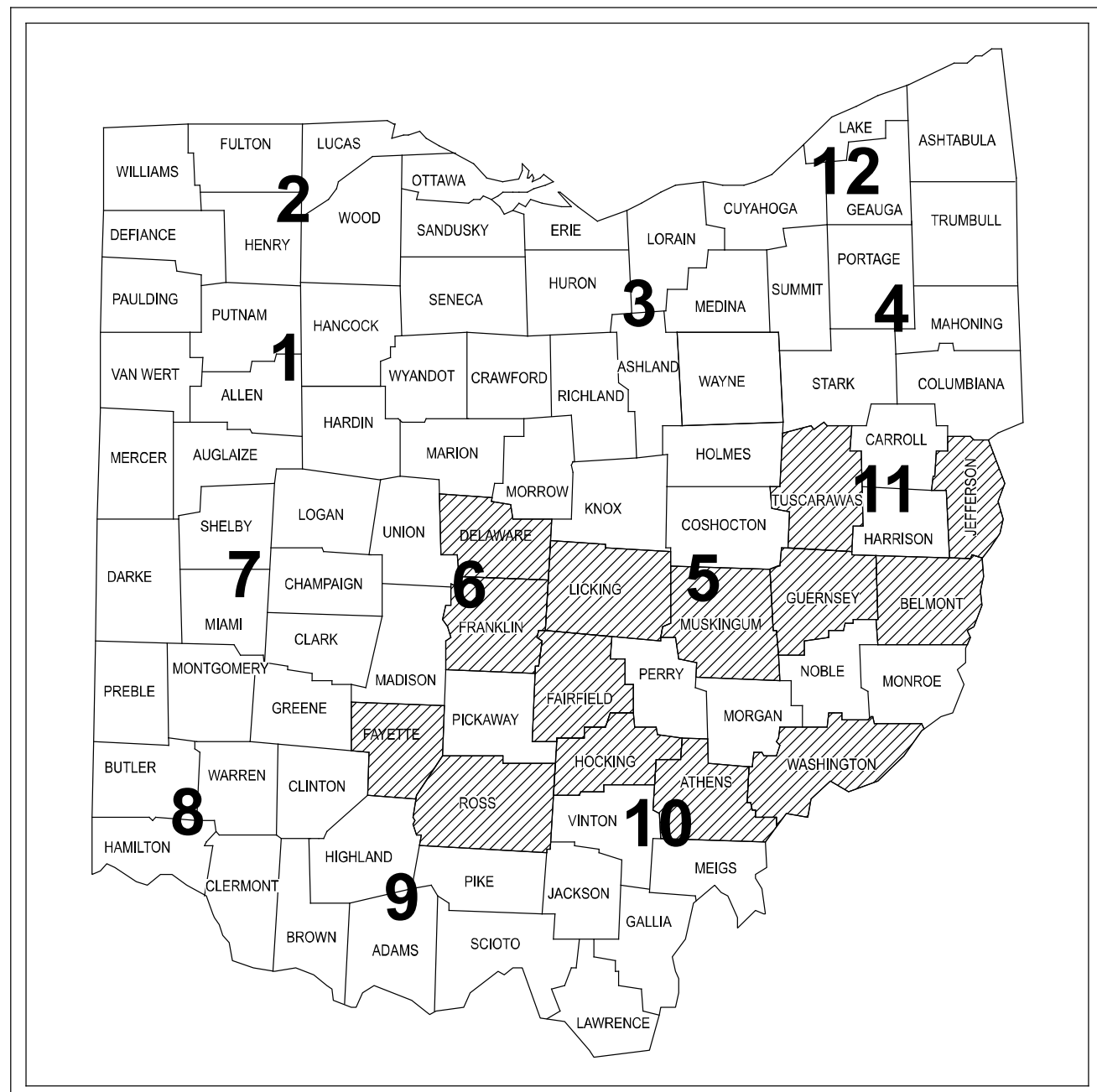


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Lighting Optimization SE Ohio

