

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
TRAFFIC SIGNAL PLAN & ROADWAY MODIFICATION
U.S.70 & SILO ROAD
FEDERAL AID PROJECT NO.HSIPG-022N(217)TR
BRYAN COUNTY
STATE JOB NUMBER 33251(04)
CONTROL SECTION NO.70-07-06

R 8 E

REVISIONS		
NO.	DESCRIPTION	DATE
1	Multiple Revisions (Entire Sheet)	10/18/17

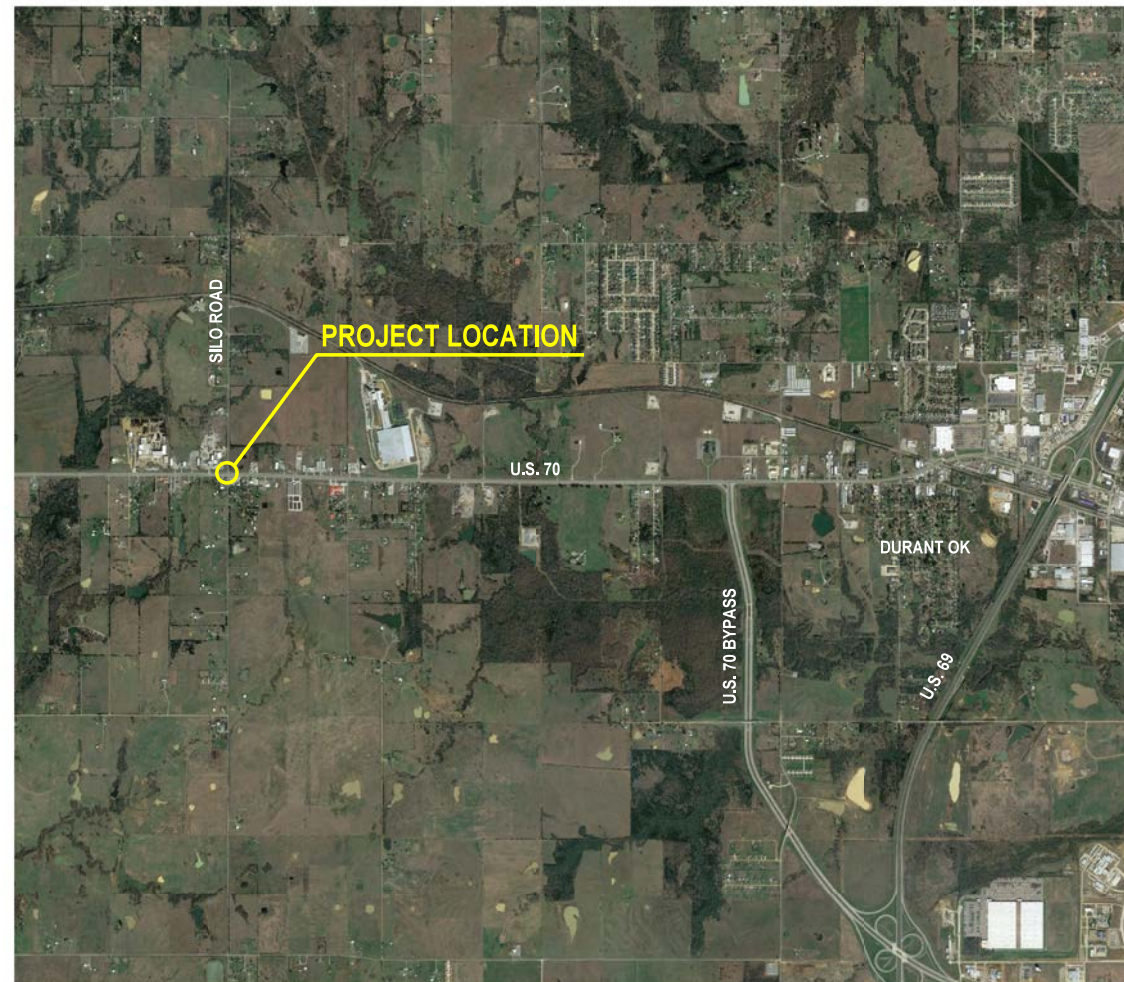
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THE FOLLOWING ODOT STANDARDS WILL
BE REQUIRED ON THIS PROJECT:

SIGNING & STRIPING	SIGNALS	TRAFFIC CONTROL	ROADWAY
PM1-1-02	PMAP1-2-00	TCS1-1-01	TSC2-3-2
PM3-1-02	SPBP1-1-00	TCS2-1-00	ASCD-5-2
PM6-1-00	SA1-1-02	TCS3-1-01	CSCD-5-3
RSD1-1-00	ID1-1-00	TCS4-1-01	SSCD-3-1
WSD2-1-00	SNS1-1-02	TCS5-1-00	TSD-2-0
SBS1-1-00	TSSS1-1-00	TCS6-1-02	LECS-4-1
SBS2-1-00	PWD1-2-00	TCS7-1-02	
GMS1-1-00	CFD1-2-00	TCS8-1-00	
SSP1-1-02	CC1-1-00	TCS9-1-01	
SSA1-1-00	TSSP1-1-00	TCS10-1-00	
	MAD1-1-00	TCS11-1-01	
	RPMAD1-1-00		
	MPMAD1-1-00		
	MDL1-1-00		
	MDL2-1-00		
	CCD1-1-00		
	PBD1-1-00		

SCALE	
LAYOUT MAP	1" =
PLAN & PROFILE	1" =
SIGNAL PLAN	1" = 20'
STRIPING PLAN	1" = 30'



BRYAN COUNTY
DISTRICT 1

CONVENTIONAL SYMBOLS

- PROPOSED ROADS
- RAILROADS
- RANGE & TOWNSHIP SECTION LINES
- QUARTER SECTION LINES
- FENCE
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE & TELEGRAPH
- POWER LINES
- OIL WELLS
- BUILDINGS
- DRAINAGE STRUCTURES -IN PLACE
- DRAINAGE STRUCTURES-NEW
- RIGHT-OF-WAY LINES-EXISTING
- RIGHT-OF-WAY LINES-NEW
- RIGHT-OF-WAY MARKERS-IN PLACE
- RIGHT-OF-WAY MARKERS-REMOVE & RESET
- RIGHT-OF-WAY MARKERS-NEW
- CONTROLLED ACCESS
- RIGHT -OF-WAY FENCE

CONVENTIONAL SIGNS

- INTERSTATE HIGHWAY
- U.S. HIGHWAY
- STATE HIGHWAY

EXISTING

- DETECTOR LOOP
- CONTROLLER
- PULL BOX
- CONDUIT
- MAST ARM & POLE W/SIGNAL INDICATION
- WALK & DON'T WALK INDICATION
- SIGNAL INDICATION
- SIGNAL INDICATION W/BACK-PLATE
- PEDESTAL POLE W/SIGNAL & WALK & DON'T INDICATIONS
- COMBINATION-TRAFFIC SIGNAL & STREET LIGHT ON ONE POLE

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PROJECT LENGTH.....INTERSECTION
EQUATIONS.....NONE
EXCEPTIONS.....NONE

TEC
A CLEAR DIRECTION

R. Wayne Russell
R. WAYNE RUSSELL, P.E. # 16030
C.A. # 1160, RENEWAL 06-30-19

10-18-17
DATE

6000 S. Western, Suite 300 - Oklahoma City, OK 73139, Ph: 405-720-7721, Fax: 405-720-9848, Web: www.tecok.com

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY	BY
CHIEF ENGINEER	DIVISION ADMINISTRATOR
S.W.O.	SHEET NO. 1

PAY QUANTITIES				
0100 ROADWAY				
ITEM		DESCRIPTION	UNIT	TOTAL
221(C)	2801	TEMPORARY SILT FENCE	L.F.	124.00
221(F)	0100	TEMPORARY SILT DIKE	L.F.	12.00
230(A)	2806	SOLID SLAB SODDING (R-8)	S.Y.	1,078.00
509(D)	0325	CLASS C CONCRETE	C.Y.	2.00
609(B)	1513	1'-8" COMB. CURB & GUTTER (6" BARRIER)	L.F.	225.00
610(B)	0399	6" CONCRETE DRIVEWAY (H.E.S.)	S.Y.	244.00
619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY (R-49)(R-50)	S.Y.	654.00
619(B)	4767	REMOVAL OF ASPHALT DRIVEWAY (R-49)(R-50)	S.Y.	684.00
619(B)	4791	REMOVAL OF CURB (R-49)(R-50)	L.F.	5.00
619(C)	0924	SAWING PAVEMENT	L.F.	443.00

SEQUENCE OF CONSTRUCTION

1. REMOVE EXISTING CONCRETE NECESSARY TO CONSTRUCT NEW DRIVE.
2. CONSTRUCT DRIVE.
3. REMOVE REMAINDER OF EXISTING CONCRETE.
4. CONSTRUCT CURB & GUTTER ALONG EDGE OF SHOULDER.
5. BACKFILL WITH TOP SOIL AND GRADE TO DRAIN.
6. SOD DISTURBED AREA.
7. CONSTRUCT SIGNALS.

GENERAL CONSTRUCTION NOTES

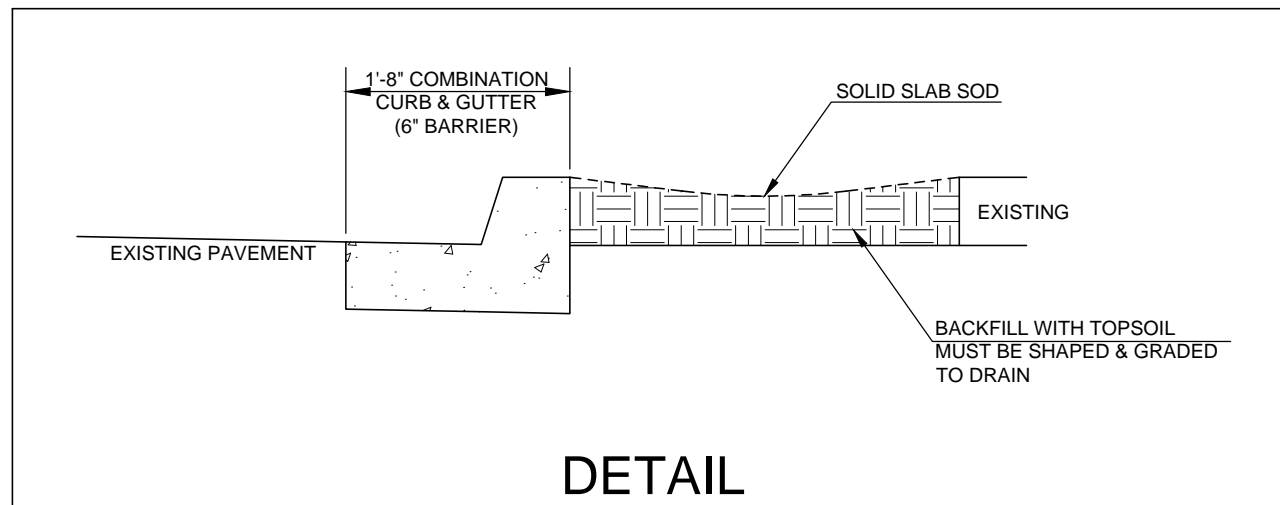
THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING SECTION LINE ROADS TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

PAY QUANTITY NOTES

- (R-8) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SQUARE YARD OF SODDING.
- (R-49) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- (R-50) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.



