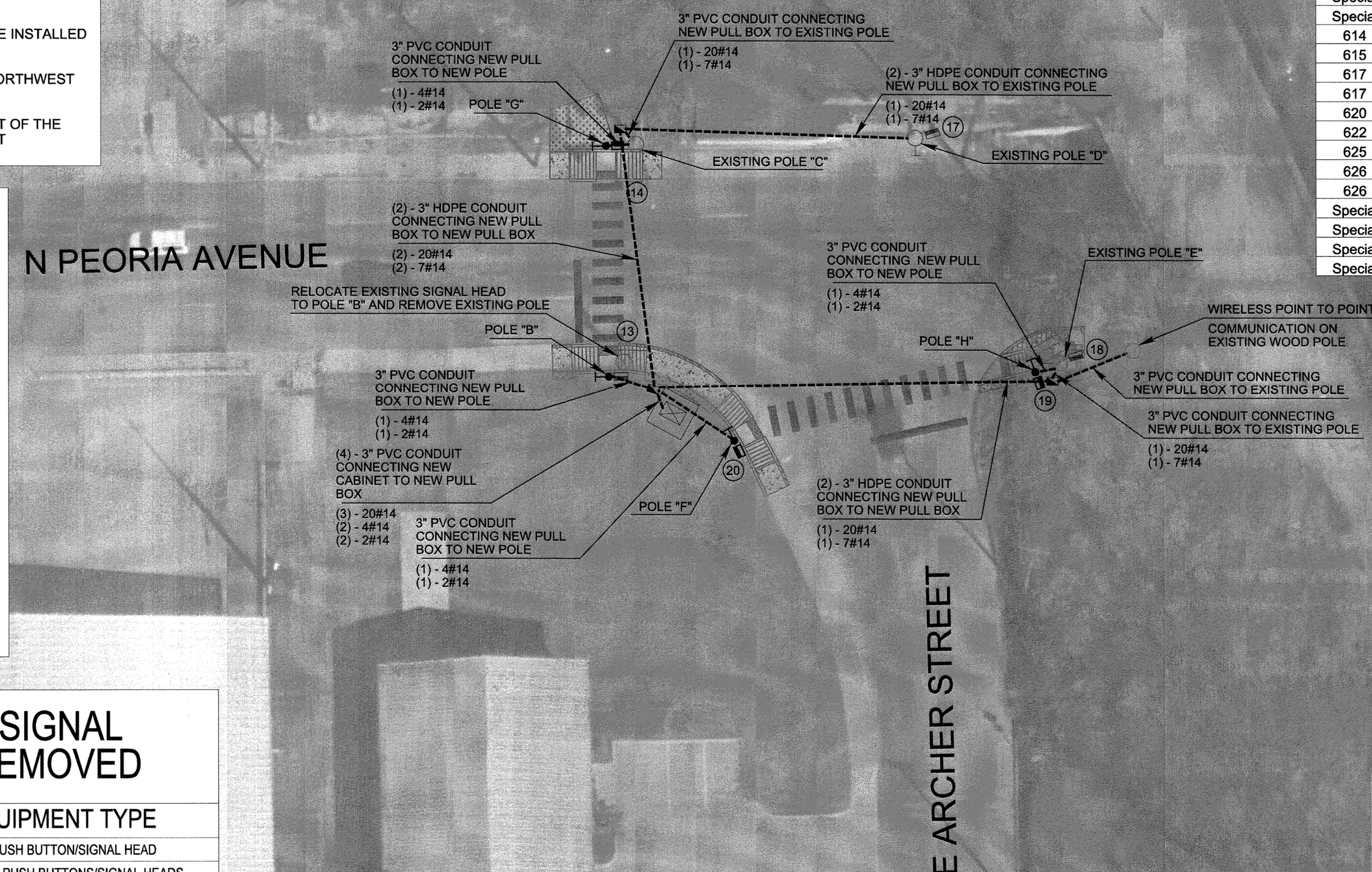
BEFORE YOU DIG CALL OKIE 811

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.
9. RELOCATE EXISTING 3 SECTION SIGNAL HEAD FROM POLE IN NORTHWEST QUADRANT TO POLE "B", AND REMOVE EXISTING PEDESTAL POLE.
10. INSTALL NEW SIZE III PULL BOX IN THE NORTHWEST QUADRANT OF THE INTERSECTION. SIZE II PULL BOX IN NORTHEAST AND SOUTHWEST QUADRANTS OF THE INTERSECTION

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |




## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size II | EA | 2 |
| 601 | Pull Box Size III | EA | 1 |
| 602 | 3" PVC Sch 40 Conduit (Trench) | LF | 90 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) | LF | 250 |
| 603 | Signal Pole Footing (24" F-1) | EA | 4 |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 56 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 401 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 669 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 34 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 4 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | 4 |
| 615 | Base Covers | EA | 4 |
| 617 | Ten Foot Pedestal Pole | EA | 4 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | 1 |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |

-10' 0' 10' 20'
SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTON/SIGNAL HEAD |
| - | SWC | NB/SB PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | EXISTING PEDESTAL POLE |

## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| B | 10' | N/A | F - 1 |
| F | 10' | N/A | F - 1 |
| G | 10' | N/A | F - 1 |
| H | 10' | N/A | F - 1 |

SIGNAL DIAGRAMS

16"
#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 13, 14, 19, 20 | 4 - #33 ICC | CLAMP | N/A | N/A |

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REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E Archer Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

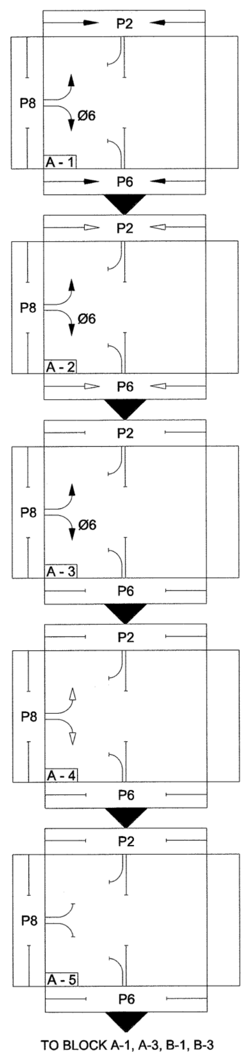
PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

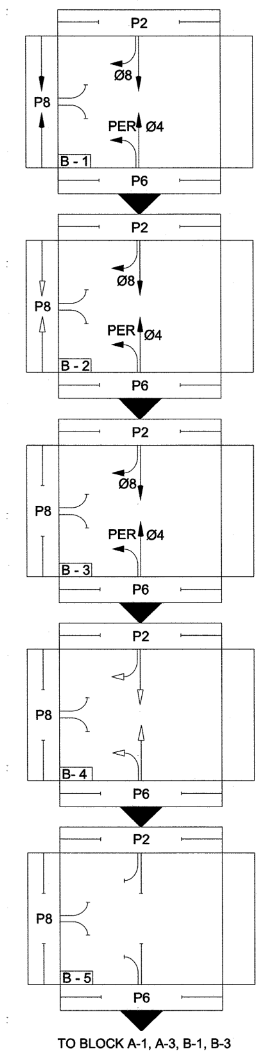
| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | KCh | 7/22 |
| FIELD MGR. | BZ | 7/22 |
| RECOMMENDED: | HAS | 8-22 |
| DESIGN MANAGER | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

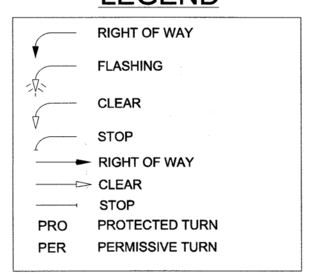
FILE: DRAWING:
ATLAS PAGE NO:

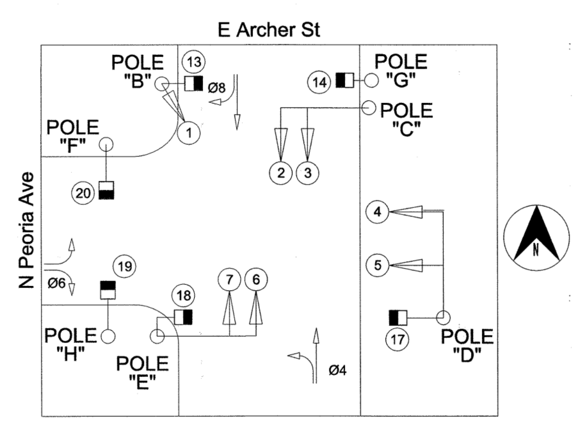
## PHASE DIAGRAM




## LEGEND




## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø4 | Ø6 | Ø8 | P2 | P6 | P8 |
|---|---|---|---|---|---|---|---|
| | | PHASE | | | | | |
| | | SIGNAL HEAD NO. | | | | | |
| | | 1+2+3 | 4 + 5 | 6 + 7 | 13 + 14 | 17 + 18 | 19 + 20 |
| A 1 | Ø6, P2, P6 ROW | R | G | R | W | W | DW |
| A 2 | Ø6 ROW & P2, P6 CL | R | G | R | FDW | FDW | DW |
| A 3 | Ø6 ROW | R | G | R | DW | DW | DW |
| A 4 | Ø6 CL | R | Y | R | DW | DW | DW |
| A 5 | ALL RED | R | R | R | DW | DW | DW |
| | | | | | | | |
| B 1 | Ø4, Ø8, P8 ROW | G | R | G | DW | DW | W |
| B 2 | Ø4, Ø8 ROW & P8 CL | G | R | G | DW | DW | FDW |
| B 3 | Ø4, Ø8 ROW | G | R | G | DW | DW | DW |
| B 4 | Ø4, Ø8 CL | Y | R | Y | DW | DW | DW |
| B 5 | ALL RED | R | R | R | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | BLK | BLK | BLK |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E Archer Street & N Peoria Avenue

HNTB
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Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | LCB | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 21 OF 82 SHEETS

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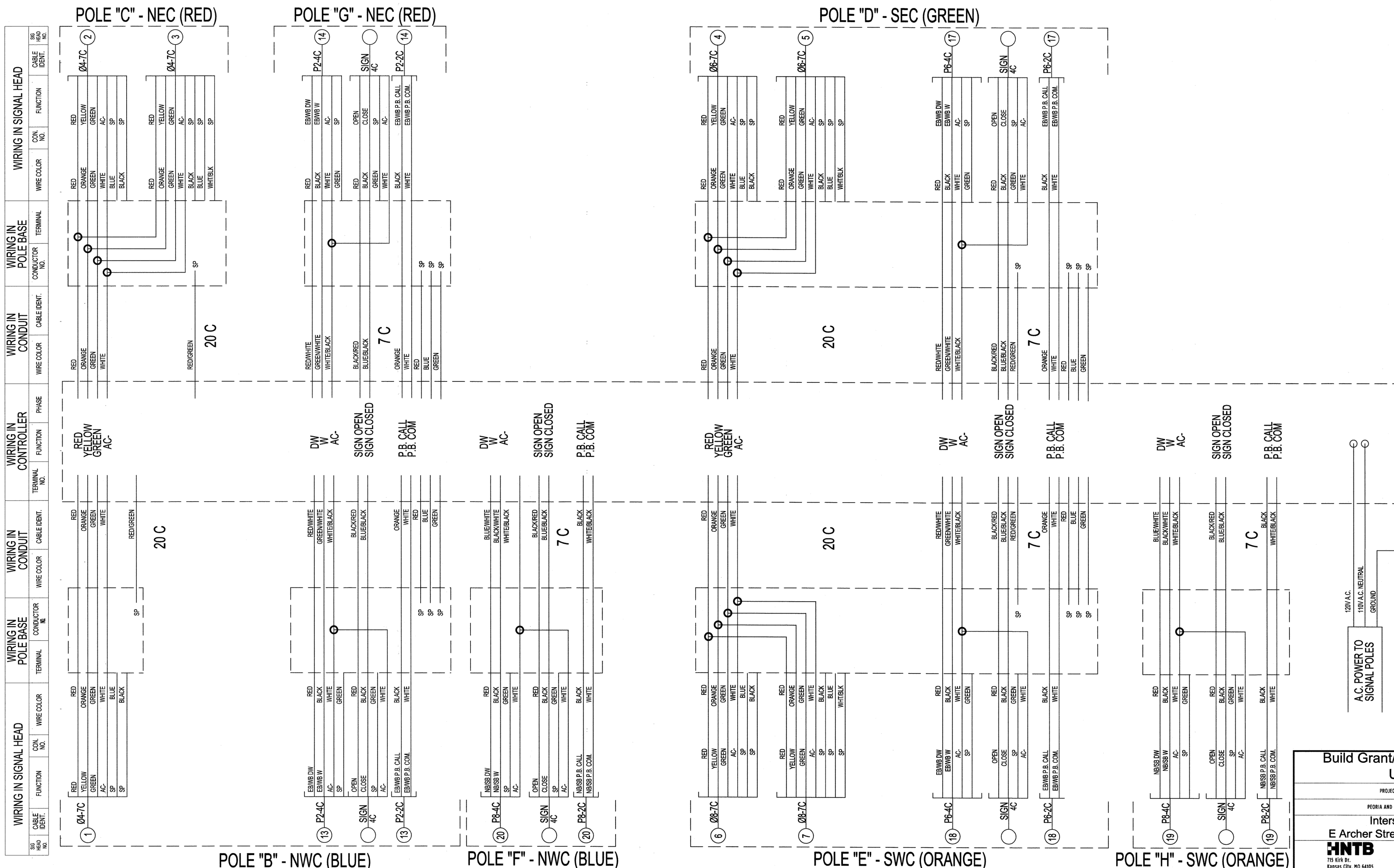



# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E Archer Street & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | KF | 6/22 |
| | LEAD ENGR. | | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

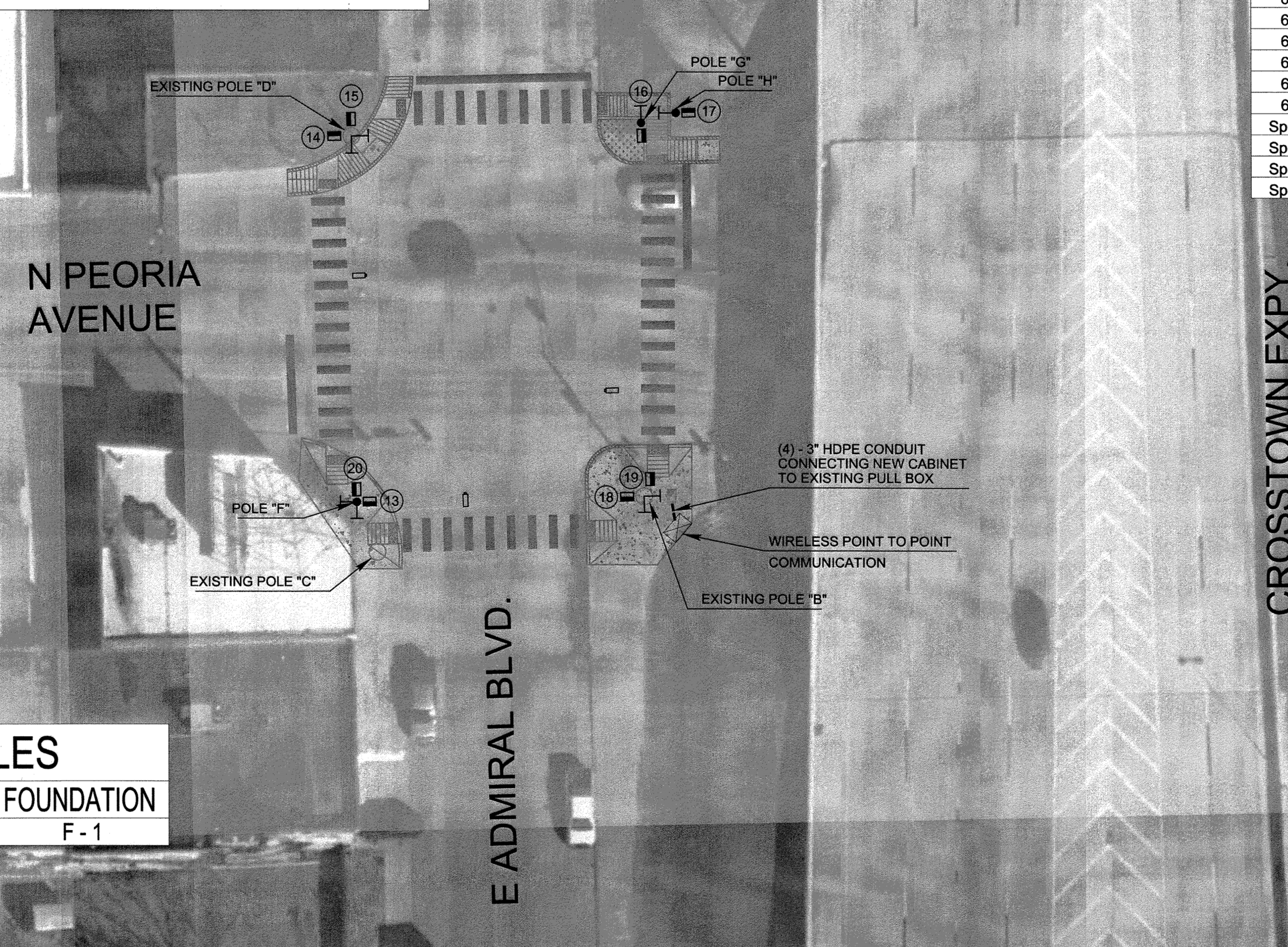
8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 101 |
| 603 | Signal Pole Footing (24" F-1) | EA | 3 |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 304 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 408 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 752 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 260 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | 3 |
| 617 | Ten Foot Pedestal Pole | EA | 3 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | 1 |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| F, G, H | 10' | N/A | F - 1 |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

SIGNAL DIAGRAMS

16"

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

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REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E Admiral Boulevard & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | BF | 6/22 |
| LEAD ENGR. | BG | 7/22 |
| FIELD MGR. | BZM | 7/22 |
| RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |

FILE:

DRAWING:

ATLAS PAGE NO:

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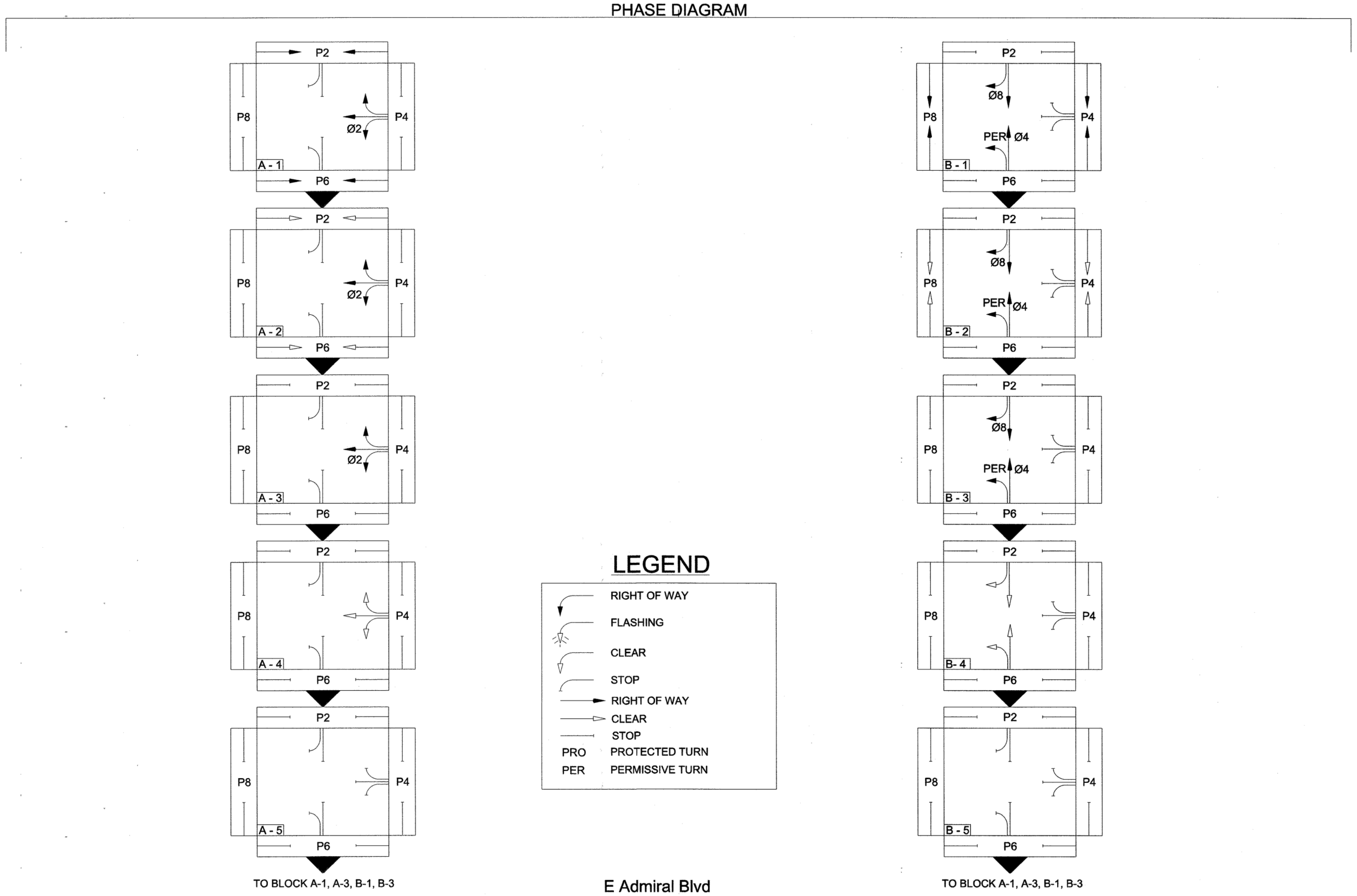
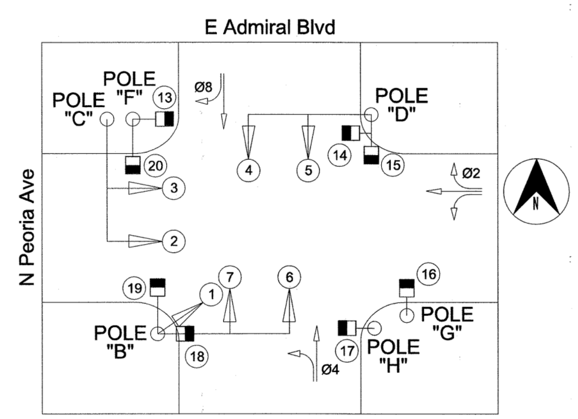
DATE: 06/13/2022

SHEET 23 OF 96 SHEETS

PHASE DIAGRAM




## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE Ø2 | Ø4 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. | | | | | | |
| | | 1 + 2 + 3 | 4 + 5 | 6 + 7 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø2, P2, P6 ROW | G | R | R | W | DW | W | DW |
| A 2 | Ø2 ROW & P2, P6 CL | G | R | R | FDW | DW | FDW | DW |
| A 3 | Ø2 ROW | G | R | R | DW | DW | DW | DW |
| A 4 | Ø2 CL | Y | R | R | DW | DW | DW | DW |
| A 5 | ALL RED | R | R | R | DW | DW | DW | DW |
| | | | | | | | | |
| B 1 | Ø4, Ø8, P4, P8 ROW | R | G | G | DW | W | DW | W |
| B 2 | Ø4, Ø8 ROW & P4, P8 CL | R | G | G | DW | FDW | DW | FDW |
| B 3 | Ø4, Ø8 ROW | R | G | G | DW | DW | DW | DW |
| B 4 | Ø4, Ø8 CL | R | Y | Y | DW | DW | DW | DW |
| B 5 | ALL RED | R | R | R | DW | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | BLK | BLK | BLK | BLK |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E Admiral Boulevard & N Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | LCB | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 24 OF 82 SHEETS

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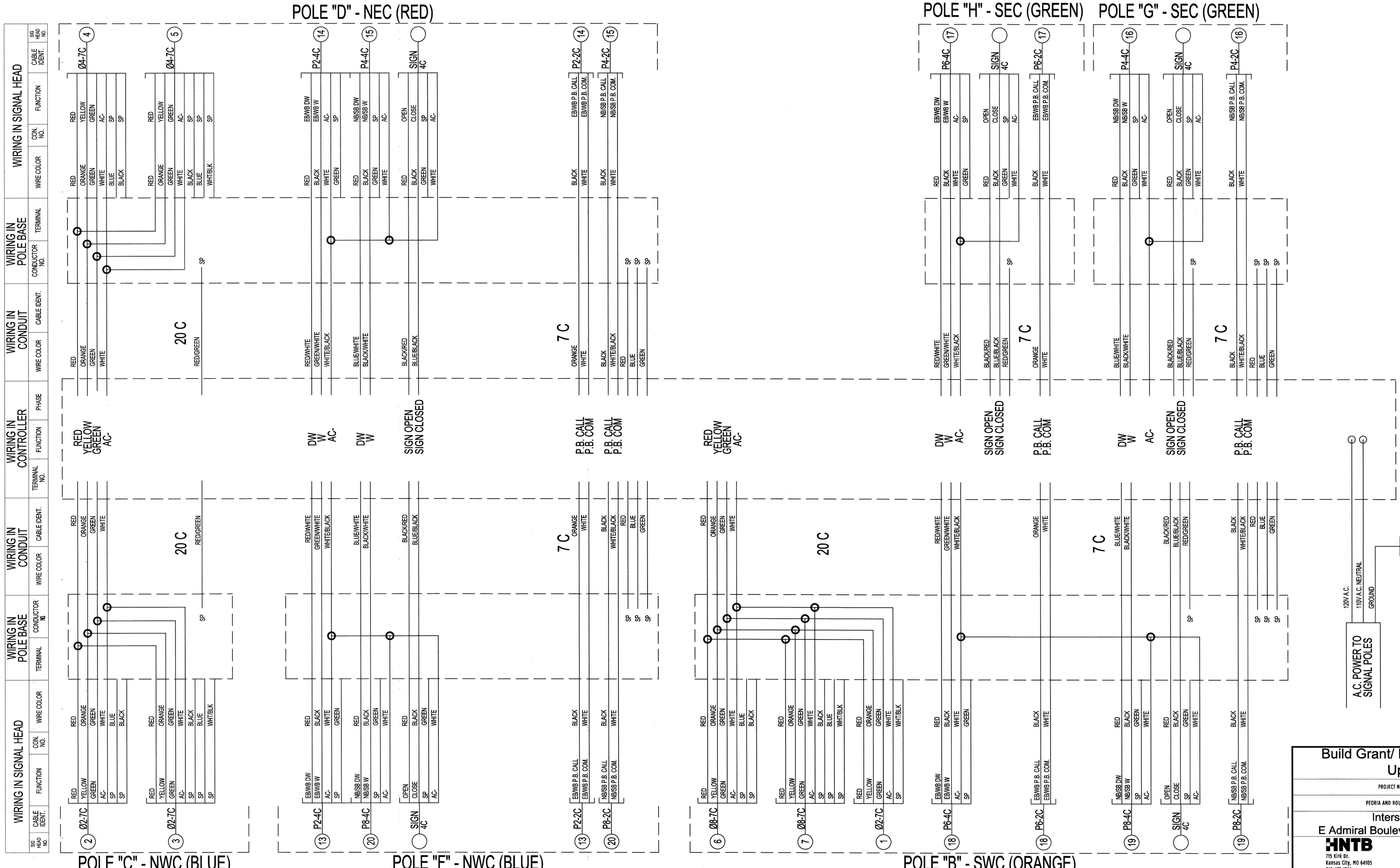


# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E Admiral Boulevard & N Peoria Avenue

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918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | ASB | 7/22 |
| HORIZONTAL: | FIELD MGR. | RTM | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022



REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811 BEFORE YOU DIG

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

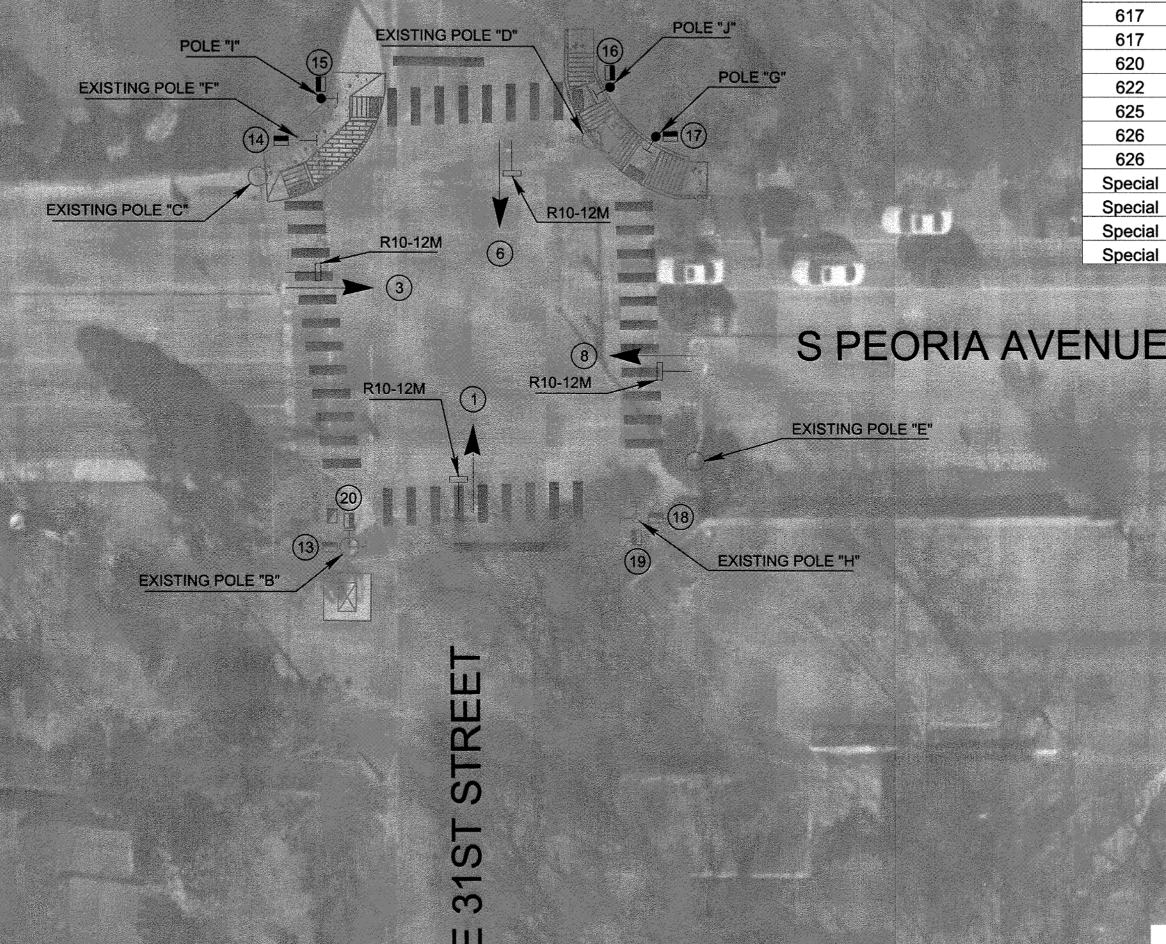
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.