FAIRFIELD, FAYETTE, LICKING, GUERNSEY, MUSKINGHAM
FRANKLIN, ROSS, HOCKING, ATHENS, WASHINGTON
BELMONT, JEFFERSON, AND TUSCARWARWAS COUNTIES



LOCATION MAP

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FEDERAL PROJECT NUMBER

NON-FEDERAL

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

LIGHTING OPTIMIZATION AND UPGRADES FOR HIGH MAST AND LOW MAST LIGHTING UNITS IN DISTRICTS 5, 6, 9, 10, & 11. PROPOSED UPGRADES INCLUDE REPLACEMENT OF HIGH PRESSURE SODIUM FIXTURES WITH LED FIXTURES AND, IN SOME INSTANCES, REDUCING THE NUMBER OF FIXTURES REQUIRED ON HIGH MAST UNITS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A (MAINTENANCE)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A (MAINTENANCE)
NOTICE OF INTENT EARTH DISTURBED AREA: NOI NOT REQUIRED

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

DESIGN DESIGNATION

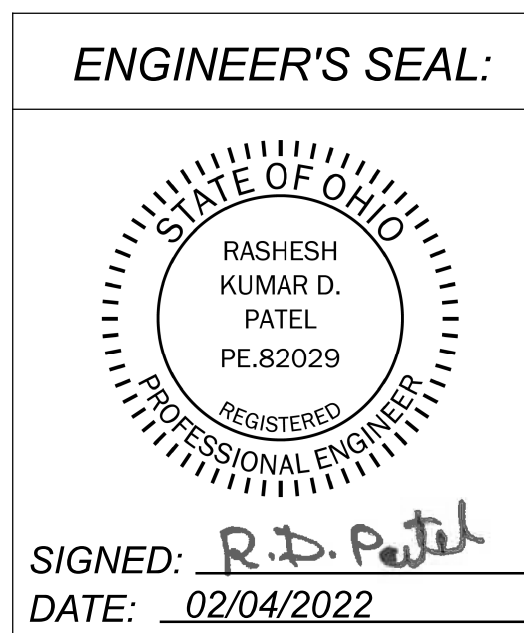
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DESIGN EXCEPTIONS