DETAIL



10/18/17
FINAL PLANS

SUMMARY OF PAY QUANTITIES & NOTES (ROADWAY)

REVISIONS		
NO.	DESCRIPTION	DATE
1	Multiple Revisions (Entire Sheet)	10/18/17

GENERAL CONSTRUCTION NOTES

THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 24 HOUR CALL AS NEEDED AND DETERMINED BY THE ENGINEER. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OTEA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S "QUALITY STANDARD FOR TEMPORARY TRAFFIC CONTROL DEVICES".

(C-150) SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE TRAFFIC ENGINEERING DIVISION AT (405)521-2861.

(C151) THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

(C-152) ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

(C-155) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES: THE "OKIE" NOTIFICATION CENTER 811 OR (405)522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

ENVIRONMENTAL MITIGATION NOTES

THE AMERICAN BURYING BEETLE IS A LARGE CARRION BURYING BEETLE THAT OCCURS WITHIN THE ACTION AREA. NO ARTIFICIAL LIGHTING SHALL BE USED DURING CONSTRUCTION. CARCASSES AND ALL FOOD TRASH SHALL BE REMOVED FROM THE PERMANENT AND TEMPORARY RIGHT-OF-WAY THROUGHOUT THE PROJECT ACTIVITIES. FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE PLACED ON TOP OF ALL GROUND DISTURBANCE, PRIOR TO RE-VEGETATION.

PAY QUANTITY NOTES

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

(TC-52) ANY USED CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

(TC-84) 60 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT: <http://www.okladot.state.ok.us/traffic/qpl/index.php>.

(TL-24) 3 - ROADWAY LUMINAIRES SHALL BE 250 WATT HIGH PRESSURE SODIUM, WITH CLEAR LAMP OF 28,000 LUMENS, ILLUMINATION ENGINEERING SOCIETY DISTRIBUTION AS FOLLOWS: VERTICAL = MEDIUM, LATERAL = TYPE 3; CONTROL = SEMI, O.D.O.T. FIXTURE STYLE = A1. SEE STD. HLD1-1(LATEST REVISION).

(TL-35) FOR INFORMATION CONCERNING THE SERVICE POLE, CONTACT THE FOLLOWING PRIOR TO INSTALLATION: PERSON'S NAME.....ROBERT HOLIDAY, WITH THE COMPANY/CITY OF.....OG&E, COMPANY'S/CITY'S TELEPHONE NO.....(580)920-0306.

(TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

(TS-19) QUANTITY SHOWN INCLUDES 0 L.F. TRAFFIC STRIPE (PLASTIC) (WHITE) AND 3200 L.F. TRAFFIC STRIPE (PLASTIC) (YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

(TS-20) QUANTITY SHOWN INCLUDES 3936 L.F. TRAFFIC STRIPE (PLASTIC) (WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.

(TS-21) QUANTITY SHOWN INCLUDES 440 L.F. TRAFFIC STRIPE (PLASTIC) (WHITE) AND 0 L.F. TRAFFIC STRIPE (PLASTIC) (YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.

(TS-22) QUANTITY SHOWN INCLUDES 144 L.F. TRAFFIC STRIPE (PLASTIC) (WHITE) AND 280 L.F. TRAFFIC STRIPE (PLASTIC) (YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWELVE INCH (12") WIDE TRAFFIC STRIPE.

(TS-23) QUANTITY SHOWN INCLUDES 120 L.F. TRAFFIC STRIPE (PLASTIC) (WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.

(TS-32) THE AMOUNT SHOWN IS AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE) SHALL INCLUDE COST OF REMOVAL OF ARROWS, WORDS, AND SYMBOLS. THE PAVEMENT MARKING TO BE REMOVED SHALL BE CONSIDERED THERMOPLASTIC AND BID ACCORDINGLY.

DURING REMOVAL OF EXISTING STRIPING AND REPLACEMENT WITH NEW STRIPING, PERMANENT STRIPING SHALL BE REPLACED WITHIN 48 HOURS AFTER OLD STRIPING IS REMOVED.

(TS-33) INCLUDED IN THIS PAY ITEM IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1-1 AND SSP1-1- (LATEST REVISION).

(1) POLYMER CONCRETE PULL BOXES SHALL BE USED.

(2) THIS PAY ITEM IS FOR THE REMOVAL OF TWO (2) R1-1 SIGNS AND POLES AND ONE (1) R2-1E(65) SIGN, AS SHOWN IN THE PLANS. THE EXISTING PIPE POSTS SUPPORTING THE R2-1E(65) SHALL BE LEFT IN PLACE FOR THE INSTALLATION OF A NEW R2-1E(55) SIGN.

(3) THIS PAY ITEM IS TO BRING POWER TO THE CONTROLLER CABINET FROM THE SERVICE POLE.

(4) THE CABINET(S) TO BE FURNISHED ON THIS PROJECT SHALL BE A N.E.M.A. TS2 TYPE 2 CABINET AND HAVE A NATURAL ALUMINUM FINISH. CABINET SHALL HAVE A/B/C/D CONNECTORS FOR BACKWARDS COMPATIBILITY. A MINIMUM OF SIXTEEN (16) LOAD SWITCH RECEPTACLES SHALL BE FURNISHED AND WIRED TO THE FRAME. ALL WIRING FROM THE FIELD TERMINALS SHALL BE WIRED TO THE MOUNTING FRAME FOR EIGHT (8) PHASE OPERATION. ALL CORRESPONDING RECEPTACLE WIRING IN THE CABINET AND THE FIELD WIRING SHALL BE INSTALLED FOR THE CONTROLLER AS REQUIRED EXCEPT FOR ADDITIONAL DETECTOR CONNECTOR CABLES WHEN THE CONTROLLER IS EXPANDED. CABINET SHALL HAVE TWO (2) 120V RECEPTACLES INSTALLED INSIDE OF THE CABINET WITH ONE BEING A GFI RECEPTACLE. ALSO, ALL CABINETS THAT ARE TO BE INSTALLED IN A SIGNAL INTERCONNECT SYSTEM SHALL HAVE A PULL OUT COMPUTER SHELF AND DRAWER INSTALLED FOR LAPTOP USE AT THE CONTROLLER CABINET.

THE CONTROLLER(S) TO BE FURNISHED ON THIS PROJECT SHALL BE A LINUX BASED ATC CONTROLLER WHICH MEETS N.E.M.A. SPECIFICATIONS. THE CONTROLLER(S) SHALL BE CAPABLE OF PERFORMING AS SHOWN ON THE PHASE AND SEQUENCE DIAGRAMS. PEDESTRIAN ISOLATION SHALL BE PROVIDED IN THE CONTROLLER CABINET. ALL N.E.M.A. FUNCTIONS SHALL TERMINATE IN THE CONTROLLER CABINET.

(5) CONTROLLERS SHALL BE EQUIPPED WITH CONTINUOUS POWER UNIT. THIS UNIT SHALL PROVIDE 400 WATTS OF CONTINUOUS POWER FOR A MINIMUM OF 8 HOURS. THIS UNIT SHALL ALSO INCLUDE BATTERIES, CABINET, WIRING AND PAD IF NECESSARY. THIS POWER UNIT SHALL INCLUDE AN INTERCHANGEABLE HARD DISK THAT IS CAPABLE OF STORING AND RETRIEVING ALL ACTIVITY DATA, SUCH AS TIME, DATE, AND DURATION OF EVENTS. ALSO THE SURGE PROTECTORS TO BE SUPPLIED ON THIS PROJECT FOR THE TRAFFIC SIGNALS SHALL BE INNOVATIVE TECHNOLOGY, INC. SURGE PROTECTORS, MODEL NO. HS-P-SP-120A-60A-RJ, OR APPROVED EQUAL.

(6) THIS PROJECT INVOLVES THE INSTALLATION OF A VIDEO VEHICLE DETECTION SYSTEM. THEREFORE, THE CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING:

A. A PEEK VIDEO TRAK, ITERIS, OR ECONOLITE AUTSCOPE SOLO TERRA 8 CHANNEL PROCESSOR (OR APPROVED EQUAL) VEHICLE DETECTION SYSTEM UNIT INCLUDING A LAPTOP COMPUTER. ALL NECESSARY CABLES, HARNESSSES, MATERIALS, FITTINGS AND MISCELLANEOUS COMPONENTS NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM AT ONE (1) INTERSECTION. MINIMUM SPECIFICATIONS FOR THE COMPUTER SYSTEM - INTEL 4TH GENERATION CORE I7 2.3 GHz PROCESSOR, 16 GB RAM, 1 TB HARD DRIVE, DIGITAL MEDIA READER AND USB 2.0 PORTS.

ANY "APPROVED EQUAL" SHALL BE APPROVED BY BOTH TRAFFIC ENGINEERING DIVISION OF ODOT AND THE CITY. SUCH A SYSTEM SHALL BE CONSIDERED EXPERIMENTAL UNTIL A 12 MONTH TEST PERIOD HAS PROVEN THAT THE SYSTEM CAN OPERATE SUCCESSFULLY WITH NO PROBLEMS. AT THE END OF THE 12 MONTH TEST PERIOD BOTH THE TRAFFIC ENGINEERING DIVISION OF ODOT AND THE CITY WILL NEED TO SIGN OFF THAT THE SYSTEM HAS OPERATED SUCCESSFULLY AND IS THEREBY APPROVED.

B. SIX (6) CAMERAS WITH ZOOM LENS CAPABILITY.

C. MODEMS AND CABLES SHALL BE FURNISHED AND INSTALLED TO ALLOW REMOTE DETECTOR SET UP AND RETRIEVAL OF DATA IN THE DETECTION UNIT.

D. HARNESSSES TO CONNECT AND OPERATE THE NEW SYSTEM IN THE LOCAL MAINTAINING AGENCY OFFICE.

E. VIDEO POWER CABLE SHALL BE AS PER THE MANUFACTURER SPECIFICATIONS.

F. VIDEO COAXIAL CABLE SHALL BE LOW LOSS PRECISION CABLE SUITED FOR OUTDOOR APPLICATION. VIDEO CABLE SHALL BE BELDON 8281, WEST PENN P 806, OR APPROVED EQUAL.