8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 97 |
| 603 | Signal Pole Footing (24" F-1) | EA | 3 |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 135 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 193 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 113 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 4 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 4 |
| 615 | Base Covers | EA | 3 |
| 617 | Ten Foot Pedestal Pole | EA | 3 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

N —
-10' 0' 10' 20'
SCALE: 1" = 20'

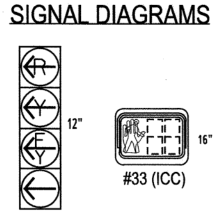
## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| G, I, J | 10' | N/A | F - 1 |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |

## SIGNAL DIAGRAMS




(S-13)L

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 3, 6, 8 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 14-17 | 4 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E 31st Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
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918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | [illegible] | 7/22 |
| FIELD MGR. | [illegible] | 7/22 |

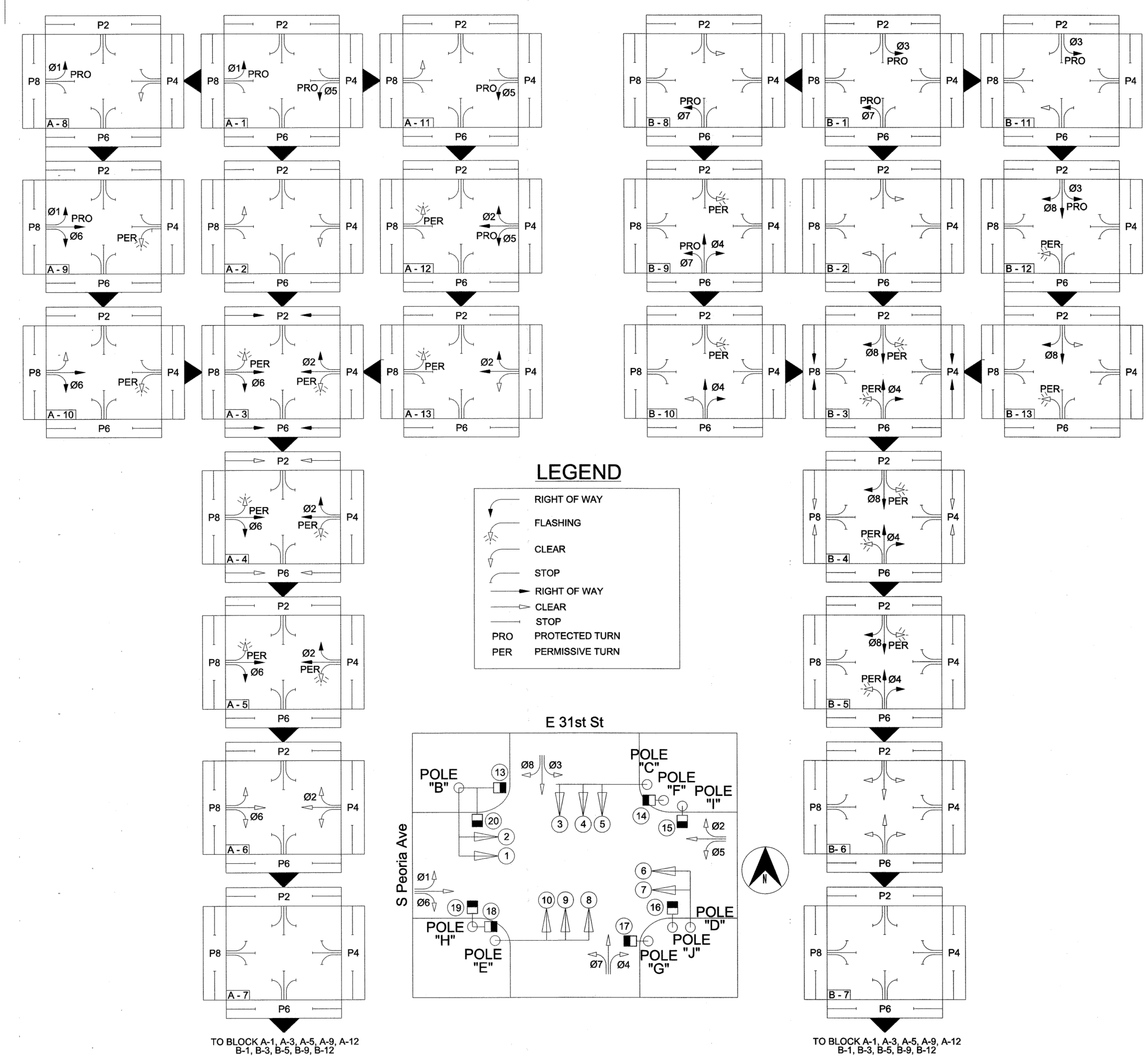
RECOMMENDED: HAS 8.22
DESIGN MANAGER

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

FILE: DRAWING:
ATLAS PAGE NO:

SHEET 26 OF 96 SHEETS

PHASE DIAGRAM



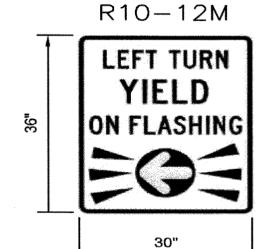

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | Ø7 | Ø4 | Ø1 | Ø6 | Ø3 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 | 3 | 4 + 5 | 6 | 7 | 8 | 9 + 10 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, ROW | ←G | R | ←R | R | ←G | R | ←R | R | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, CL | ←Y | R | ←R | R | ←Y | R | ←R | R | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←FY | G | ←R | R | ←FY | G | ←R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←FY | G | ←R | R | ←FY | G | ←R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←FY | G | ←R | R | ←FY | G | ←R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←Y | Y | ←R | R | ←Y | Y | ←R | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | ←R | R | ←R | R | ←R | R | DW | DW | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | ←Y | R | ←R | R | ←G | R | ←R | R | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 ROW | ←FY | R | ←R | R | ←G | G | ←R | R | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | ←FY | R | ←R | R | ←Y | G | ←R | R | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | ←G | R | ←R | R | ←Y | R | ←R | R | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | ←G | G | ←R | R | ←FY | R | ←R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | ←Y | G | ←R | R | ←FY | R | ←R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7 ROW | ←R | R | ←G | R | ←R | R | ←G | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7 CL | ←R | R | ←Y | R | ←R | R | ←Y | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ←R | R | ←Y | Y | ←R | R | ←Y | Y | DW | DW | DW | DW |
| B 7 | ALL RED | ←R | R | ←R | R | ←R | R | ←R | R | DW | DW | DW | DW |
| B 8 | Ø7 ROW & Ø3 CL | ←R | R | ←G | R | ←R | R | ←Y | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7 ROW | ←R | R | ←G | G | ←R | R | ←FY | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7 CL | ←R | R | ←Y | G | ←R | R | ←FY | R | DW | DW | DW | DW |
| B 11 | Ø3 ROW & Ø7 CL | ←R | R | ←Y | R | ←R | R | ←G | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8 ROW | ←R | R | ←FY | R | ←R | R | ←G | G | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 CL | ←R | R | ←FY | R | ←R | R | ←Y | G | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | ←FR | FR | ←FR | FR | ←FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10-12M




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035XO01Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Phasing
E 31st Street & S Peoria Ave

REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA 6/13/22

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

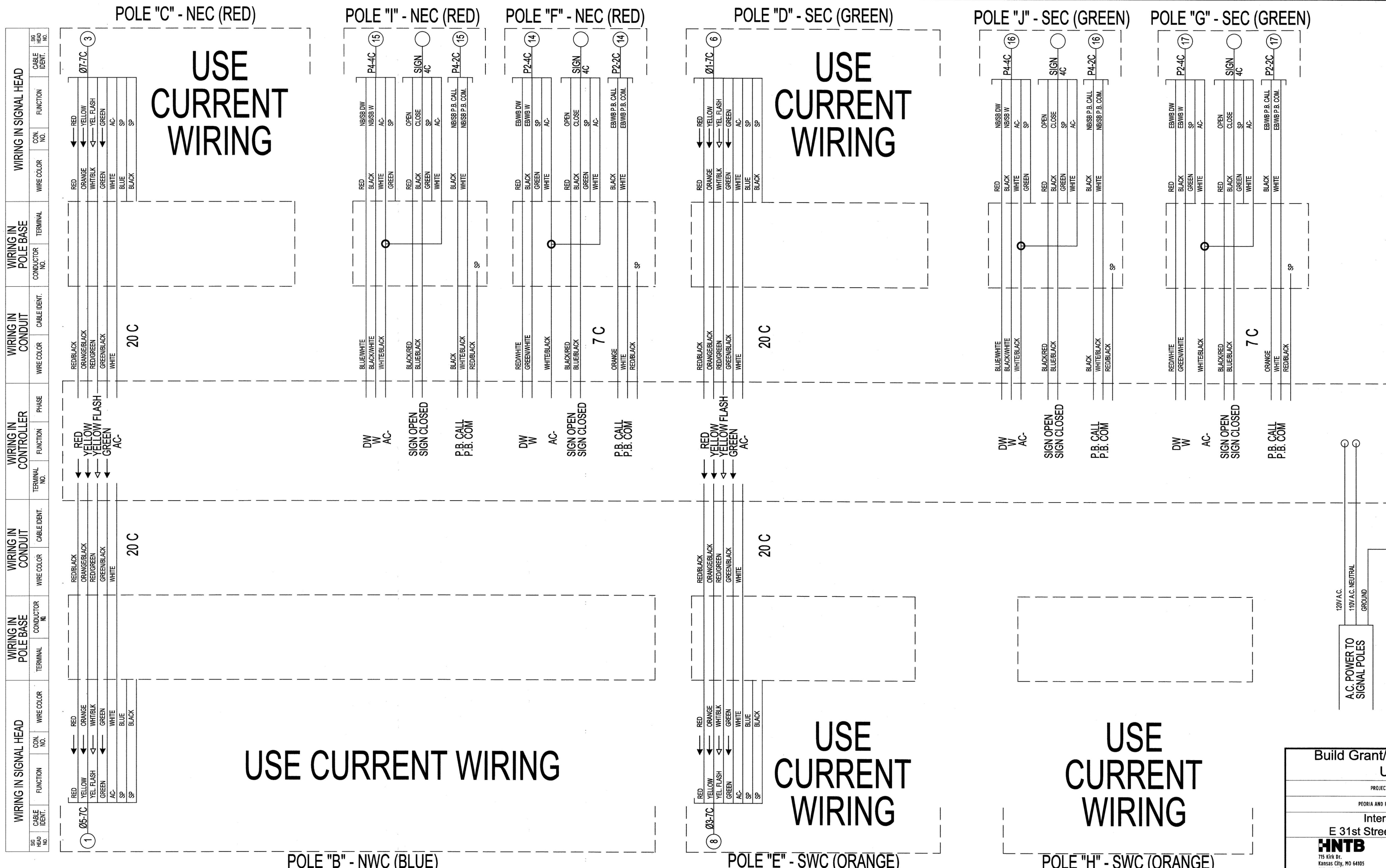
| PLAN SCALE: NTS | DRAWN | | |
|---|---|---|---|
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | | 7/22 |
| | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS 8-22 | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

CALL OKIE 811




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E 31st Street & S Peoria Avenue


HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588


| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: NTS

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | KB | 7/22 |
| FIELD MGR. | ZZM | 7/22 |

RECOMMENDED: HAS 8.22
DESIGN MANAGER

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

FILE: DRAWING:
ATLAS PAGE NO:

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

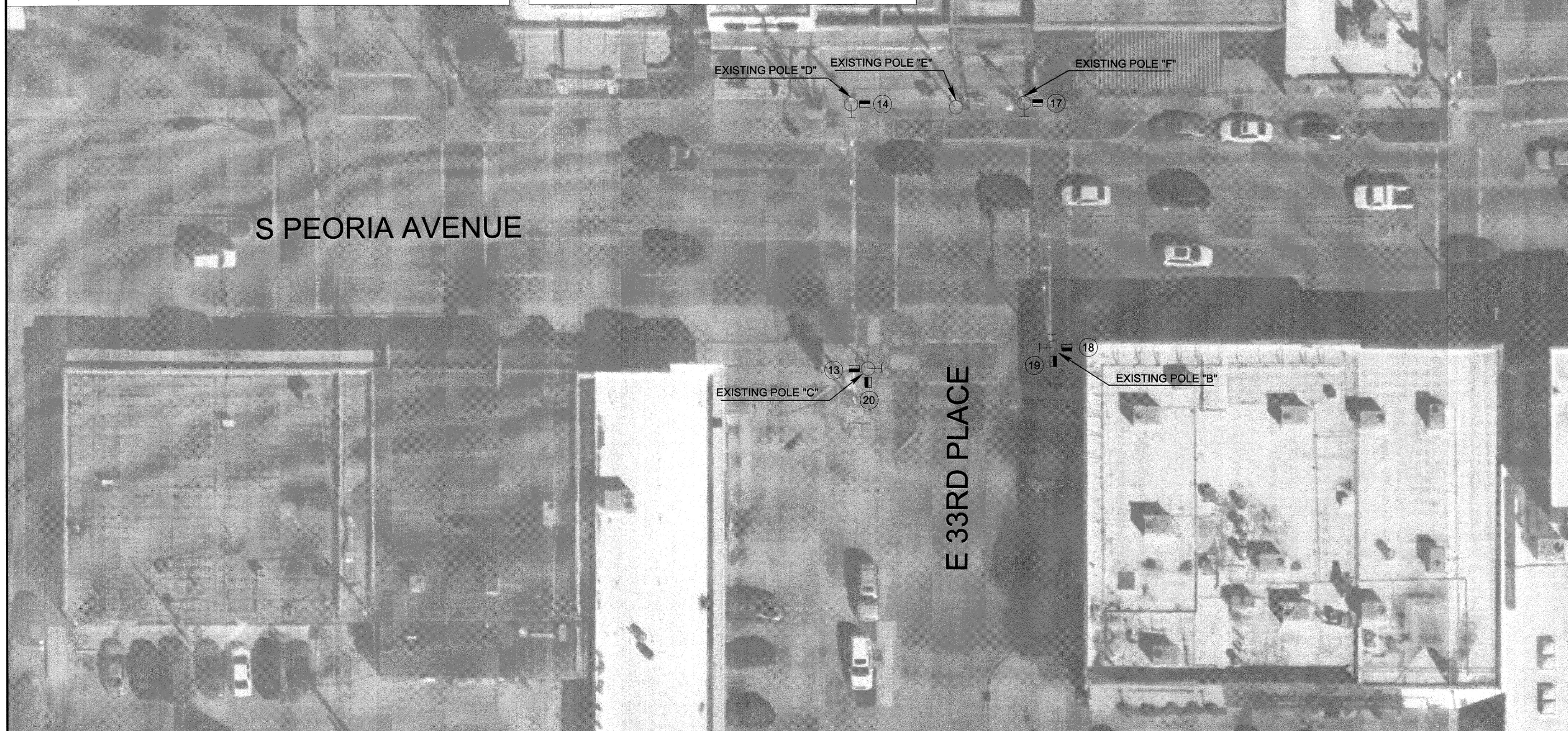
8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 83 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 84 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 2#14 Shielded Electrical Conductor | LF | 51 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 6 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | 6 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




-10' 0' 10' 20'
SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTON/SIGNAL HEAD |
| - | SEC | PED PUSH BUTTON/SIGNAL HEAD |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

SIGNAL DIAGRAMS

16"

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 13-14, 17-20 | 6- #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E 33rd Place & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | Mb | 7/22 |
| FIELD MGR. | Bam | 7/22 |

RECOMMENDED: HAS 8.22
DESIGN MANAGER

APPROVED:

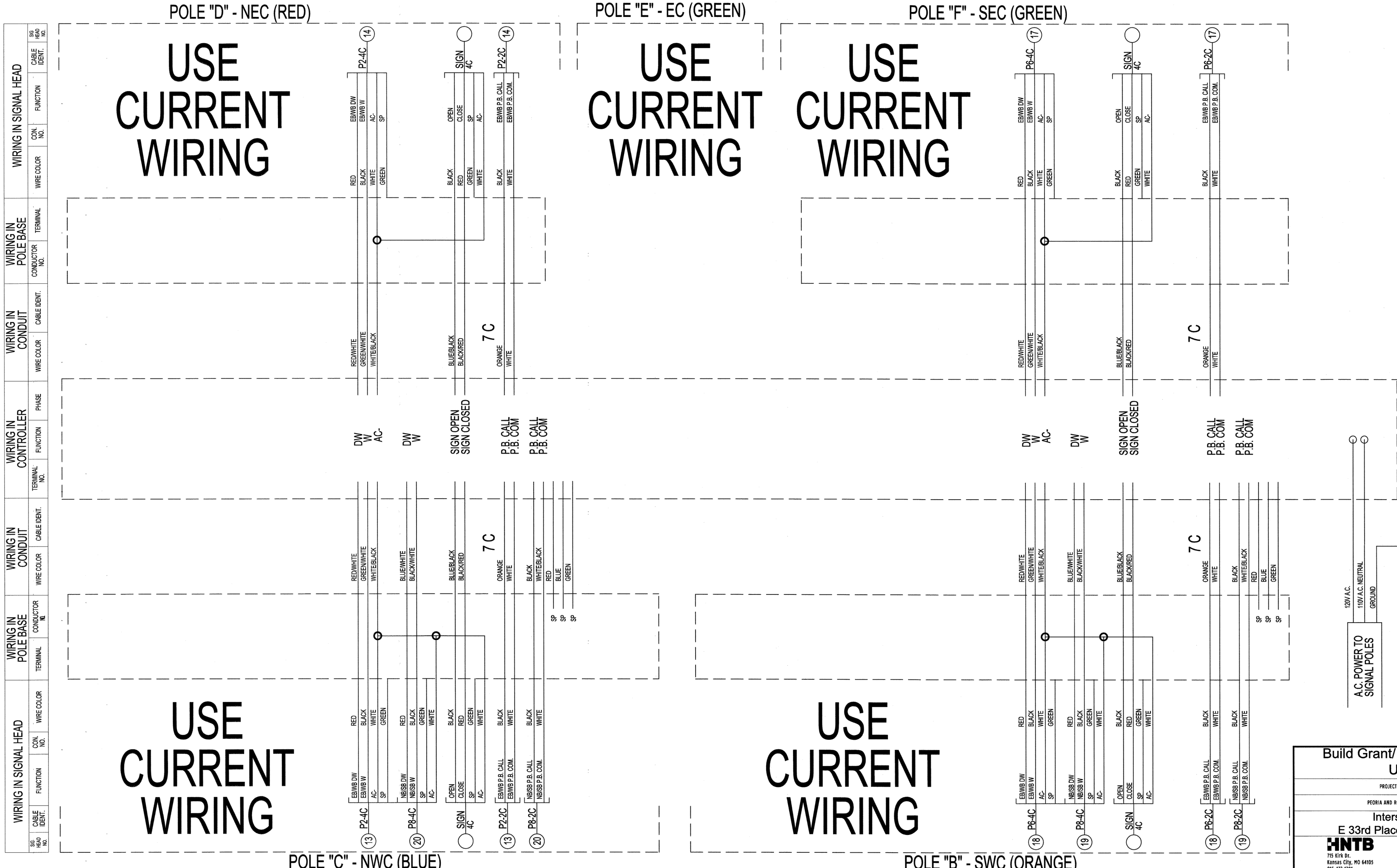
CITY ENGINEER

DATE: 06/13/2022

FILE: DRAWING:

ATLAS PAGE NO:

SHEET 29 OF 96 SHEETS




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E 33rd Place & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LSB | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| VERTICAL | | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 92 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 70 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 2#14 Shielded Electrical Conductor | LF | 51 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 6 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | 5 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |


N

-10' 0' 10' 20'

SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | SOUTH SIDE PED SIGNAL HEAD; BOTH PUSH BUTTONS |

SIGNAL DIAGRAMS

16"

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 14-18 | 5 - #33 ICC | CLAMP | N/A | N/A |

CALL OKIE

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Plan
E 35th Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | KB | 7/22 |
| FIELD MGR. | Rau | 7/22 |

RECOMMENDED: HAS 8.22
DESIGN MANAGER

APPROVED:

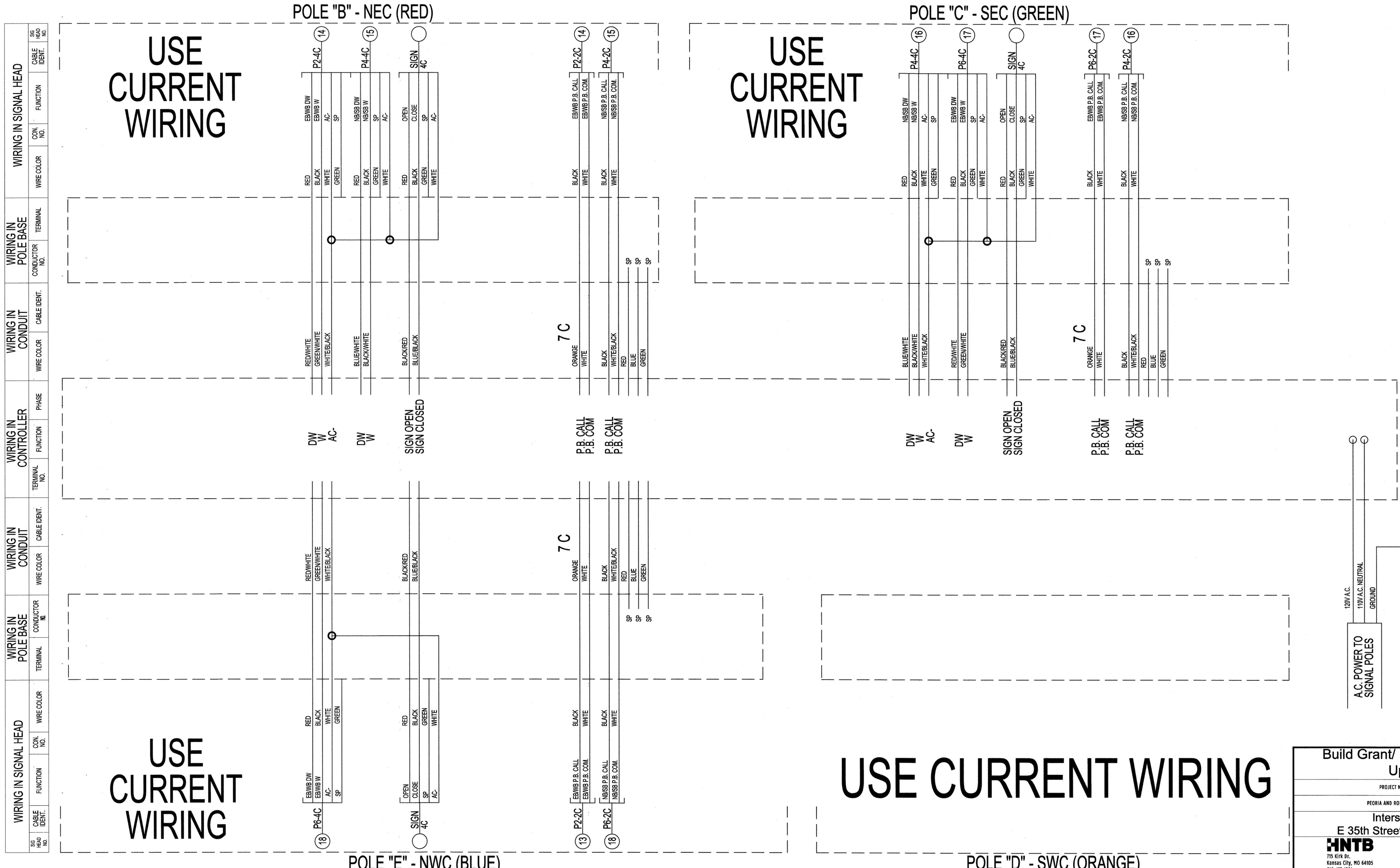
CITY ENGINEER

DATE: 06/13/2022

FILE: DRAWING:

ATLAS PAGE NO:

SHEET 31 OF 96 SHEETS




**Build Grant/ LINK Traffic Signal Upgrades**

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
E 35th Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | |
|---|---|---|
| PLAN SCALE: NTS | DRAWN | |
| | DESIGNED | |
| | SURVEY | |
| PROFILE SCALE: | PROJ. MGR. | 6/22 |
| HORIZONTAL: | LEAD ENGR. | 7/22 |
| | FIELD MGR. | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAs 8-22 |
| FILE: | DRAWING: | |
| ATLAS PAGE NO: | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 32 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES EXCEPT THE EASTBOUND APPROACH. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 96 |
| 603 | Signal Pole Footing (24" F-1) | EA | 1 |
| 608 | Traffic Signs | SF | 22.5 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 154 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 149 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 110 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 3 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | 1 |
| 617 | Ten Foot Pedestal Pole | EA | 1 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |


-10' 0' 10' 20'
SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

## SIGNAL DIAGRAMS

12"
(S-13)L
16"
#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 9 | 3 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA 6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E 36th Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

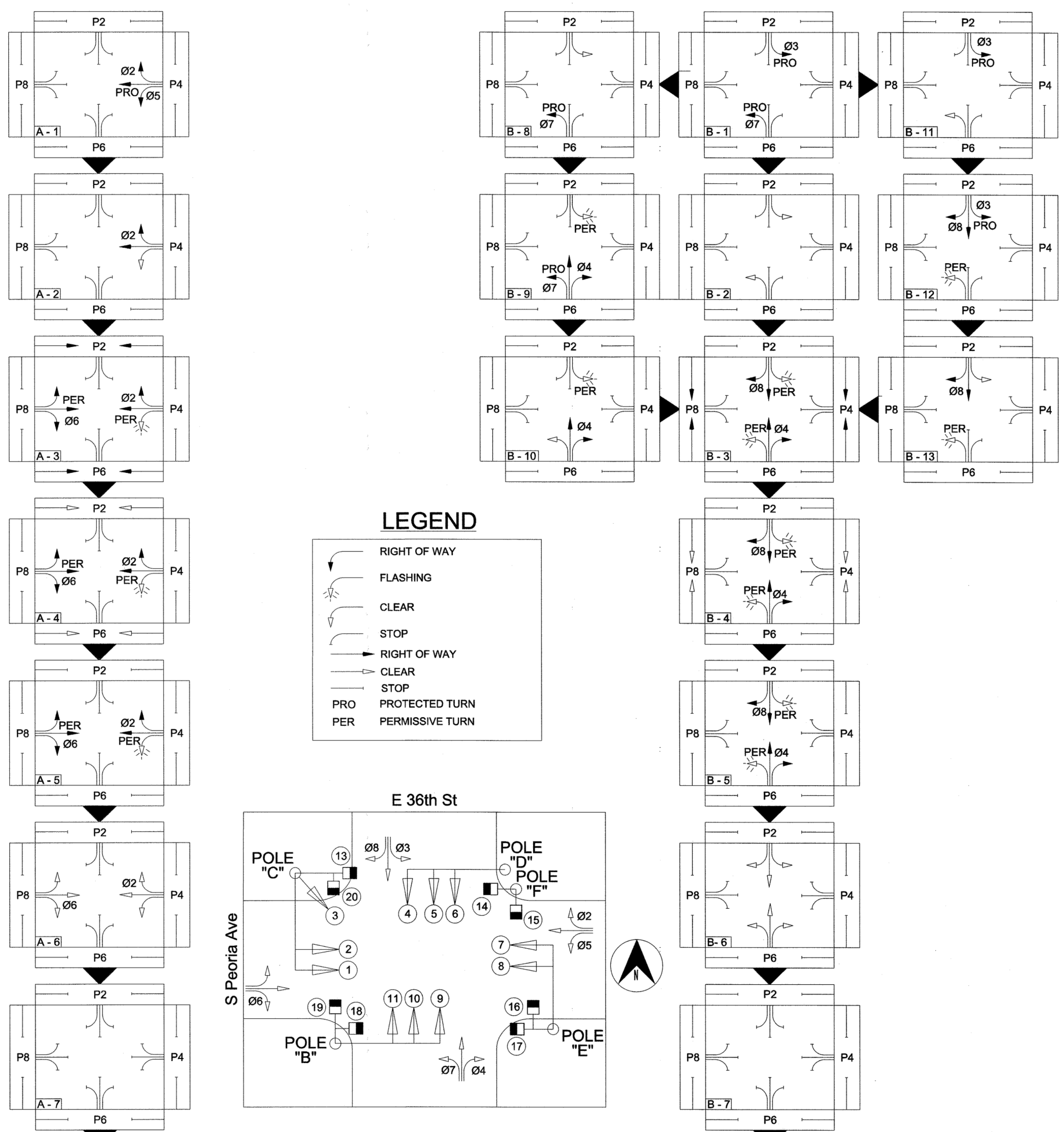
| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | LSD | 7/22 |
| FIELD MGR. | ZZM | 7/22 |
| RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |

FILE: DRAWING:
ATLAS PAGE NO:

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

SHEET 33 OF 96 SHEETS

## PHASE DIAGRAM



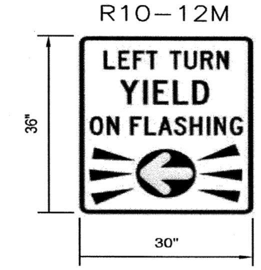

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | Ø7 | Ø4 | Ø6 | Ø3 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 + 3 | 4 | 5 + 6 | 7 + 8 | 9 | 10 + 11 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø2, Ø5 ROW | ~~G~~ | G | ~~R~~ | R | R | ~~R~~ | R | DW | DW | DW | DW |
| A 2 | Ø2 ROW & Ø5 CL | ~~Y~~ | G | ~~R~~ | R | R | ~~R~~ | R | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ~~FY~~ | G | ~~R~~ | R | G | ~~R~~ | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ~~FY~~ | G | ~~R~~ | R | G | ~~R~~ | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ~~FY~~ | G | ~~R~~ | R | G | ~~R~~ | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ~~Y~~ | Y | ~~R~~ | R | Y | ~~R~~ | R | DW | DW | DW | DW |
| A 7 | ALL RED | ~~R~~ | R | ~~R~~ | R | R | ~~R~~ | R | DW | DW | DW | DW |
| | | | | | | | | | | | | |
| B 1 | Ø3, Ø7 ROW | ~~R~~ | R | ~~G~~ | R | R | ~~G~~ | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7 CL | ~~R~~ | R | ~~Y~~ | R | R | ~~Y~~ | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ~~R~~ | R | ~~FY~~ | G | R | ~~FY~~ | G | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | ~~R~~ | R | ~~FY~~ | G | R | ~~FY~~ | G | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ~~R~~ | R | ~~FY~~ | G | R | ~~FY~~ | G | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ~~R~~ | R | ~~Y~~ | Y | R | ~~Y~~ | Y | DW | DW | DW | DW |
| B 7 | ALL RED | ~~R~~ | R | ~~R~~ | R | R | ~~R~~ | R | DW | DW | DW | DW |
| B 8 | Ø7 ROW & Ø3 CL | ~~R~~ | R | ~~G~~ | R | R | ~~Y~~ | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7 ROW | ~~R~~ | R | ~~G~~ | G | R | ~~FY~~ | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7 CL | ~~R~~ | R | ~~Y~~ | G | R | ~~FY~~ | R | DW | DW | DW | DW |
| B 11 | Ø3 ROW & Ø7 CL | ~~R~~ | R | ~~Y~~ | R | R | ~~G~~ | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8 ROW | ~~R~~ | R | ~~FY~~ | R | R | ~~G~~ | G | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 CL | ~~R~~ | R | ~~FY~~ | R | R | ~~Y~~ | G | DW | DW | DW | DW |
| | FLASHING RED | ~~FR~~ | FR | ~~FR~~ | FR | FR | ~~FR~~ | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, & D | R10 - 12M | 30 X 36 | 7.50 | 3 | 22.50 |

R10—12M




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Phasing
E 36th Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

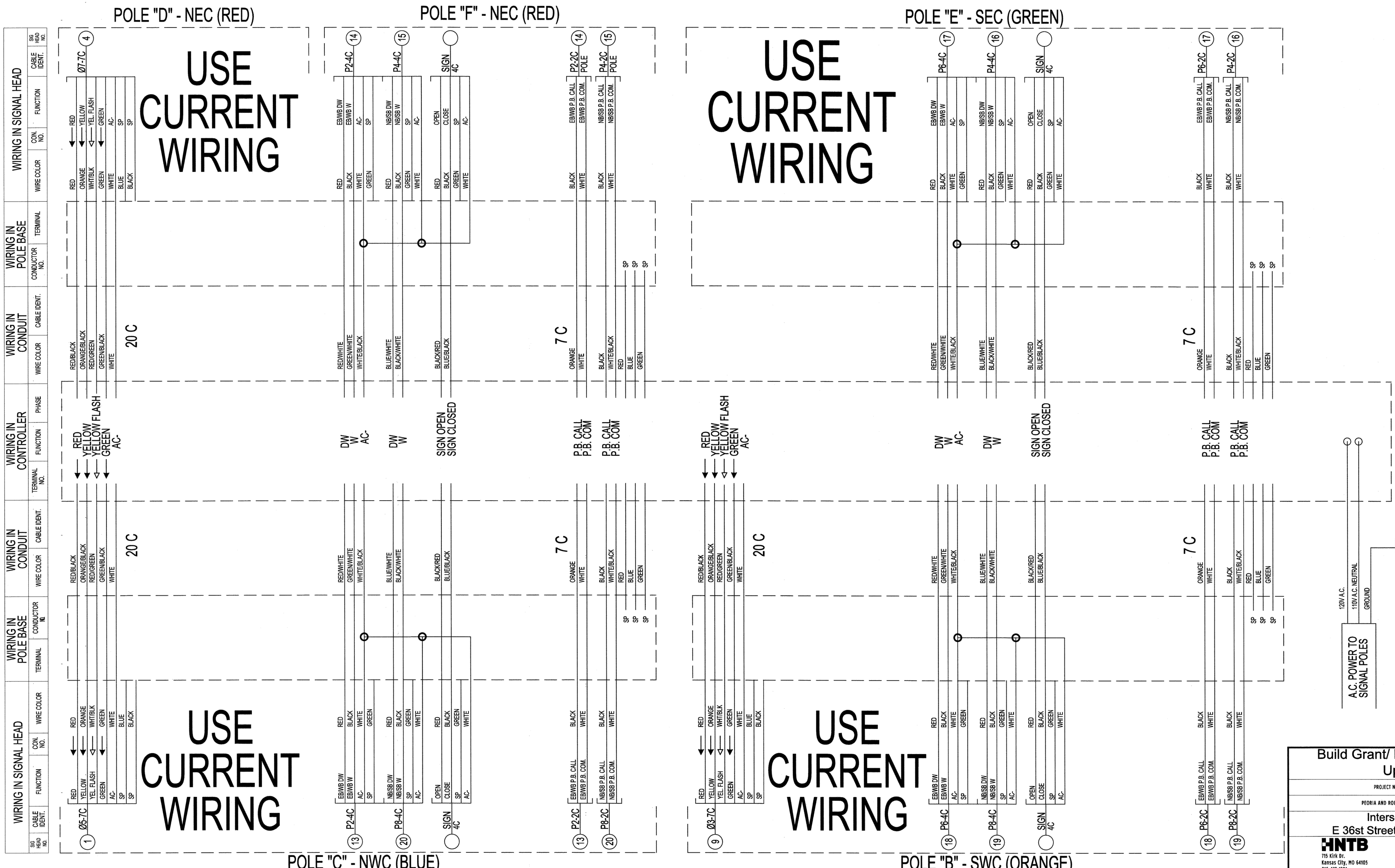
| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | [illegible] | 7/22 |
| HORIZONTAL: | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E 36st Street & S Peoria Avenue


HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588


| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LSB | 7/22 |
| HORIZONTAL: | FIELD MGR. | Zha | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8.22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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CITY ENGINEER

DATE: 06/13/2022

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

## SIGNAL NOTES:

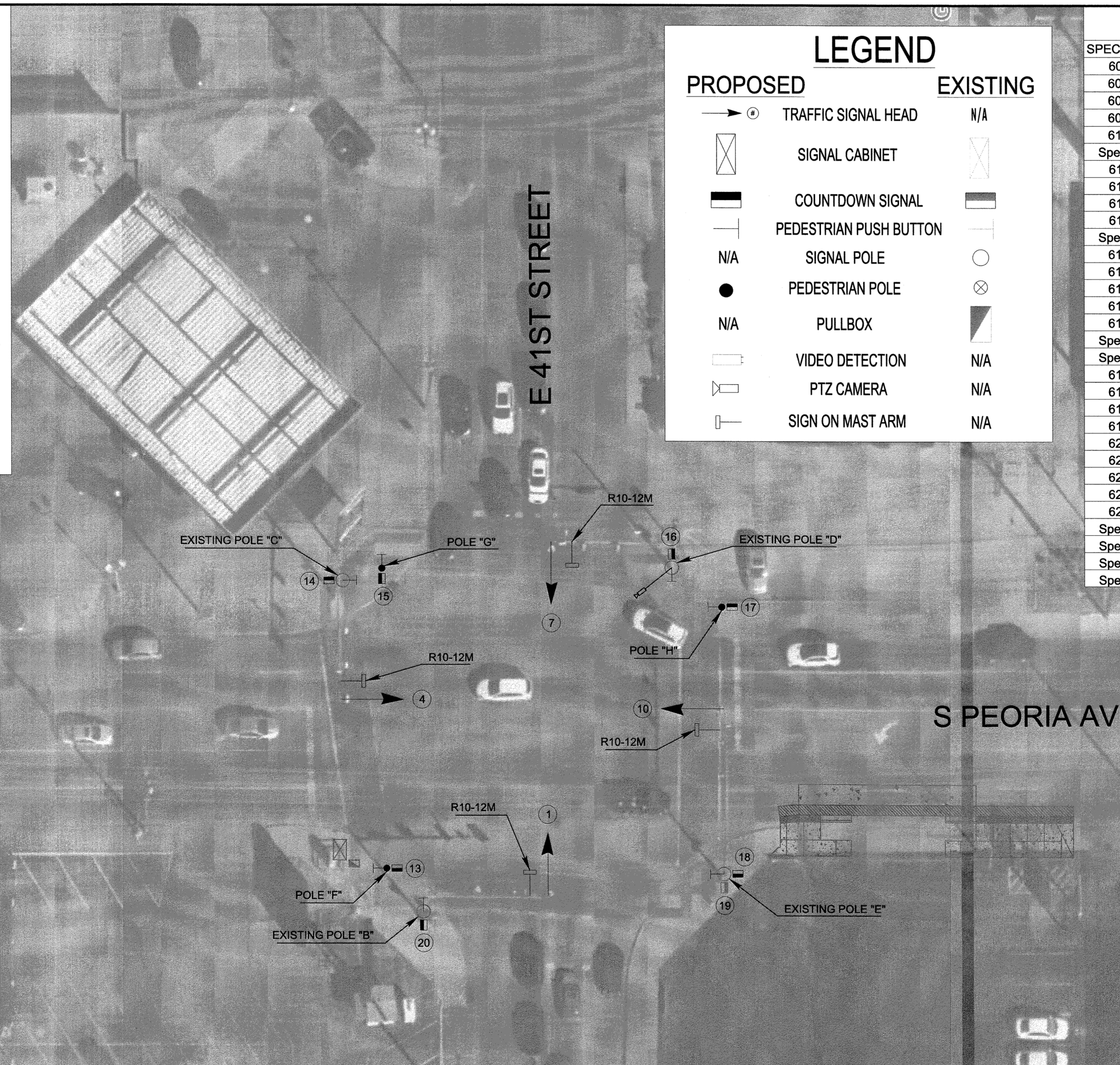
1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 121 |
| 603 | Signal Pole Footing (24" F-1) | EA | 3 |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 161 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 242 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 122.5 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 7 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 7 |
| 615 | Base Covers | EA | 3 |
| 617 | Ten Foot Pedestal Pole | EA | 3 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | 1 |
| Special | Traffic Control | EA | 1 |




-10' 0' 10' 20'
SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | EB/WB PUSH BUTTON/SIGNAL HEAD |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