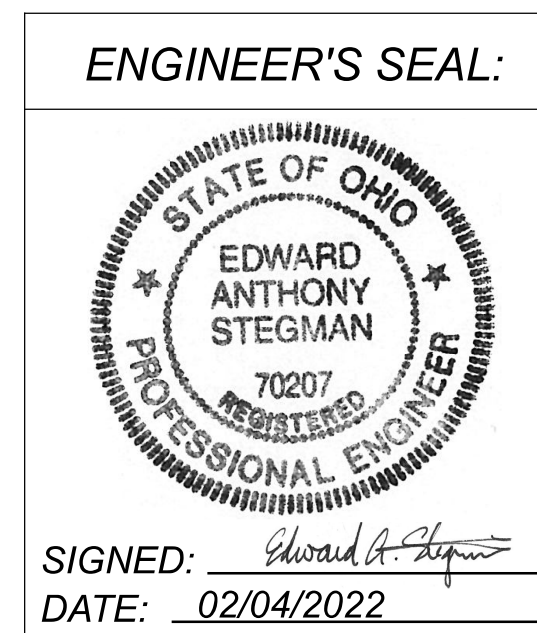
NONE REQUIRED

ADA DESIGN WAIVERS

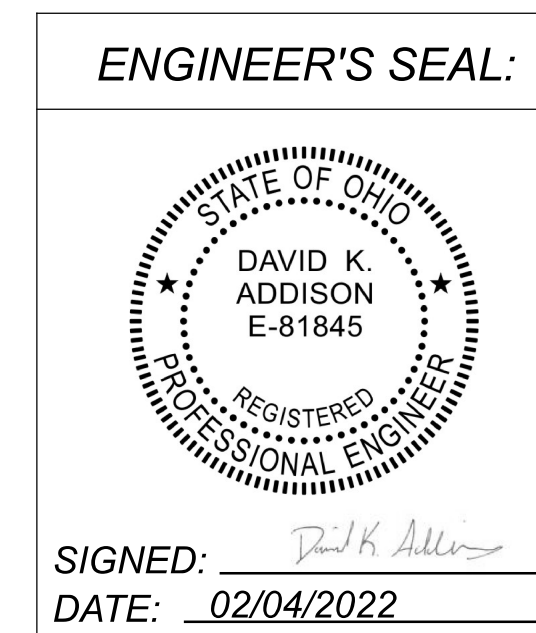
NONE REQUIRED



SIGNATURE AND SEAL APPLY TO SHEETS WITH SINGH & ASSOCIATES LOGO IN BORDER



SIGNATURE AND SEAL APPLY TO SHEETS WITH KZF DESIGN LOGO IN BORDER



SIGNATURE AND SEAL APPLY TO SHEETS WITH JOHNSON, MIRMIRAN, & THOMPSON INC. LOGO IN BORDER

APPROVED: *Jason Z. Stuyver*
DATE: 2/3/2022 DISTRICT 5 DEPUTY DIRECTOR

APPROVED: *GC*
DATE: 2/4/22 DISTRICT 6 DEPUTY DIRECTOR

APPROVED: *Michael J. ...*
DATE: 02/04/2022 DISTRICT 9 DEPUTY DIRECTOR

APPROVED: *Darla Miller*
DATE: 2/4/2022 DISTRICT 10 DEPUTY DIRECTOR

APPROVED: *Thomas D. Coay*
DATE: 2/4/2022 DISTRICT 11 DEPUTY DIRECTOR

APPROVED: *Jackie ...*
DATE: 3/21/22 DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
HL-10.31	4/17/20			800	1/21/22
MT-95.30	7/19/19			813	10/19/18
MT-95.31	7/19/19			821	4/20/12
MT-95.32	4/19/19			832	10/19/18
MT-95.45	1/17/20			913	4/16/21
MT-95.60	4/19/19			921	4/20/12
MT-95.61	4/19/19				
MT-98.10	1/17/20				
MT-98.11	1/17/20				
MT-98.20	4/19/19				
MT-98.22	1/17/20				
MT-98.28	1/17/20				
MT-105.10	1/17/20				

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

Lighting Upgrade FY2021

MODEL: Sheet PAPER SIZE: 34x22 (in.) DATE: 2/4/2022 TIME: 3:40:06 PM USER: vnuñez pvc:\ohiodot-pw-bentley.com\ohiodot-pw-02\Documents\01 Active Projects_Statewide\Statewide\112676\6401-Engineering_Singh\Associates\Lighting\Sheets\112676_GT001.dgn

LIGHTING TITLE SHEET

DESIGN AGENCY

SINGH
SINGH + ASSOCIATES, INC.
CONSULTING ENGINEERS

DESIGNER: VN

REVIEWER: SG 01/07/22

PROJECT ID: 112676

SHEET TOTAL: P.1 197

ITEM 625, REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN (A)

THIS ITEM SHALL CONSIST OF REPLACING GALVANIZED LOWERING CABLES WITH STAINLESS STEEL FOR HIGH MAST LIGHTING TOWERS WITH **FUNCTIONAL** LOWERING DEVICES AS IDENTIFIED IN THE PLANS OR BY DISTRICT PERSONNEL.

THE CONTRACTOR SHALL CONTACT HOLOPHANE FOR THE RECOMMENDED PROCEDURE TO REPLACE THE LOWERING CABLES. EACH TOWER HAS THREE CABLES THAT WILL BE REPLACED. THE CONTRACTOR CREW LEADER SHALL BE PRESENT DURING ALL CABLE REPLACEMENTS INCLUDING THE REPLACEMENTS WITH A HOLOPHANE REPRESENTATIVE PRESENT.