G. THE VIDEO FEEDBACK TO THE LOCAL MAINTAINING AGENCY OFFICE SHALL OCCUR OVER LOCAL TELEPHONE LINES.

H. ONE DAY OF TRAINING FOR CITY PERSONNEL IN THE USE AND MAINTENANCE OF THE SYSTEM SHALL BE PROVIDED BY A MANUFACTURERS REPRESENTATIVE. DOCUMENTATION OF THE TRAINING PROVIDED SHALL BE PROVIDED FOR THE ENGINEER.

(7) RED, YELLOW AND GREEN LED TRAFFIC SIGNAL HEADS SHALL BE FURNISHED AND INSTALLED ON THIS PROJECT. THE LED TRAFFIC MODULES, LENSES, AND ALL ASSOCIATED MATERIAL AND EQUIPMENT SHALL CONFORM TO I.T.E. VEHICLE TRAFFIC CONTROL SIGNAL HEAD (VTCSH) STANDARDS IN EFFECT AT THE TIME THAT THE ORDER IS PLACED. LED HEADS SHALL BE CAPABLE OF OPERATING WITHOUT A REFLECTOR.

(8) THE PREEMPTION CONTROL SYSTEM SHALL INTERFACE WITH THE TRAFFIC CONTROLLER TO GIVE EMERGENCY VEHICLES APPROACHING THE INTERSECTION A GREEN WITH ALL OTHER INDICATIONS BEING RED. THE SYSTEM SHALL BE CAPABLE OF TWO PRIORITY LEVELS AND LOG THE LAST 100 EVENTS WITH TIME DATE STAMP. EMITTER SHALL BE SELECTABLE TO TRANSMIT UP TO 9999 VEHICLE CODES. ALL EQUIPMENT IN THE SYSTEM SHALL MEET NEMA ENVIRONMENTAL STANDARDS.

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

(9) REFLECTIVE SHEETING SHALL BE EITHER 3M BRAND DG3 (SERIES 4000) SHEETING OR AN ASTM CLASS XI APPROVED EQUAL.

(10) QUANTITY SHOWN FOR THIS PAY ITEM INCLUDES CONCRETE FOR THE SIGNAL POLE AND SIGN POST FOOTINGS TO BE INSTALLED ON THIS PROJECT IN ACCORDANCE WITH THE PERTINENT ODOT STANDARDS AND SPECIFICATIONS.

(11) TUBE CHANNELIZERS SHALL BE YELLOW SHUR-TITE SHUR CURB TRAFFIC SEPARATOR MODEL #SF0200, OR AN APPROVED EQUAL.

(12) ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

(13) ALSO INCLUDED IN THE PRICE BID FOR THIS ITEM SHALL BE THE USE OF FOUR (4) PORTABLE CHANGEABLE MESSAGE SIGNS. THESE SIGNS SHALL BE IN PLACE 14 DAYS PRIOR TO THE START OF CONSTRUCTION. THE EXACT PLACEMENT SHALL BE DETERMINED BY THE ENGINEER.

(14) THE USE OF DRUMS SHOWN IN THE "TYPICAL SHOULDER CLOSURE" SHEET OF THE PLANS WILL NOT REQUIRE THE USE OF TYPE C LIGHTS.

(15) THE CONTROLLER TO BE USED ON THIS PROJECT SHALL BE A McCain ATC EX2 NEMA CONTROLLER IN ORDER TO BE COMPATIBLE WITH THE CONTROLLERS CURRENTLY BEING INSTALLED BY THE CITY.

THE PRICE BID FOR THIS ITEM SHALL ALSO INCLUDE THE INSTALLATION OF A DOUBLE DOOR CONTROLLER CABINET WITH A RISER AS APPROVED BY THE CITY.

(16) PAY ITEM IS FOR STAKING THE SIGNAL EQUIPMENT AND THE DRIVEWAY WORK ON THE SOUTHEAST CORNER OF THE INTERSECTION.

(17) PORTABLE CHANGEABLE MESSAGE SIGNS TO BE PLACED WHERE DEEMED NECESSARY BY THE ENGINEER.

(18) PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED 14 DAYS PRIOR TO CONSTRUCTION.

PAY QUANTITIES

0300 TRAFFIC			
ITEM	DESCRIPTION	UNIT	TOTAL
802(B) 8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1) LF	155.00
802(B) 8344	3" PVC SCH. 40 PLASTIC CONDUIT BORED	(TP-1) LF	285.00
802(B) 8346	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1) LF	100.00
803(A) 8065	PULL BOX (SIZE I)	(1) EA	3.00
803(A) 8066	PULL BOX (SIZE II)	(1) EA	1.00
804(A) 2915	STRUCTURAL CONCRETE	(TP-1)(10) CY	25.50
804(B) 2916	REINFORCING STEEL	(TP-1) LB	3741.80
805(A) 8724	(PL) REMOVAL OF EXISTING SIGNS	(2) EA	3.00
806(A) 8311	32' MH POLE 35' TS & 10' LMA (G.STL.)	EA	1.00
806(A) 8313	32' MH POLE 45' TS & 10' LMA (G.STL.)	EA	2.00
806(A) 8734	POLE & 45' TS MST. ARM (G.STL.)	EA	1.00
809(A) 8090	ROADWAY LUMINAIRE	(TL-24) EA	3.00
810(A) 3118	SERVICE POLE	(TL-35) EA	1.00
811 8040	1/C NO. 6 ELECTRICAL CONDUCTOR	(TP-1)(3) LF	200.00
811 8044	1/C NO. 10 ELECTRICAL CONDUCTOR	(TP-1) LF	1615.00
825 8550	TRAFFIC SIGNAL CONTROLLER ASSEMBLY	(4,5,15) EA	1.00
828 8132	(PL) DETECTION SYSTEM (VIDEO)	(6) LSUM	1.00
831 8231	1WAY 3SEC. ADJ. SIG. HD. S-6	(7) EA	6.00
831 8274	1WAY 4SEC. ADJ. SIG. HD. S-16	(7) EA	2.00
831 8280	1WAY 4SEC. ADJ. SIG. HD. S-13	(7) EA	2.00
833 3030	BACKPLATE	EA	10.00
834(A) 8207	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) LF	280.00
834(A) 8208	7/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) LF	310.00
834(A) 8213	21/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) LF	835.00
840(A) 8592	E.P.S. OPTICAL EMITTER	(8) EA	5.00
840(B) 8593	E.P.S. OPTICAL DETECTOR	(8) EA	4.00
840(C) 8594	E.P.S. OPTICAL DETECTOR CABLE	(TP-1)(8) LF	1095.00
840(D) 8595	E.P.S. 2 CHANNEL PHASE SELECTOR	(8) EA	2.00
850(A) 8110	SHEET ALUMINUM SIGNS	(9) SF	100.00
850(C) 8118	MAST ARM MOUNTED SIGNS (ALUMINUM)	SF	51.00
851(C) 8324	2" SQUARE TUBE POST	(TS-33) LF	124.00
855(A) 8812	TRAFFIC STRIPE (PLASTIC)(4" WIDE)	(TS-19) LF	3200.00
855(A) 8813	TRAFFIC STRIPE (PLASTIC)(6" WIDE)	(TS-20) LF	3936.00
855(A) 8814	TRAFFIC STRIPE (PLASTIC)(8" WIDE)	(TS-21) LF	440.00
855(A) 8818	TRAFFIC STRIPE (PLASTIC)(12" WIDE)	(TS-22) LF	424.00
855(A) 8825	TRAFFIC STRIPE (PLASTIC)(24" WIDE)	(TS-23) LF	120.00
855(B) 8818	TRAFFIC STRIPE (PLASTIC)(ARROWS)	EA	6.00
857(F) 8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)	(TS-32) LF	8750.00
857(F) 8007	PAVEMENT MARKING REMOVAL (ARROWS)	EA	4.00
857(F) 8008	PAVEMENT MARKING REMOVAL (WORDS)	EA	2.00
880(G) 8900	TUBE CHANNELIZERS	(11,12) EA	120.00
880(J) 8905	CONSTRUCTION TRAFFIC CONTROL	(TC-25)(13,14) LSUM	1.00
882(A) 8306	PORT. CHANGEABLE MESSAGE SIGN	(TC-52,84,85)(17,18) SD	296.00