## SIGNAL DIAGRAMS

12" (S-13)L

16" #33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-18, 20 | 7 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E 41st Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | LSB | 7/22 |
| | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8-22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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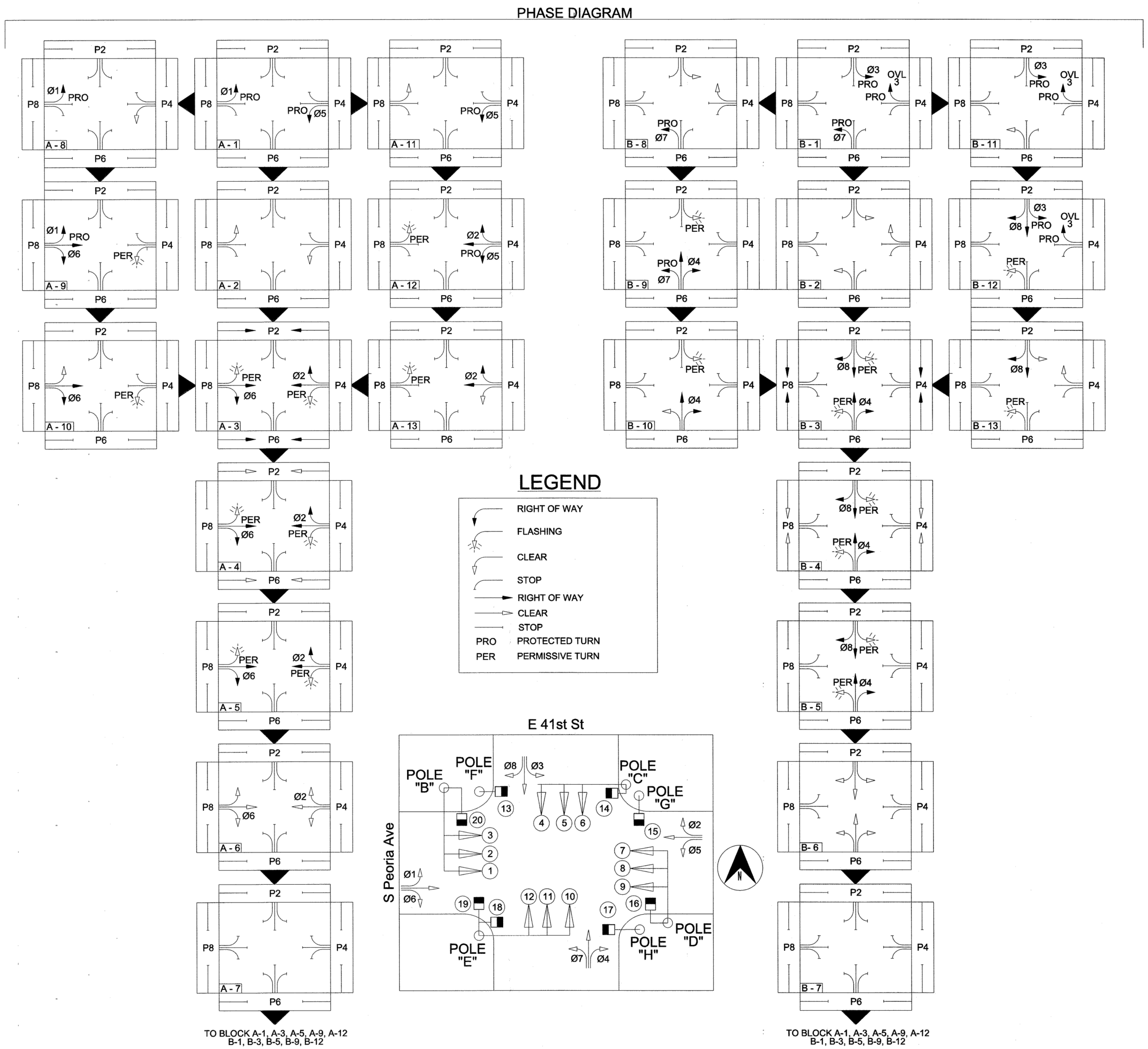
CITY ENGINEER

DATE: 06/13/2022

SHEET 36 OF 96 SHEETS



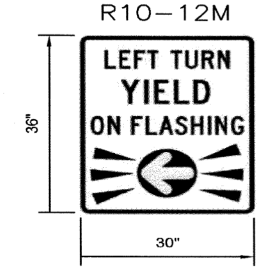

# SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | OVL 3 | Ø7 | Ø4 | Ø1 | Ø6 | Ø3 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 | 3 | 4 | 5 + 6 | 7 | 8 + 9 | 10 | 11 + 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, ROW | G | R | R | R | R | G | R | R | R | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, CL | Y | R | R | R | R | Y | R | R | R | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | FY | G | R | R | R | FY | G | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | FY | G | R | R | R | FY | G | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | FY | G | R | R | R | FY | G | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | Y | Y | R | R | R | Y | Y | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | Y | R | R | R | R | G | R | R | R | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 ROW | FY | R | R | R | R | G | G | R | R | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | FY | R | R | R | R | Y | G | R | R | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | G | R | R | R | R | Y | R | R | R | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | G | G | R | R | R | FY | R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | Y | G | R | R | R | FY | R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | |
| B 1 | Ø3, OVL 3, Ø7 ROW | R | R | R / G | G | R | R | R | G | R | DW | DW | DW | DW |
| B 2 | Ø3,, OVL 3, Ø7 CL | R | R | R / Y | Y | R | R | R | Y | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | R | R | R | FY | G | R | R | FY | G | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | R | R | R | FY | G | R | R | FY | G | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | R | R | R | FY | G | R | R | FY | G | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | R | R | R | Y | Y | R | R | Y | Y | DW | DW | DW | DW |
| B 7 | ALL RED | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| B 8 | Ø7 ROW & Ø3 CL | R | R | R | G | R | R | R | Y | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7 ROW | R | R | R | G | G | R | R | FY | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7 CL | R | R | R | Y | G | R | R | FY | R | DW | DW | DW | DW |
| B 11 | Ø3, OVL 3 ROW & Ø7 CL | R | R | R / G | Y | R | R | R | G | R | DW | DW | DW | DW |
| B 12 | Ø3, OVL 3, Ø8 ROW | R | R | R / G | FY | R | R | R | G | G | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3, OVL 3 CL | R | R | R / Y | FY | R | R | R | Y | G | DW | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | FR | FR | FR | FR | FR | BLK | BLK | BLK | BLK |

# SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10–12M




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Phasing
E 41st Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZTW | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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CITY ENGINEER

DATE: 06/13/2022



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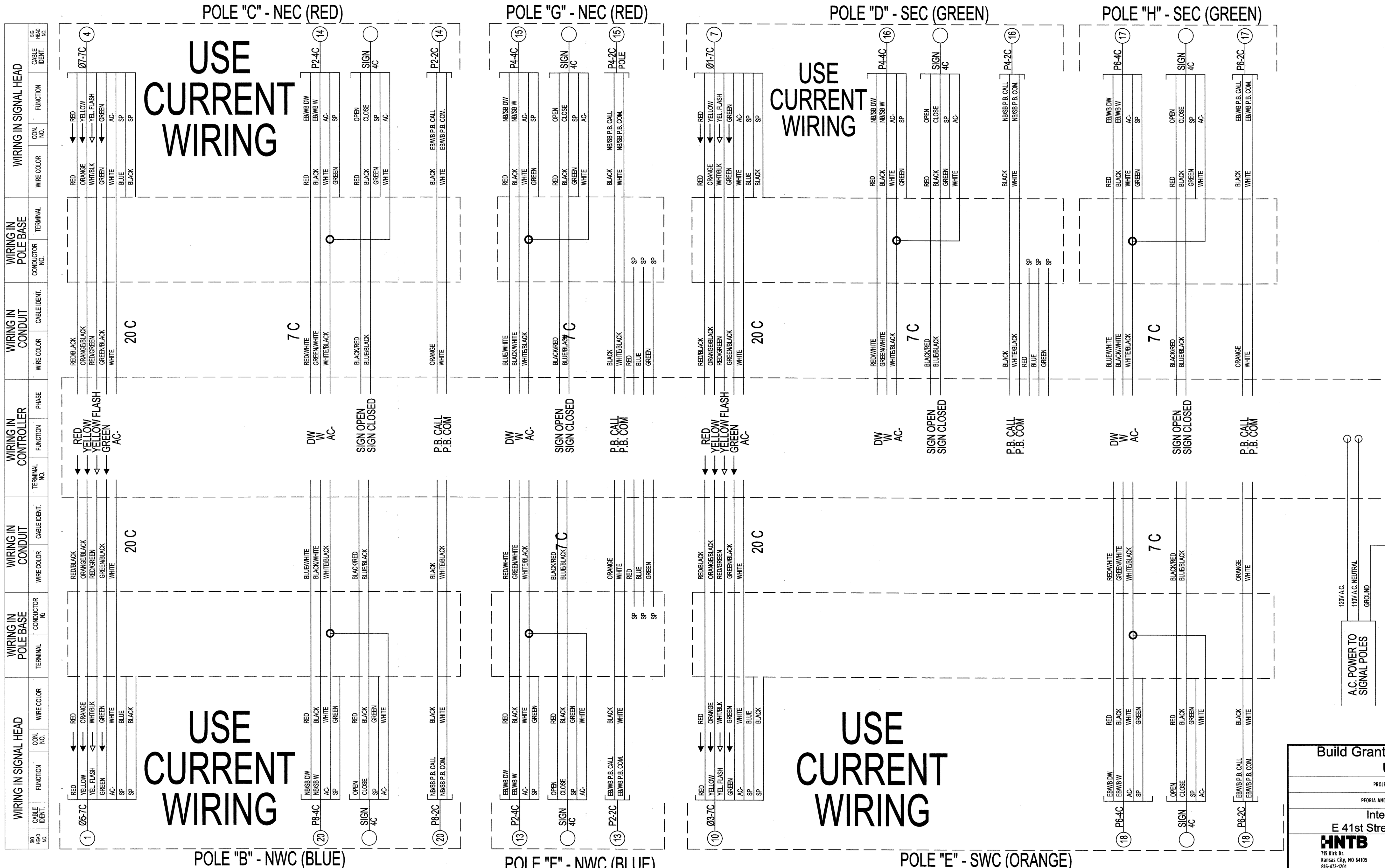



Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
E 41st Street & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | | 7/22 |
| | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS 8-22 | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURN OF THE NORTHBOUND APPROACH. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.

8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

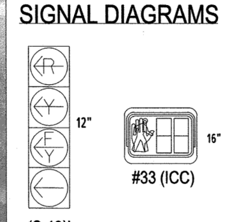
| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 104 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 7.5 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 56 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 67 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 34 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 4 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 1 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 4 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |


-10' 0' 10' 20'
SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | SEC | PED PUSH BUTTON/SIGNAL HEAD |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTON/SIGNAL HEAD |

## SIGNAL DIAGRAMS




## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1 | 1 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 17-20 | 4 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

CALL OKIE

Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Plan
E 45th Place & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

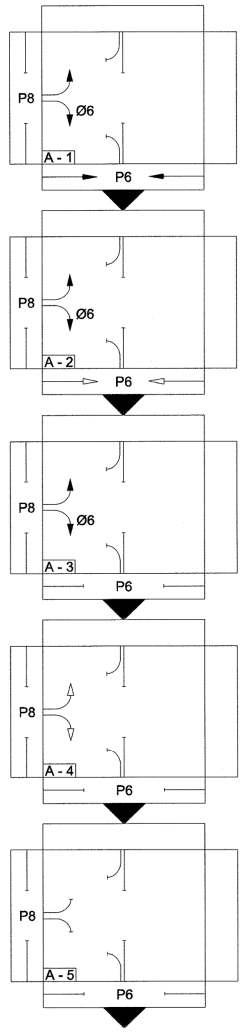
BKD
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

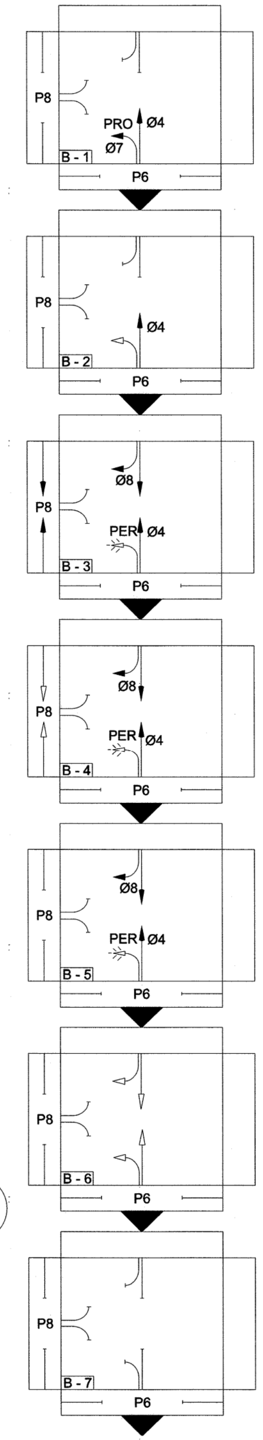
| | | | |
|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | Isb | 7/22 |
| | FIELD MGR. | Ezw | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8·22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022
SHEET 39 OF 96 SHEETS

## PHASE DIAGRAM

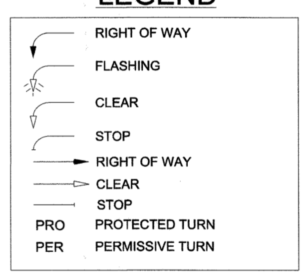



TO BLOCK A-1, A-3, B-1, B-3, B-5

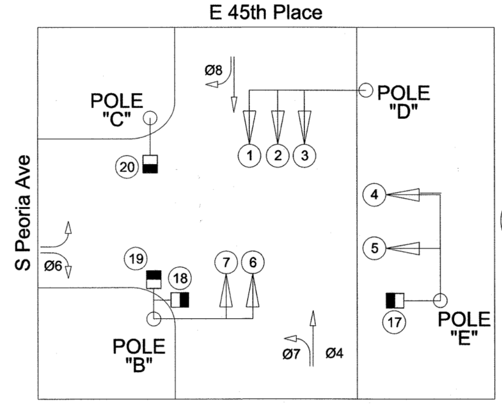



TO BLOCK A-1, A-3, B-1, B-3, B-5

## LEGEND




E 45th Place



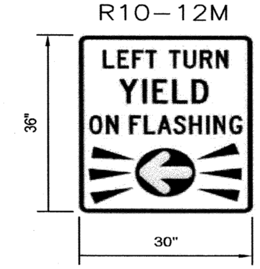

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE | | | | | |
|---|---|---|---|---|---|---|---|
| | | Ø7 | Ø4 | Ø6 | Ø8 | P6 | P8 |
| | | SIGNAL HEAD NO. | | | | | |
| | | 1 | 2 + 3 | 4 + 5 | 6 + 7 | 17 + 18 | 19 + 20 |
| A 1 | Ø6, P6 ROW | ~~R~~ | R | G | R | W | DW |
| A 2 | Ø6 ROW & P6 CL | ~~R~~ | R | G | R | FDW | DW |
| A 3 | Ø6 ROW | ~~R~~ | R | G | R | DW | DW |
| A 4 | Ø6 CL | ~~R~~ | R | Y | R | DW | DW |
| A 5 | ALL RED | ~~R~~ | R | R | R | DW | DW |
| | | | | | | | |
| B 1 | Ø4, Ø7 ROW | ~~G~~ | G | R | R | DW | DW |
| B 2 | Ø4 ROW & Ø7 CL | ~~Y~~ | G | R | R | DW | DW |
| B 3 | Ø4, Ø8, P8 ROW | ~~FY~~ | G | R | G | DW | W |
| B 4 | Ø4, Ø8 ROW & P8 CL | ~~FY~~ | G | R | G | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ~~FY~~ | G | R | G | DW | DW |
| B 6 | Ø4, Ø8 CL | ~~Y~~ | Y | R | Y | DW | DW |
| B 7 | ALL RED | ~~R~~ | R | R | R | DW | DW |
| | FLASHING RED | ~~FR~~ | FR | FR | FR | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| D | R10 - 12M | 30 X 36 | 7.50 | 1 | 7.50 |

R10–12M




REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E 45th Place & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

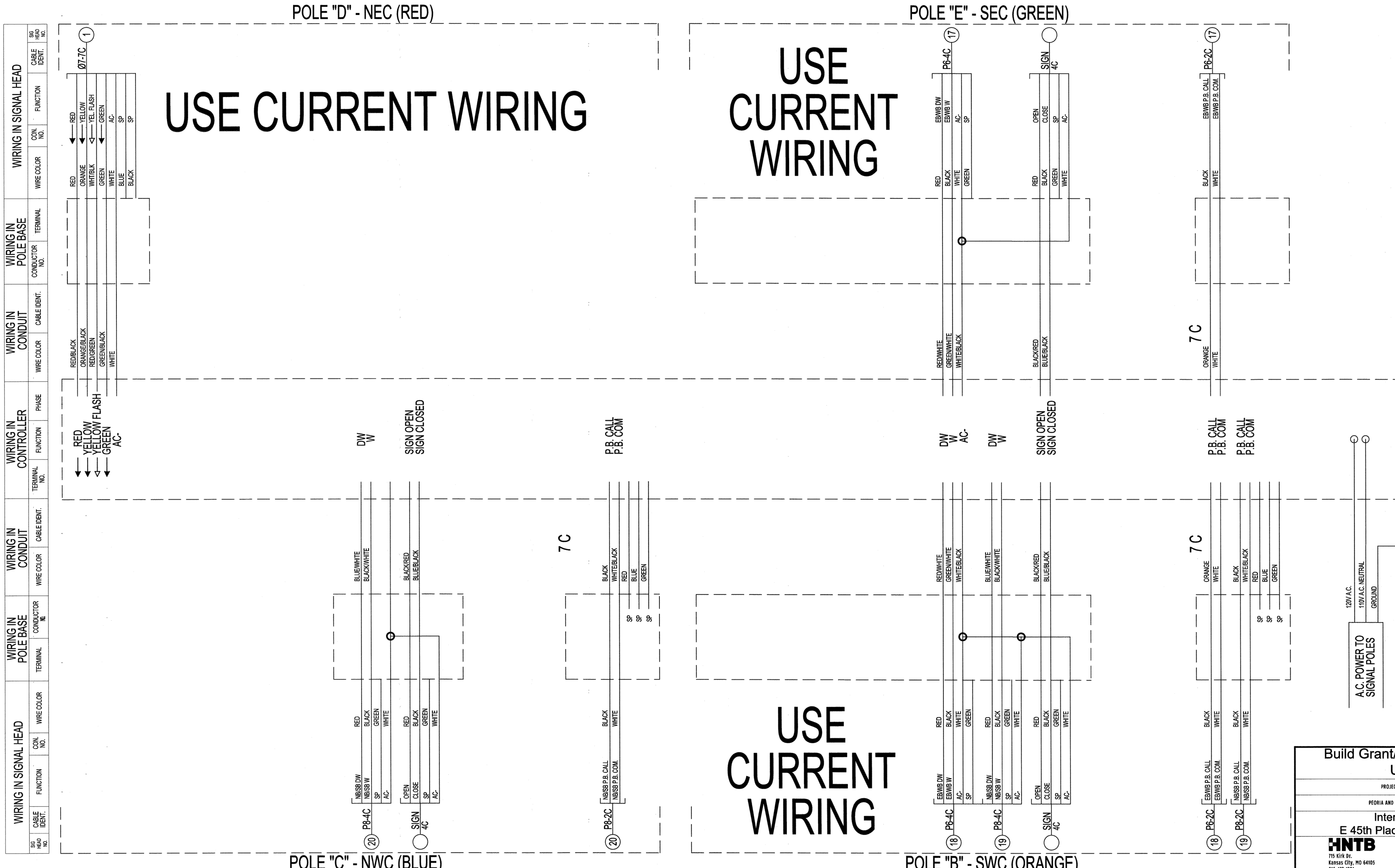
| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LGB | 7/22 |
| HORIZONTAL: | FIELD MGR. | Z?on | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS 8.22 | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022




**Build Grant/ LINK Traffic Signal Upgrades**

PROJECT NUMBER: 20350012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

**Intersection Wiring**
**E 45th Place & S Peoria Avenue**

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | PF | 6/22 |
| | LEAD ENGR. | | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

SHEET 41 OF 82 SHEETS

SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

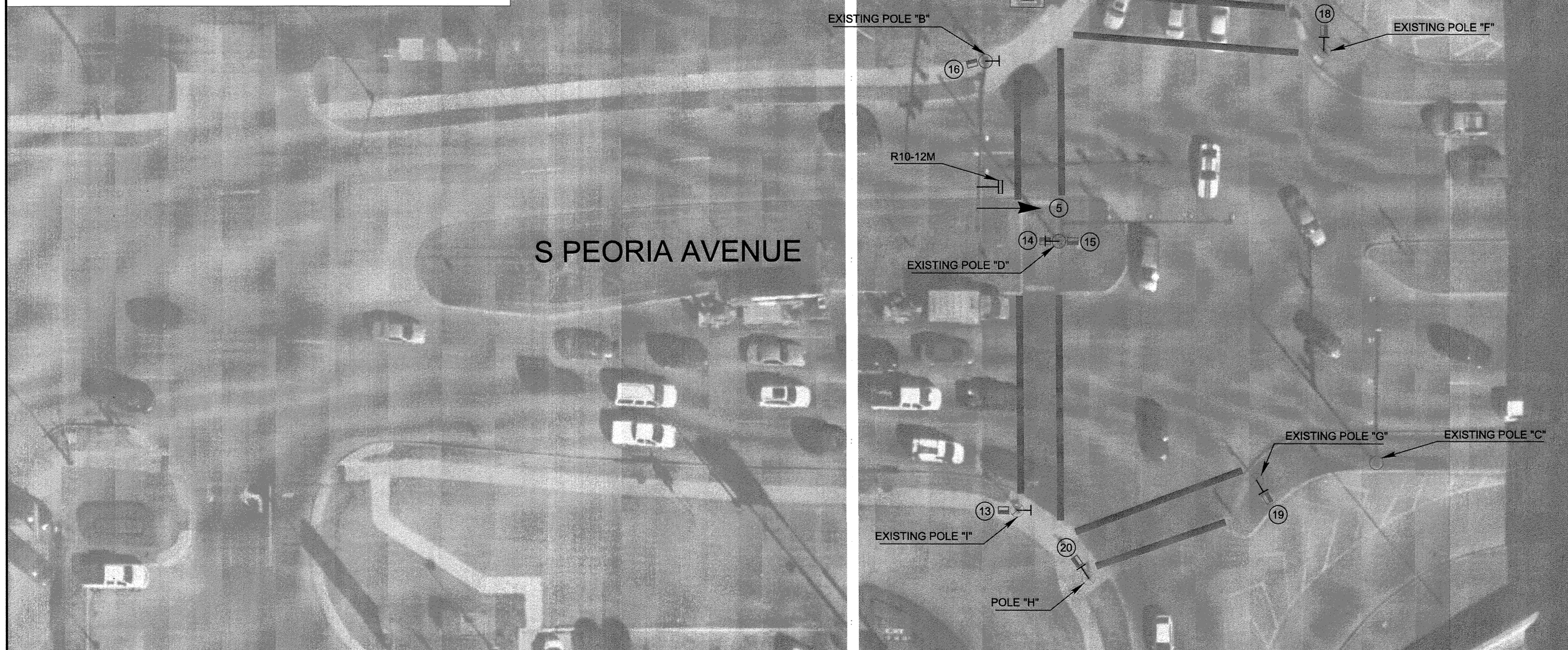
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURN OF THE NORTHBOUND APPROACH. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.

8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

# LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |




## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 167 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 7.5 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 58 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 437.5 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 7 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 1 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | - |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NC | PED PUSH BUTTON |
| - | NEC | PED PUSH BUTTONS |
| - | SEC | PED PUSH BUTTON |
| - | SWC | PED PUSH BUTTON |
| - | NWC | PED PUSH BUTTONS |

SIGNAL DIAGRAMS

12"

(S-13)L

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 5 | 1 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |

SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E Skelly Drive & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LSB | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

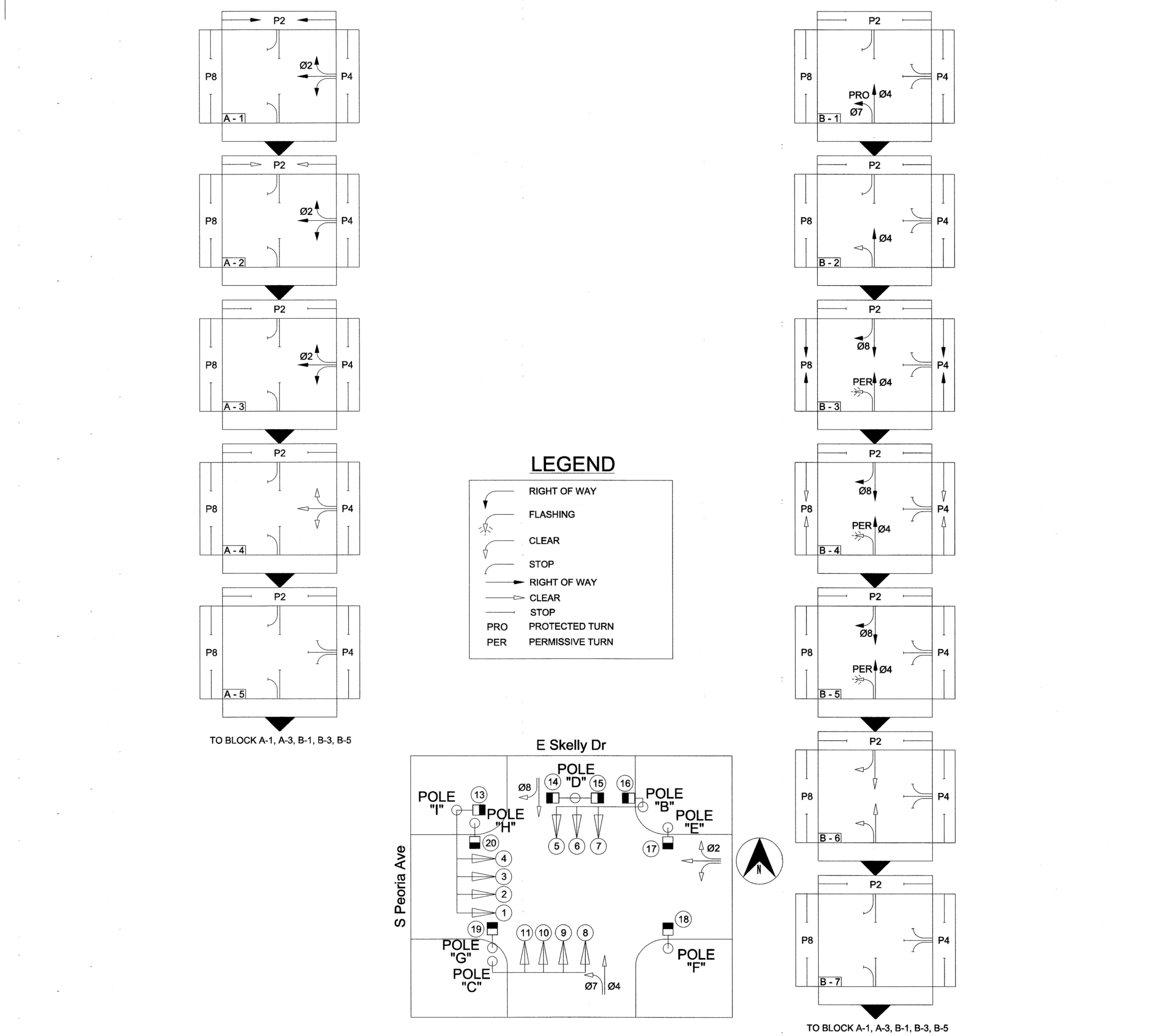
APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 42 OF 96 SHEETS

PHASE DIAGRAM



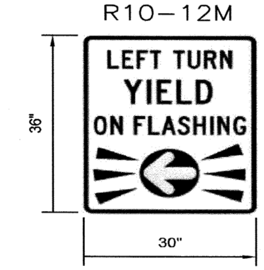

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE: Ø2 | Ø7 | Ø4 | Ø8 | P2 | P4 | P8 |
|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. | | | | | | |
| | | 1+2+3+4 | 5 | 6 + 7 | 8+9+10+11 | 13+14+15+16 | 17 + 18 | 19 + 20 |
| A 1 | Ø2, P2 ROW | G | R | R | R | W | DW | DW |
| A 2 | Ø2 ROW & P2 CL | G | R | R | R | FDW | DW | DW |
| A 3 | Ø2 ROW | G | R | R | R | DW | DW | DW |
| A 4 | Ø2 CL | Y | R | R | R | DW | DW | DW |
| A 5 | ALL RED | R | R | R | R | DW | DW | DW |
| | | | | | | | | |
| B 1 | Ø4, Ø7 ROW | R | G | G | R | DW | DW | DW |
| B 2 | Ø4 ROW & Ø7 CL | R | Y | G | R | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | R | FY | G | G | DW | W | W |
| B 4 | Ø4, Ø8 ROW & P4, P8 CL | R | FY | G | G | DW | FDW | FDW |
| B 5 | Ø4, Ø8 ROW | R | FY | G | G | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | R | Y | Y | Y | DW | DW | DW |
| B 7 | ALL RED | R | R | R | R | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B | R10 - 12M | 30 X 36 | 7.50 | 1 | 7.50 |

R10–12M




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Phasing
E Skelly Drive & S Peoria Avenue

REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA
6/13/22

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

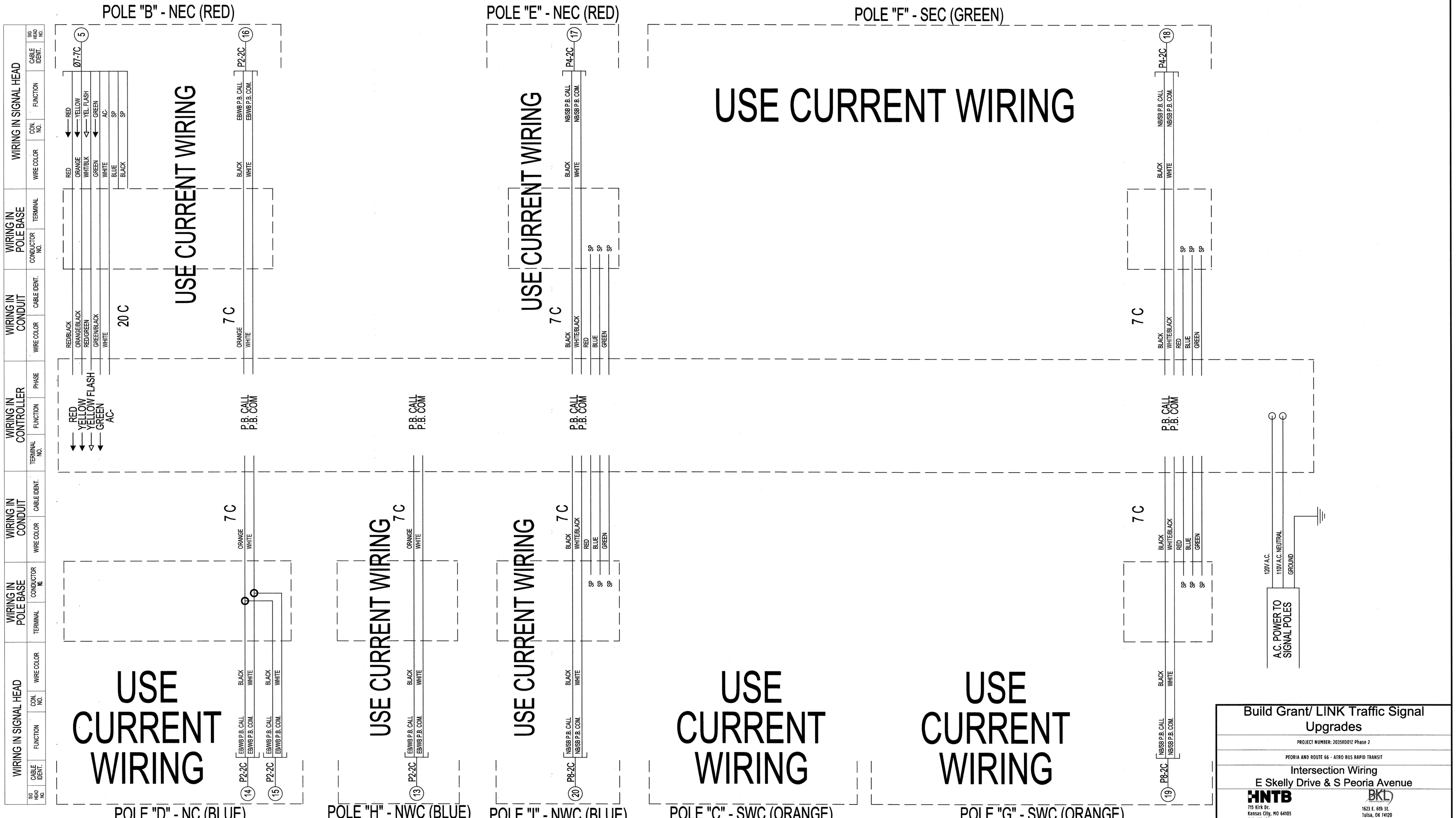
BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAs | 8·22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

CALL OKIE




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035XD012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
E Skelly Drive & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: NTS
PROFILE SCALE:
HORIZONTAL:
VERTICAL
FILE:
ATLAS PAGE NO:

DRAWN
DESIGNED
SURVEY
PROJ. MGR. RF 6/22
LEAD ENGR. 7/22
FIELD MGR. 7/22
RECOMMENDED: HAS 6-22
DESIGN MANAGER
DRAWING:

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

SHEET 44 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL BEFORE YOU DIG
811
CALL OKIE

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.

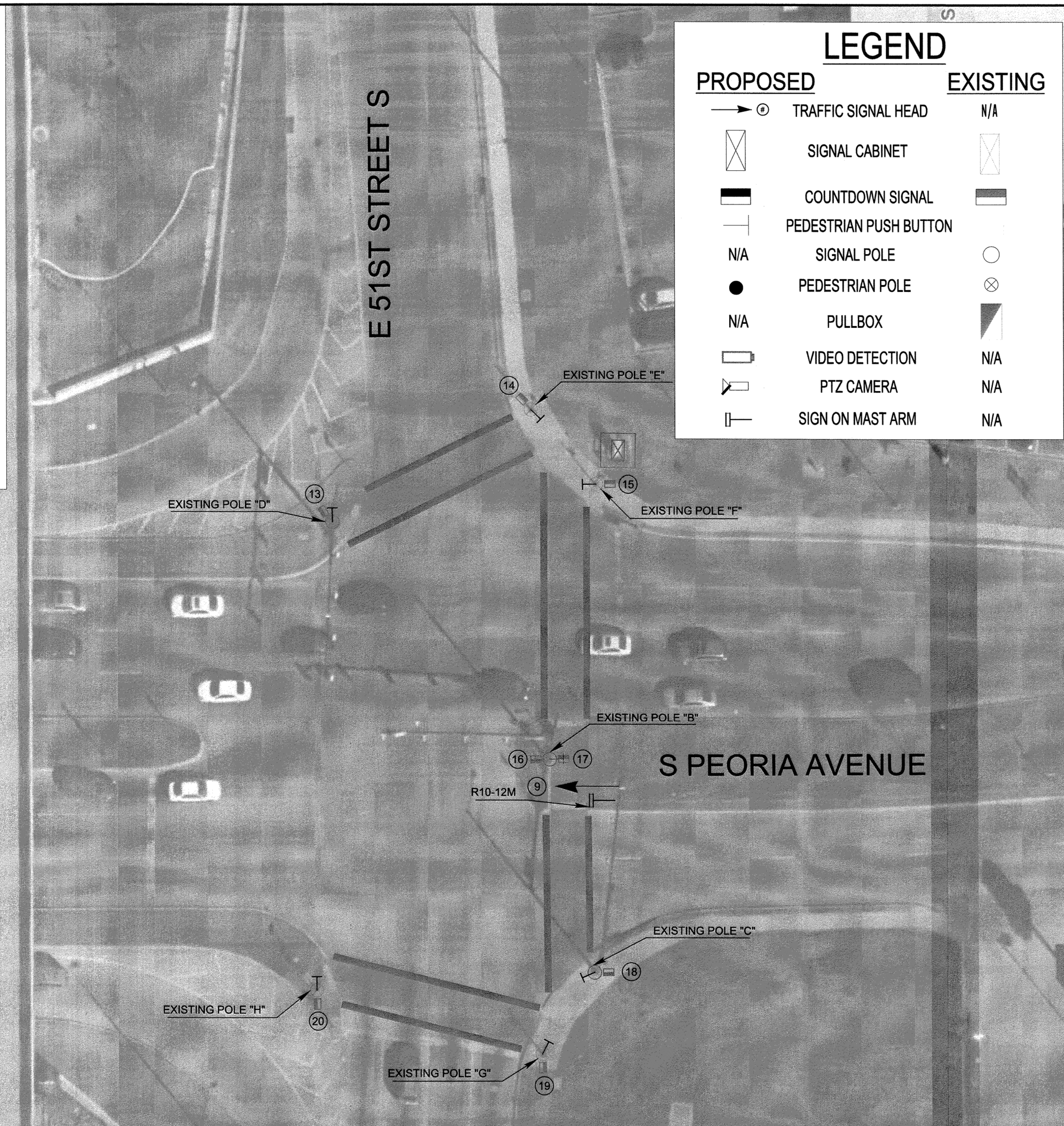
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURN OF THE SOUTHBOUND APPROACH. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.