AFTER INSTALLATION, THE LOWERING CABLES SHALL BE TESTED ACCORDING TO 625.19E WITH AN ODOT REPRESENTATIVE PRESENT. THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES FOUND DURING TESTING.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH TOWER AND SHALL INCLUDE ALL LABOR AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 625, REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN (B)

THIS ITEM SHALL CONSIST OF REPLACING GALVANIZED LOWERING CABLES WITH STAINLESS STEEL FOR HIGH MAST LIGHTING TOWERS WITH **NON-FUNCTIONAL** LOWERING DEVICES THAT WILL REQUIRE THE TOWER TO BE LAID DOWN IN ORDER TO REPLACE CABLES AS IDENTIFIED IN THE PLANS OR BY DISTRICT PERSONNEL.

ALL REQUIREMENTS STATED IN "ITEM 625, REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN (A)" SHALL APPLY.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH TOWER AND SHALL INCLUDE ALL LABOR AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 625 - LIGHTING, MISC.: HOLOPHANE FIELD REPRESENTATIVE

THIS ITEM SHALL CONSIST OF THE PRESENCE OF A HOLOPHANE FIELD REPRESENTATIVE. THE HOLOPHANE FIELD REP SHALL BE PRESENT FOR THE FIRST TWO DAYS OF LOWERING CABLE REPLACEMENT. THE FIELD REP SHALL VERIFY THE PROPER PROCEDURE IS BEING FOLLOWED BY THE CONTRACTOR. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH DAY.

DISTRICT 5 (06/ERD/OT) - 20 HOUR
DISTRICT 10 (09/ERD/OT) - 20 HOUR
DISTRICT 11 (10/ERD/OT) - 20 HOUR

ITEM 625, LIGHTING, MISC.: TOWER LIFT CABLE INSPECTION AND LUBRICATION

THIS ITEM CONSISTS OF EXPOSING, INSPECTING, AND LUBRICATING A PARTICULARLY CORROSION-PRONE AREA OF CERTAIN HIGH MAST TOWER LIFT CABLES, ESPECIALLY THOSE THAT USE GALVANIZED LIFT CABLES THAT RUN THROUGH A GUIDE TUBE WHEN THEY PASS THROUGH THE HOLLOW AXIS OF THE CENTERING ARMS. THIS PARTICULAR METHOD OF LIFT CABLE CONSTRUCTION IS MOST COMMON IN HOLOPHANE BRAND LOWERING DEVICES. THE BRAND OF MANUFACTURE IS OFTEN PRESENTED ON A SMALL ALUMINUM TAG ATTACHED TO THE HOISTING WINCH GEARBOX.

THE CONTRACTOR MAY USE FACTORY-AUTHORIZED INSPECTION PROCEDURE, THE CONTRACTOR'S OWN ESTABLISHED AND DOCUMENTED INSPECTION PROCEDURE (WITH WRITTEN APPROVAL OF THE ENGINEER), OR THE WRITTEN PROCEDURE BELOW.

IT IS RECOMMENDED THAT THIS INSPECTION BE PERFORMED PRIOR TO INSTALLING NEW LED LUMINAIRES, IN CASE A SIGNIFICANT CABLE ISSUE IS FOUND AND THE ENGINEER DETERMINES THAT THE RING SHOULD NOT BE RAISED.

BELOW IS THE ODOT OFFICE OF ROADWAY ENGINEERING RECOMMENDED INSPECTION PROCEDURE TO CHECK FOR CORROSION AND SECTION LOSS IN THE GUIDE TUBE PORTION OF GALVANIZED WIRE ROPE LIFT CABLES ON HOLOPHANE LOWERING DEVICES (TYPICALLY MODEL LD05). THIS INSPECTION PROCEDURE ALSO INCLUDES ROUTINE LIFT CABLE LUBRICATION GUIDANCE.