CONSTRUCTION PAY QUANTITY

0640 CONS			
ITEM	DESCRIPTION	UNIT	TOTAL
641 1552	MOBILIZATION	LSUM	1

STAKING PAY QUANTITY



0600 STAK			
ITEM	DESCRIPTION	UNIT	TOTAL
642(B) 0096	CONSTRUCTION STAKING LEVEL II	(16) LSUM	1

Design	RWR	10/20/17
Drawn	SB	10/20/17

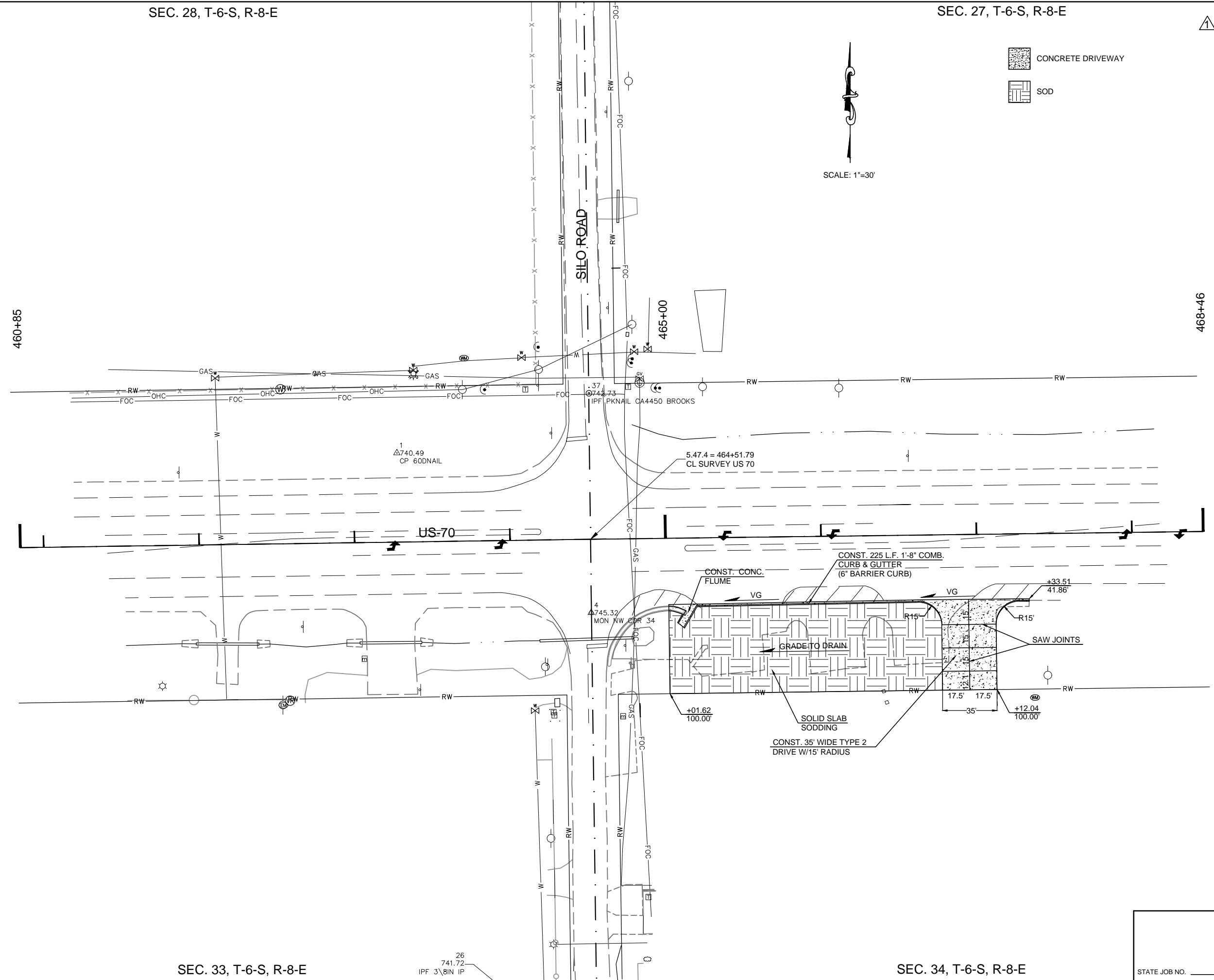


SUMMARY OF PAYQUANTITIES AND NOTES (TRAFFIC)

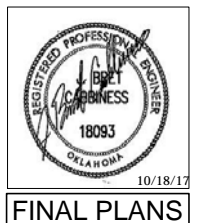
State Job No. 33251(04) Sheet No. AT01

 CONCRETE DRIVEWAY
 SOD

SCALE: 1"=30'



U:\Projects\324 - TEC Durant - Driveways\DWG\Driveway Plan Sheet.dwg 10/18/2017 9:04 AM Ed 1 ###



FINAL PLANS

EROSION CONTROL QUANTITIES	
TEMPORARY SILT FENCE	L.F. 123.09
TEMPORARY SILT DIKE	L.F. 12.00

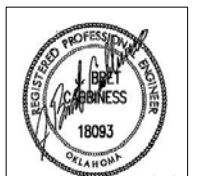
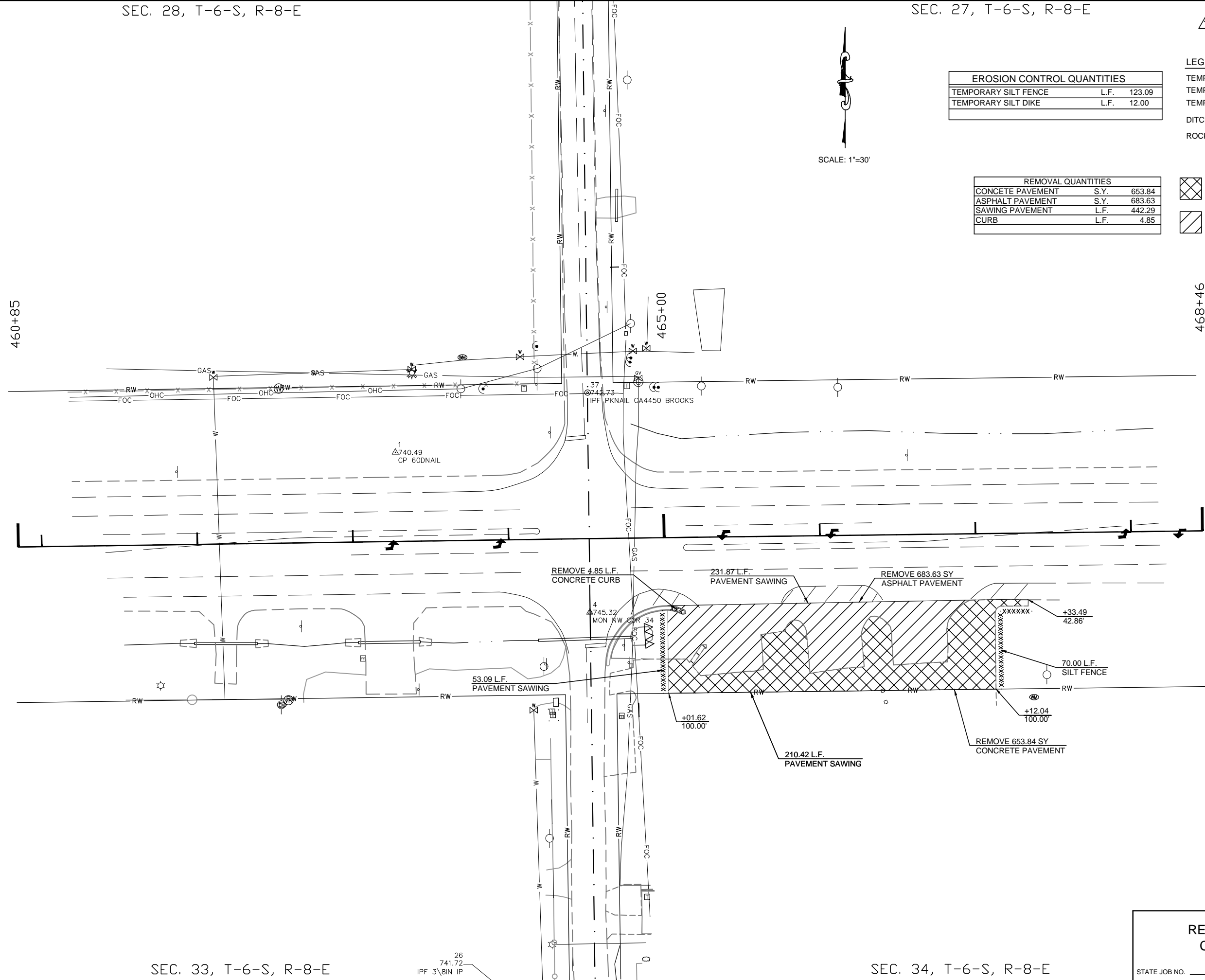
LEGEND: (EROSION CONTROL)

- TEMP. SILT DIKE
- TEMP. SILT FENCE
- TEMP. SEDIMENT FILTER
- DITCH/PAVED DITCH
- ROCK FILTER DAM

REMOVAL QUANTITIES	
CONCRETE PAVEMENT	S.Y. 653.84
ASPHALT PAVEMENT	S.Y. 683.63
SAWING PAVEMENT	L.F. 442.29
CURB	L.F. 4.85

- CONCRETE PAVEMENT
- ASPHALT PAVEMENT

SCALE: 1"=30'



FINAL PLANS

REMOVAL & EROSION CONTROL SHEET

STATE JOB NO. 33251(04) SHEET NO. R002

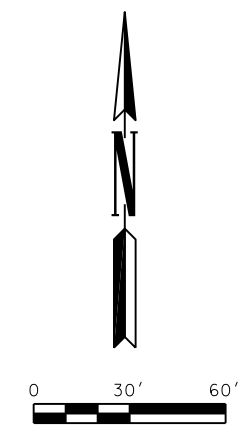
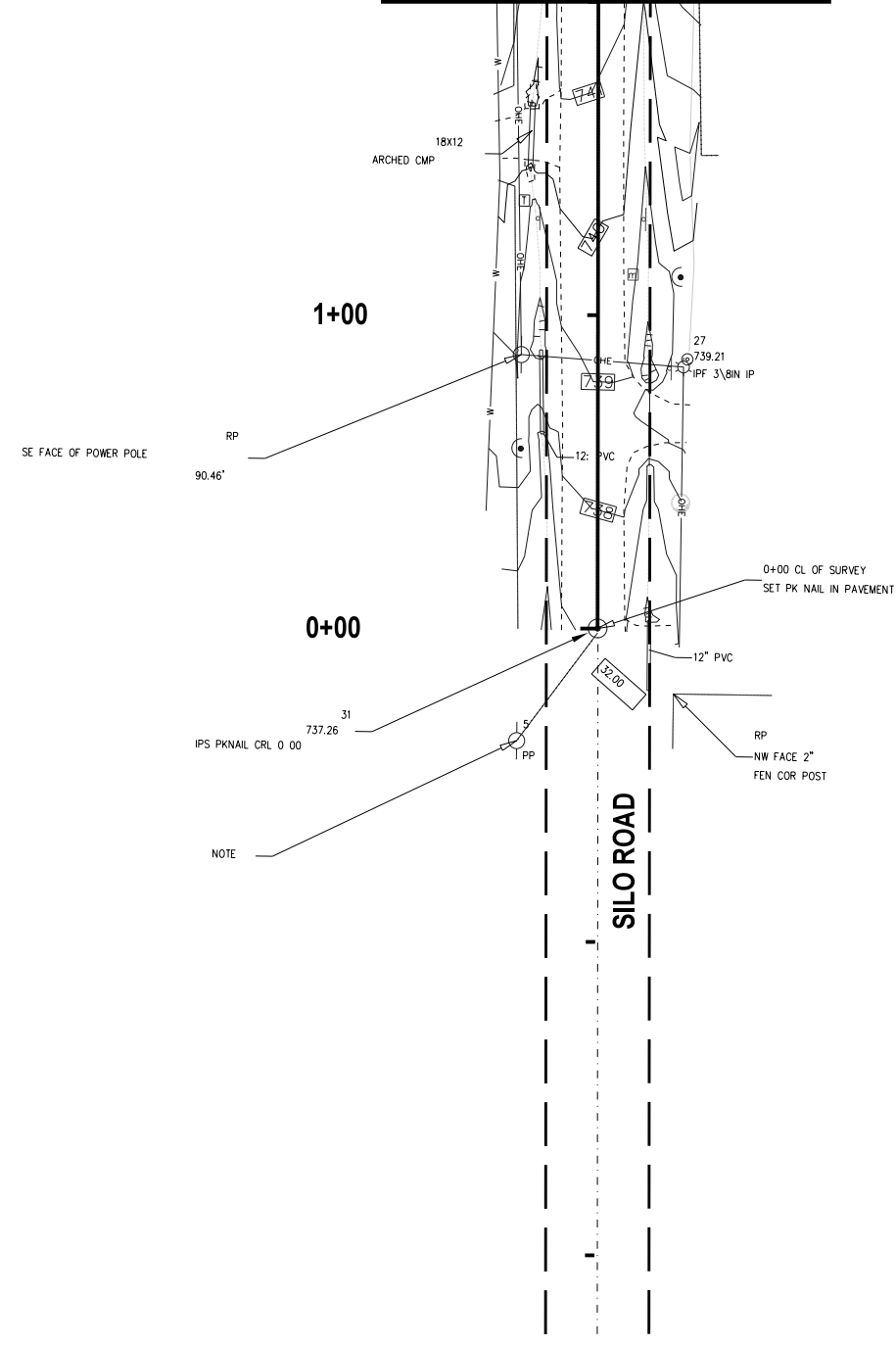
U:\Projects\324 - TEC Durant - Driveways\DWG\Driveway Removal Sheet.dwg