8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.




## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 138 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 7.5 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 80 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 223 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 6 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 1 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | - |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |

-10' 0' 10' 20'
SCALE: 1" = 20'

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | SC | PED PUSH BUTTON |
| - | SEC | PED PUSH BUTTONS |
| - | NEC | PED PUSH BUTTON |
| - | NWC | PED PUSH BUTTON |
| - | SWC | PED PUSH BUTTONS |

## SIGNAL DIAGRAMS

12"

(S-13)L

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 9 | 1 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Plan
E 51st Street S & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKD
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

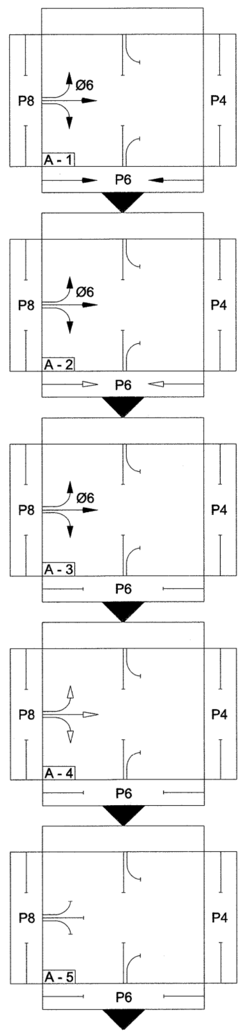
PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL:
FILE:
ATLAS PAGE NO:

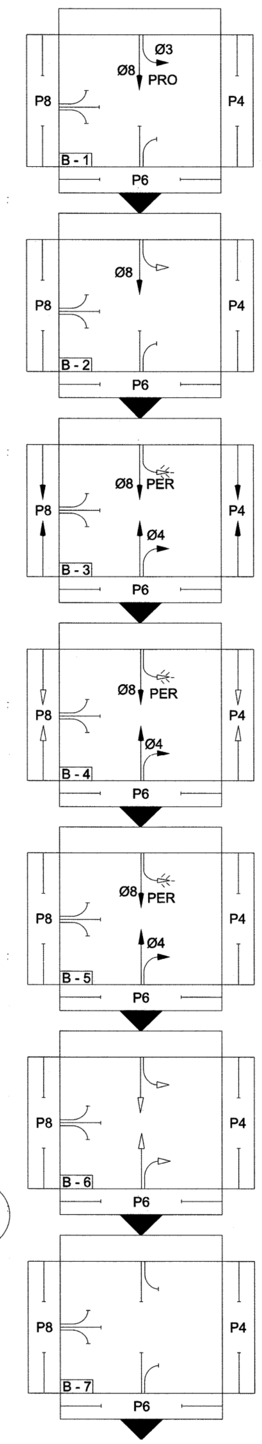
DRAWN
DESIGNED
SURVEY
PROJ. MGR. RF 6/22
LEAD ENGR. 6/22
FIELD MGR. 7/22
RECOMMENDED: HAS 8-22
DESIGN MANAGER
DRAWING:

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

SHEET 45 OF 96 SHEETS

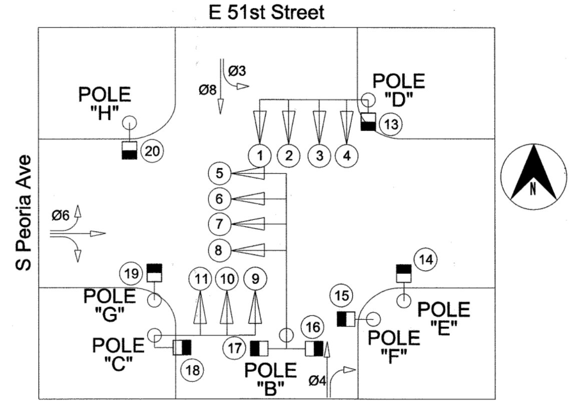
## PHASE DIAGRAM




## LEGEND

| | |
|---|---|
| | RIGHT OF WAY |
| | FLASHING |
| | CLEAR |
| | STOP |
| | RIGHT OF WAY |
| | CLEAR |
| | STOP |
| PRO | PROTECTED TURN |
| PER | PERMISSIVE TURN |



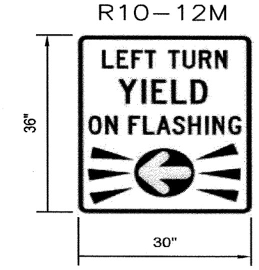

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE Ø4 | Ø6 | Ø3 | Ø8 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. | | | | | | |
| | | 1+2+3+4 | 5+6+7+8 | 9 | 10 + 11 | 13 + 14 | 15+16+17+18 | 19 + 20 |
| A 1 | Ø6, P6 ROW | R | G | -R | R | DW | W | DW |
| A 2 | Ø6 ROW & P6 CL | R | G | -R | R | DW | FDW | DW |
| A 3 | Ø6 ROW | R | G | -R | R | DW | DW | DW |
| A 4 | Ø6 CL | R | Y | -R | R | DW | DW | DW |
| A 5 | ALL RED | R | R | -R | R | DW | DW | DW |
| | | | | | | | | |
| B 1 | Ø8, Ø3 ROW | R | R | -G | G | DW | DW | DW |
| B 2 | Ø8 ROW & Ø3 CL | R | R | -Y | G | DW | DW | DW |
| B 3 | Ø8, Ø3, P4, P8 ROW | G | R | FY | G | W | DW | W |
| B 4 | Ø4, Ø8 ROW & P4, P8 CL | G | R | FY | G | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | G | R | FY | G | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | Y | R | -Y | Y | DW | DW | DW |
| B 7 | ALL RED | R | R | -R | R | DW | DW | DW |
| | FLASHING RED | FR | FR | -FR | FR | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| C | R10 - 12M | 30 X 36 | 7.50 | 1 | 7.50 |

R10–12M




PAUL D. HUNTER 18692 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA 6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E 51st Street S & S Peoria Avenue

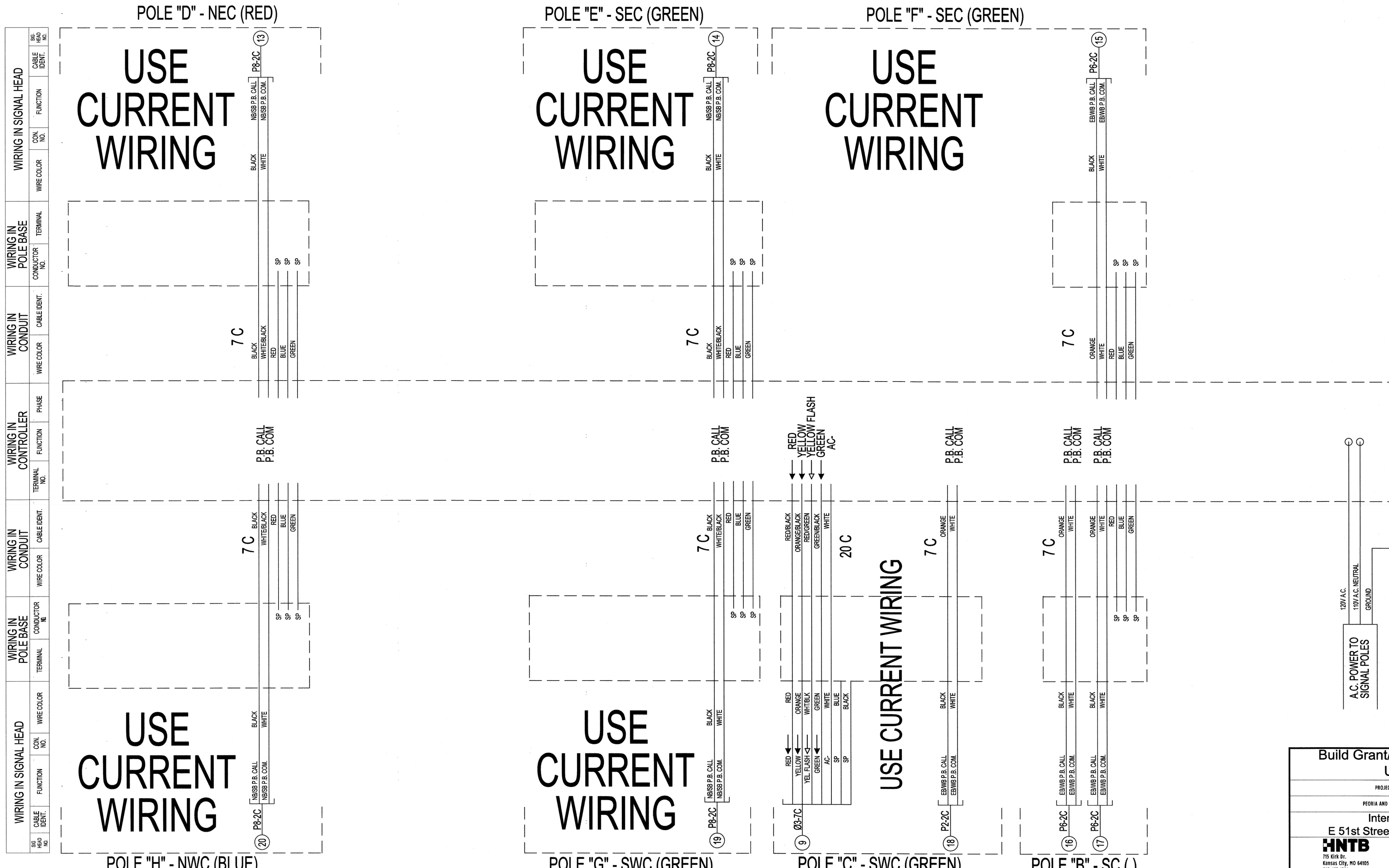
HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | LSS | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E 51st Street S & S Peoria Avenue

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918-835-9588

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | | 7/22 |
| | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022
SHEET 47 OF 82 SHEETS

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.

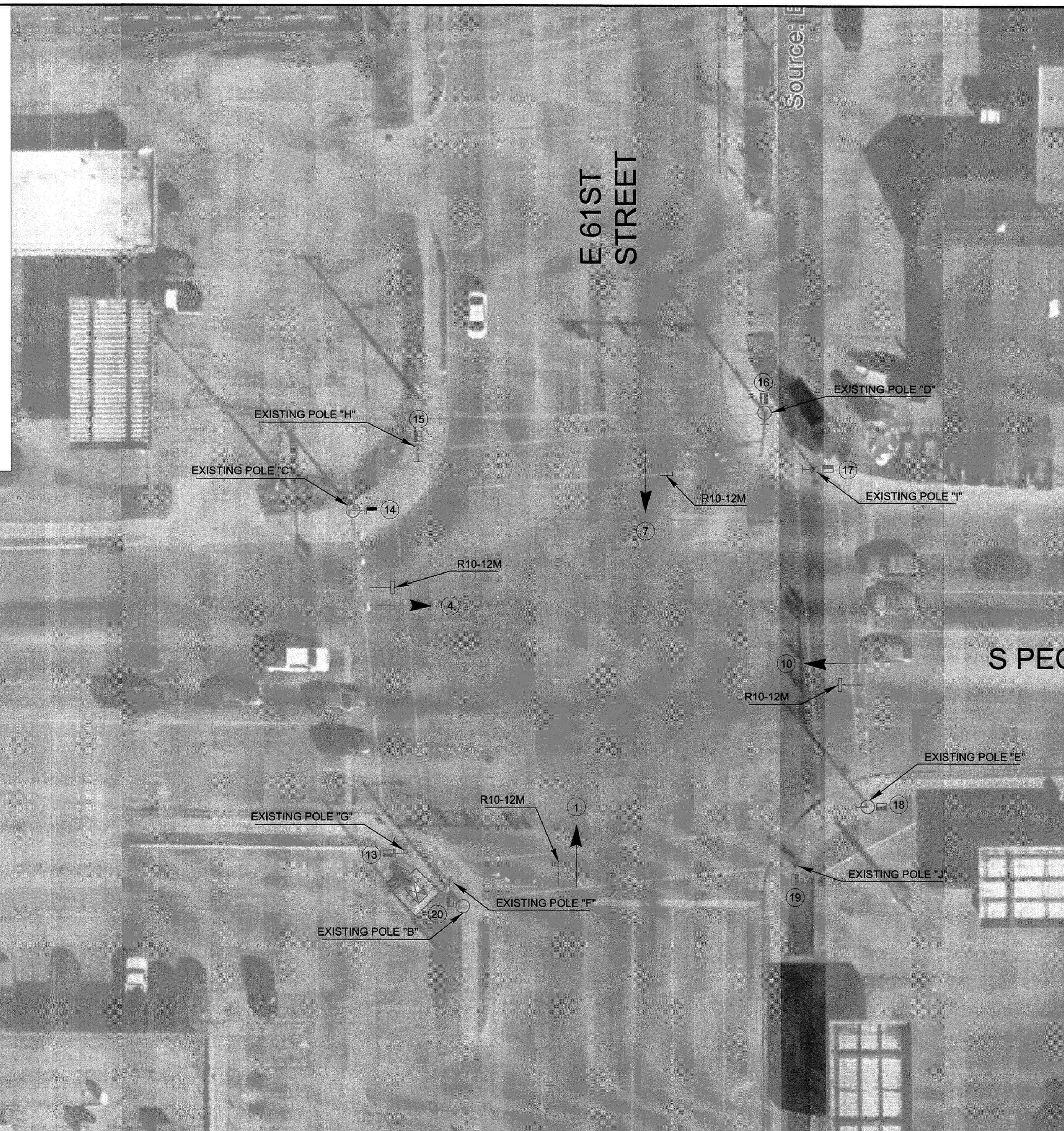
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.

8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.




## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 140 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 14 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 244 |
| 611 | 2#14 Shielded Electrical Conductor | LF | - |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | - |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | - |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | - |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 1 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |

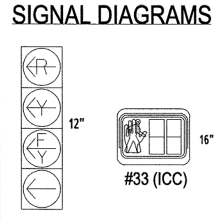
## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | EB PED HEAD |

### SIGNAL DIAGRAMS




## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 14 | 1 - #33 ICC | CLAMP | N/A | N/A |

N
-10' 0' 10' 20'
SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
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816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | | 7/22 |
| FIELD MGR. | | 7/22 |
| RECOMMENDED: | HAS | 8-22 |

DESIGN MANAGER

APPROVED:

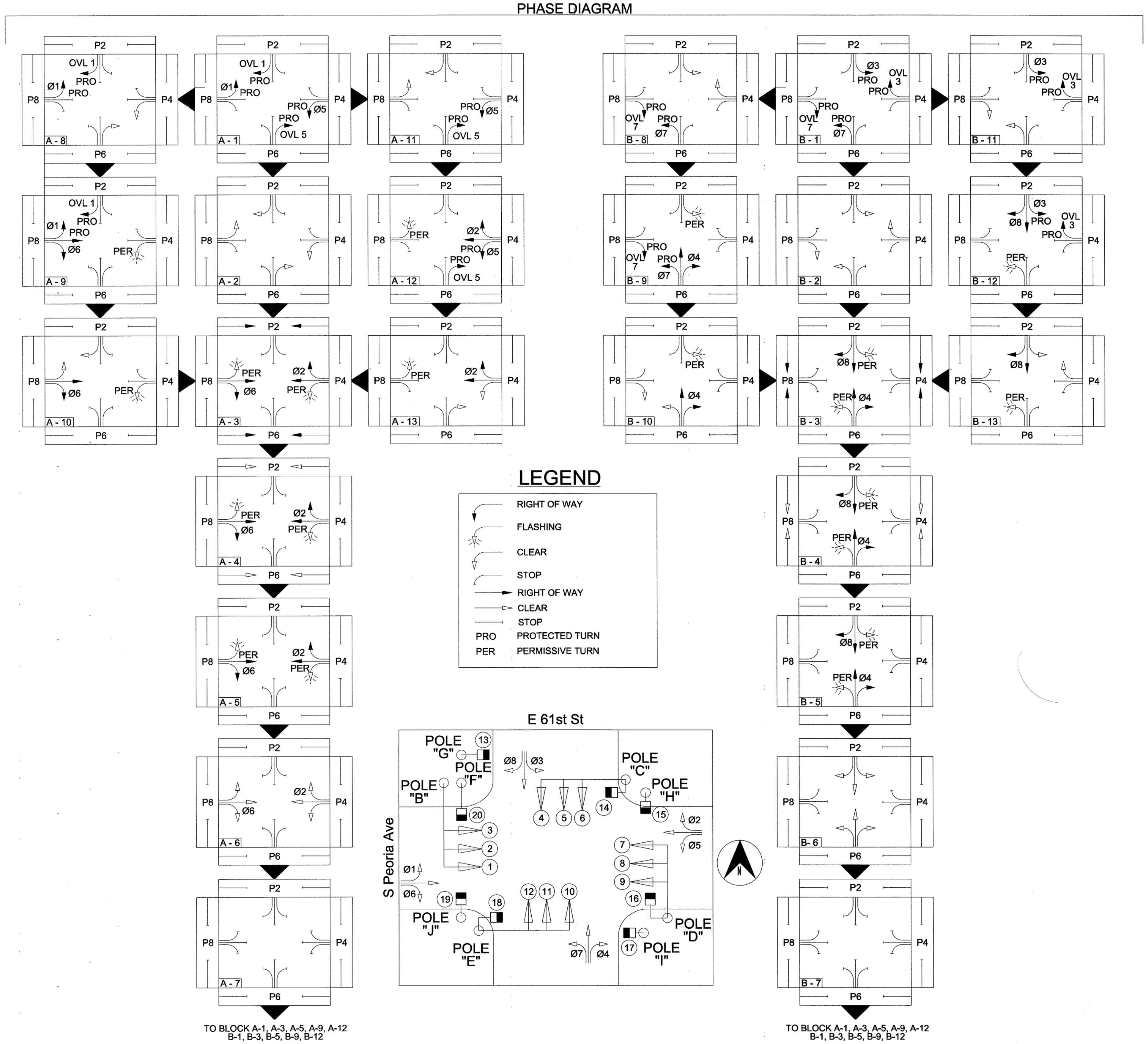
CITY ENGINEER

DATE: 06/13/2022

FILE:
DRAWING:
ATLAS PAGE NO:

SHEET 48 OF 96 SHEETS

PHASE DIAGRAM



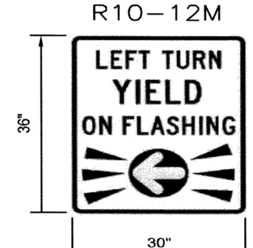

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | OVL 3 | Ø7 | Ø4 | OVL 5 | Ø1 | Ø6 | OVL 7 | Ø3 | Ø8 | OVL 1 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, OVL 1, OVL 5 ROW | G | R | R | R | R | R / G | G | R | R | R | R | R / G | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, OVL 1, OVL 5 CL | Y | R | R | R | R | R / Y | Y | R | R | R | R | R / Y | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | FY | G | R | R | R | R | FY | G | R | R | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | FY | G | R | R | R | R | FY | G | R | R | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | FY | G | R | R | R | R | FY | G | R | R | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | Y | Y | R | R | R | R | Y | Y | R | R | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | R | R | R | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| A 8 | Ø1, OVL 1 ROW & Ø5, OVL 5 CL | Y | R | R | R | R | R / Y | G | R | R | R | R | R / G | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 OVL 1 ROW | FY | R | R | R | R | R | G | G | R | R | R | R / G | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1, OVL 1 CL | FY | R | R | R | R | R | Y | G | R | R | R | R / Y | DW | DW | DW | DW |
| A 11 | Ø5, OVL 5 ROW & Ø1, OVL 1 CL | G | R | R | R | R | R / G | Y | R | R | R | R | R / Y | DW | DW | DW | DW |
| A 12 | Ø2, Ø5, OVL 5 ROW | G | G | R | R | R | R / G | FY | R | R | R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5, OVL 5 CL | Y | G | R | R | R | R / Y | FY | R | R | R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7, OVL 3, OVL 7 ROW | R | R | R / G | G | R | R | R | R | R / G | G | R | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7, OVL 3, OVL 7 CL | R | R | R / Y | Y | R | R | R | R | R / Y | Y | R | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | R | R | R | FY | G | R | R | R | R | FY | G | R | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW P4, P8 CL | R | R | R | FY | G | R | R | R | R | FY | G | R | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | R | R | R | FY | G | R | R | R | R | FY | G | R | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | R | R | R | Y | Y | R | R | R | R | Y | Y | R | DW | DW | DW | DW |
| B 7 | ALL RED | R | R | R | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| B 8 | Ø7, OVL 7 ROW Ø3, OVL 3 CL | R | R | R / Y | G | R | R | R | R | R / G | Y | R | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7, OVL 7 ROW | R | R | R | G | G | R | R | R | R / G | FY | R | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW Ø7, OVL 7 CL | R | R | R | Y | G | R | R | R | R / Y | FY | R | R | DW | DW | DW | DW |
| B 11 | Ø3, OVL 3 ROW Ø7, OVL 7 CL | R | R | R / G | Y | R | R | R | R | R / Y | G | R | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8, OVL 3 ROW | R | R | R / G | FY | R | R | R | R | R | G | G | R | DW | DW | DW | DW |
| B 13 | Ø8 ROW Ø3 OVL 3 CL | R | R | R / Y | FY | R | R | R | R | R | Y | G | R | DW | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | FR | FR | FR | FR | FR | FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10—12M




REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

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BKL
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918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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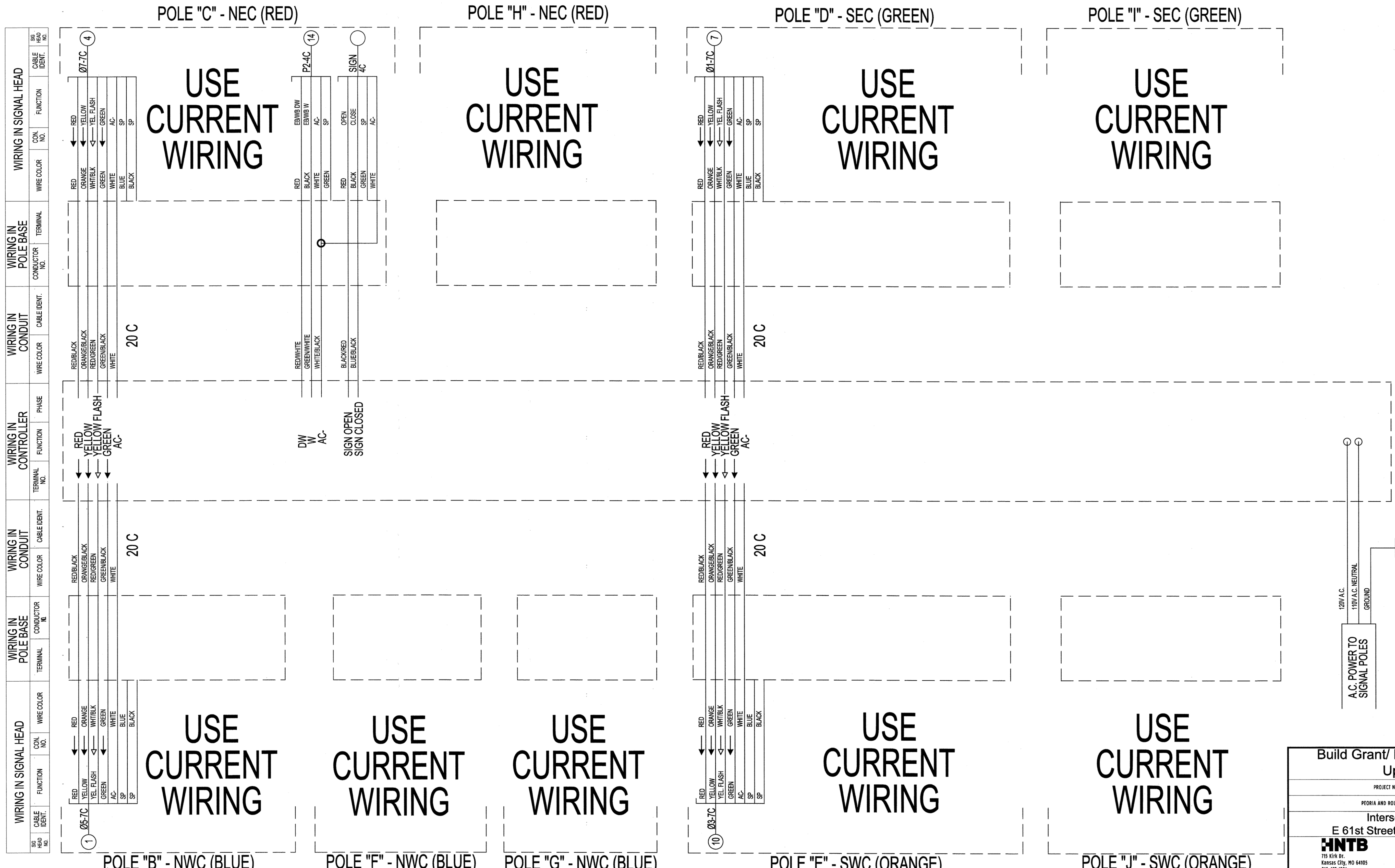
CITY ENGINEER

DATE: 06/13/2022




PALUD HUNTER 18692
REGISTERED PROFESSIONAL ENGINEER
OKLAHOMA
6/13/22

CALL OKIE 811

# Build Grant/ LINK Traffic Signal Upgrades

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PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

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| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | [illegible] | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 50 OF 82 SHEETS

## SIGNAL NOTES:

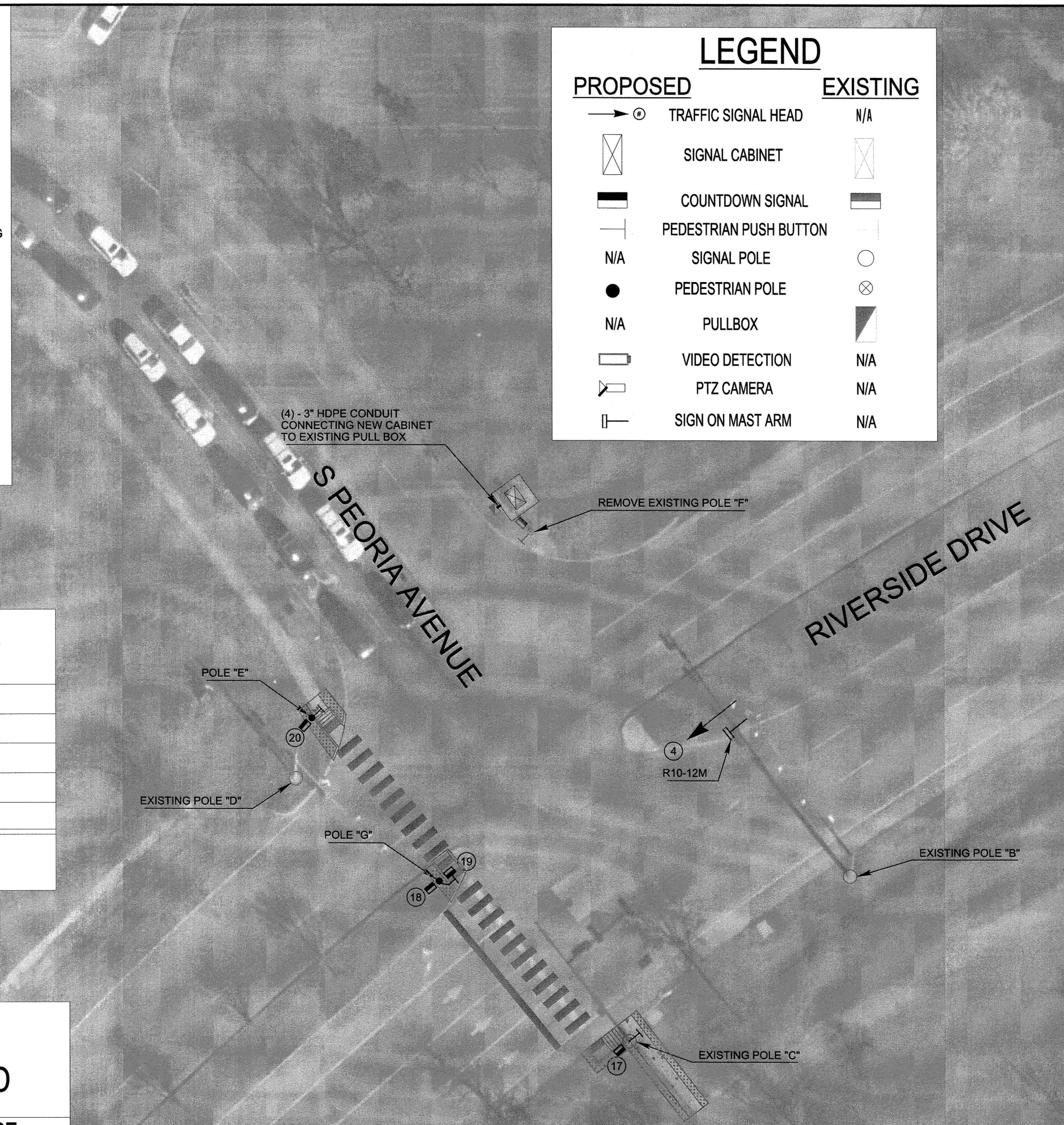
1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADE ON THE LEFT TURN OF THE SOUTHEASTBOUND APPROACH. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 148 |
| 603 | Signal Pole Footing (24" F-1) | EA | 2 |
| 608 | Traffic Signs | SF | 7.5 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 118 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 547 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1054 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 96 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 4 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 1 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 4 |
| 615 | Base Covers | EA | 2 |
| 617 | Ten Foot Pedestal Pole | EA | 2 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | EB/WB PED PUSH BUTTON/SIGNAL HEAD |
| - | NWC | PED PUSH BUTTON/SIGNAL HEAD |

## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| E | 10' | N/A | F - 1 |
| G | 10' | N/A | F - 1 |

## SIGNAL DIAGRAMS

12"
(S-13)L
16"
#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 4 | 1 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 17, 18, 19, 20 | 4 - #33 ICC | CLAMP | N/A | N/A |

-10' 0' 10' 20'
SCALE: 1" = 20'

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## Riverside Drive & S Peoria Avenue

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | KB | 7/22 |
| FIELD MGR. | ZEW | 7/22 |
| RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |

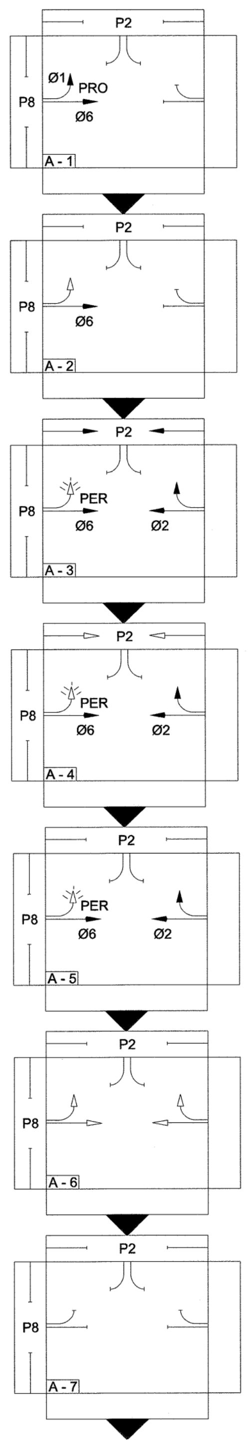
APPROVED:
CITY ENGINEER
DATE: 06/13/2022

FILE: DRAWING:
ATLAS PAGE NO:

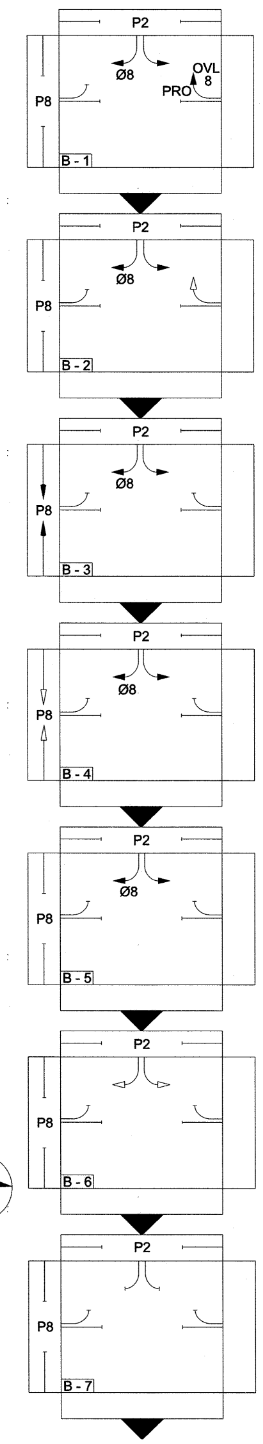
SHEET 51 OF 96 SHEETS

CALL OKIE 811

## PHASE DIAGRAM

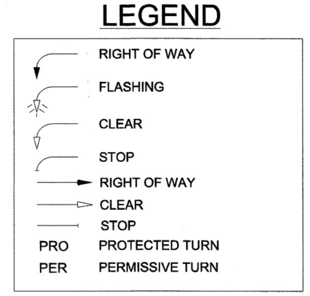



TO BLOCK A-1, A-3, A-5, B-1, B-3, B-5

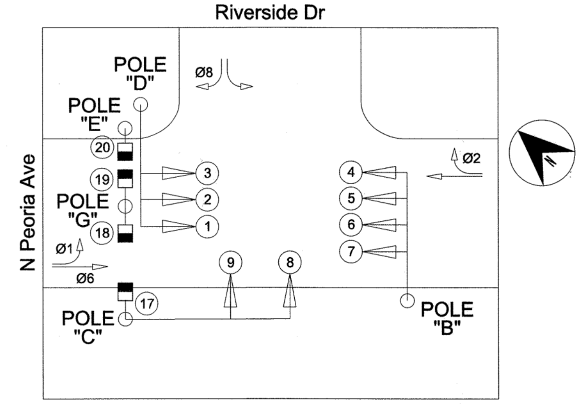



TO BLOCK A-1, A-3, A-5, B-1, B-3, B-5

## LEGEND




Riverside Dr



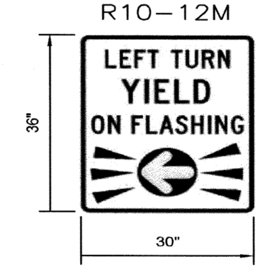

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE Ø2 | PHASE OVL 8 | PHASE Ø1 | PHASE Ø6 | PHASE Ø8 | PHASE P8 |
|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. 1 + 2 | 3 | 4 | 5 + 6 + 7 | 8 + 9 | 17 + 18 + 19 + 20 |
| A 1 | Ø6, Ø1 ROW | R | R | G | G | R | DW |
| A 2 | Ø6 ROW & Ø1 CL | R | R | Y | G | R | DW |
| A 3 | Ø6, Ø2, P2 ROW | G | R | FY | G | R | DW |
| A 4 | Ø6, Ø2 ROW & P2 CL | G | R | FY | G | R | DW |
| A 5 | Ø6, Ø2 ROW | G | R | FY | G | R | DW |
| A 6 | Ø6, Ø2 CL | Y | R | Y | Y | R | DW |
| A 7 | ALL RED | R | R | R | R | R | DW |
| | | | | | | | |
| B 1 | Ø8, OVL 8 ROW | R | R / G | R | R | G | DW |
| B 2 | Ø8 ROW & OVL 8 CL | R | R / Y | R | R | G | DW |
| B 3 | Ø8, P8 ROW | R | R | R | R | G | W |
| B 4 | Ø8 ROW & P8 CL | R | R | R | R | R | FDW |
| B 5 | Ø8 ROW | R | R | R | R | G | DW |
| B 6 | Ø8 CL | R | R | R | R | Y | DW |
| B 7 | ALL RED | R | R | R | R | R | DW |
| | FLASHING RED | FR | FR | FR | FR | FR | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B | R10 - 12M | 30 X 36 | 7.50 | 1 | 7.50 |

R10–12M




PAUL D. HUNTER 18692 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA 6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## Riverside Drive & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: HBS 8-22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