1. LOWER THE DEVICE. STAND WELL BACK FROM THE TOWER BASE FOR SAFETY, IN CASE THE RING FALLS. THIS IS A GENERAL SAFETY REQUIREMENT FOR ALL HIGH MAST TOWER LD OPERATIONS. STOP LOWERING WHEN THE RING REACHES A GOOD WORKING HEIGHT.
2. CRIB UP THE DEVICE WITH A CAGE OR STILTS MADE FROM 2 X 4S, LARGE JACK STANDS, ETC. WITH THE RING AT A GOOD WORKING HEIGHT.
3. AFTER THE RING IS CRIBBED, START ADDING SMALL AMOUNTS OF SLACK TO THE WIRE ROPE ASSEMBLY WHILE PULLING DOWN ON THE ENDS OF THE LIFT CABLES WHERE THE STRAND VISE IS ATTACHED. MAINTAIN CONSTANT TENSION IN THE LIFT CABLES. THIS IS BEST DONE WITH 2-3 HELPERS PULLING THE CABLES DOWN, OR POSSIBLY BY ATTACHING WEIGHTS TO WIRE ROPE THE END LOOP COILS IF NECESSARY.
4. CONTINUE EXPOSING THE ENDS OF THE WIRE ROPE UNTIL THE ENTIRE PORTION THAT IS NORMALLY HIDDEN INSIDE THE AXIS OF THE GUIDE ARM MECHANISM IS EXPOSED, ABOUT 18-24 INCHES. BE AWARE THAT AT SOME POINT THE TRANSITION PLATE MAY HIT THE TOP OF THE TOWER, AT WHICH POINT NO MORE WIRE ROPE CAN BE PULLED DOWN BELOW THE RING.
5. KEEP A CLOSE EYE ON THE DRUM CABLE. IF THE DRUM CABLE STARTS TO GO SLACK, BE SURE TO PULL IT OUT OF THE DOOR AND MAINTAIN TENSION ON IT SO, THE ROLLS ON THE WINCH DRUM DO NOT LOOSEN OR GET CROSSED; THE WINDINGS ON THE DRUM SHOULD REMAIN NEAT AND TIGHTLY COILED.
6. SLIDE THE GUIDE TUBE UP TO EXPOSE THE PORTION OF WIRE ROPE NORMALLY INSIDE IT. THE TOP PORTION OF THE WIRE ROPE INSIDE THIS TUBE IS THE FOCUS OF THIS INSPECTION: A LOCATION SUBJECT TO CORROSION OF GALVANIZED LIFT CABLES.

ITEM 625, LIGHTING, MISC.: TOWER LIFT CABLE INSPECTION AND LUBRICATION (CONT'D)