REMOVAL Helen 10/19/2017 10:55 AM

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REVISIONS		
NO.	DESCRIPTION	DATE

MATCH LINE STA. 2+00



G:\0\Projects\T-2592 US 70 & Silo Rd Signal - ECIB5B.Task 3\CAD\AS00-3325104-SURVEY DATA Ldgn

28
 ©730.04
 IPF 3\BIN IP

HOLLOWAY UPDIKE AND BELLEN 818 E. S. BLVD MUSKOGEE, OKLAHOMA 74402 OKLAHOMA C.A. NO. 219 EX-06/2019 PH 918 682 7811	Design	08/11/17
	Drawn	08/11/17

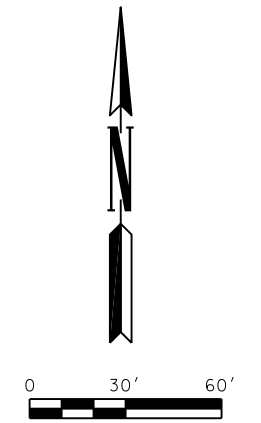
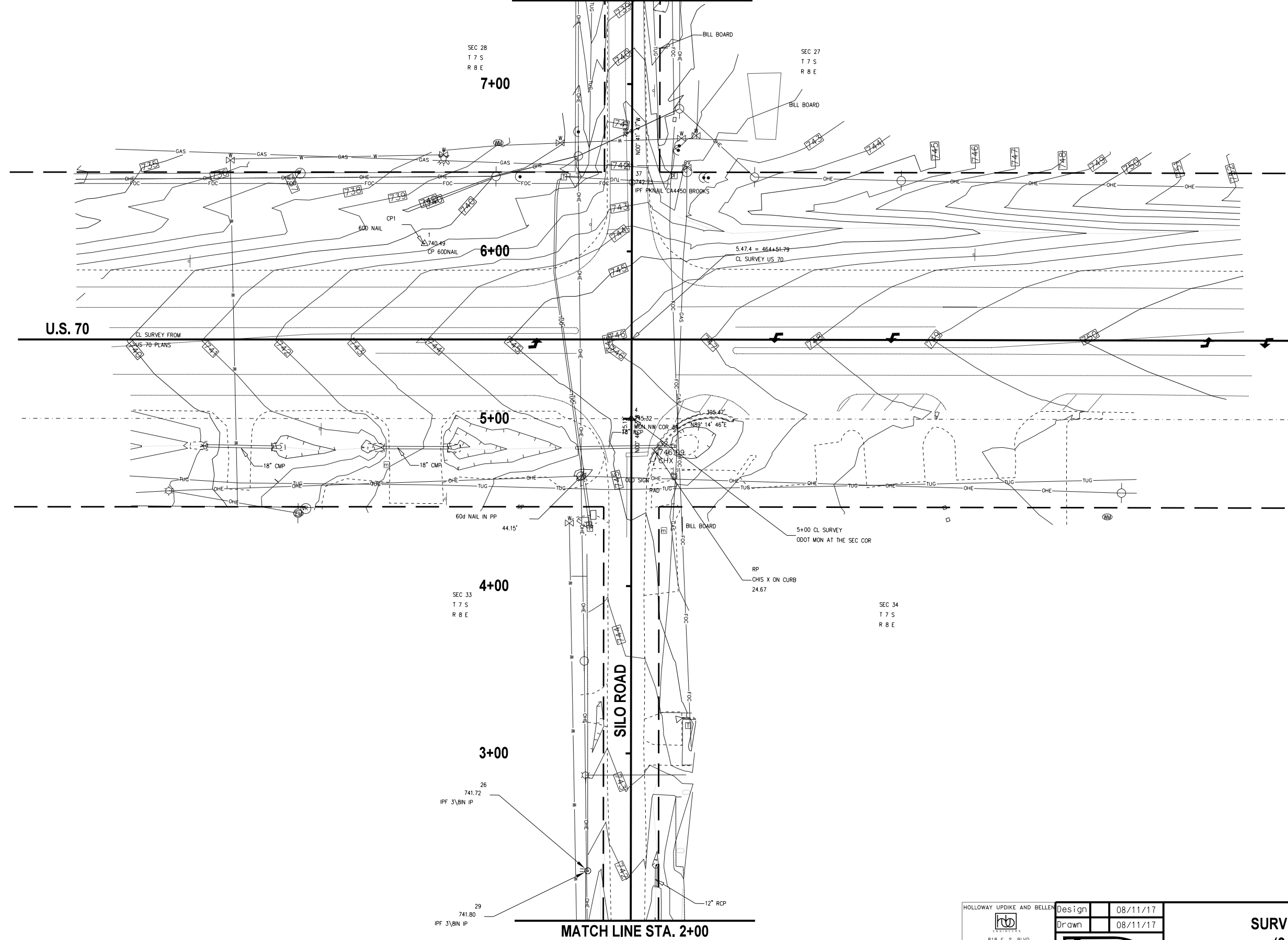


SURVEY DATA
(1 OF 3)

State Job No. 33251(04) Sheet No. S001

REVISIONS		
NO.	DESCRIPTION	DATE

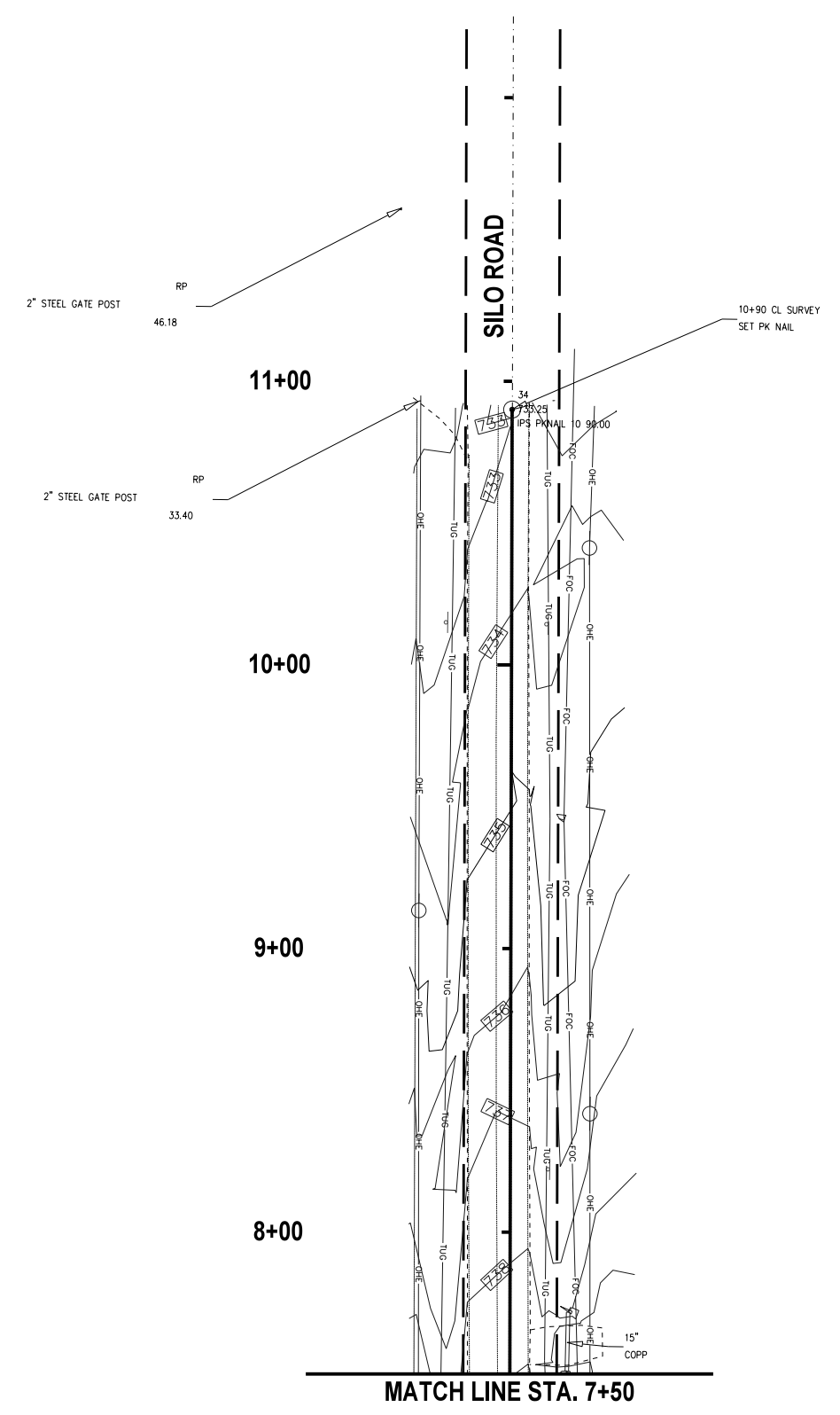
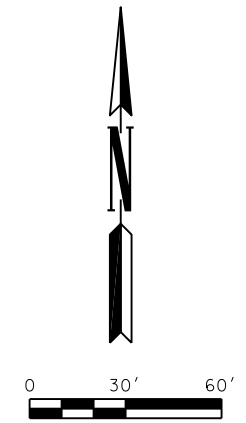
MATCH LINE STA. 7+50



G:\Projects\2592 US 70 & Silo Rd Signal - ECIB5B.Task 3\CAD\5002-3325(04)-SURVEY DATA 2.dgn

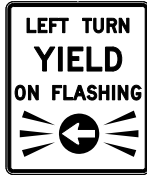
HOLLOWAY UPDIKE AND BELLEN 818 E. S. BLVD MUSKOGEE OKLAHOMA 74402 OKLAHOMA C.A. NO. 219 EX-06/2019 PH 918 682 7811	Design	08/11/17	SURVEY DATA (2 OF 3) State Job No. 33251(04) Sheet No. 5002 BRYAN COUNTY
	Drawn	08/11/17	

REVISIONS		
NO.	DESCRIPTION	DATE



G:\0\Projects\1-2592 US 70 & Silo Rd Signal - ECIB5B.Task 3\CAD\3003-3325(04)-SURVEY DATA 3.dgn

HOLLOWAY UPDIKE AND BELLEN 818 E. S. BLVD MUSKOGEE, OKLAHOMA 74402 OKLAHOMA C.A. NO. 219 EX-06/2019 PH. 918.682.7811	Design	08/11/17	SURVEY DATA (3 OF 3) State Job No. 33251(04) Sheet No. 5003 BRYAN COUNTY
	Drawn	08/11/17	