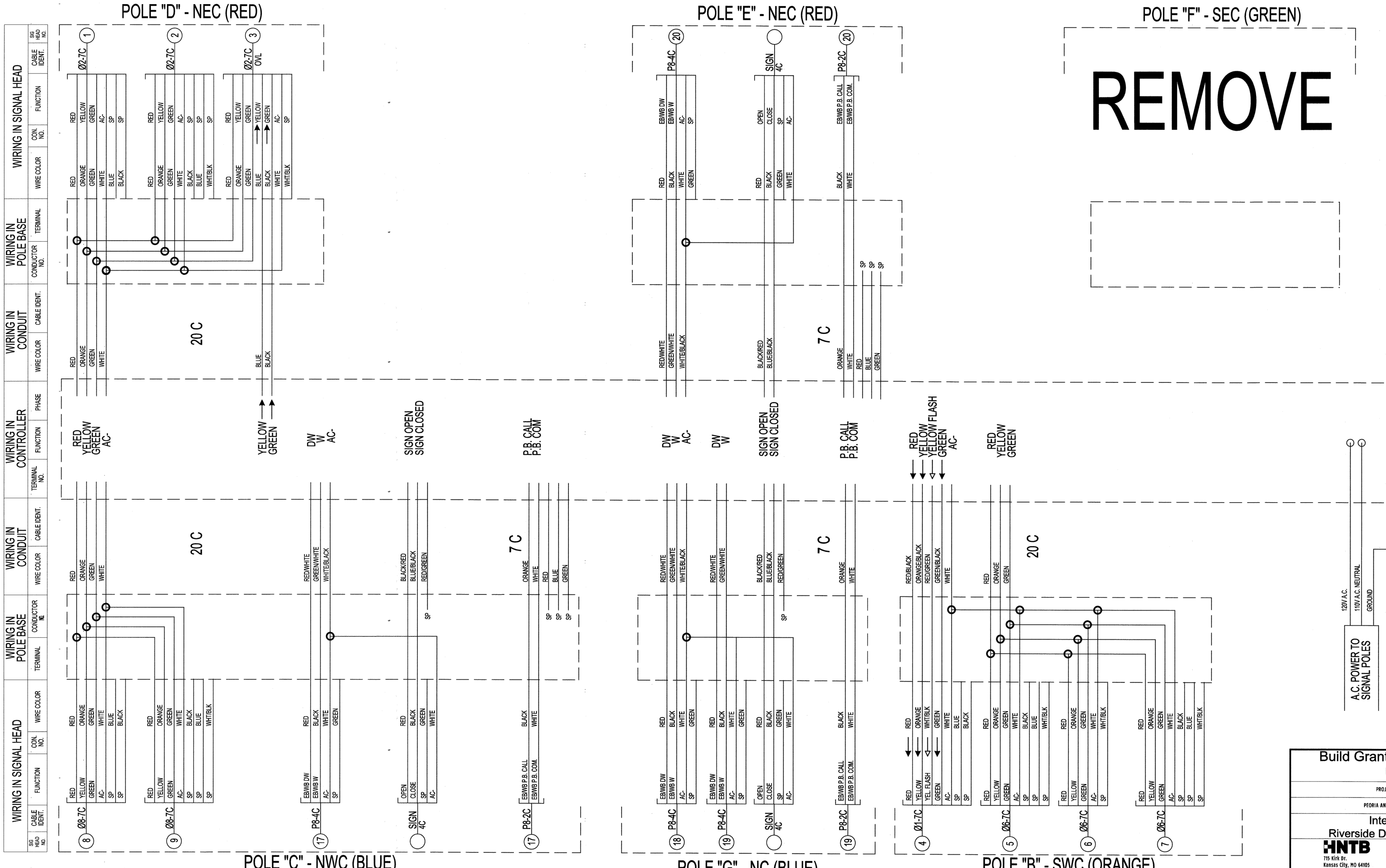
APPROVED:

CITY ENGINEER

DATE: 06/1?/2022



CALL OKIE




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
Riverside Drive & S Peoria Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: NTS

PROFILE SCALE:

HORIZONTAL:

VERTICAL

DRAWN

DESIGNED

SURVEY

PROJ. MGR. RF 6/22

LEAD ENGR. LWB 7/22

FIELD MGR. Tom 7/22

RECOMMENDED: HAS 8-22

DESIGN MANAGER

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

FILE:

DRAWING:

ATLAS PAGE NO:

SHEET 53 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

BEFORE YOU DIG CALL OKIE 811

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
3. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
4. INSTALL FLASHING YELLOW ARROW UPGRADE ON THE LEFT TURN OF THE EASTBOUND AND WESTBOUND APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
5. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
6. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 102 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 15 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 146 |
| 611 | 2#14 Shielded Electrical Conductor | LF | - |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | - |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | - |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | - |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 2 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | - |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |


## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |

SIGNAL DIAGRAMS

12"

(S-13)L

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 6 | 2 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |

REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA 6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

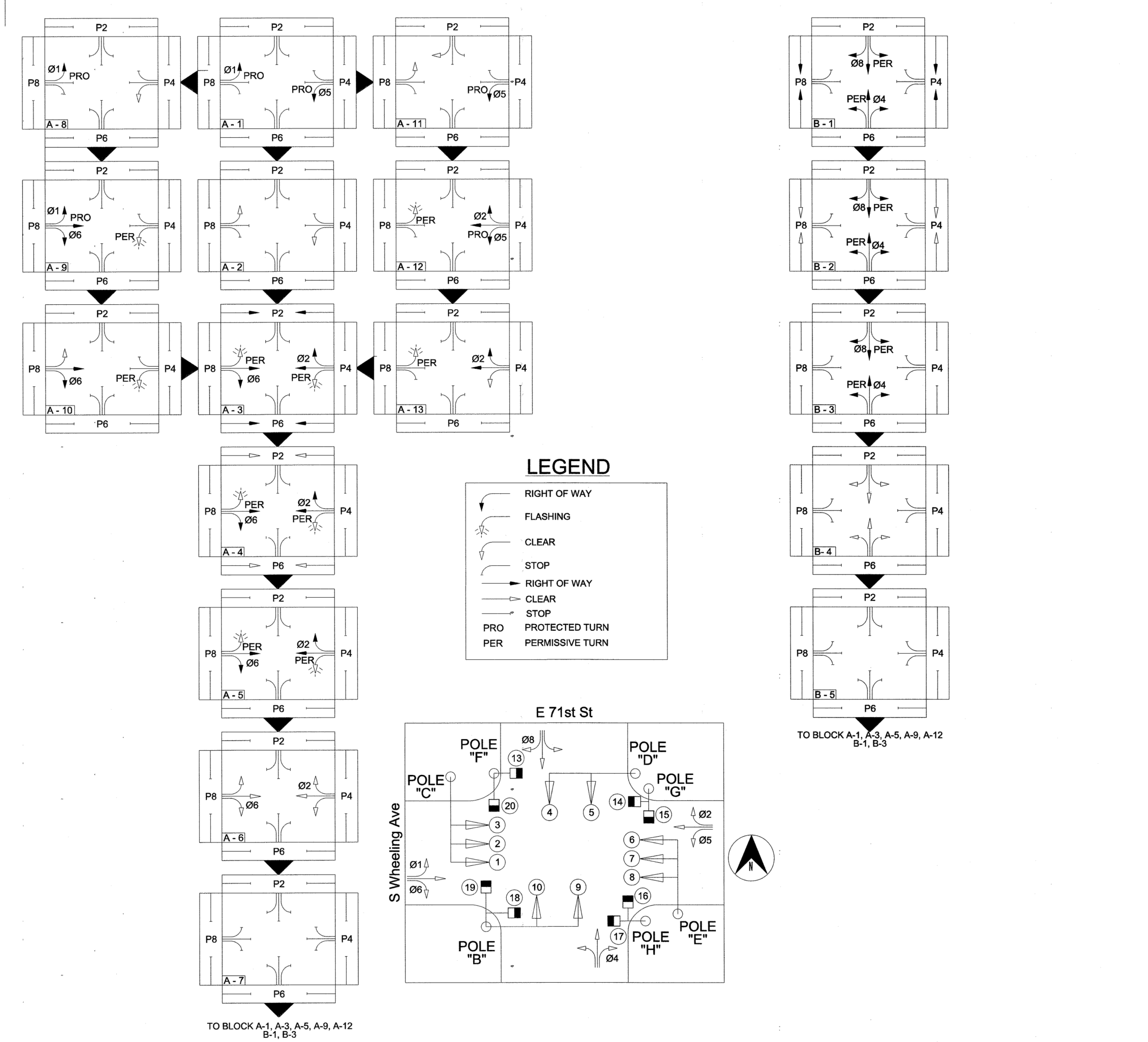
## Intersection Plan
## E 71st Street & S Wheeling Avenue


HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588


| REVISION | BY | DATE | PLAN SCALE: 1" = 20' | | | | APPROVED: |
|---|---|---|---|---|---|---|---|
| | | | | DRAWN | | | |
| | | | | DESIGNED | | | |
| | | | | SURVEY | | | |
| | | | PROFILE SCALE: | PROJ. MGR. | RF | 6/22 | |
| | | | | LEAD ENGR. | [illegible] | 7/22 | |
| | | | HORIZONTAL: | FIELD MGR. | [illegible] | 7/22 | |
| | | | VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 | CITY ENGINEER |
| | | | FILE: | DRAWING: | | | DATE: 06/13/2022 |
| | | | ATLAS PAGE NO: | | | | SHEET 54 OF 96 SHEETS |

PHASE DIAGRAM



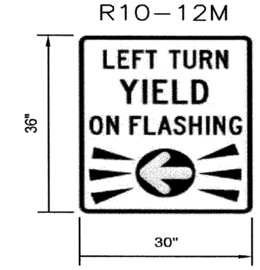

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ø5 | Ø2 | Ø4 | Ø1 | Ø6 | Ø8 | P2 | P4 | P6 | P8 |
| | | SIGNAL HEAD NO. | | | | | | | | | |
| | | 1 | 2 + 3 | 4 + 5 | 6 | 7 + 8 | 9 + 10 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, ROW | ←G | R | R | ←G | R | R | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, CL | ←Y | R | R | ←Y | R | R | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←FY | G | R | ←FY | G | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←FY | G | R | ←FY | G | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←FY | G | R | ←FY | G | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←Y | Y | R | ←Y | Y | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | ←Y | R | R | ←G | R | R | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 ROW | ←FY | R | R | ←G | G | R | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | ←FY | R | R | ←Y | G | R | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | ←G | R | R | ←Y | R | R | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | ←G | G | R | ←FY | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | ←Y | G | R | ←FY | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | |
| B 1 | Ø4, Ø8, P4, P8 ROW | ←R | R | G | ←R | R | G | DW | W | DW | W |
| B 2 | Ø4, Ø8 ROW & P4, P8 CL | ←R | R | G | ←R | R | G | DW | FDW | DW | FDW |
| B 3 | Ø4, Ø8 ROW | ←R | R | G | ←R | R | G | DW | DW | DW | DW |
| B 4 | Ø4, Ø8 CL | ←R | R | Y | ←R | R | Y | DW | DW | DW | DW |
| B 5 | ALL RED | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | FR | ←FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| C & E | R10 - 12M | 30 X 36 | 7.50 | 2 | 15.00 |

R10–12M




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E 71st Street & S Wheeling Avenue

REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA 6/13/22

HNTB
715 Kirk Dr.
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BKL
1623 E. 6th St.
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| REVISION | BY | DATE |
|---|---|---|
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| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | HS | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

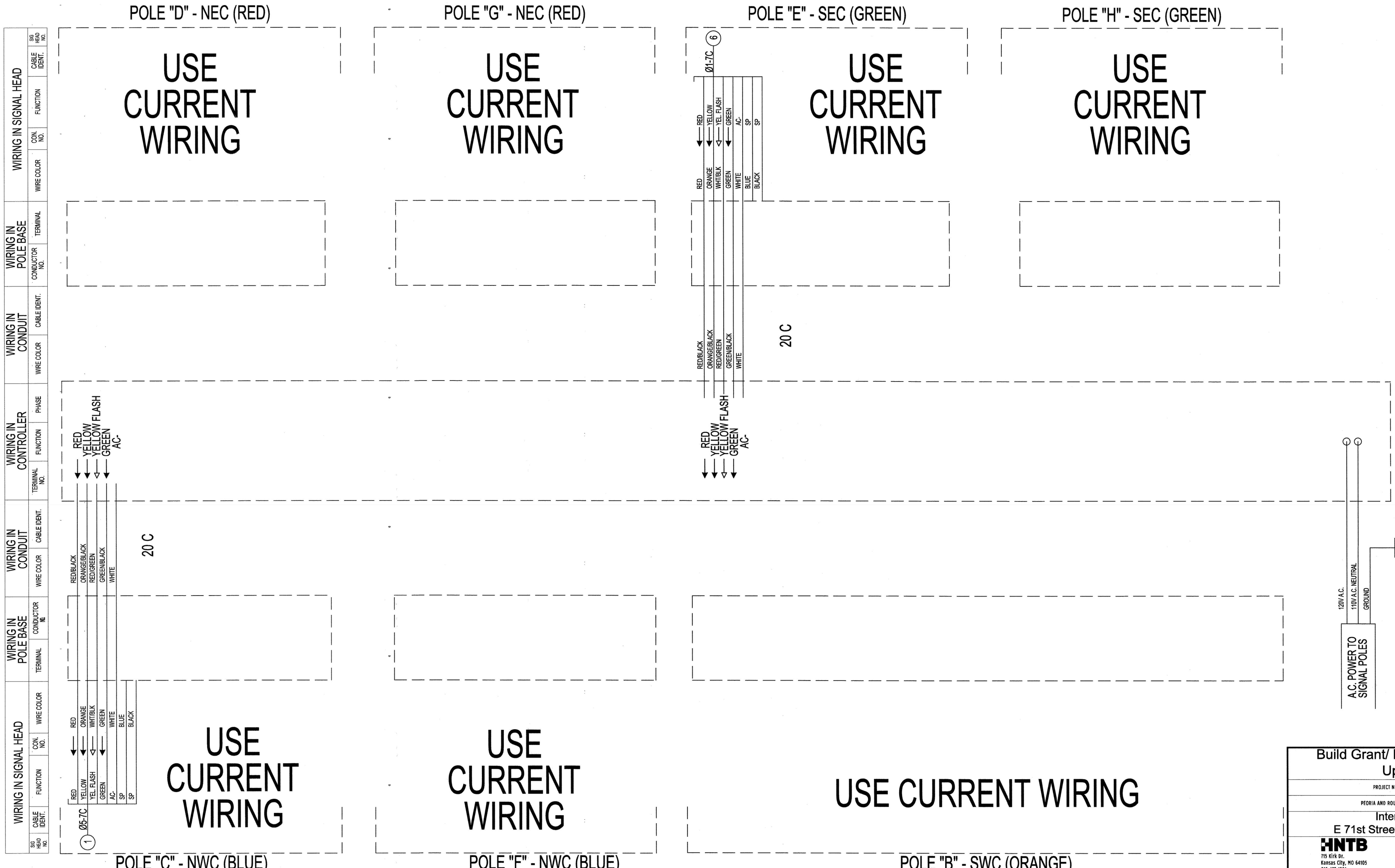
APPROVED:

CITY ENGINEER

DATE: 06/13/2022



CALL OKIE




PAUL D HUNTER 18692 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA 6/13/22

CALL OKIE 811

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## E 71st Street & S Wheeling Avenue

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

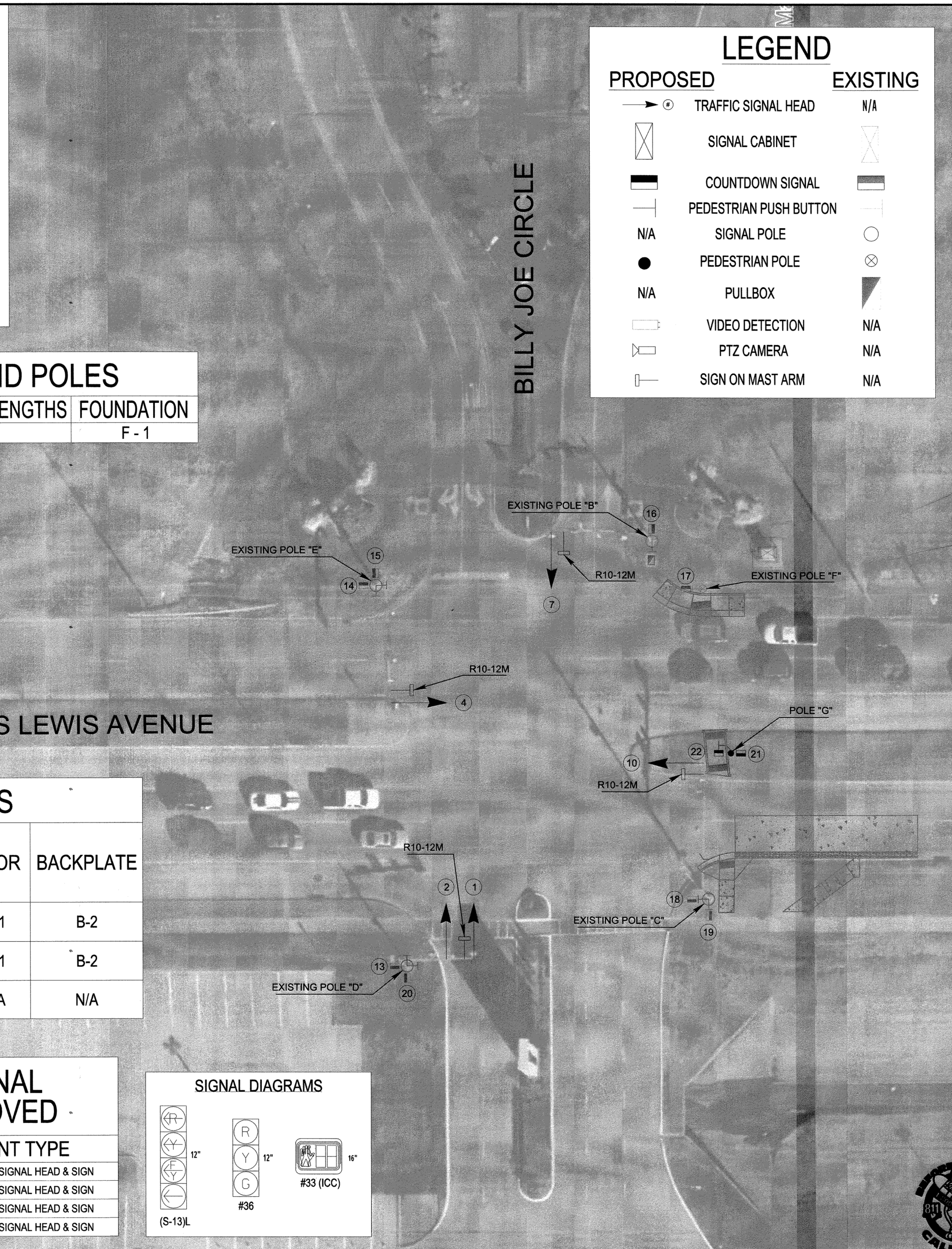
| REVISION | BY | DATE | PLAN SCALE: | | | | APPROVED: |
|---|---|---|---|---|---|---|---|
| | | | NTS | DRAWN | | | |
| | | | | DESIGNED | | | |
| | | | | SURVEY | | | |
| | | | PROFILE SCALE: | PROJ. MGR. | RF | 6/22 | |
| | | | | LEAD ENGR. | LO | 7/22 | |
| | | | HORIZONTAL: | FIELD MGR. | | 7/22 | |
| | | | VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 | CITY ENGINEER |
| | | | FILE: | DRAWING: | | | DATE: 06/13/2022 |
| | | | ATLAS PAGE NO: | | | | SHEET 56 OF 82 SHEETS |

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.
3. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
4. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
5. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
6. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
7. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.
8. IF PROJECT NUMBER 2035X001Z PHASE 1 BID ALTERNATE 1 IS NOT ACCEPTED, FIBER OPTIC SPLICING WILL NOT BE PERFORMED AT THIS INTERSECTION.

## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| G | 10' | N/A | F - 1 |




## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 135 |
| 603 | Signal Pole Footing (24" F-1) | EA | 1 |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 28 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 327 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 8.5 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 1 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | 1 |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 2 |
| 615 | Base Covers | EA | 1 |
| 617 | Ten Foot Pedestal Pole | EA | 1 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 2 | 1 - #36 (12" LENS) | MAST ARM | V-1 | B-2 |
| 21, 22 | 2 - #33 ICC | CLAMP | N/A | N/A |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |

## SIGNAL DIAGRAMS

12" (S-13)L
R Y G 12" #36
16" #33 (ICC)

SCALE: 1" = 20'

CALL OKIE

Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Plan
S Lewis Avenue & Billy Joe Circle

REGISTERED PROFESSIONAL ENGINEER DAVID HUNTER 18692 OKLAHOMA 6/13/22

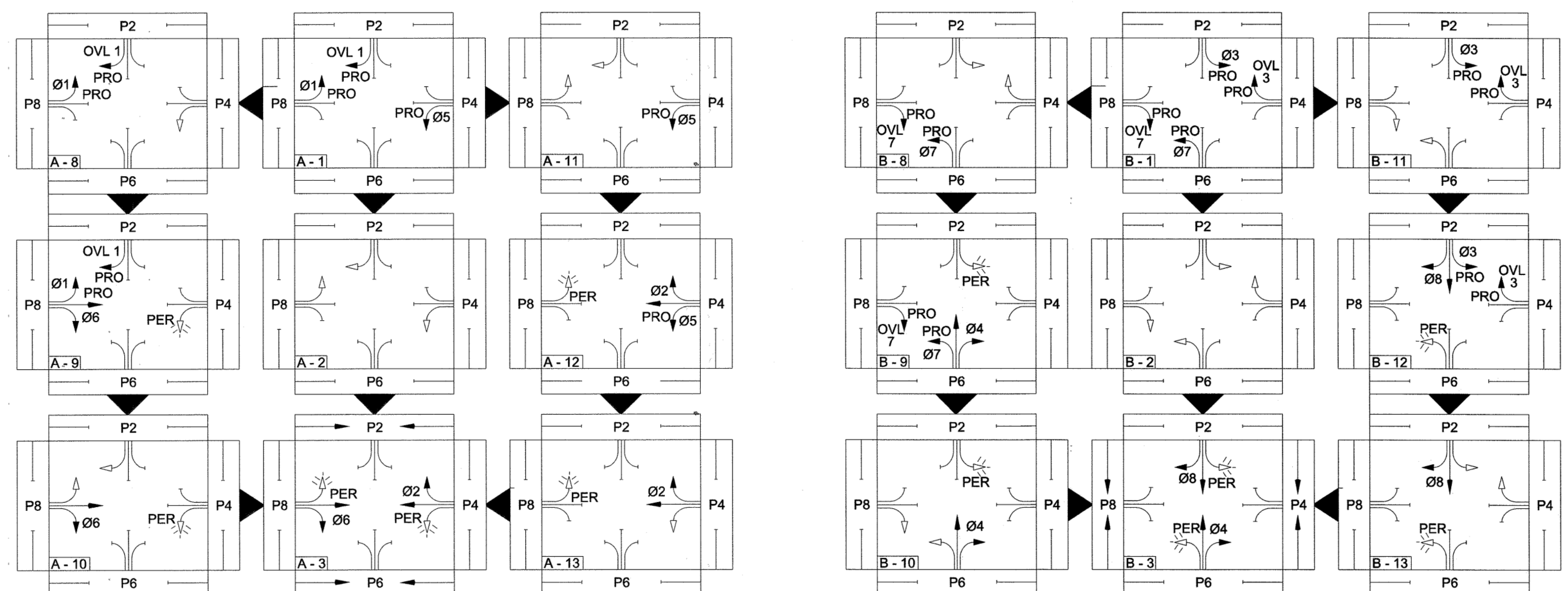
HNTB 715 Kirk Dr. Kansas City, MO 64105 816-472-1201

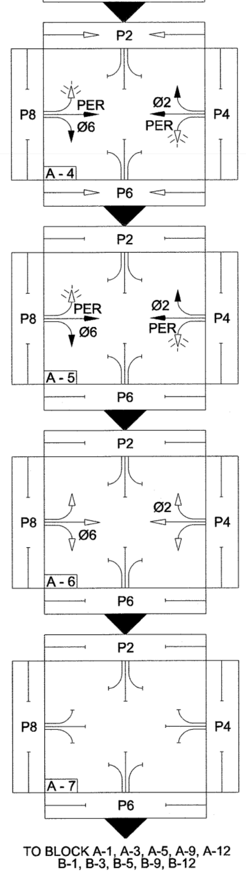
BKL 1623 E. 6th St. Tulsa, OK 74120 918-835-9588

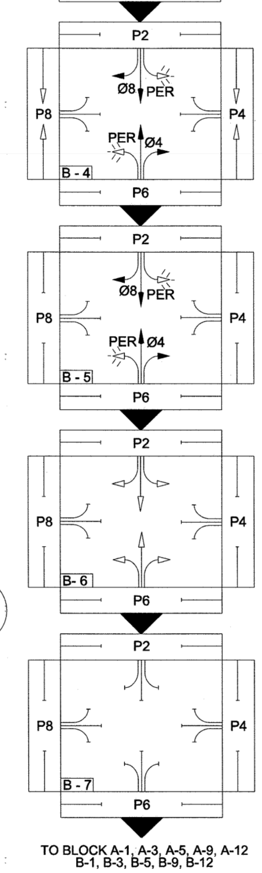
REVISION | BY | DATE

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL:
DRAWN
DESIGNED
SURVEY
PROJ. MGR. RF 6/22
LEAD ENGR. 7/22
FIELD MGR. 7/22
RECOMMENDED: HAS 8.22
DESIGN MANAGER
FILE:
DRAWING:
ATLAS PAGE NO:
APPROVED:
CITY ENGINEER
DATE: 06/13/2022
SHEET 57 OF 96 SHEETS

## PHASE DIAGRAM

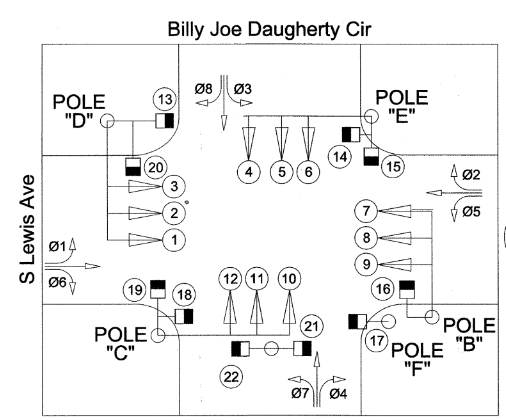




### LEGEND

- RIGHT OF WAY
- FLASHING
- CLEAR
- STOP
- RIGHT OF WAY
- CLEAR
- STOP
- PRO — PROTECTED TURN
- PER — PERMISSIVE TURN



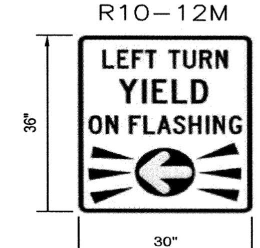

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | Ø2 OVL3 | Ø7 | Ø4 | Ø1 | Ø6 | OVL 7 | Ø3 | Ø8 | OVL 1 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. | | | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 + 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 + 14 | 15 + 16 | 17+18+21+22 | 19 + 20 |
| A 1 | Ø1, Ø5, OVL 1 ROW | ←G | R | R | ←R | R | ←G | R | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, OVL 1 CL | ←Y | R | R | ←R | R | ←Y | R | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←FY | G | G | ←R | R | ←FY | G | R | ←R | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←FY | G | G | ←R | R | ←FY | G | R | ←R | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←FY | G | G | ←R | R | ←FY | G | R | ←R | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←Y | Y | Y | ←R | R | ←Y | Y | R | ←R | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | R | ←R | R | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| A 8 | Ø1, OVL 1 ROW & Ø5 CL | ←Y | R | R | ←R | R | ←G | R | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 OVL 1 ROW | ←FY | R | R | ←R | R | ←G | G | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1, OVL 1 CL | ←FY | R | R | ←R | R | ←Y | G | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 11 | Ø5, ROW & Ø1, OVL 1 CL | ←G | R | R | ←R | R | ←Y | R | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 12 | Ø2, Ø5, ROW | ←G | G | G | ←R | R | ←FY | R | R | ←R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | ←Y | G | G | ←R | R | ←FY | R | R | ←R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7, OVL 3, OVL 7 ROW | ←R | R | R / G→ | ←G | R | ←R | R | R / G→ | ←G | R | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7, OVL 3, OVL 7 CL | ←R | R | R / Y→ | ←Y | R | ←R | R | R / Y→ | ←Y | R | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ←R | R | R | ←FY | G | ←R | R | R | ←FY | G | R | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW P4, P8 CL | ←R | R | R | ←FY | G | ←R | R | R | ←FY | G | R | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ←R | R | R | ←FY | G | ←R | R | R | ←FY | G | R | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ←R | R | R | ←Y | Y | ←R | R | R | ←Y | Y | R | DW | DW | DW | DW |
| B 7 | ALL RED | ←R | R | R | ←R | R | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| B 8 | Ø7, OVL 7 ROW Ø3, OVL 3 CL | ←R | R | R / Y→ | ←G | R | ←R | R | R / G→ | ←Y | R | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7, OVL 7 ROW | ←R | R | R | ←G | G | ←R | R | R / G→ | ←FY | R | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW Ø7, OVL 7 CL | ←R | R | R | ←Y | G | ←R | R | R / Y→ | ←FY | R | R | DW | DW | DW | DW |
| B 11 | Ø3, OVL 3 ROW Ø7, OVL 7 CL | ←R | R | R / G→ | ←Y | R | ←R | R | R / Y→ | ←G | R | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8, OVL 3 ROW | ←R | R | R / G→ | ←FY | R | ←R | R | R | ←G | G | R | DW | DW | DW | DW |
| B 13 | Ø8 ROW Ø3 OVL 3 CL | ←R | R | R / Y→ | ←FY | R | ←R | R | R | ←Y | G | R | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | FR | ←FR | FR | ←FR | FR | FR | ←FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10–12M




REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## S Lewis Avenue & Billy Joe Circle

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

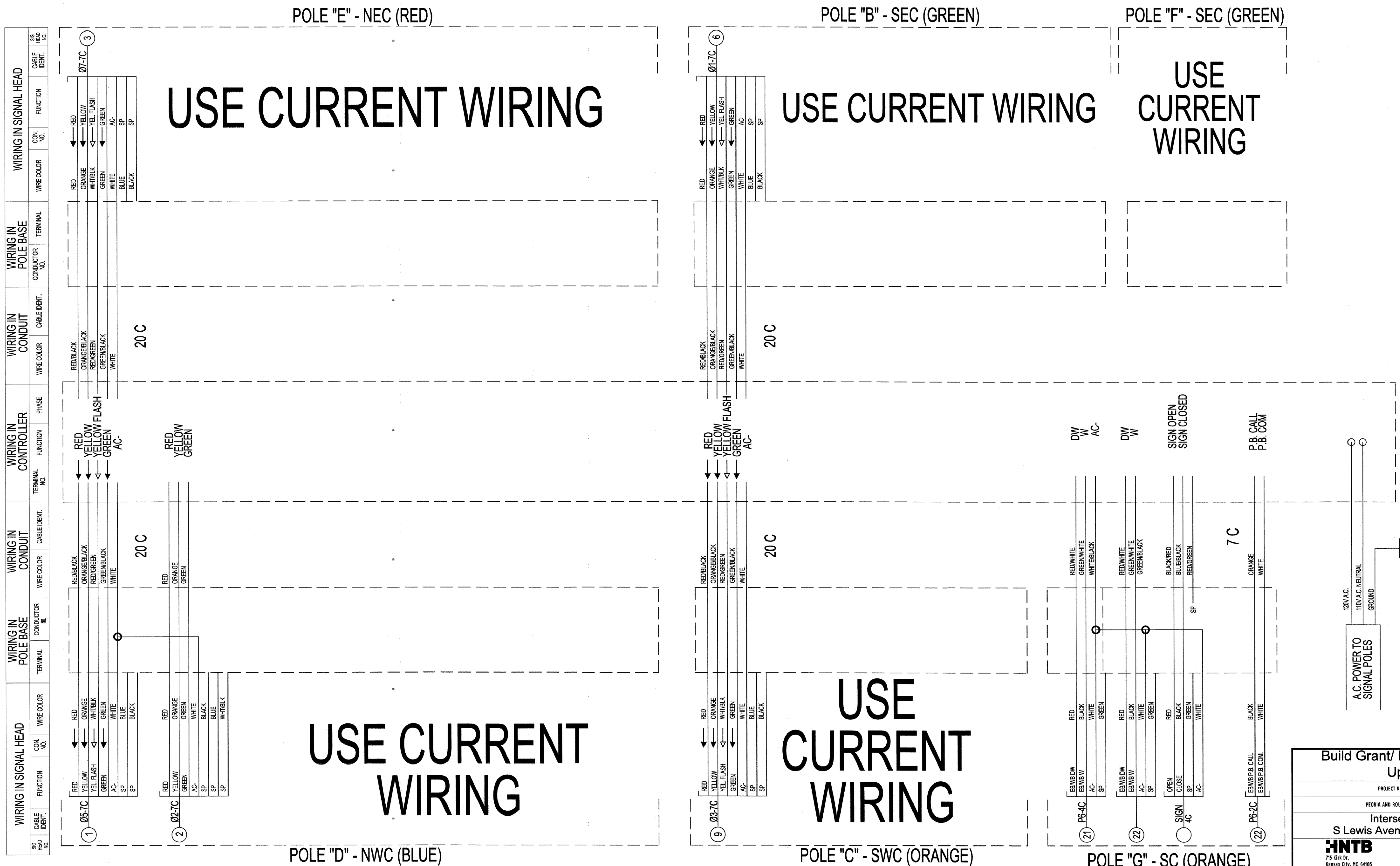
| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | PF | 6/22 |
| | LEAD ENGR. | LS | 7/22 |
| HORIZONTAL: | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8·22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 58 OF 82 SHEETS




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035XD012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
S Lewis Avenue & Billy Joe Circle

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | APPROVED: |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF 6/22 | |
| | LEAD ENGR. | LG 7/22 | |
| HORIZONTAL: | FIELD MGR. | 7/22 | |
| | RECOMMENDED: DESIGN MANAGER | HAS 8-22 | CITY ENGINEER |
| VERTICAL | | | DATE: 06/13/2022 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | SHEET 59 OF 82 SHEETS |

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

## SIGNAL NOTES:

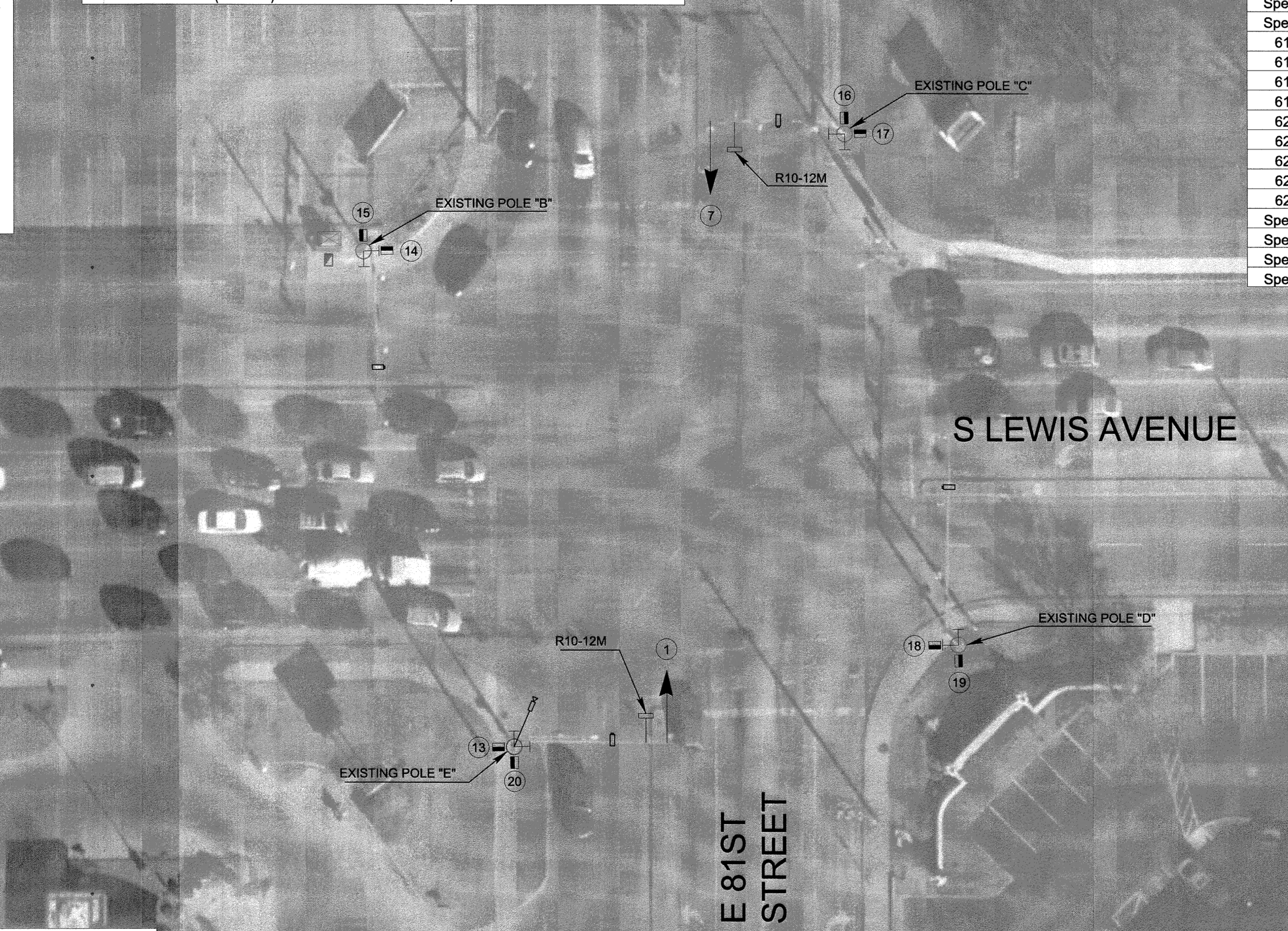
1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL EASTBOUND AND WESTBOUND APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.
10. IF PROJECT NUMBER 2035X001Z PHASE 1 BID ALTERNATE 1 IS NOT ACCEPTED, FIBER OPTIC SPLICING WILL NOT BE PERFORMED AT THIS INTERSECTION.