7. USE A STIFF, NYLON-BRISTLE BRUSH TO CLEAN ANY LOOSE SCALE FROM THE WIRE ROPE. A SMALL AMOUNT OF SURFACE CORROSION IS EXPECTED WITH GALVANIZED WIRE ROPES AND MAY BE IGNORED. CLEAN THE INSIDE OF THE GUIDE TUBE, PREFERABLY WITH COMPRESSED AIR. REPORT TO THE ENGINEER ANY SIGNIFICANT CORROSION, BROKEN WIRES, OR OTHER LOSS OF SECTION IN THE WIRE ROPE. A MARLINSPIKE (E.G., MCMMASTER-CARR 3876T19) MAY BE USED TO SEPARATE THE STRANDS FOR CLOSE INSPECTION AT THE SUBJECT LOCATION. FOR REFERENCE, ODOT SPECS (725.21) CALL FOR WIRE ROPE COMPRISED OF 7 STRANDS OF 19 WIRES (7 X 19).
8. INSPECT ALL VISIBLE PORTIONS OF THE LIFT CABLES, NOT JUST THE NOTED LOCATION INSIDE THE GUIDE TUBE. REPORT TO THE ENGINEER ANY SIGNIFICANT CORROSION, BROKEN WIRES, OR OTHER LOSS OF SECTION IN THE WIRE ROPE. DO NOT RAISE THE LOWERING DEVICE IF THESE CONDITIONS ARE PRESENT, UNLESS AUTHORIZED TO DO SO BY THE ENGINEER, OR IF THE RING IS LOCATED IN AN AREA THAT IT WOULD PRESENT A HAZARD TO TRAFFIC IF LEFT IN THE LOWERED STATE.
9. CLEAN AND LUBRICATE ALL ACCESSIBLE PORTIONS OF THE LIFT CABLES AND DRUM CABLE. USE A LUBRICANT SUITABLE FOR APPLICATION TO WIRE ROPE (E.G., MCMMASTER-CARR 1242K14). FOR A STANDING TOWER, TYPICALLY ONLY THE UPPER AND LOWER PORTIONS OF THE LIFT CABLES WILL BE ACCESSIBLE FOR LUBRICATION, BUT THE DRUM CABLE CAN USUALLY BE LUBRICATED ENTIRELY AS PART OF THE INSPECTION PROCEDURE.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH TOWER AND SHALL INCLUDE ALL LABOR AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 625, LIGHTING, MISC.: TOWER LIFT CABLE INSPECTION

THIS ITEM CONSISTS OF EXPOSING AND INSPECTING HIGH MAST TOWER LIFT CABLES WHERE THEY PASS THROUGH THE HOLLOW AXIS OF THE CENTERING ARMS.

THE CONTRACTOR MAY USE FACTORY-AUTHORIZED INSPECTION PROCEDURE, THE CONTRACTOR'S OWN ESTABLISHED AND DOCUMENTED INSPECTION PROCEDURE (WITH WRITTEN APPROVAL OF THE ENGINEER), OR THE WRITTEN PROCEDURE BELOW.

IT IS RECOMMENDED THAT THIS INSPECTION BE PERFORMED PRIOR TO INSTALLING NEW LED LUMINAIRES, IN CASE A SIGNIFICANT CABLE ISSUE IS FOUND AND THE ENGINEER DETERMINES THAT THE RING SHOULD NOT BE RAISED.