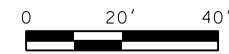


R10-12M (MODIFIED)
30"x36"

LEGEND. SYMBOL & BORDER - BLACK NON-REFLECTIVE
ARROW - YELLOW REFLECTIVE
BACKGROUND - WHITE REFLECTIVE

SEC 28
T 7 S
R 8 E
7+00

REVISIONS		
NO.	DESCRIPTION	DATE
1	Multiple Revisions (Entire Sheet)	10/18/17



CONTRACTOR SHALL TAKE EVERY PRECAUTION WHEN INSTALLING UNDERGROUND CONDUIT SO AS NOT TO DISTURB EXISTING UNDERGROUND UTILITIES

POLE "E"
STA. 5+93.7, 61.1 LT

CONTROLLER "A"
STA. 5+96.7, 77.7' LT.
CP1

POLE "B"
STA. 5+96.2, 37.6' RT

U.S. 70
SPEED LIMIT = 55 MPH

Ø1 ØVL B(Ø2) EBLT

Ø6 EB

Ø2 WB

Ø5 OVL A(Ø6) WBLT

POLE "D"
STA. 4+95.0, 46.5' LT

POLE "C"
STA. 4+97.6, 46.1' RL

SEC 33
T 7 S
R 8 E
4+00

SEC 34
T 7 S
R 8 E

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



SIGNAL HEAD NUMBER	NUMBER AND TYPE	MOUNTING	VISOR	BACKPLATE
1,6	2 - ONEWAY (S-16)L	MAST ARM	V-1	B-2
2,4,5,7,9,10	6 - ONEWAY (S-6)	MAST ARM	V-1	B-2
3,8	2 - ONEWAY (S-13)	MAST ARM	V-1	B-2

LOCATION	MOUNTING HT.	MAST ARMS LENGTHS	FOUNDATION
B	32'	35' T.S. & 10' LUM.	S-40
C	32'	45' T.S. & 10' LUM.	S-55
D	21'	45' T.S.	S-55
E	32'	45' T.S. & 10' LUM.	S-55

ELECTRICAL CABLE TO CONTROLLER "A" LOCATION				
B-21C	C-21C	D-21C	E-21C	

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

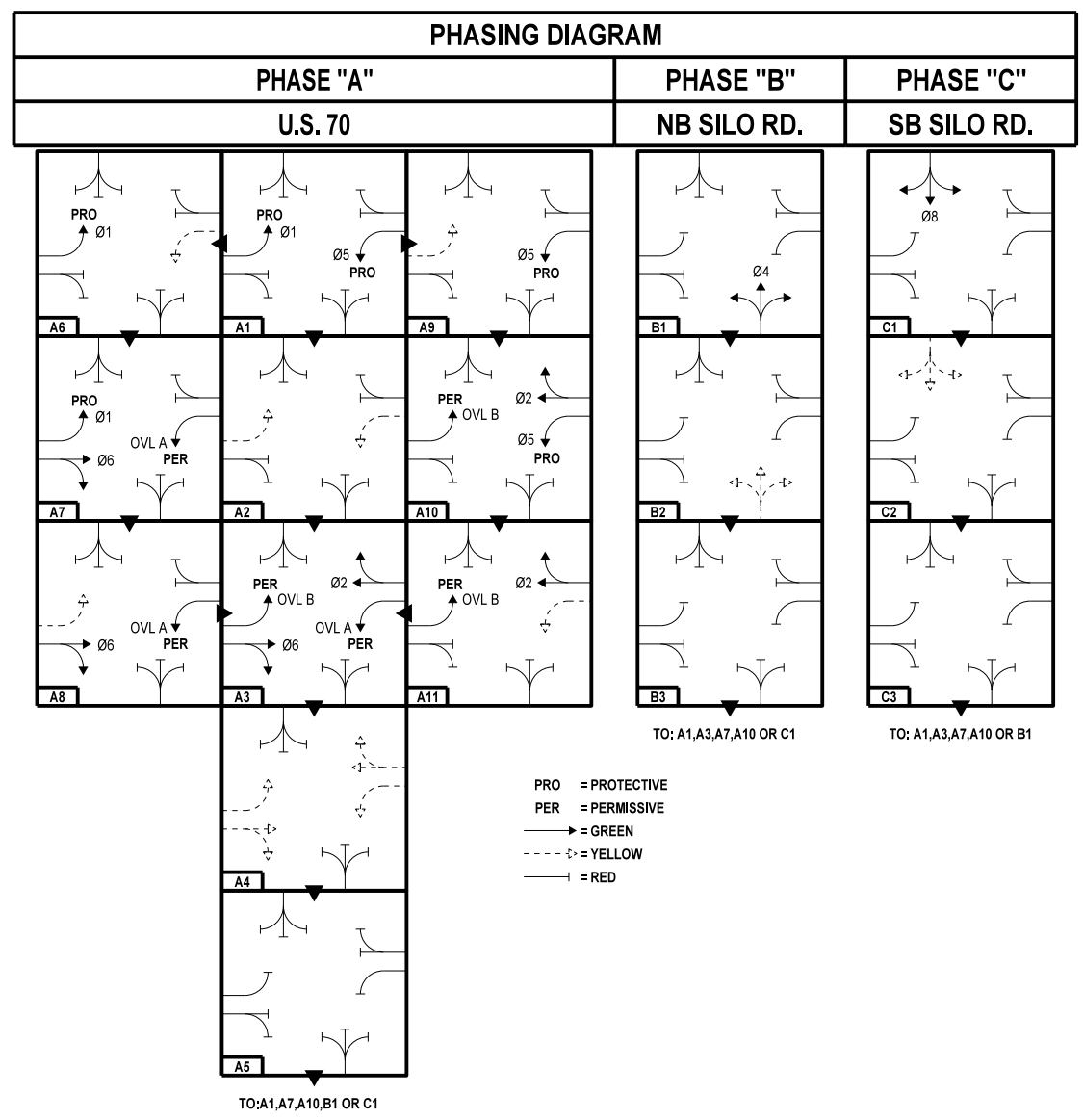
10/18/17 G:\OP\Projects\17-2592 US 70 & Silo Rd Signal - EC0858B.Task 3\CADD\T001-33251(04)-SIGNAL.dgn

Design	RWR	10/18/17
Drawn	SB	10/18/17

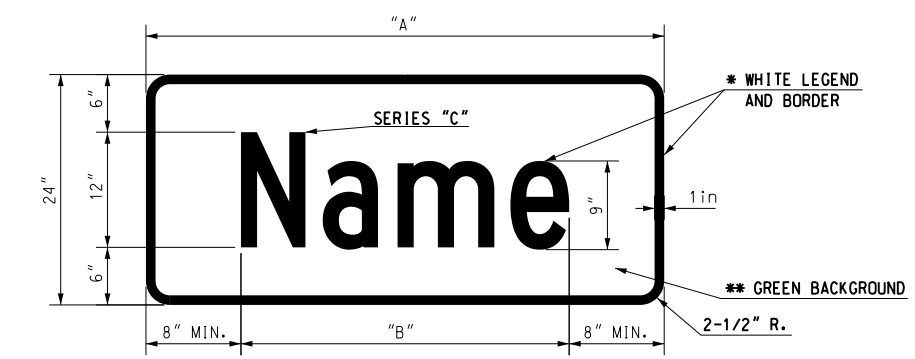


TRAFFIC SIGNAL PLAN

REVISIONS		
NO.	DESCRIPTION	DATE
1	Multiple Revisions (Entire Sheet)	10/18/17



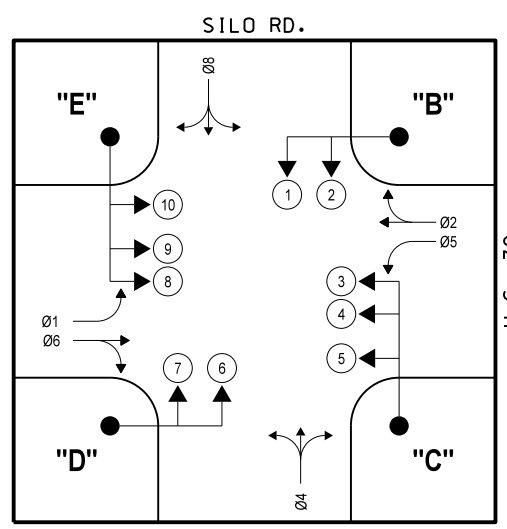
SEQUENCE CHART											
DIRECTION	BLOCK NO.	PHASE									
		Ø4	Ø4	Ø1 OVL B	Ø6	Ø8	Ø8	Ø5 OVL A	Ø2		
		SIGNAL HEAD NO.									
		1	2	3	4,5	6	7	8	9,10		
Ø1, Ø5 ROW	A1	R	R	←G	R	R	R	←G	R		
Ø1, Ø5 CL	A2	R	R	←Y	R	R	R	←Y	R		
Ø2, Ø6, OVL A, OVL B ROW	A3	R	R	←Y	G	R	R	←Y	G		
Ø2, Ø6, OVL A, OVL B CL	A4	R	R	←Y	Y	R	R	←Y	Y		
ALL RED	A5	R	R	←R	R	R	R	←R	R		
Ø1 ROW & Ø5 CL	A6	R	R	←G	R	R	R	←Y	R		
Ø1, Ø6, OVL A ROW	A7	R	R	←G	G	R	R	←Y	R		
Ø6, OVL A ROW & Ø1 CL	A8	R	R	←Y	G	R	R	←Y	R		
Ø5 ROW & Ø1 CL	A9	R	R	←Y	R	R	R	←G	R		
Ø2, Ø5, OVL B ROW	A10	R	R	←Y	R	R	R	←G	G		
Ø2, OVL B ROW & Ø5 CL	A11	R	R	←Y	R	R	R	←Y	G		
Ø4 ROW	B1	G	G	←R	R	R	R	←R	R		
Ø4 CL	B2	Y	Y	←R	R	R	R	←R	R		
ALL RED	B3	R	R	←R	R	R	R	←R	R		
Ø8 ROW	C1	R	R	←R	R	G	G	←R	R		
Ø8 CL	C2	R	R	←R	R	Y	Y	←R	R		
ALL RED	C3	R	R	←R	R	R	R	←R	R		
FLASHING OPERATION		FR	FR	←FR	FR	FR	FR	←FR	FR		



SUMMARY OF MAST ARM MOUNTED SIGNS							
MESSAGE	POLE LOCATION	NO. OF SIGN	A (IN.)	HEIGHT (IN.)	B (IN.)	SIGN AREA (SQ.FT.)	TOTAL SIGN AREA (SQ.FT.)
US 70	B,D	2	54	24	38.9	9.00	18.00
Silo Rd	C,E	2	54	24	43.7	9.00	18.00
R10-12M	C,E	2	30	36	NA	7.50	15.00
TOTAL							51.00