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 165 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 15 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 112 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 123 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 68 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 2 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | 1 |
| Special | Traffic Control | EA | 1 |




## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

SIGNAL DIAGRAMS

12"

(S-13)L

16"

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 7 | 2 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

N

-10' 0' 10' 20'

SCALE: 1" = 20'

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## E 81st Street & S Lewis Avenue

REGISTERED PROFESSIONAL ENGINEER PAUL D HUNTER 18692 OKLAHOMA 6/13/22


HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588


| REVISION | BY | DATE |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

PLAN SCALE: 1" = 20'

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | LSA | 7/22 |
| FIELD MGR. | | 7/22 |
| RECOMMENDED: | HAS | 8-22 |

DESIGN MANAGER

APPROVED:

CITY ENGINEER

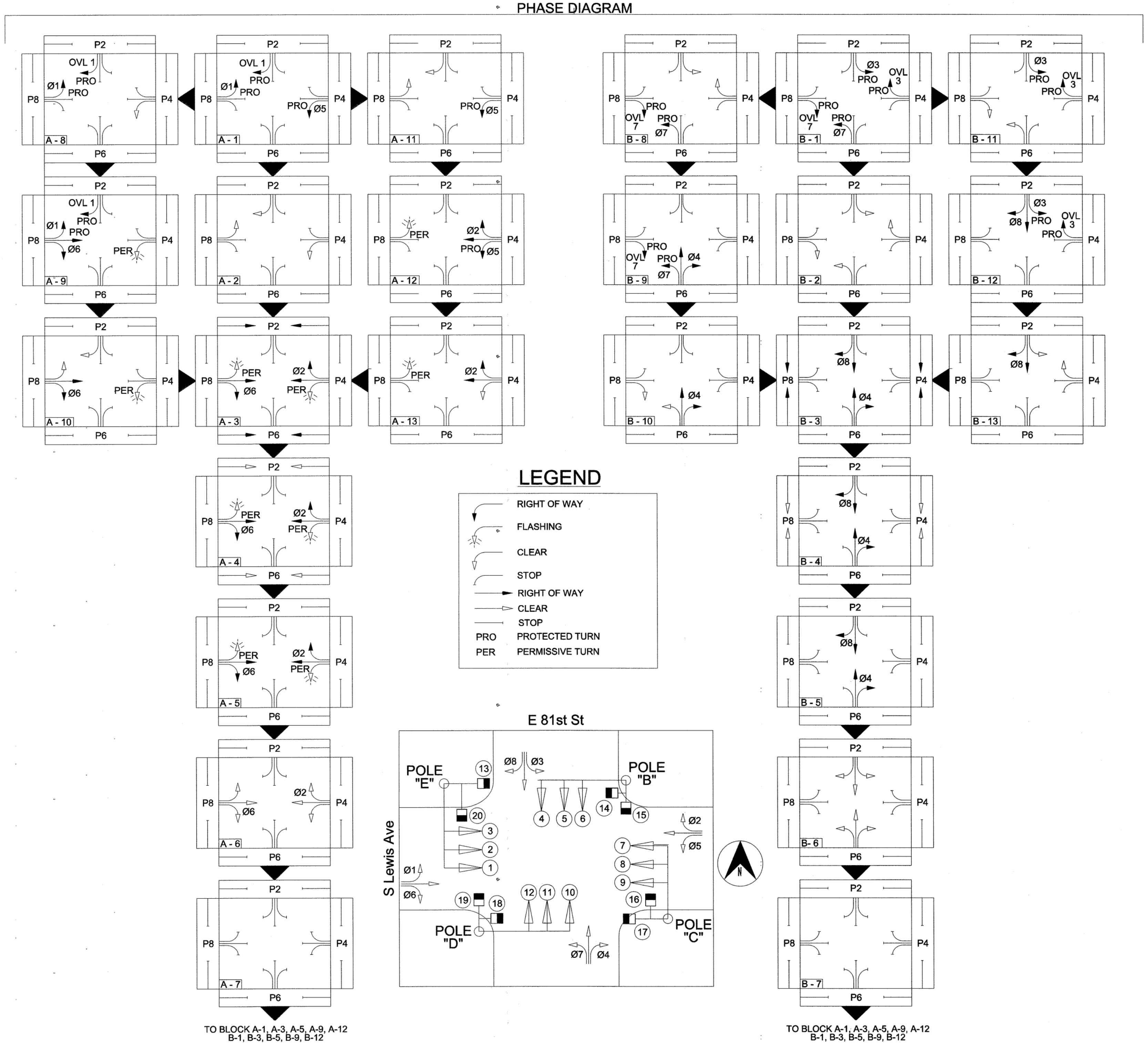
FILE: DRAWING:

ATLAS PAGE NO:

DATE: 06/13/2022

SHEET 60 OF 96 SHEETS

PHASE DIAGRAM



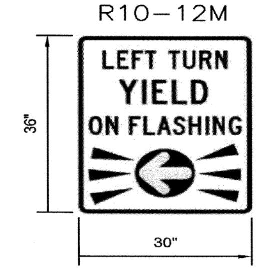

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | OVL3 | Ø7 | Ø4 | Ø1 | Ø6 | OVL 7 | Ø3 | Ø8 | OVL 1 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. | | | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 + 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, OVL 1 ROW | ←G | R | R | ←R | R | ←G | R | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, OVL 1 CL | ←Y | R | R | ←R | R | ←Y | R | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←FY | G | R | ←R | R | ←FY | G | R | ←R | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←FY | G | R | ←R | R | ←FY | G | R | ←R | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←FY | G | R | ←R | R | ←FY | G | R | ←R | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←Y | Y | R | ←R | R | ←Y | Y | R | ←R | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | R | ←R | R | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| A 8 | Ø1, OVL 1 ROW & Ø5 CL | ←Y | R | R | ←R | R | ←G | R | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 OVL 1 ROW | ←FY | R | R | ←R | R | ←G | G | R | ←R | R | R / G→ | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1, OVL 1 CL | ←FY | R | R | ←R | R | ←Y | G | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1, OVL 1 CL | ←G | R | R | ←R | R | ←Y | R | R | ←R | R | R / Y→ | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | ←G | G | R | ←R | R | ←FY | R | R | ←R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | ←Y | G | R | ←R | R | ←FY | R | R | ←R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7, OVL 3, OVL 7 ROW | ←R | R | R / G→ | ←G | R | ←R | R | R / G→ | ←G | R | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7, OVL 3, OVL 7 CL | ←R | R | R / Y→ | ←Y | R | ←R | R | R / Y→ | ←Y | R | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ←R | R | R | ←R | G | ←R | R | R | ←R | G | R | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW P4, P8 CL | ←R | R | R | ←R | G | ←R | R | R | ←R | G | R | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ←R | R | R | ←R | G | ←R | R | R | ←R | G | R | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ←R | R | R | ←Y | Y | ←R | R | R | ←Y | Y | R | DW | DW | DW | DW |
| B 7 | ALL RED | ←R | R | R | ←R | R | ←R | R | R | ←R | R | R | DW | DW | DW | DW |
| B 8 | Ø7, OVL 7 ROW Ø3, OVL 3 CL | ←R | R | R / Y→ | ←G | R | ←R | R | R / G→ | ←Y | R | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7, OVL 7 ROW | ←R | R | R | ←G | G | ←R | R | R / G→ | ←R | R | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW Ø7, OVL 7 CL | ←R | R | R | ←Y | G | ←R | R | R / Y→ | ←R | R | R | DW | DW | DW | DW |
| B 11 | Ø3, OVL 3 ROW Ø7, OVL 7 CL | ←R | R | R / G→ | ←Y | R | ←R | R | R / Y→ | ←G | R | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8, OVL 3 ROW | ←R | R | R / G→ | ←R | R | ←R | R | R | ←G | G | R | DW | DW | DW | DW |
| B 13 | Ø8 ROW Ø3 OVL 3 CL | ←R | R | R / Y→ | ←R | R | ←R | R | R | ←Y | G | R | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | FR | ←FR | FR | ←FR | FR | FR | ←FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| C & E | R10 - 12M | 30 X 36 | 7.50 | 2 | 15.00 |

R10–12M




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## E 81st Street & S Lewis Avenue

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

HNTB
715 Kirk Dr.
Kansas City, MO 64105
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BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LSA | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZCM | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8·22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

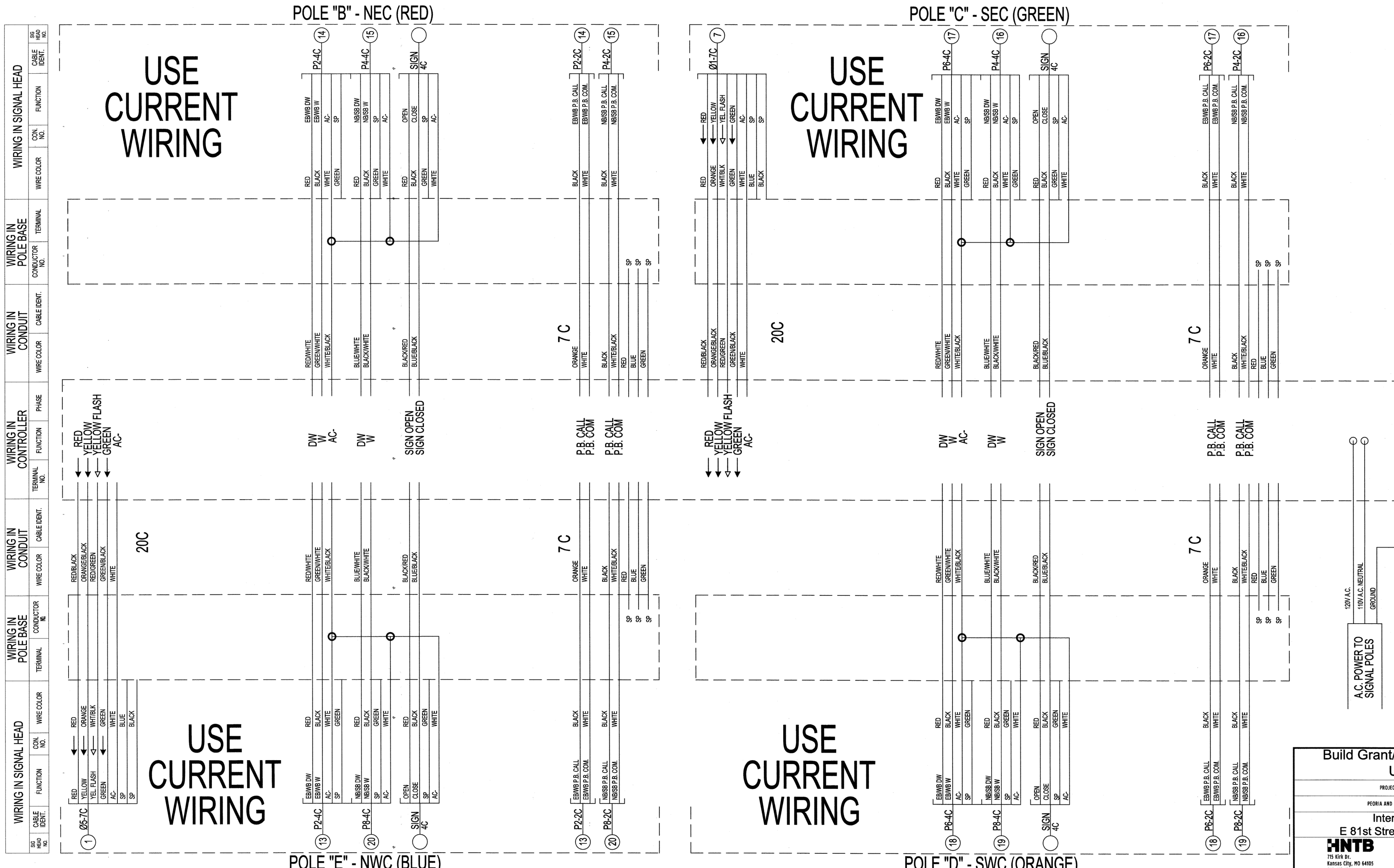
APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 61 OF 82 SHEETS

CALL OKIE




| | |
|---|---|
| **Build Grant/ LINK Traffic Signal Upgrades** | |
| PROJECT NUMBER: 2035X001Z Phase 2 | |
| PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT | |
| **Intersection Wiring**<br>**E 81st Street & S Lewis Avenue** | |
| HNTB<br>715 Kirk Dr.<br>Kansas City, MO 64105<br>816-472-1201 | BKL<br>1623 E. 6th St.<br>Tulsa, OK 74120<br>918-835-9588 |

| REVISION | BY | DATE | | | | |
|---|---|---|---|---|---|---|
| | | | PLAN SCALE: NTS | DRAWN | | APPROVED: |
| | | | | DESIGNED | | |
| | | | | SURVEY | | |
| | | | PROFILE SCALE: | PROJ. MGR. | AF 6/22 | |
| | | | | LEAD ENGR. | LSB 7/22 | |
| | | | HORIZONTAL: | FIELD MGR. | ZCM 7/22 | |
| | | | VERTICAL | RECOMMENDED: HAS 8.22<br>DESIGN MANAGER | | CITY ENGINEER |
| | | | FILE: | DRAWING: | | DATE: 06/13/2022 |
| | | | ATLAS PAGE NO: | | | SHEET 62 OF 82 SHEETS |

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS SHALL BE INSTALLED ON THE POLES SUCH THAT THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 130 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 2#14 Shielded Electrical Conductor | LF | 51 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 6 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | - |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |


## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTONS |
| - | SEC | PED PUSH BUTTON |
| - | SWC | PED PUSH BUTTON |
| - | NWC | PED PUSH BUTTONS |

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## S Tucker Drive & E 11th Street

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | | 7/22 |
| FIELD MGR. | | 7/22 |
| RECOMMENDED: | HAS | 8.22 |

DESIGN MANAGER

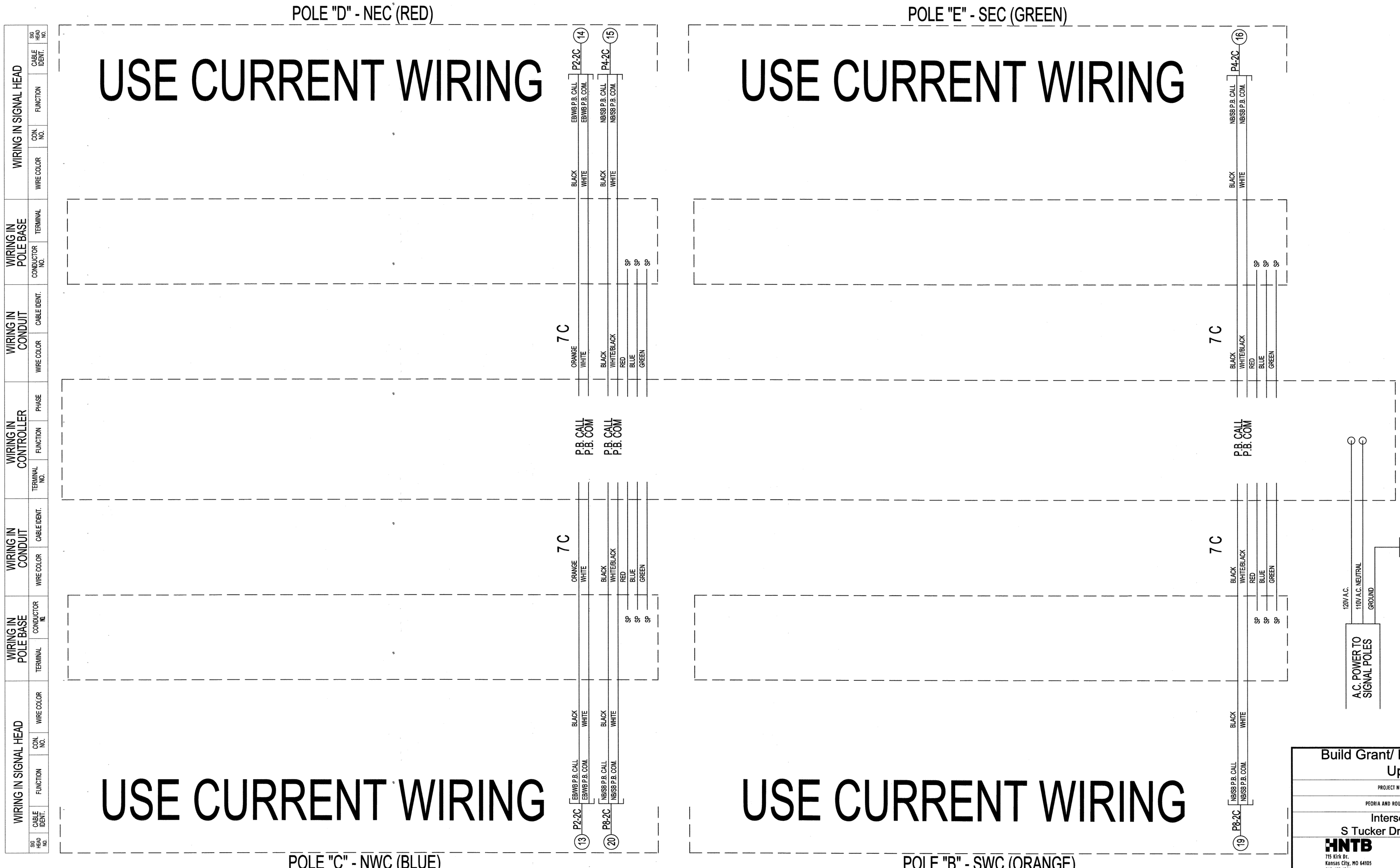
APPROVED:

CITY ENGINEER

FILE: DRAWING:

DATE: 06/13/2022

ATLAS PAGE NO:






Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Wiring
S Tucker Drive & E 11st Street

HNTB
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Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
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| | | | |
| --- | --- | --- | --- |
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | RSB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZZW | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8-22<br>DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 64 OF 82 SHEETS

## SIGNAL NOTES:

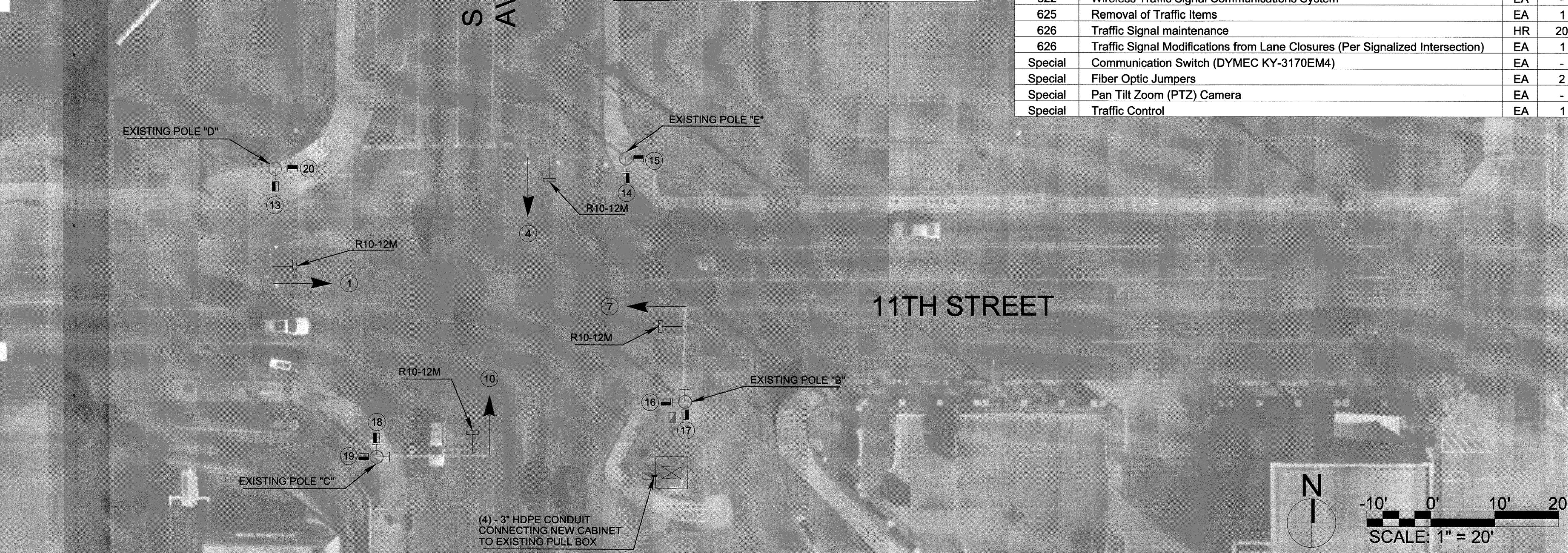
1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

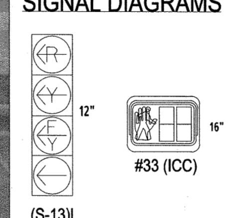
| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 110 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 112 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 500 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1063 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 68 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

## SIGNAL DIAGRAMS




## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 4, 7, 10 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## S Harvard Avenue & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
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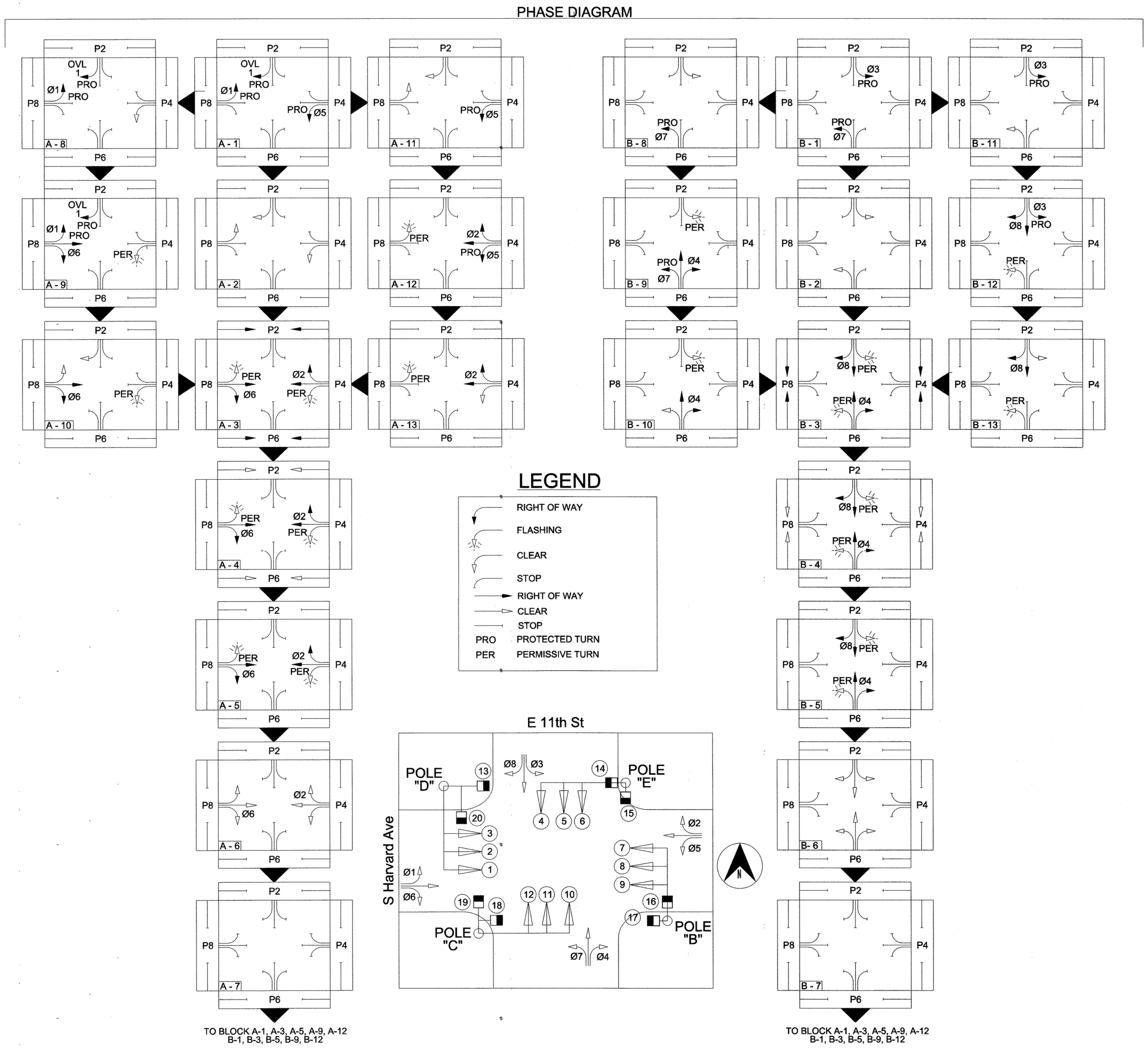
BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | | |
|---|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | | APPROVED: |
| | DESIGNED | | | |
| | SURVEY : | | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 | |
| HORIZONTAL: | LEAD ENGR. | LBS | 7/22 | |
| | FIELD MGR. | ZCM | 7/22 | |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 | CITY ENGINEER |
| FILE: | DRAWING: | | | DATE: 06/13/2022 |
| ATLAS PAGE NO: | | | | SHEET 65 OF 82 SHEETS |

CALL OKIE

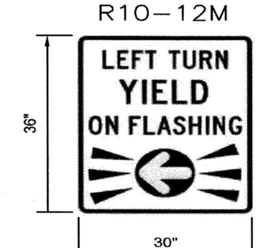
## PHASE DIAGRAM




| SEQUENCE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BLOCK NO. | PHASE DESIGNATION | PHASE | | | | | | | | | | | | |
| | | Ø5 | Ø2 | Ø7 | Ø4 | Ø1 | Ø6 | Ø3 | Ø8 | OVL 1 | P2 | P4 | P6 | P8 |
| | | SIGNAL HEAD NO. | | | | | | | | | | | | |
| | | 1 | 2 + 3 | 4 | 5 + 6 | 7 | 8 + 9 | 10 | 11 | 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, OVL1 ROW | G | R | R | R | G | R | R | R | R / G | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, OVL 1 CL | Y | R | R | R | Y | R | R | R | R / Y | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | FY | G | R | R | FY | G | R | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | FY | G | R | R | FY | G | R | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | FY | G | R | R | FY | G | R | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | Y | Y | R | R | Y | Y | R | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| A 8 | Ø1, OVL 1ROW & Ø5 CL | Y | R | R | R | G | R | R | R | R / G | DW | DW | DW | DW |
| A 9 | Ø1, Ø6, OVL 1 ROW | FY | R | R | R | G | G | R | R | R / G | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1, OVL 1 CL | FY | R | R | R | Y | G | R | R | R / Y | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1, OVL 1 CL | G | R | R | R | Y | R | R | R | R / Y | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | G | G | R | R | FY | R | R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | Y | G | R | R | FY | R | R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7 ROW | R | R | G | R | R | R | G | R | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7 CL | R | R | Y | R | R | R | Y | R | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | R | R | FY | G | R | R | FY | G | G | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | R | R | FY | G | R | R | FY | G | G | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | R | R | FY | G | R | R | FY | G | G | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | R | R | Y | Y | R | R | Y | Y | Y | DW | DW | DW | DW |
| B 7 | ALL RED | R | R | R | R | R | R | R | R | R | DW | DW | DW | DW |
| B 8 | Ø7 ROW & Ø3 CL | R | R | G | R | R | R | Y | R | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7 ROW | R | R | G | G | R | R | FY | R | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7 CL | R | R | Y | G | R | R | FY | R | R | DW | DW | DW | DW |
| B 11 | Ø3 ROW & Ø7 CL | R | R | Y | R | R | R | G | R | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8 ROW | R | R | FY | R | R | R | G | G | G | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 CL | R | R | FY | R | R | R | Y | G | G | DW | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | FR | FR | FR | FR | FR | BLK | BLK | BLK | BLK |

| SUMMARY OF MAST ARM MOUNTED SIGNS | | | | | |
|---|---|---|---|---|---|
| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10—12M




REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## S Harvard Avenue & E 11th Street

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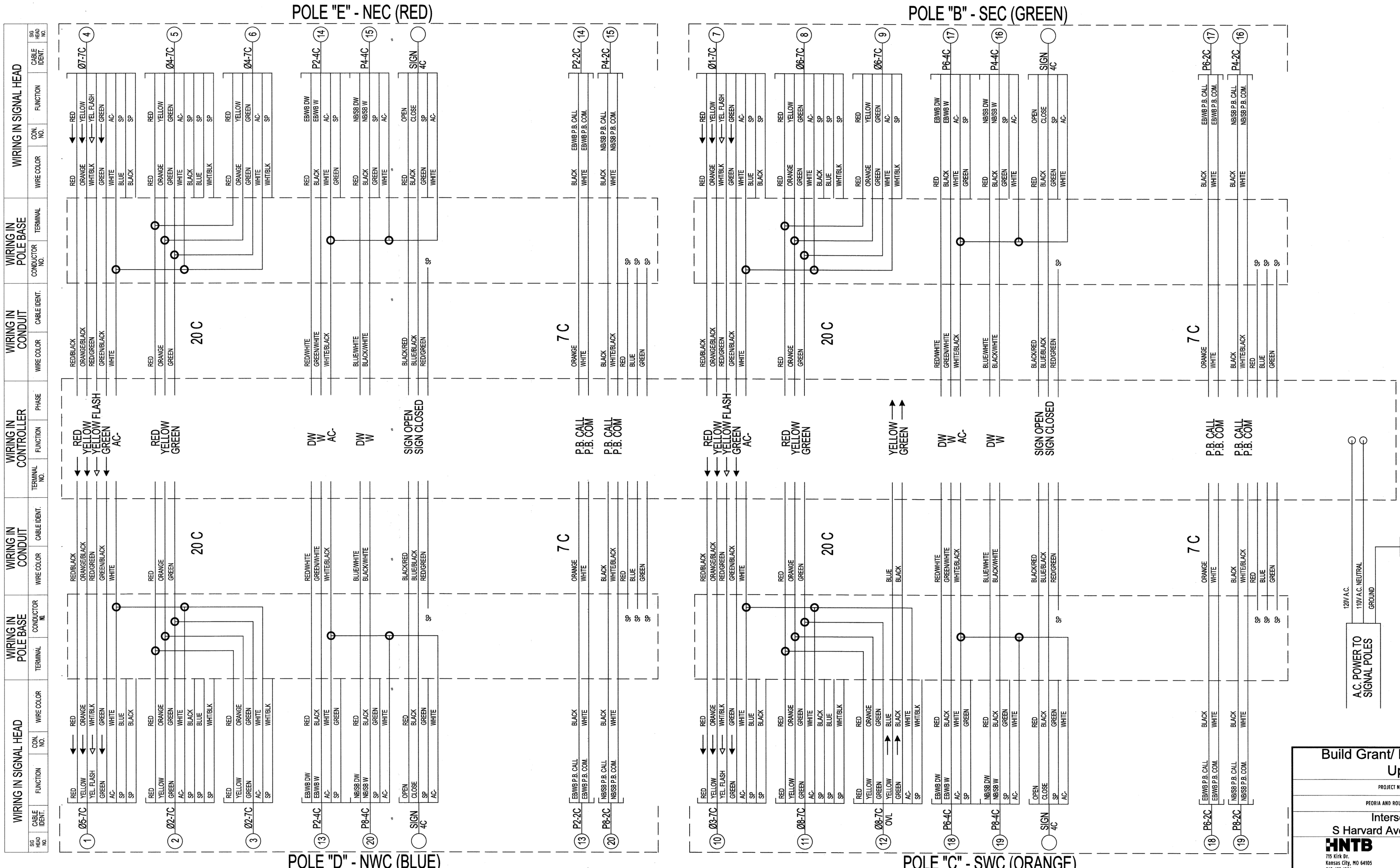
| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | lcb | 7/22 |
| | FIELD MGR. | Izu | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

SHEET 66 OF 82 SHEETS

CALL OKIE




Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

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|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | [illegible] | 7/22 |
| HORIZONTAL: | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8.22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:
CITY ENGINEER
DATE: 06/13/2022

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS SHALL BE INSTALLED ON THE POLES SUCH THAT THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

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8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 54 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 112 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 308 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 633 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 68 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | - |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | - |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | - |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |


## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTONS |
| - | SEC | PED PUSH BUTTONS |
| - | SWC | PED PUSH BUTTONS |
| - | NWC | PED PUSH BUTTONS |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## S Pittsburg Avenue & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | RSB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZTW | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8.22<br>DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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CITY ENGINEER