1. LOWER THE DEVICE. STAND WELL BACK FROM THE TOWER BASE FOR SAFETY, IN CASE THE RING FALLS. THIS IS A GENERAL SAFETY REQUIREMENT FOR ALL HIGH MAST TOWER LD OPERATIONS. STOP LOWERING WHEN THE RING REACHES A GOOD WORKING HEIGHT.
2. CRIB UP THE DEVICE WITH A CAGE OR STILTS MADE FROM 2 X 4S, LARGE JACK STANDS, ETC. WITH THE RING AT A GOOD WORKING HEIGHT.
3. AFTER THE RING IS CRIBBED, START ADDING SMALL AMOUNTS OF SLACK TO THE WIRE ROPE ASSEMBLY WHILE PULLING DOWN ON THE ENDS OF THE LIFT CABLES WHERE THE STRAND VISE IS ATTACHED. MAINTAIN CONSTANT TENSION IN THE LIFT CABLES. THIS IS BEST DONE WITH 2-3 HELPERS PULLING THE CABLES DOWN, OR POSSIBLY BY ATTACHING WEIGHTS TO WIRE ROPE THE END LOOP COILS IF NECESSARY.
4. CONTINUE EXPOSING THE ENDS OF THE WIRE ROPE UNTIL THE ENTIRE PORTION THAT IS NORMALLY HIDDEN INSIDE THE AXIS OF THE GUIDE ARM MECHANISM IS EXPOSED, ABOUT 18-24 INCHES. BE AWARE THAT AT SOME POINT THE TRANSITION PLATE MAY HIT THE TOP OF THE TOWER, AT WHICH POINT NO MORE WIRE ROPE CAN BE PULLED DOWN BELOW THE RING.
5. KEEP A CLOSE EYE ON THE DRUM CABLE. IF THE DRUM CABLE STARTS TO GO SLACK, BE SURE TO PULL IT OUT OF THE DOOR AND MAINTAIN TENSION ON IT SO, THE ROLLS ON THE WINCH DRUM DO NOT LOOSEN OR GET CROSSED; THE WINDINGS ON THE DRUM SHOULD REMAIN NEAT AND TIGHTLY COILED.
6. SLIDE THE GUIDE TUBE UP TO EXPOSE THE PORTION OF WIRE ROPE NORMALLY INSIDE IT. THE TOP PORTION OF THE WIRE ROPE INSIDE THIS TUBE IS THE FOCUS OF THIS INSPECTION: A LOCATION SUBJECT TO CORROSION OF GALVANIZED LIFT CABLES.
7. USE A STIFF, NYLON-BRISTLE BRUSH TO CLEAN ANY LOOSE SCALE FROM THE WIRE ROPE. A SMALL AMOUNT OF SURFACE CORROSION IS EXPECTED WITH GALVANIZED WIRE ROPES AND MAY BE IGNORED. CLEAN THE INSIDE OF THE GUIDE TUBE, PREFERABLY WITH COMPRESSED AIR. REPORT TO THE ENGINEER ANY SIGNIFICANT CORROSION, BROKEN WIRES, OR OTHER LOSS OF SECTION IN THE WIRE ROPE.
8. INSPECT ALL VISIBLE PORTIONS OF THE LIFT CABLES, NOT JUST THE NOTED LOCATION INSIDE THE GUIDE TUBE. REPORT TO THE ENGINEER ANY SIGNIFICANT CORROSION, BROKEN WIRES, OR OTHER LOSS OF SECTION IN THE WIRE ROPE. DO NOT RAISE THE LOWERING DEVICE IF THESE CONDITIONS ARE PRESENT, UNLESS AUTHORIZED TO DO SO BY THE ENGINEER, OR IF THE RING IS LOCATED IN AN AREA THAT IT WOULD PRESENT A HAZARD TO TRAFFIC IF LEFT IN THE LOWERED STATE.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH TOWER AND SHALL INCLUDE ALL LABOR AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