* - TYPE VIII VIP REFLECTIVE SHEETING SHALL BE USED
 ** - TYPE IIII VIP REFLECTIVE SHEETING SHALL BE USED

INTERSECTION PHASING & SIGNAL HEAD NO.'S



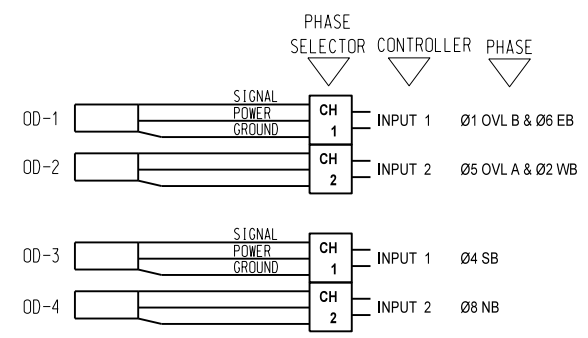
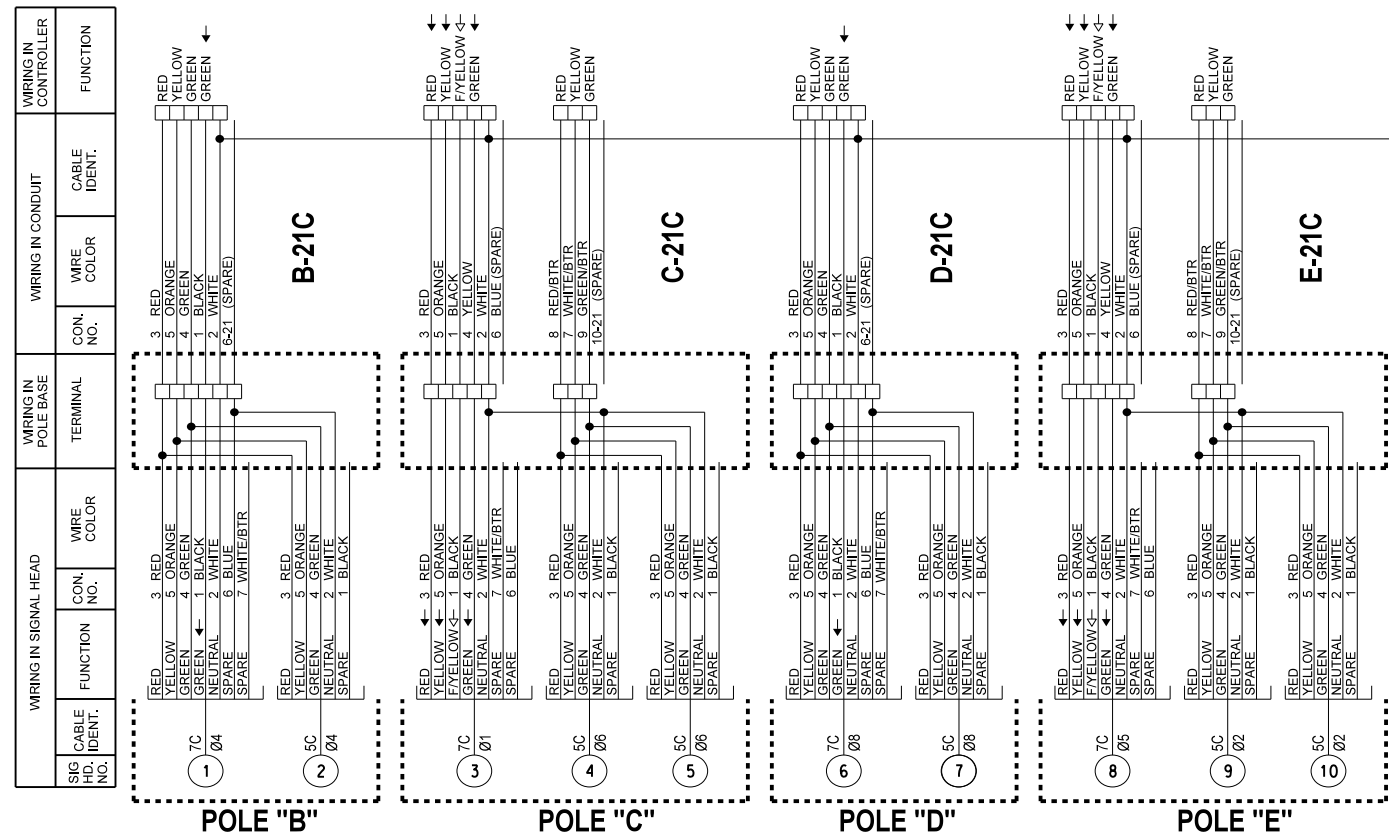
Design	RWR	10/18/17
Drawn	SB	10/18/17



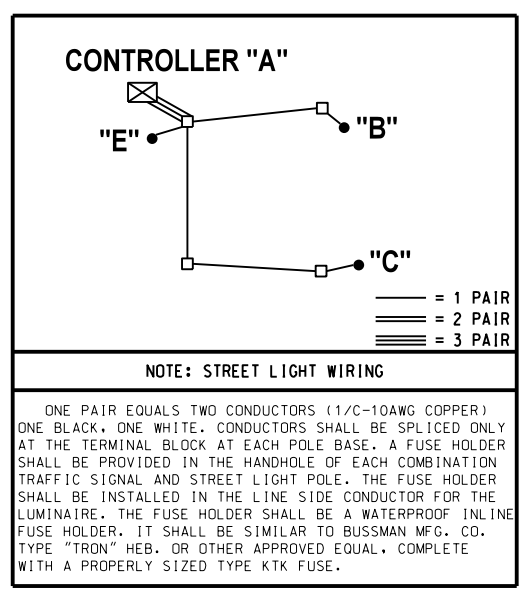
SIGNAL DETAIL PLAN

G:\Projects\1-2592 US 70 & Silo Rd Signal - EC185B.tosk 3\CAD\T002-33251(04)-DETAIL.dgn 10/18/17

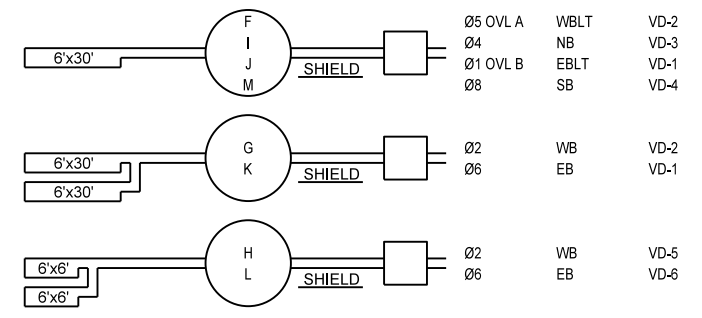
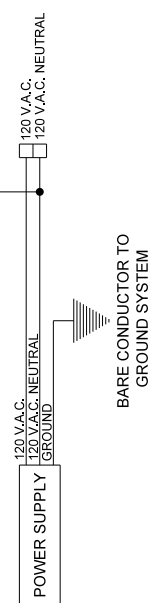
10/18/17 G:\0\Projects\1-2592 US 70 & Silo Rd Signal - EC185B.Task 3\CAD\1003-33251(04)-WIRE.dgn



PRE-EMPTOR DETAILS



REVISIONS		
NO.	DESCRIPTION	DATE
1	Multiple Revisions (Entire Sheet)	10/18/17



VIDEO DETECTION AREAS

NOTE:
 IF JUMPERS OR OTHER CONNECTIONS ARE MADE IN THE FIELD DURING INSTALLATION, AND ARE ACCEPTED BY THE ENGINEER THIS SHOULD BE SHOWN ON THE WIRING DIAGRAM FOR FUTURE REFERENCE.

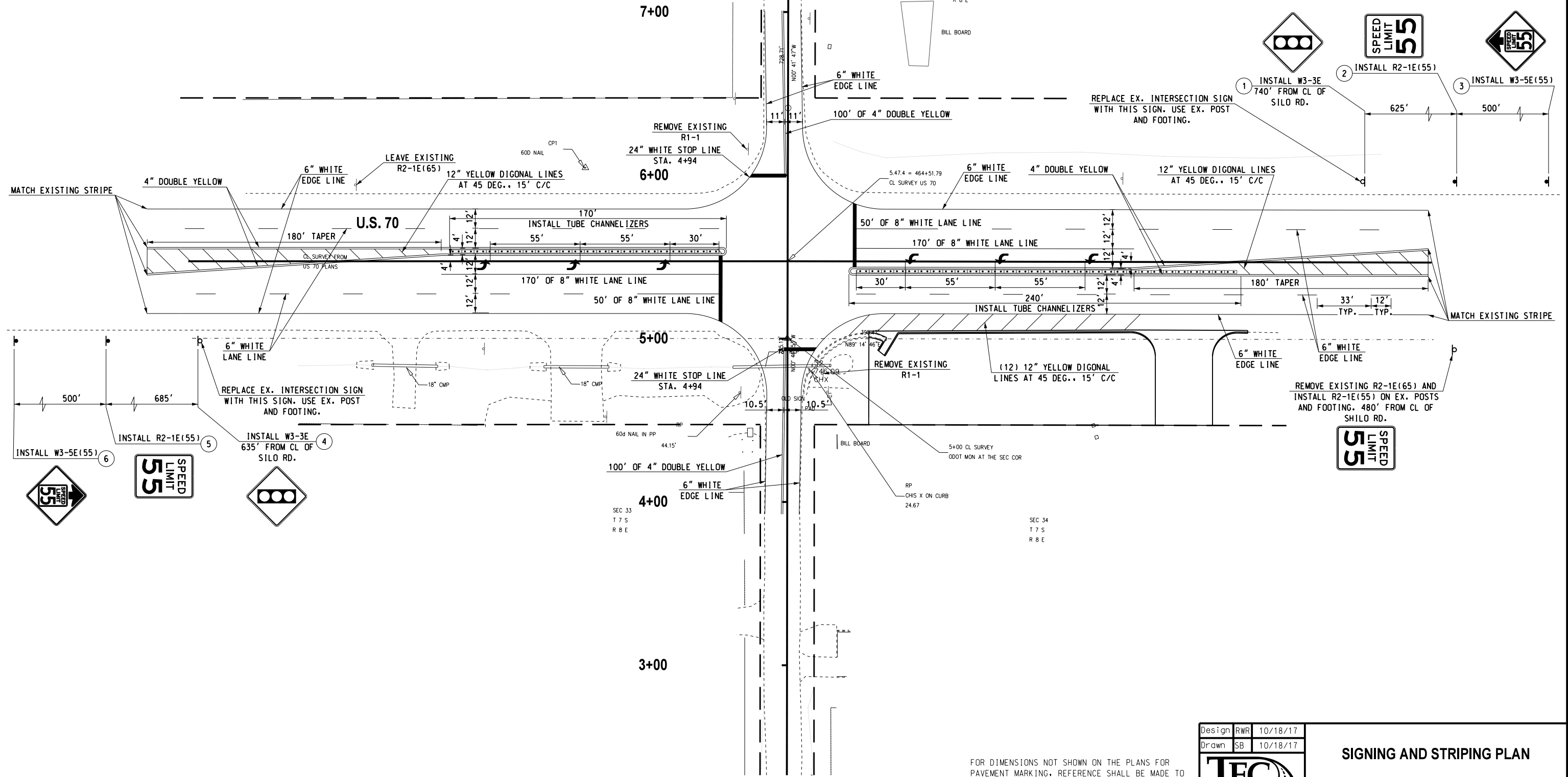
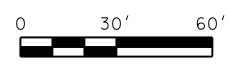
Design	RWR	10/18/17
Drawn	SB	10/18/17