DATE: 06/13/2022



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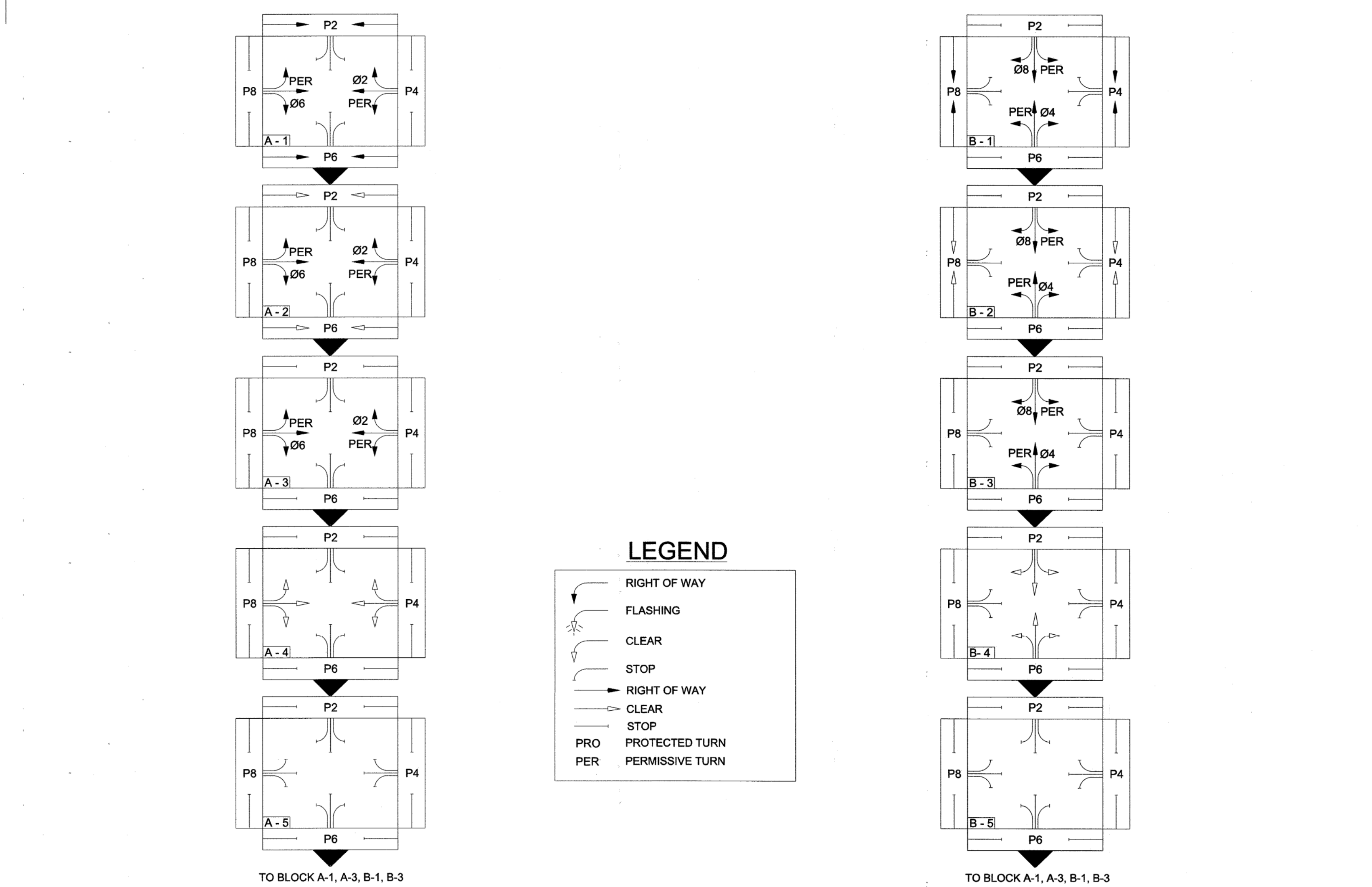
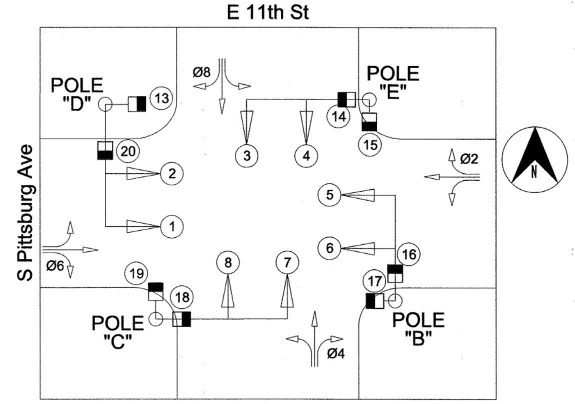
PHASE DIAGRAM




## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø2 | Ø4 | Ø6 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|
| | | PHASE | | | | | | | |
| | | SIGNAL HEAD NO. | | | | | | | |
| | | 1 + 2 | 3 + 4 | 5 + 6 | 7 + 8 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø2, Ø6, P2, P6 ROW | G | R | G | R | W | DW | W | DW |
| A 2 | Ø2, Ø6 ROW & P2, P6 CL | G | R | G | R | FDW | DW | FDW | DW |
| A 3 | Ø2, Ø6 ROW | G | R | G | R | DW | DW | DW | DW |
| A 4 | Ø2, Ø6 CL | Y | R | Y | R | DW | DW | DW | DW |
| A 5 | ALL RED | R | R | R | R | DW | DW | DW | DW |
| | | | | | | | | | |
| B 1 | Ø4, Ø8, P4, P8 ROW | R | G | R | G | DW | W | DW | W |
| B 2 | Ø4, Ø8 ROW & P4, P8 CL | R | G | R | G | DW | FDW | DW | FDW |
| B 3 | Ø4, Ø8 ROW | R | G | R | G | DW | DW | DW | DW |
| B 4 | Ø4, Ø8 CL | R | Y | R | Y | DW | DW | DW | DW |
| B 5 | ALL RED | R | R | R | R | DW | DW | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | BLK | BLK | BLK | BLK |

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

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Tulsa, OK 74120
918-835-9588

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| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | LLB | 7/22 |
| | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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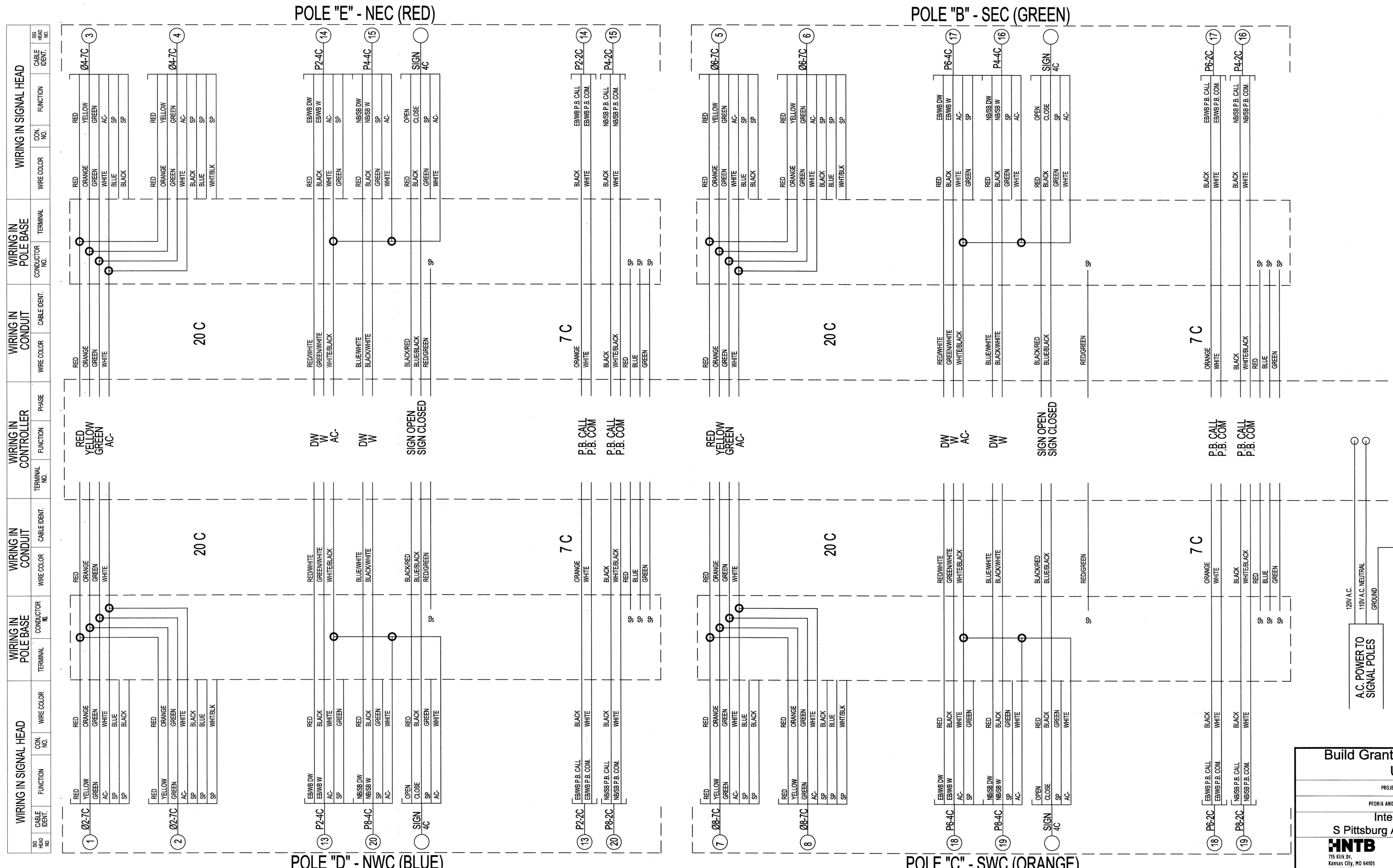
DATE: 06/13/2022

SHEET 69 OF 82 SHEETS




PAUL D. HUNTER 18692 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA 6/13/22

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# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
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1623 E. 6th St.
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918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZZM | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8·22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 70 OF 82 SHEETS

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.
2. THE PLACEMENT OF THE PEDESTRIAN SIGNAL HEAD SHALL BE INSTALLED ON THE POLE SUCH THAT THE SIGNAL HEAD IS VISIBLE FROM THE CROSSWALK.
3. INSTALL NEW RACK MOUNTED COBALT SIGNAL CONTROLLER IN EXISTING CABINET.
4. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
5. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
6. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF ALL APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.
7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 94 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | 30 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | - |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | 1 |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 14 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | - |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 243 |
| 611 | 2#14 Shielded Electrical Conductor | LF | - |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | - |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | - |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | - |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | - |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 4 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 1 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | - |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | 1 |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | 1 |
| Special | Traffic Control | EA | 1 |


## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| EB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| WB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | NB PED SIGNAL HEAD |

## SIGNAL DIAGRAMS

12" (S-13)L

16" #33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 1, 3, 5, 7 | 4 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 15 | 1 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER PAUL D. HUNTER 18692 OKLAHOMA 6/13/22

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Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Plan
S Yale Avenue & E 11th Street

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715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

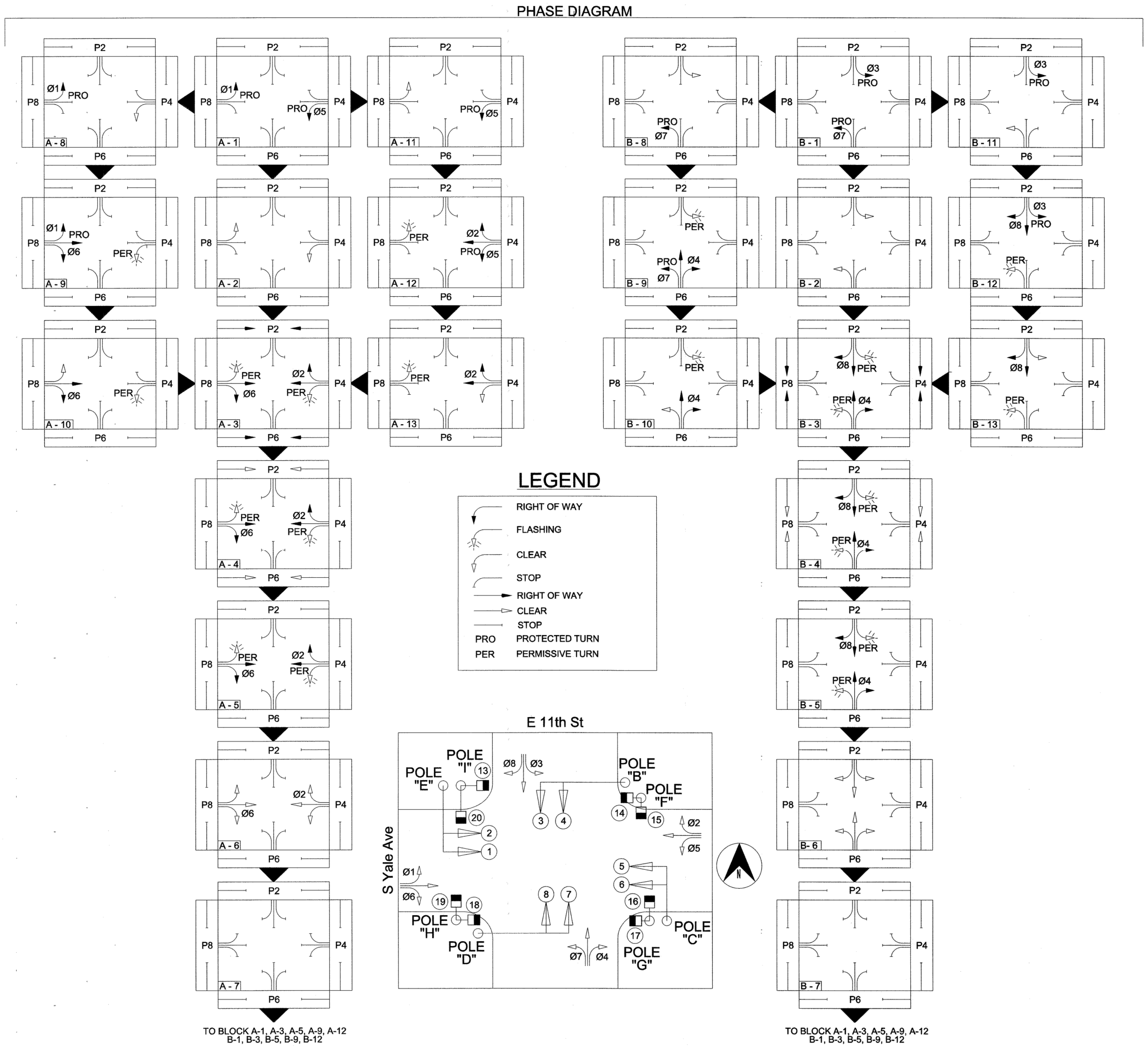
BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'
PROFILE SCALE:
HORIZONTAL:
VERTICAL:
FILE:
ATLAS PAGE NO:

DRAWN
DESIGNED
SURVEY
PROJ. MGR. RF 6/22
LEAD ENGR. LG 7/22
FIELD MGR. 7/22
RECOMMENDED: HAS 8-22
DESIGN MANAGER
DRAWING:

APPROVED:
CITY ENGINEER
DATE: 06/13/2022



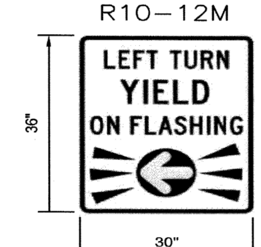

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | PHASE Ø5 | Ø2 | Ø7 | Ø4 | Ø1 | Ø6 | Ø3 | Ø8 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, ROW | ←G | R | ←R | R | ←G | R | ←R | R | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, CL | ←Y | R | ←R | R | ←Y | R | ←R | R | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←FY | G | ←R | R | ←FY | G | ←R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←FY | G | ←R | R | ←FY | G | ←R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←FY | G | ←R | R | ←FY | G | ←R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←Y | Y | ←R | R | ←Y | Y | ←R | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | ←R | R | ←R | R | ←R | R | DW | DW | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | ←Y | R | ←R | R | ←G | R | ←R | R | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 ROW | ←FY | R | ←R | R | ←G | G | ←R | R | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | ←FY | R | ←R | R | ←Y | G | ←R | R | DW | DW | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | ←G | R | ←R | R | ←Y | R | ←R | R | DW | DW | DW | DW |
| A 12 | Ø2, Ø5 ROW | ←G | G | ←R | R | ←FY | R | ←R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | ←Y | G | ←R | R | ←FY | R | ←R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7 ROW | ←R | R | ←G | R | ←R | R | ←G | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7 CL | ←R | R | ←Y | R | ←R | R | ←Y | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ←R | R | ←FY | G | ←R | R | ←FY | G | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ←R | R | ←Y | Y | ←R | R | ←Y | Y | DW | DW | DW | DW |
| B 7 | ALL RED | ←R | R | ←R | R | ←R | R | ←R | R | DW | DW | DW | DW |
| B 8 | Ø7 ROW & Ø3 CL | ←R | R | ←G | R | ←R | R | ←Y | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7 ROW | ←R | R | ←G | G | ←R | R | ←FY | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW & Ø7 CL | ←R | R | ←Y | G | ←R | R | ←FY | R | DW | DW | DW | DW |
| B 11 | Ø3 ROW & Ø7 CL | ←R | R | ←Y | R | ←R | R | ←G | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8 ROW | ←R | R | ←FY | R | ←R | R | ←G | G | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 CL | ←R | R | ←FY | R | ←R | R | ←Y | G | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | ←FR | FR | ←FR | FR | ←FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| B, C, D & E | R10 - 12M | 30 X 36 | 7.50 | 4 | 30.00 |

R10—12M




REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## S Yale Avenue & E 11th Street

HNTB
715 Kirk Dr.
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816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

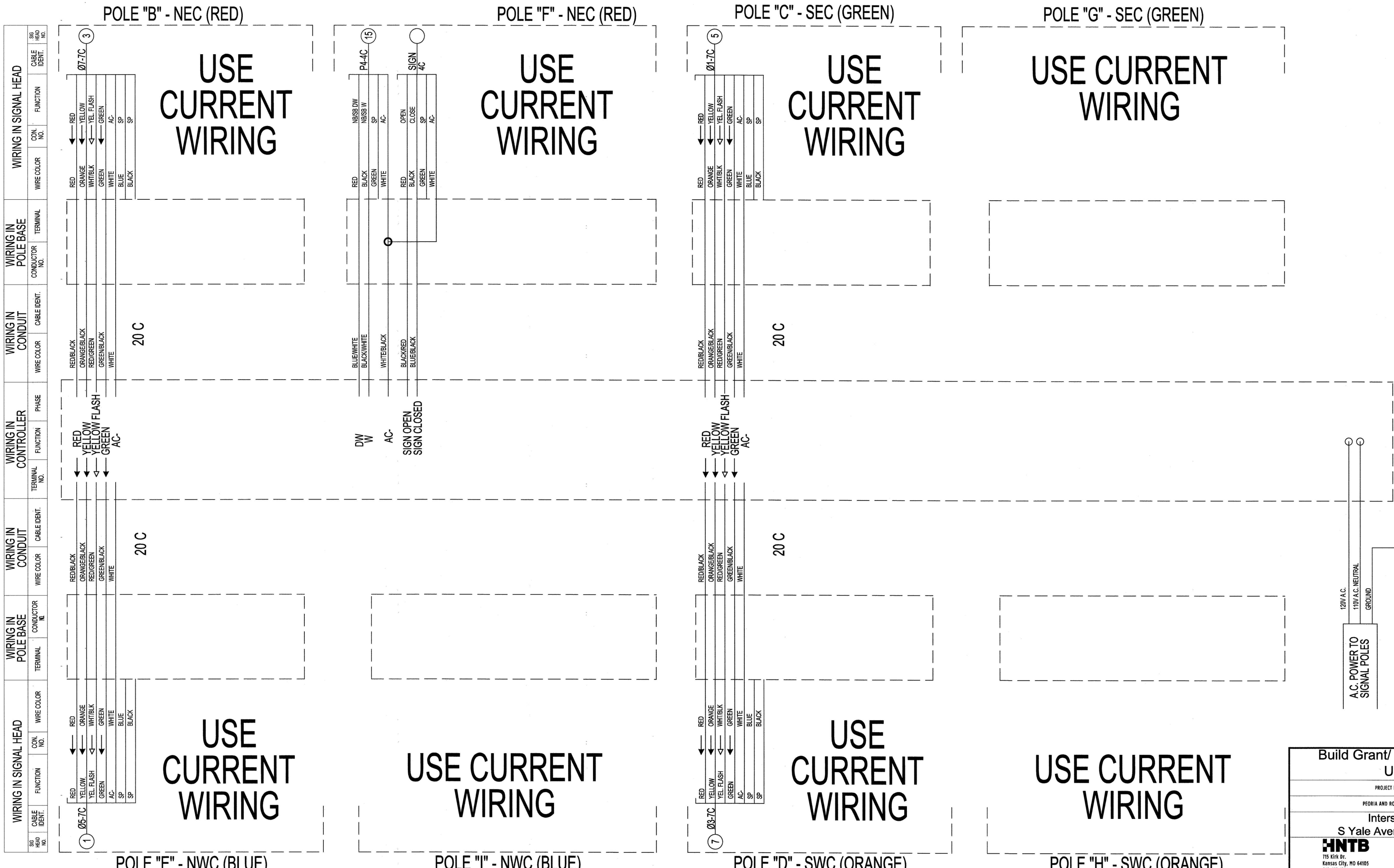
| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | [illegible] | 7/22 |
| | FIELD MGR. | [illegible] | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8·22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 72 OF 82 SHEETS




REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE 811

## Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

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| REVISION | BY | DATE |
|---|---|---|
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| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | LWB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZLM | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

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DATE: 06/13/2022

SHEET 73 OF 82 SHEETS

## SIGNAL NOTES:

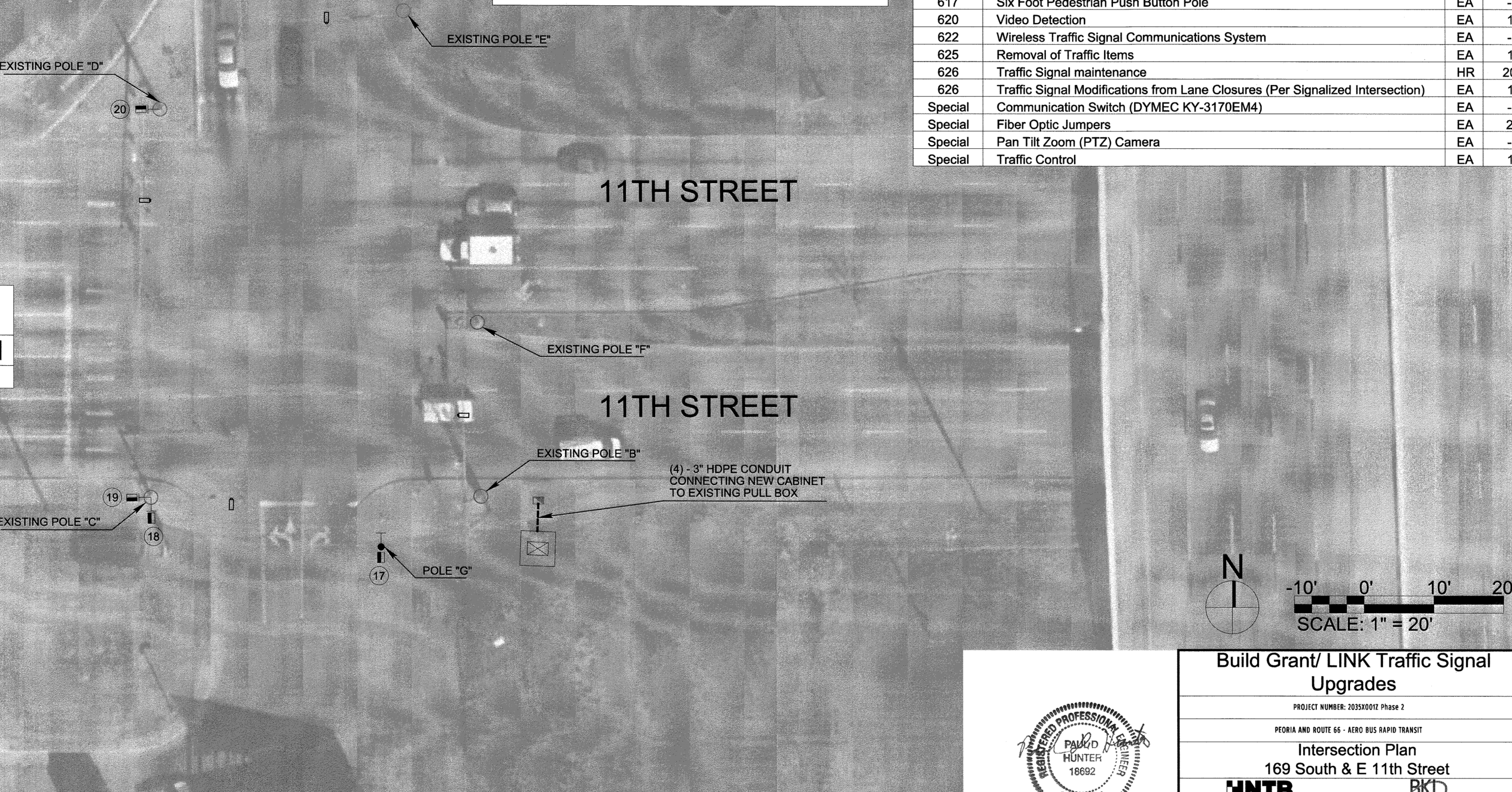
1. ALL WORK TO REMAIN WITHIN ROW.
2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.
3. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.
4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.
5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.
6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.
7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.
8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 98 |
| 603 | Signal Pole Footing (24" F-1) | EA | 1 |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 94 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 693 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1332 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 72 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 4 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | 4 |
| 615 | Base Covers | EA | 1 |
| 617 | Ten Foot Pedestal Pole | EA | 1 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |




## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| G | 10' | N/A | F - 1 |

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| F - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NWC | PED PUSH BUTTON/SIGNAL HEAD |
| - | SWC | PED PUSH BUTTON/SIGNAL HEAD |

SIGNAL DIAGRAMS

16"

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 17-20 | 4 - #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## 169 South & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | HB | 7/22 |
| FIELD MGR. | ZEM | 7/22 |
| RECOMMENDED: | HAS | 8·22 |

DESIGN MANAGER

APPROVED:

CITY ENGINEER

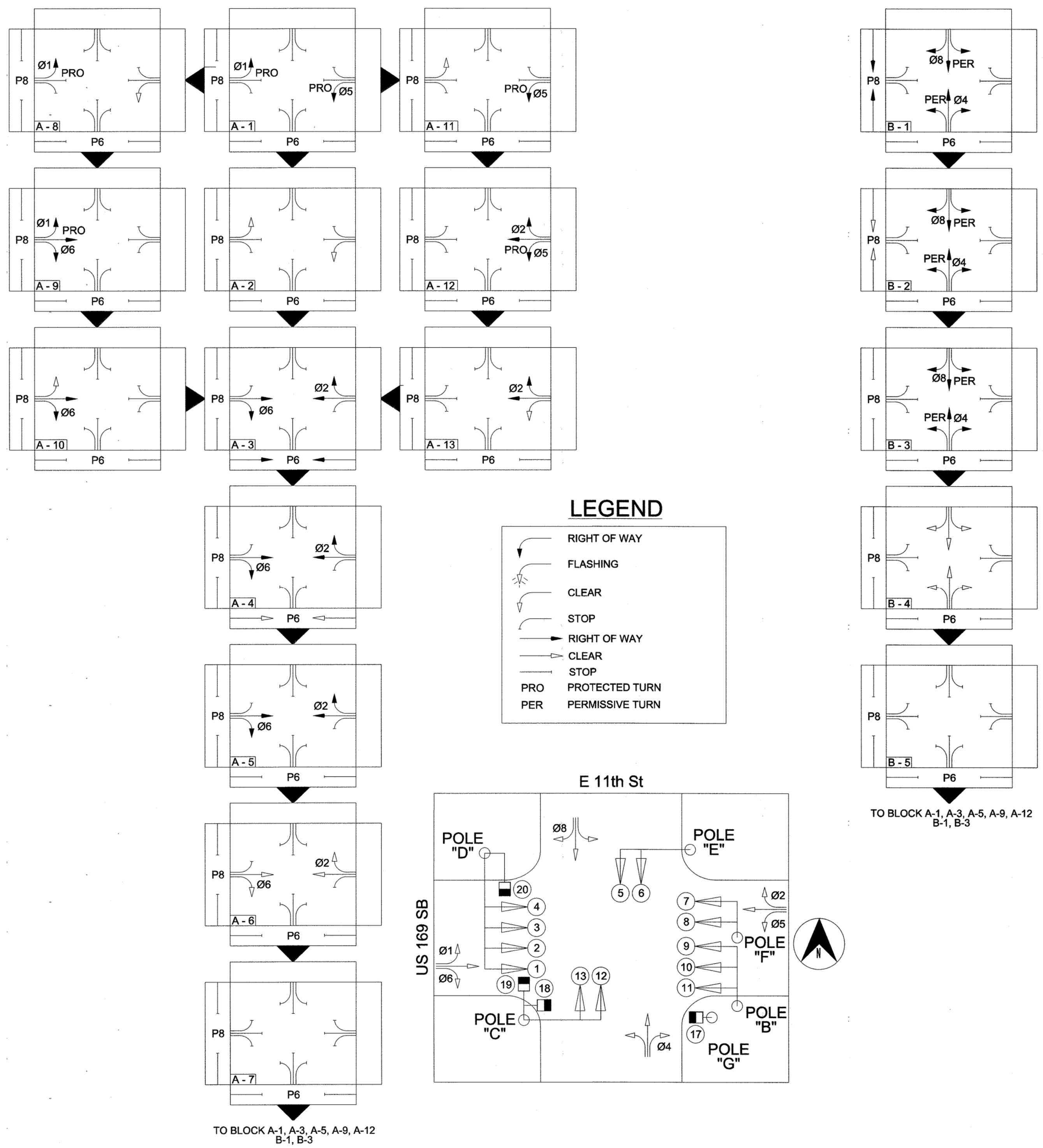
DATE: 06/13/2022

FILE: DRAWING:

ATLAS PAGE NO:

SHEET 74 OF 82 SHEETS

## PHASE DIAGRAM




## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | Ø4 | Ø1 | Ø6 | Ø8 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|
| | | SIGNAL HEAD NO. | | | | | | | |
| | | 1 | 2+3+4 | 5 + 6 | 7 + 8 | 9+10+11 | 12 + 13 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, ROW | ←G | R | R | ←G | R | R | DW | DW |
| A 2 | Ø1, Ø5, CL | ←Y | R | R | ←Y | R | R | DW | DW |
| A 3 | Ø2, Ø6, P6 ROW | ←R | G | R | ←R | G | R | W | DW |
| A 4 | Ø2, Ø6 ROW & P6 CL | ←R | G | R | ←R | G | R | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←R | G | R | ←R | G | R | DW | DW |
| A 6 | Ø2, Ø6 CL | ←R | Y | R | ←R | Y | R | DW | DW |
| A 7 | ALL RED | ←R | R | R | ←R | R | R | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | ←Y | R | R | ←G | R | R | DW | DW |
| A 9 | Ø1, Ø6 ROW | ←R | R | R | ←G | G | R | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | ←R | R | R | ←Y | G | R | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | ←G | R | R | ←Y | R | R | DW | DW |
| A 12 | Ø2, Ø5 ROW | ←G | G | R | ←R | R | R | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | ←Y | G | R | ←R | R | R | DW | DW |
| | | | | | | | | | |
| B 1 | Ø4, Ø8, P8 ROW | ←R | R | G | ←R | R | G | DW | W |
| B 2 | Ø4, Ø8, ROW & P8 CL | ←R | R | G | ←R | R | G | DW | FDW |
| B 3 | Ø4, Ø8 ROW | ←R | R | G | ←R | R | G | DW | DW |
| B 4 | Ø4, Ø8 CL | ←R | R | Y | ←R | R | Y | DW | DW |
| B 5 | ALL RED | ←R | R | R | ←R | R | R | DW | DW |
| | FLASHING RED | ←FR | FR | FR | ←FR | FR | FR | BLK | BLK |

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## 169 South & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

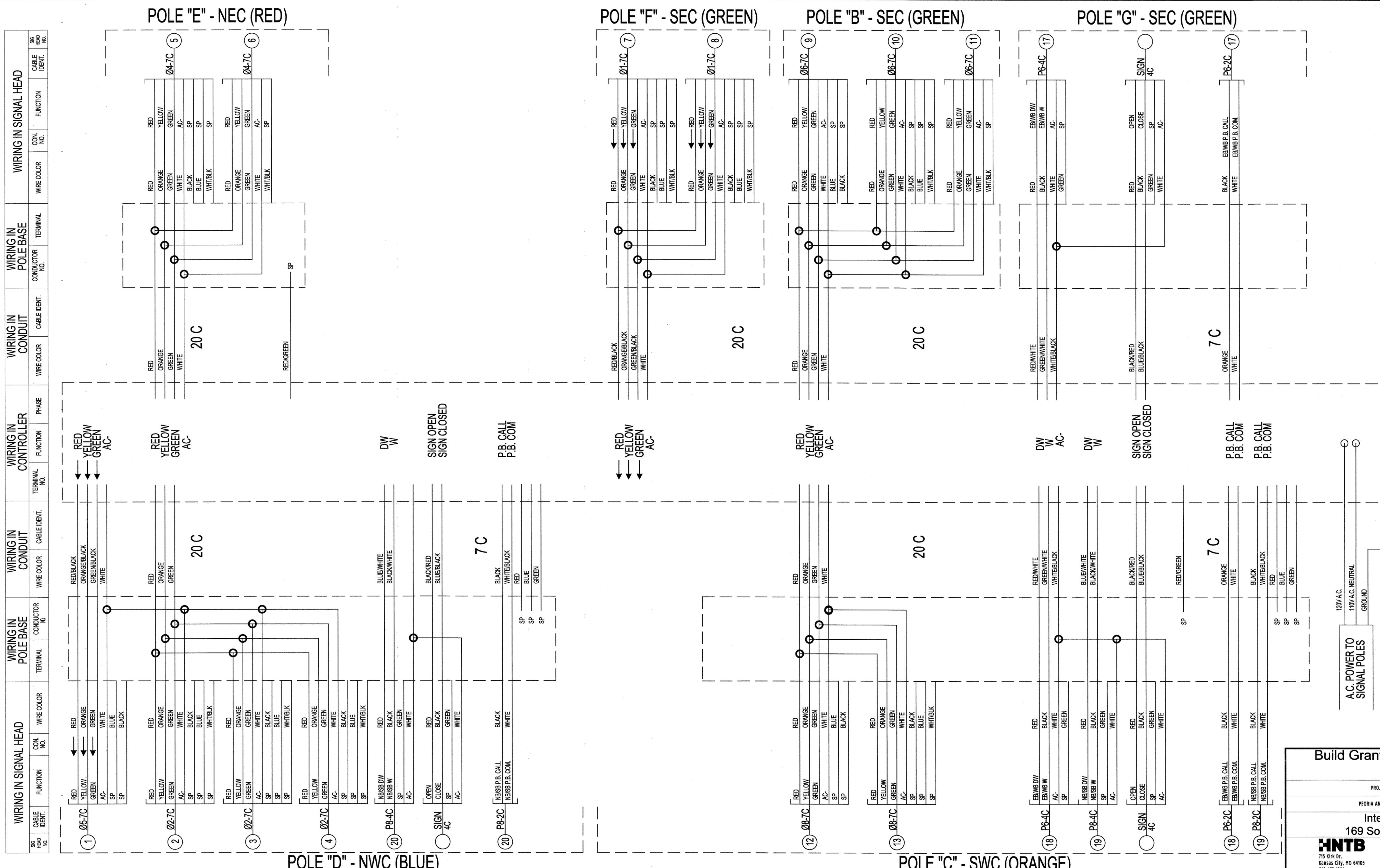
| REVISION | BY | DATE |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | kb | 7/22 |
| | FIELD MGR. | ZW | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8·22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## 169 South & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
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| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| | LEAD ENGR. | | 7/22 |
| HORIZONTAL: | FIELD MGR. | | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8-22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 76 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAULO HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

8. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |


## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 104 |
| 603 | Signal Pole Footing (24" F-1) | EA | - |
| 608 | Traffic Signs | SF | - |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 103 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 517 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1193 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 80 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 4 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | - |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | - |
| 614 | LED ICC Pedestrian Head (#33) | EA | 4 |
| 615 | Base Covers | EA | - |
| 617 | Ten Foot Pedestal Pole | EA | - |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | - |
| Special | Traffic Control | EA | 1 |

N

-10' 0' 10' 20'

SCALE: 1" = 20'

## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| - | NEC | PED PUSH BUTTON/SIGNAL HEAD |
| - | SEC | PED PUSH BUTTON/SIGNAL HEAD |

SIGNAL DIAGRAMS

16"

#33 (ICC)

## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 15-18 | 4- #33 ICC | CLAMP | N/A | N/A |

CALL OKIE

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Plan
169 North & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: 1" = 20'

PROFILE SCALE:

HORIZONTAL:

VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | LSB | 7/22 |
| FIELD MGR. | LWM | 7/22 |
| RECOMMENDED: | HAS | 8.22 |