DESIGN AGENCY



DESIGNER
JSL


REVIEWER
KRD 04/22/22

PROJECT ID
112676

SHEET TOTAL
P.7A | 197

SHEET NUM.									PART.										ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
7	7A	8	10	11	12	13	14	14A	01/ERD/O T	02/ERD/O T	03/ERD/O T	04/ERD/O T	05/ERD/O T	06/ERD/O T	07/ERD/O T	08/ERD/O T	09/ERD/O T	10/ERD/O T							
LIGHTING																									
			555	1,504	18	118	102		555	1,504	18	118	102							625	26263	2,297	EACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN, SYMETRICAL, 70-80K LUMENS, 480V	7
			12			3			12			3								625	26263	15	EACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN, SYMETRICAL, 60-69K LUMENS, 480V	7
			122	876	17	82	71		122	876	17	82	71							625	26263	1,168	EACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN, ASYMETRICAL, 70-80K LUMENS, 480V	7
			40	149					40	149										625	26263	189	EACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN, ASYMETRICAL, 60-69K LUMENS, 480V	7
			26						26											625	26263	26	EACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN, ASYMETRICAL, 50-59K LUMENS, 480V	7
187									38	127	2	11	9							625	26263	187	FACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN (FURNISH ONLY)	7
				177						177										625	26273	177	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, SYMETRICAL, 60-69K LUMENS, 480V	7
			4	149		35	7		4	149		35	7							625	26273	195	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, SYMETRICAL, 42-47K LUMENS, 480V	7
			5	3					5	3										625	26273	8	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, SYMETRICAL, 37-42K LUMENS, 480V	7
			31	11					31	11										625	26273	42	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, ASYMETRICAL, 42-47K LUMENS, 480V	7
			10	13					10	13										625	26273	23	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, ASYMETRICAL, 28-32K LUMENS, 480V	7
24									3	18		2	1							625	26273	24	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN (FURNISH ONLY)	7
			302	1,611	37	94	21		302	1,611	37	94	21							625	27600	2,065	EACH	LUMINAIRE, MISC.: LUMINAIRE GLASS, REFLECTOR, AND SOCKET REMOVED	7
			13	65	2	4	1		13	65	2	4	1							625	27600	85	EACH	LUMINAIRE, MISC.: COUNTERWEIGHT HIGH MAST	8
								102												625	50401	102	EACH	REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN (A)	7A
								5						10						625	50401	5	EACH	REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN (B)	7A
			805	2,861	35	238	180		805	2,861	35	238	180							625	75506	4,119	EACH	LUMINAIRE REMOVED	
			445	953		105	112		445	953		105	112							625	75507	1,615	EACH	LUMINAIRE REMOVED, AS PER PLAN	7
								12												625	98000	12	EACH	LIGHTING, MISC.: TOWER LIFT CABLE INSPECTION AND LUBRICATION	7A
								1,050							1,050					625	98000	1,050	EACH	LIGHTING, MISC.: TOWER LIFT CABLE INSPECTION	7A
	60													20						625	98700	60	HOUR	LIGHTING, MISC.: HOLOPHANE FIELD REPRESENTATIVE	7A
MAINTENANCE OF TRAFFIC																									
		1,568							256	1,008	16	112	176							614	11110	1,568	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
INCIDENTALS																									
									LS	LS	LS	LS	LS							614	11000	LS		MAINTAINING TRAFFIC	
									LS	LS	LS	LS	LS							624	10000	LS		MOBILIZATION	

DESIGN AGENCY



DESIGNER
JSL


REVIEWER
KRD 04/22/22

PROJECT ID
112676

SHEET TOTAL
P.9 | 197

LOCATION	SHEET NO.	DESCRIPTION	625	625	625	625														
			REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN (A) EACH	REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN (B) EACH	LIGHTING MISC.: TOWER CABLE INSEPECTION AND LUBRICATION EACH	LIGHTING MISC.: TOWER CABLE INSEPECTION EACH														
D05-01	15,18	I-70 AND S.R. 204/TAYLOR RD X-3,Q-11 (100') CONTINGENCY (LOCATIONS TO BE PROVIDED BY DISTRICT)		2																
D06	55-173	ALL TOWER LOCATIONS				1,050														
D09-56	174	US-35 AND S.R. 159 A-1 TO A-6, B-1 TO B-6 (100')			12															
D10-57	175-176	US-33 AND S.R. 78 B-1 TO B-8 (100')	8																	
D10-63	181	I-77 AND S.R. 7 A-1 TO A-8, B-3,B-7 TO B-10 (110') B-1, B-2 (120')	13 2																	
D10-65	183-185	S.R. 7 AND US-50/S.R. 339 A-A1 (80') A-A6,D-B1,D-B3,D-B5 TO D-B7 (100') A-A4,A-A5,A-A7,B-A2 TO B-A4,C-A1,C-A4,D-DB (110') D-A1 (110') A-A2,A-A3,A-B1,A-B3,B-A1,C-A2,D-B4 (120') A-B2,D-B2 (130') C-A3 (140')	1 6 9 7 2 1	1																
D11	186-197	ALL TOWER LOCATIONS WITH GALVANIZED CABLES (LOCATIONS TO BE PROVIDED BY DISTRICT) NOTE: ASSUME 100' TOWER HEIGHT IF NOT SPECIFIED	43	2																
TOTALS CARRIED TO GENERAL SUMMARY			102	5	12	1,050														

LIGHTING SUB-SUMMARY

DESIGN AGENCY	
	
DESIGNER	JSL
REVIEWER	KR D 04/22/22
PROJECT ID	112676
SHEET TOTAL	P.14A 197