SIGNAL WIRING DIAGRAM

REVISIONS		
NO.	DESCRIPTION	DATE
1	Multiple Revisions (Entire Sheet)	10/18/17

SIGN SUMMARY											
SHEET NO.	ITEM NO.	APPROXIMATE LOCATION FROM THE CENTERLINE OF SILO ROAD		SIGN TYPE	POSTS			SIGN AREA			REMARKS
					TYPE	A L.F.	B L.F.	SPACING	SHEET S.F.	PANEL S.F.	
T004	1	740 FT. EAST	US 70	W3-3E				16.00			MOUNT ON EXISTING POSTS
T004	2	1365 FT. EAST	US 70	R2-1E(55)	2" SQ. TUBE POST	15.0	16.0	2'-0"	12.00		
T004	3	1865 FT. EAST	US 70	W3-5E(55)	2" SQ. TUBE POST	15.0	16.0	2'-4"	16.00		
T004	4	635 FT. WEST	US 70	W3-3E				16.00			MOUNT ON EXISTING POSTS
T004	5	1320 FT. WEST	US 70	R2-1E(55)	2" SQ. TUBE POST	15.0	16.0	2'-0"	12.00		
T004	6	1820 FT. WEST	US 70	W3-5E(55)	2" SQ. TUBE POST	15.0	16.0	2'-4"	16.00		
T004	7	480 FT. EAST	US 70	R2-1E(55)				12.00			MOUNT ON EXISTING POSTS
TOTAL					2" SQ. TUBE POST	124.0			100.00		



Design	RWR	10/18/17
Drawn	SB	10/18/17



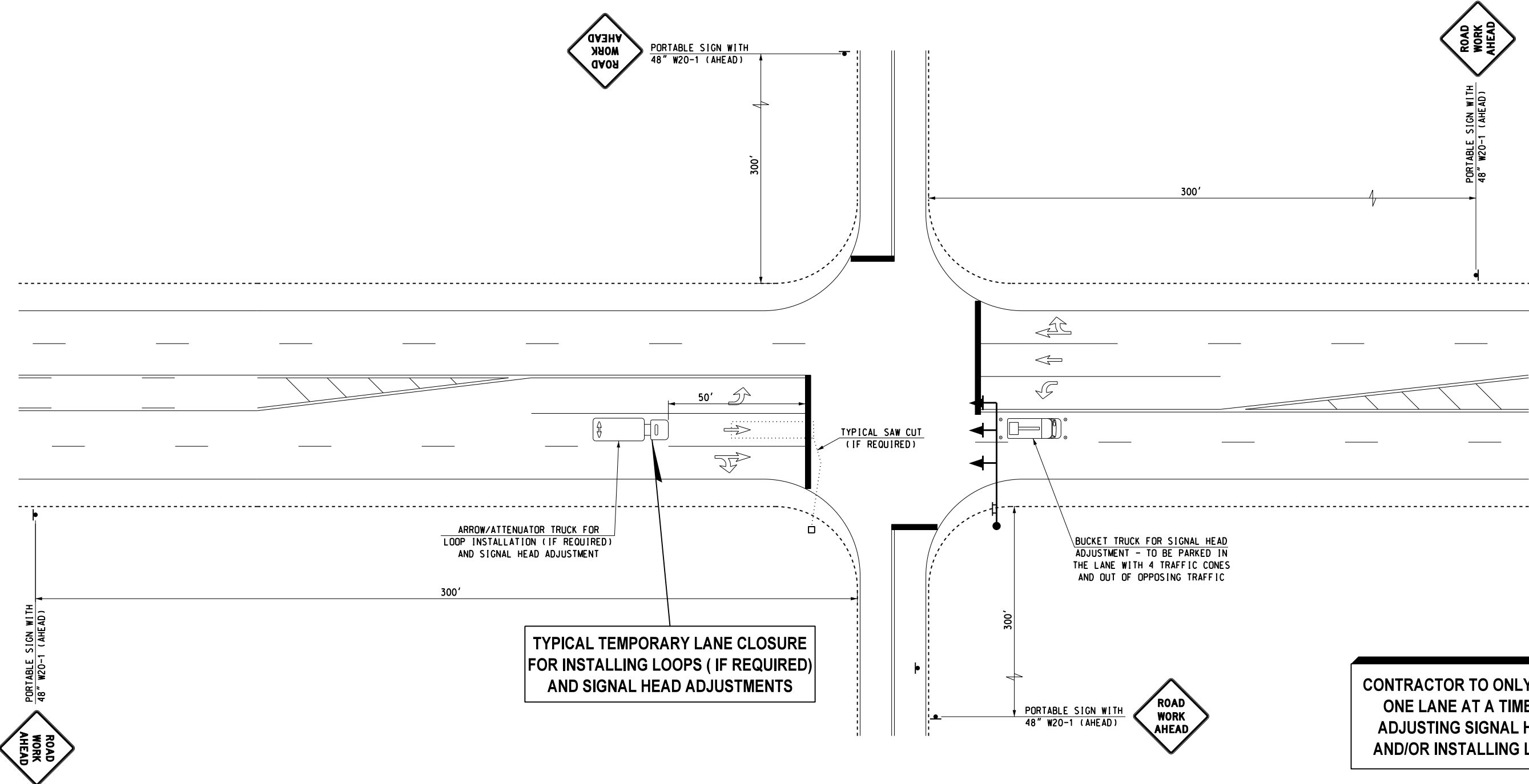
SIGNING AND STRIPING PLAN

State Job No. 33251(04) Sheet No. T004

FOR DIMENSIONS NOT SHOWN ON THE PLANS FOR PAVEMENT MARKING, REFERENCE SHALL BE MADE TO THE STANDARD O.D.O.T. DRAWINGS (LATEST REV.).

10/18/17 G:\V\Projects\T-2592 US 70 & Silo Rd Signal - ECIB5B.tosk 3\CAD\T004-33251(04)-STRIPING.dgn

REVISIONS		
NO.	DESCRIPTION	DATE
1	Multiple Revisions (Entire Sheet)	10/18/17



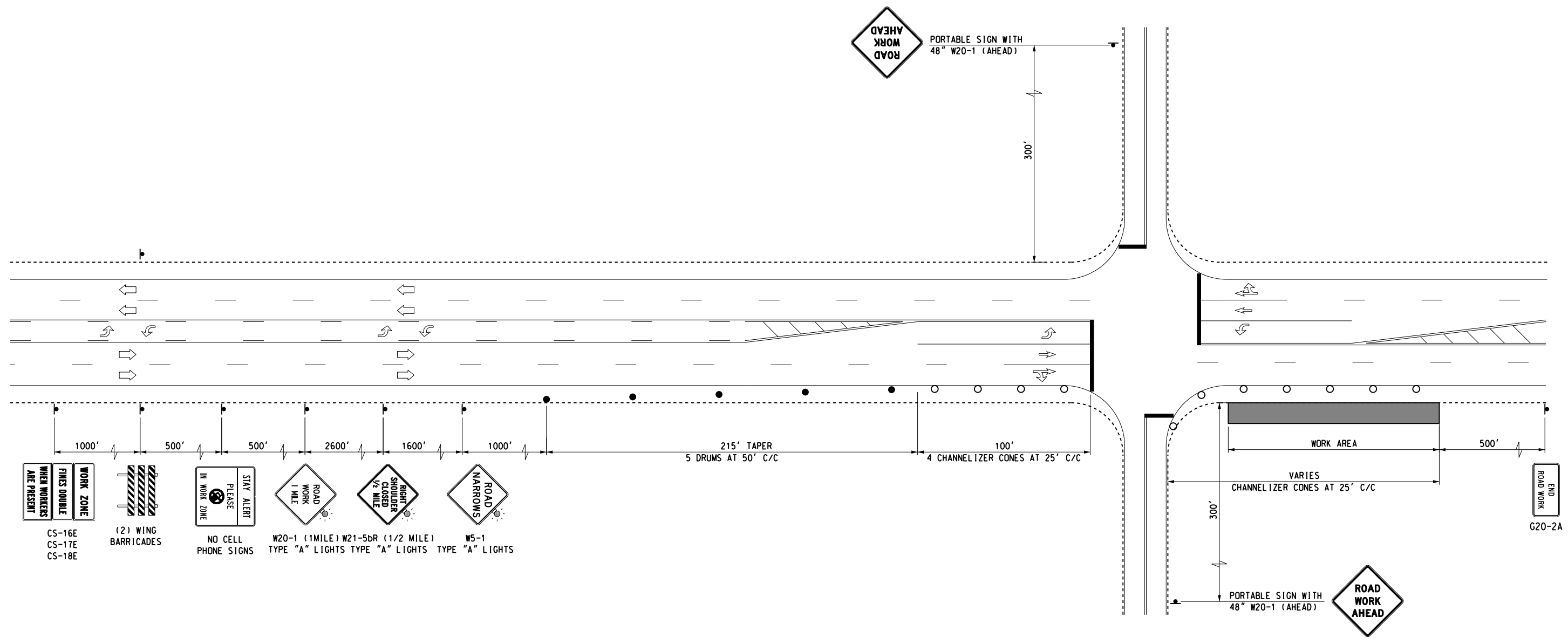
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Design	RWR	10/18/17
Drawn	SB	10/18/17



TYPICAL SIGNAL TRAFFIC CONTROL

REVISIONS		
NO.	DESCRIPTION	DATE
1	New Sheet	10/18/17



G:\Projects\17-2592 US 70 & Silo Rd Signal - EC185B.tsk 3\CAD\T006-33251(04)-TRAFFIC CONTROL SHOULDER CLOSURE.dgn 10/18/17

DRAWING NOT TO SCALE

Design	RWR	10/18/17
Drawn	CCC	10/18/17

TEC
A CLEAR DIRECTION

TYPICAL SHOULDER CLOSURE DETAIL

Sheet No. T006