DESIGN MANAGER

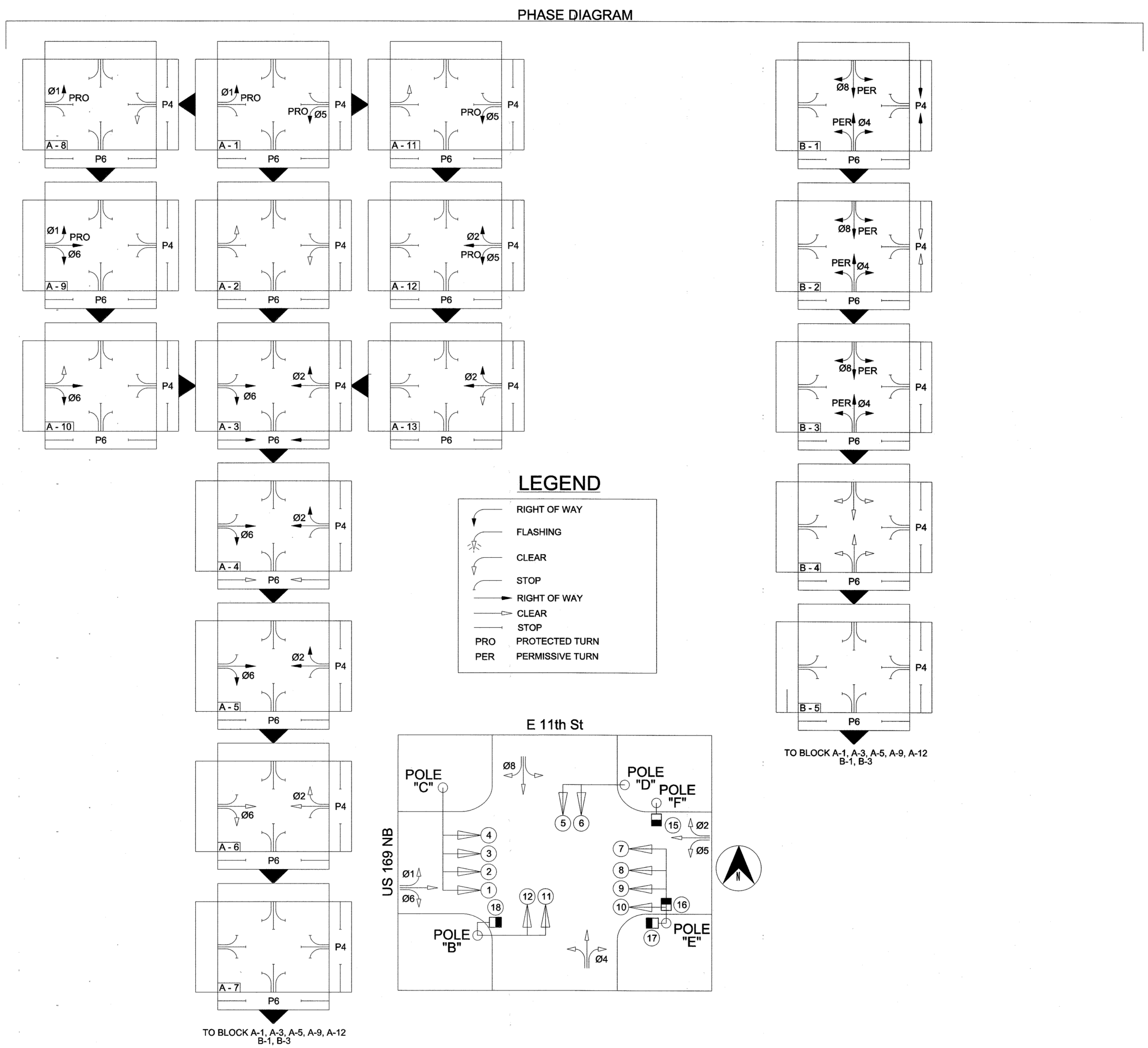
APPROVED:

CITY ENGINEER

FILE: DRAWING:

ATLAS PAGE NO:

DATE: 06/13/2022




| SEQUENCE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| BLOCK NO. | PHASE DESIGNATION | PHASE | | | | | | | |
| | | Ø5 | Ø2 | Ø4 | Ø1 | Ø6 | Ø8 | P4 | P6 |
| | | SIGNAL HEAD NO. | | | | | | | |
| | | 1 | 2+3+4 | 5 + 6 | 7 | 8+9+10 | 11 + 12 | 15 + 16 | 17 + 18 |
| A 1 | Ø1, Ø5, ROW | G | R | R | G | R | R | DW | DW |
| A 2 | Ø1, Ø5, CL | Y | R | R | Y | R | R | DW | DW |
| A 3 | Ø2, Ø6, P6 ROW | R | G | R | R | G | R | DW | W |
| A 4 | Ø2, Ø6 ROW & P6 CL | R | G | R | R | G | R | DW | FDW |
| A 5 | Ø2, Ø6 ROW | R | G | R | R | G | R | DW | DW |
| A 6 | Ø2, Ø6 CL | R | Y | R | R | Y | R | DW | DW |
| A 7 | ALL RED | R | R | R | R | R | R | DW | DW |
| A 8 | Ø1 ROW & Ø5 CL | Y | R | R | G | R | R | DW | DW |
| A 9 | Ø1, Ø6 ROW | R | R | R | G | G | R | DW | DW |
| A 10 | Ø6 ROW & Ø1 CL | R | R | R | Y | G | R | DW | DW |
| A 11 | Ø5 ROW & Ø1 CL | G | R | R | Y | R | R | DW | DW |
| A 12 | Ø2, Ø5 ROW | G | G | R | R | R | R | DW | DW |
| A 13 | Ø2 ROW & Ø5 CL | Y | G | R | R | R | R | DW | DW |
| | | | | | | | | | |
| B 1 | Ø4, Ø8, P4 ROW | R | R | G | R | R | G | W | DW |
| B 2 | Ø4, Ø8, ROW & P4 CL | R | R | G | R | R | G | FDW | DW |
| B 3 | Ø4, Ø8 ROW | R | R | G | R | R | G | DW | DW |
| B 4 | Ø4, Ø8 CL | R | R | Y | R | R | Y | DW | DW |
| B 5 | ALL RED | R | R | R | R | R | R | DW | DW |
| | FLASHING RED | FR | FR | FR | FR | FR | FR | BLK | BLK |

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Phasing
## 169 North & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

CALL OKIE

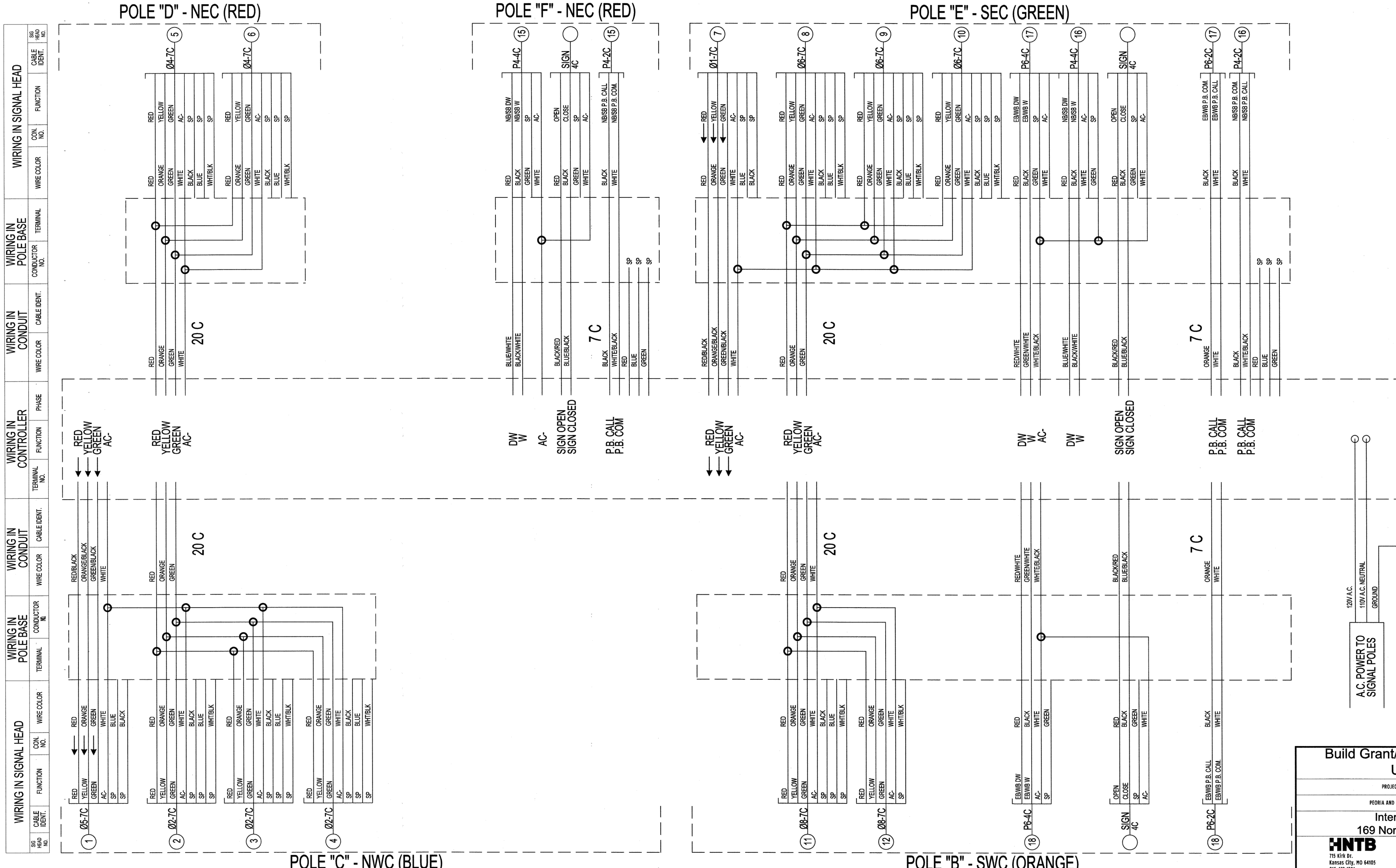
| REVISION | BY | DATE |
|---|---|---|
| | | |

PLAN SCALE: NTS
PROFILE SCALE:
HORIZONTAL:
VERTICAL

| | | |
|---|---|---|
| DRAWN | | |
| DESIGNED | | |
| SURVEY | | |
| PROJ. MGR. | RF | 6/22 |
| LEAD ENGR. | LB | 7/22 |
| FIELD MGR. | ROM | 7/22 |
| RECOMMENDED: DESIGN MANAGER | HAS | 8-22 |

APPROVED:
CITY ENGINEER

FILE: DRAWING:
ATLAS PAGE NO:
DATE: 06/13/2022




# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
169 North & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | |
|---|---|---|
| PLAN SCALE: NTS | DRAWN | |
| | DESIGNED | |
| | SURVEY | |
| PROFILE SCALE: | PROJ. MGR. | RF 6/22 |
| HORIZONTAL: | LEAD ENGR. | LA 7/22 |
| | FIELD MGR. | 7/22 |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS 8-22 |
| FILE: | DRAWING: | |
| ATLAS PAGE NO: | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 79 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE
811

## SIGNAL NOTES:

1. ALL WORK TO REMAIN WITHIN ROW.

2. REPLACE CROSSWALK PUSH BUTTONS WITH ADA COMPLIANT AUDITORY PUSH BUTTONS.

3. 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 UNOBSTRUCTED AND ADJACENT TO A LEVEL, ALL WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR. THE PUSH BUTTONS ARE TO BE MOUNTED ON THE SIDE OF THE POLE CLOSEST TO THE CORRESPONDING CROSSWALK. PUSH BUTTONS SHALL BE INSTALLED IN A MANNER THAT COMPLIES WITH THE ADA GUIDELINES.

4. PROPOSED CABINET SHOULD BE SET DIRECTLY ADJACENT TO THE EXISTING CABINET. CONNECT NEW CONDUITS TO EXISTING TRAFFIC SIGNAL PULL BOX.

5. INSTALL COMMUNICATION SWITCH (DYMEC KY-3170EM4) IN CABINET.

6. INSTALL RACK MOUNTED FIBER OPTIC TERMINATION (FOT) CENTER IN CABINET, 1 RACK UNIT.

7. INSTALL FLASHING YELLOW ARROW UPGRADES ON THE LEFT TURNS OF THE NORTHBOUND AND SOUTHBOUND APPROACHES. INCLUDE AN 18 CHANNEL EDI 2018 ECLIP IN CABINET.

8. EXISTING TRAFFIC SIGNAL CONDUITS SHOULD BE PROOFED WITH A MANDREL TEST BEFORE NEW WIRES ARE PULLED THROUGH EXISTING CONDUIT. CONDUIT REPAIRS SHOULD BE MADE IF NECESSARY AND WILL BE PAID OUT OF THE CONTINGENCY CONDUIT.

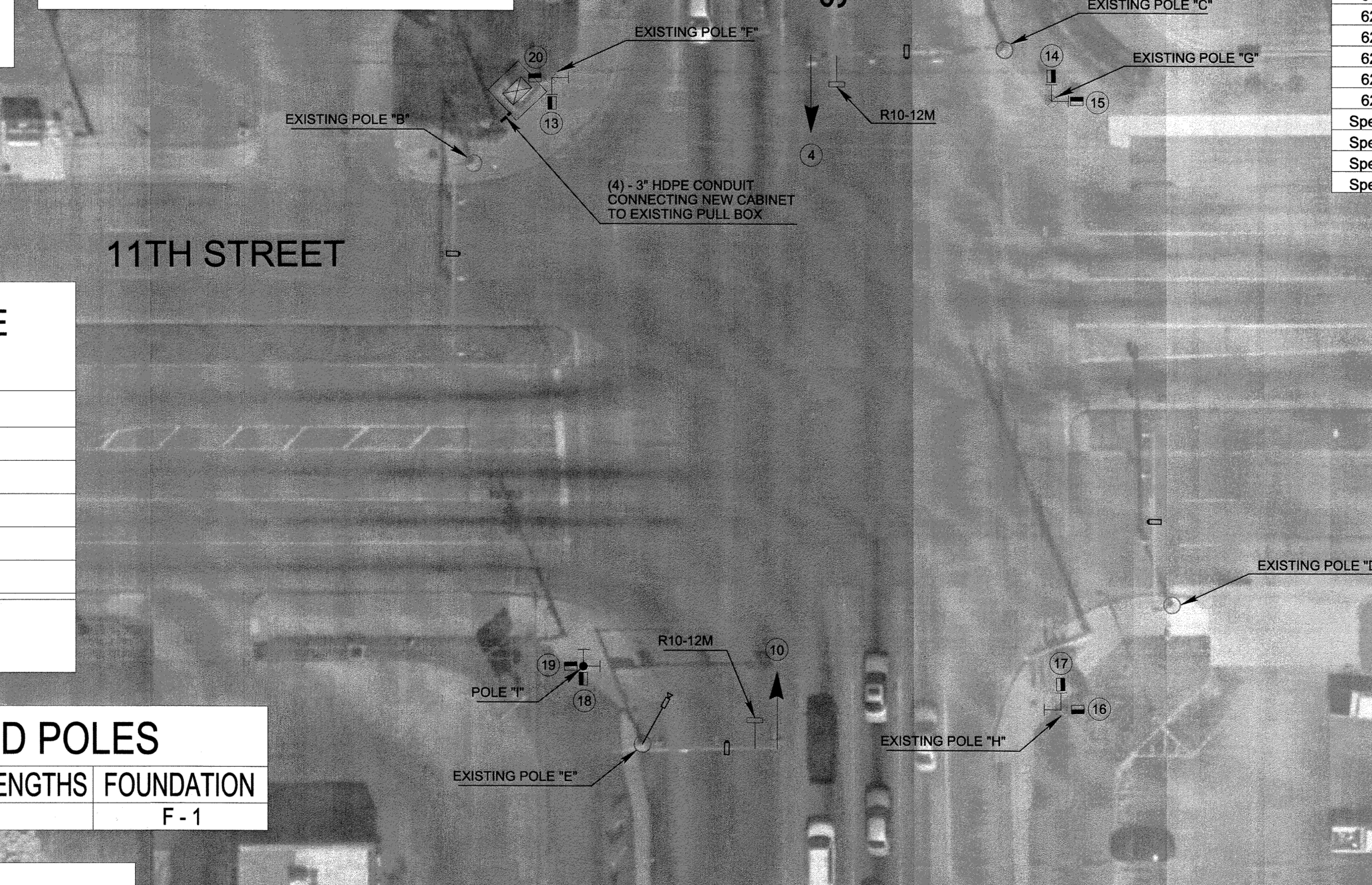
9. ALL CONDUIT ENDS SHALL BE REAMED AND BUSHINGS SHALL BE INSTALLED PRIOR TO INSTALLING ANY WIRES.

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | TRAFFIC SIGNAL HEAD | N/A |
| | SIGNAL CABINET | |
| | COUNTDOWN SIGNAL | |
| | PEDESTRIAN PUSH BUTTON | |
| N/A | SIGNAL POLE | |
| | PEDESTRIAN POLE | |
| N/A | PULLBOX | |
| | VIDEO DETECTION | N/A |
| | PTZ CAMERA | N/A |
| | SIGN ON MAST ARM | N/A |

## INTERSECTION SUMMARY OF QUANTITIES

| SPEC NO. | BID ITEM DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 601 | Pull Box Size III (Contingency) | EA | 1 |
| 602 | 3" HDPE Sch 40 Conduit (Directional Bore) (Contingency) | LF | 150 |
| 603 | Signal Pole Footing (24" F-1) | EA | 1 |
| 608 | Traffic Signs | SF | 15 |
| 610 | Traffic Signal Controller Cabinet Assembly | EA | 1 |
| Special | Traffic Signal Controller Replacement (Cobalt) | EA | - |
| 611 | 4#14 Traffic Signal Electrical Cable | LF | 364 |
| 611 | 20#14 Traffic Signal Electrical Cable | LF | 663 |
| 611 | 7#14 Traffic Signal Electrical Cable | LF | 1283 |
| 611 | 2#14 Shielded Electrical Conductor | LF | 320 |
| Special | CAT 6 Ethernet Cable | LF | 50 |
| 612 | Cabinet Base, Apron, and Guard | EA | 1 |
| 613 | Audible Pedestrian Push Button Station and Sign | EA | 8 |
| 613 | Audible Pedestrian Push Button Configuration/Programing Device | EA | 1 |
| 613 | Audible Pedestrian Push Button Control Card/Unit | EA | 1 |
| 614 | LED 3 section traffic signal head (#36) | EA | - |
| Special | LED 4 section traffic signal head (S-13L) | EA | 2 |
| Special | Conflict Monitor (18 Channel EDI 2018 ECLip) | EA | 1 |
| 614 | LED ICC Pedestrian Head (#33) | EA | 8 |
| 615 | Base Covers | EA | 1 |
| 617 | Ten Foot Pedestal Pole | EA | 1 |
| 617 | Six Foot Pedestrian Push Button Pole | EA | - |
| 620 | Video Detection | EA | 1 |
| 622 | Wireless Traffic Signal Communications System | EA | - |
| 625 | Removal of Traffic Items | EA | 1 |
| 626 | Traffic Signal maintenance | HR | 20 |
| 626 | Traffic Signal Modifications from Lane Closures (Per Signalized Intersection) | EA | 1 |
| Special | Communication Switch (DYMEC KY-3170EM4) | EA | - |
| Special | Fiber Optic Jumpers | EA | 2 |
| Special | Pan Tilt Zoom (PTZ) Camera | EA | 1 |
| Special | Traffic Control | EA | 1 |




## TABLE #3 NEW ELECTRICAL CABLE TO CONTROLLER "A" LOCATION

| |
|---|
| B - 20C#14/#12 THHN GREEN VIDEO |
| C - 20C#14/#12 THHN GREEN VIDEO |
| D - 20C#14/#12 THHN GREEN VIDEO |
| E - 20C#14/#12 THHN GREEN VIDEO |
| |
| CABLE TERMINAL IDENTIFICATION CODE |
| EXAMPLE-B-20C<br>(B) SIGNAL POLE LOCATION<br>(20C#14) 20 CONDUCTOR CABLE, SIZE 14 WIRE |

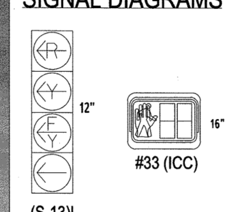
## TABLE #2 MAST ARMS AND POLES

| LOCATION | MOUNTING HEIGHT | MAST ARMS LENGTHS | FOUNDATION |
|---|---|---|---|
| I | 10' | N/A | F - 1 |

## TABLE #4 EXISTING SIGNAL EQUIPMENT TO BE REMOVED

| DIRECTION | QUADRANT | EQUIPMENT TYPE |
|---|---|---|
| NB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| SB | - | LEFT TURN 5-SECTION SIGNAL HEAD & SIGN |
| - | NEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SEC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | SWC | PED PUSH BUTTONS/SIGNAL HEADS |
| - | NWC | PED PUSH BUTTONS/SIGNAL HEADS |

## SIGNAL DIAGRAMS




## TABLE #1 SIGNAL HEADS

| SIGNAL HEAD NUMBER | NUMBER & TYPE | MOUNTING | VISOR | BACKPLATE |
|---|---|---|---|---|
| 4, 10 | 2 - (S-13)L (12" LENS) | MAST ARM | V-1 | B-2 |
| 13-20 | 8- #33 ICC | CLAMP | N/A | N/A |

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
18692
OKLAHOMA
6/13/22

CALL OKIE

# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Plan
## S Garnett Road & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

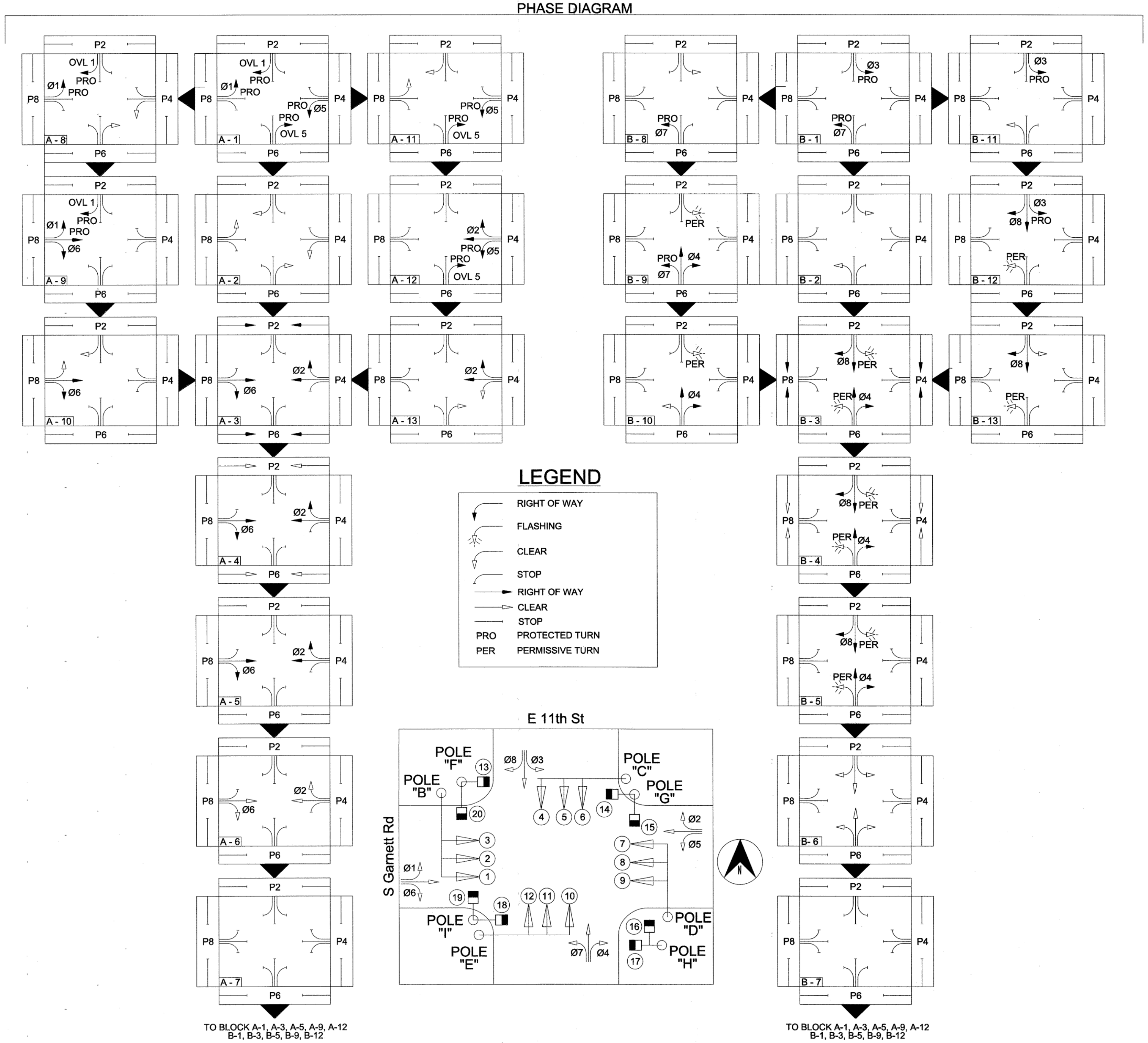
| | | | |
|---|---|---|---|
| PLAN SCALE: 1" = 20' | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | PF | 6/22 |
| | LEAD ENGR. | LSB | 7/22 |
| HORIZONTAL: | FIELD MGR. | ZZM | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8.22<br>DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

PHASE DIAGRAM



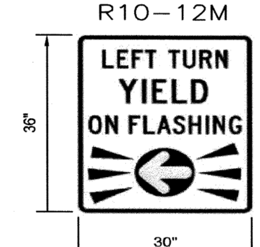

## SEQUENCE

| BLOCK NO. | PHASE DESIGNATION | Ø5 | Ø2 | Ø7 | Ø4 | OVL 5 | Ø1 | Ø6 | Ø3 | Ø8 | OVL 1 | P2 | P4 | P6 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIGNAL HEAD NO. | 1 | 2 + 3 | 4 | 5 | 6 | 7 | 8 + 9 | 10 | 11 | 12 | 13 + 14 | 15 + 16 | 17 + 18 | 19 + 20 |
| A 1 | Ø1, Ø5, OVL 1, OVL 5 ROW | ←G | R | ←R | R | R / ←G | ←G | R | ←R | R | R / ←G | DW | DW | DW | DW |
| A 2 | Ø1, Ø5, OVL 1, OVL 5 CL | ←Y | R | ←R | R | R / ←Y | ←Y | R | ←R | R | R / ←Y | DW | DW | DW | DW |
| A 3 | Ø2, Ø6, P2, P6 ROW | ←R | G | ←R | R | R | ←R | G | ←R | R | R | W | DW | W | DW |
| A 4 | Ø2, Ø6 ROW & P2, P6 CL | ←R | G | ←R | R | R | ←R | G | ←R | R | R | FDW | DW | FDW | DW |
| A 5 | Ø2, Ø6 ROW | ←R | G | ←R | R | R | ←R | G | ←R | R | R | DW | DW | DW | DW |
| A 6 | Ø2, Ø6 CL | ←R | Y | ←R | R | R | ←R | Y | ←R | R | R | DW | DW | DW | DW |
| A 7 | ALL RED | ←R | R | ←R | R | R | ←R | R | ←R | R | R | DW | DW | DW | DW |
| A 8 | Ø1, OVL 1 ROW & Ø5, OVL 5 CL | ←Y | R | ←R | R | R / ←Y | ←G | R | ←R | R | R / ←G | DW | DW | DW | DW |
| A 9 | Ø1, Ø6 OVL 1 ROW | ←R | R | ←R | R | R | ←G | G | ←R | R | R / ←G | DW | DW | DW | DW |
| A 10 | Ø6 ROW & Ø1, OVL 1 CL | ←R | R | ←R | R | R | ←Y | G | ←R | R | R / ←Y | DW | DW | DW | DW |
| A 11 | Ø5, OVL 5 ROW & Ø1, OVL 1 CL | ←G | R | ←R | R | R / ←G | ←Y | R | ←R | R | R / ←Y | DW | DW | DW | DW |
| A 12 | Ø2, Ø5, OVL 2 ROW | ←G | G | ←R | R | R / ←G | ←R | R | ←R | R | R | DW | DW | DW | DW |
| A 13 | Ø2 ROW & Ø5, OVL 5 CL | ←Y | G | ←R | R | R / ←Y | ←R | R | ←R | R | R | DW | DW | DW | DW |
| | | | | | | | | | | | | | | | |
| B 1 | Ø3, Ø7 ROW | ←R | R | ←G | R | R | ←R | R | ←G | R | R | DW | DW | DW | DW |
| B 2 | Ø3, Ø7 CL | ←R | R | ←Y | R | R | ←R | R | ←Y | R | R | DW | DW | DW | DW |
| B 3 | Ø4, Ø8, P4, P8 ROW | ←R | R | ←FY | G | R | ←R | R | ←FY | G | R | DW | W | DW | W |
| B 4 | Ø4, Ø8, ROW & P4, P8 CL | ←R | R | ←FY | G | R | ←R | R | ←FY | G | R | DW | FDW | DW | FDW |
| B 5 | Ø4, Ø8 ROW | ←R | R | ←FY | G | R | ←R | R | ←FY | G | R | DW | DW | DW | DW |
| B 6 | Ø4, Ø8 CL | ←R | R | ←Y | Y | R | ←R | R | ←Y | Y | R | DW | DW | DW | DW |
| B 7 | ALL RED | ←R | R | ←R | R | R | ←R | R | ←R | R | R | DW | DW | DW | DW |
| B 8 | Ø7 ROW Ø3 CL | ←R | R | ←G | R | R | ←R | R | ←Y | R | R | DW | DW | DW | DW |
| B 9 | Ø4, Ø7 ROW | ←R | R | ←G | G | R | ←R | R | ←FY | R | R | DW | DW | DW | DW |
| B 10 | Ø4, ROW &Ø7 CL | ←R | R | ←Y | G | R | ←R | R | ←FY | R | R | DW | DW | DW | DW |
| B 11 | Ø3 ROW & Ø7 CL | ←R | R | ←Y | R | R | ←R | R | ←G | R | R | DW | DW | DW | DW |
| B 12 | Ø3, Ø8 ROW | ←R | R | ←FY | R | R | ←R | R | ←G | G | R | DW | DW | DW | DW |
| B 13 | Ø8 ROW & Ø3 CL | ←R | R | ←FY | R | R | ←R | R | ←Y | G | R | DW | DW | DW | DW |
| | FLASHING RED | ←FR | FR | ←FR | FR | FR | ←FR | FR | ←FR | FR | FR | BLK | BLK | BLK | BLK |

## SUMMARY OF MAST ARM MOUNTED SIGNS

| POLE LOCATION | SIGN DESIGNATION | SIGN DIMENSION (INCHES) | OVERHEAD SIGN (SQ FT.) | QUANTITY | TOTAL (SQ FT.) |
|---|---|---|---|---|---|
| C & E | R10 - 12M | 30 X 36 | 7.50 | 2 | 15.00 |

R10—12M




REGISTERED PROFESSIONAL ENGINEER
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6/13/22

Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X0012 Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

Intersection Phasing
S Garnett Road & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | APPROVED: |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | PF 6/22 | |
| HORIZONTAL: | LEAD ENGR. | LSB 7/22 | |
| | FIELD MGR. | [illegible] 7/22 | |
| VERTICAL | RECOMMENDED: DESIGN MANAGER | HAS 8-22 | CITY ENGINEER |
| FILE: | DRAWING: | | DATE: 06/13/2022 |
| ATLAS PAGE NO: | | | SHEET 81 OF 82 SHEETS |

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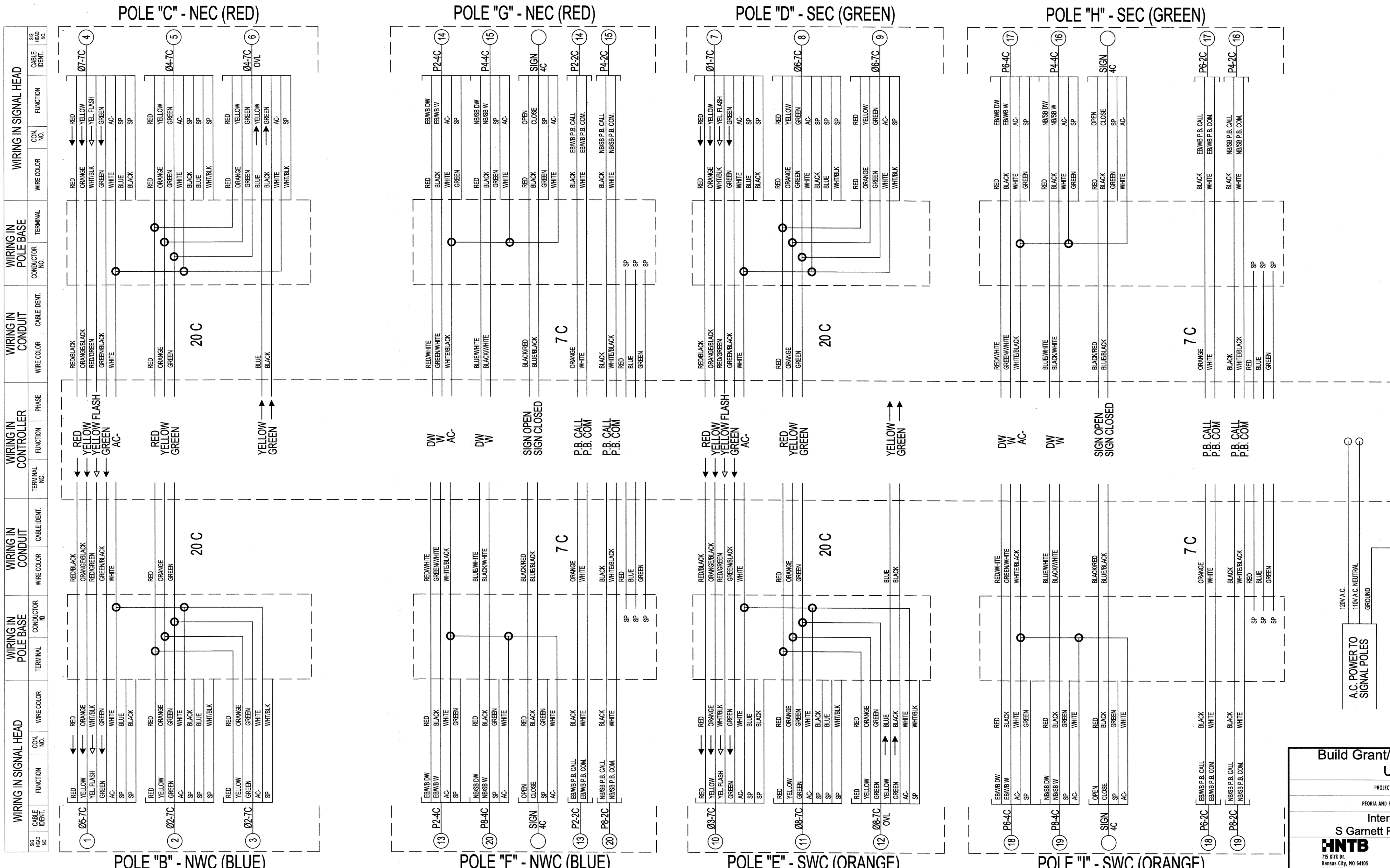


# Build Grant/ LINK Traffic Signal Upgrades

PROJECT NUMBER: 2035X001Z Phase 2

PEORIA AND ROUTE 66 - AERO BUS RAPID TRANSIT

## Intersection Wiring
## S Garnett Road & E 11th Street

HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th St.
Tulsa, OK 74120
918-835-9588

| REVISION | BY | DATE |
|---|---|---|
| | | |

| | | | |
|---|---|---|---|
| PLAN SCALE: NTS | DRAWN | | |
| | DESIGNED | | |
| | SURVEY | | |
| PROFILE SCALE: | PROJ. MGR. | RF | 6/22 |
| HORIZONTAL: | LEAD ENGR. | kb | 7/22 |
| | FIELD MGR. | Bmu | 7/22 |
| VERTICAL | RECOMMENDED: HAS 8.22 DESIGN MANAGER | | |
| FILE: | DRAWING: | | |
| ATLAS PAGE NO: | | | |

APPROVED:

CITY ENGINEER

DATE: 06/13/2022

SHEET 82 OF 82 SHEETS

REGISTERED PROFESSIONAL ENGINEER
PAUL D HUNTER
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OKLAHOMA
6/13/22

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