GENERAL NOTES

633 CONTROLLER ITEM, MISC.: PREEMPTION

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION EQUIPMENT IN THE LOCATIONS AND LOCAL CONTROLLERS AS SHOWN IN THE PLANS.

THE PREEMPTION SHALL CONFORM TO O.D.O.T. SPECIFICATION 633 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED PRE-EMPTIONS PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE COMMUNICATIONS MEDIUM SHALL EMPLOY EITHER SOUND, LIGHT, OR RADIO DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH AN EMITTING DEVICE LOCATED ON THE EMERGENCY VEHICLE.

THE SYSTEM SHALL ACTIVATE THE PRE-EMPTION SEQUENCE BY APPLYING A SIGNAL TO ONE OF THE CONTROLLER'S PREEMPT DISCRETE INPUTS. THE SYSTEM SHALL BE COMPLETELY COMPATIBLE WITH THE NEMA CONTROLLER.

THE EQUIPMENT SHALL BE SHELF MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. THE EQUIPMENT SHALL BE SUPPLIED COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED.

THE SYSTEM SHALL BE CAPABLE OF PREEMPTING AND RECEIVING PRIORITY FOR EACH APPROACH TO THE INTERSECTION. IT SHALL BE POSSIBLE TO DETECT THE EMERGENCY VEHICLE UP TO 360 METERS FROM THE INTERSECTION.

EACH INTERSECTION SHOWN IN THE PLANS SHALL BE SUPPLIED WITH THE FOLLOWING COMPONENTS, EACH BID SEPARATELY:

1. PREEMPT DETECTORS
2. PRE-EMPTION DETECTOR CABLE
3. PREEMPT PHASE SELECTOR ASSEMBLY & INTERFACE WIRING PANEL
4. CONFIRMATION LIGHT

THE CITY SHALL BE SUPPLIED WITH THE EMITTERS, TRANSMITTERS, SWITCHES, WIRING AND ALL REQUIRED VEHICLE EQUIPMENT FOR THE FOLLOWING EMERGENCY FRONT LINE VEHICLES. THE CITY SHALL BE RESPONSIBLE FOR INSTALLING ALL VEHICLE EQUIPMENT.

1.	AMBULANCE AND EMT SERVICE	2 VEHICLES
2.	FIRE	8 VEHICLES
3.	POLICE	10 VEHICLES

IF A SOUND ACTIVATED SYSTEM IS SUPPLIED, THE CONTRACTOR SHALL INVENTORY THE FRONT LINE VEHICLES TO DETERMINE COMPATIBILITY OF THE SIRENS WITH THE SYSTEM. EACH VEHICLE THAT IS DETERMINED TO BE NOT COMPATIBLE SHALL BE SUPPLIED WITH NEW SIRENS AT COST INCIDENTAL TO THE SYSTEM.

THE CITY SHALL BE SUPPLIED WITH SOFTWARE REQUIRED TO CALIBRATE, LOG AND OPERATE THE SYSTEM. THE SOFTWARE SHALL BE CAPABLE OF OPERATING ON AN IBM OR IBM COMPATIBLE PERSONAL COMPUTER WITH DOS 3.0 OR HIGHER OPERATING SYSTEM. TWO (2) OPERATING AND INSTRUCTION MANUALS SHALL BE SUPPLIED WITH THE SOFTWARE. REVISIONS AND UP-DATES TO THE SOFTWARE SHALL BE AT NO COST TO THE CITY FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF INSTALLATION OF THE SYSTEM.

THE CONTRACTOR SHALL THOROUGHLY CHECK OUT THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER FOR EACH INTERSECTION. THE CONTRACTOR SHALL DETERMINE THAT ALL PHASE SELECTORS ARE SELECTING THE PROPER PHASE AND TIMING ACCURATELY. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

THE CONTRACTOR SHALL PROVIDE TRAINING FOR UP TO FIFTEEN (15) PERSONS IN THE OPERATION OF THE SYSTEM. IT SHALL BE PROVIDED WITHIN 48 HOURS OF THE INSTALLATION OF THE SYSTEM. IT SHALL CONSIST OF HANDS ON INSTRUCTION FOR A MINIMUM OF SIXTEEN (16) HOURS.

THE CONTRACTOR SHALL PROVIDE TRAINING FOR UP TO FOUR (4) PERSONS IN THE INSTALLATION AND MAINTENANCE OF THE SYSTEM. IT SHALL CONSIST OF A MINIMUM OF EIGHT (8) HOURS OF INSTRUCTION. TRAINING SHALL BE SUPPLIED WITHIN SEVEN (7) DAYS OF THE INSTALLATION OF THE SYSTEM.

ALL TRAINING SHALL BE HELD IN CITY SUPPLIED LOCATION. TRAINING SHALL BE CONDUCTED BY SOMEONE WHO HAS PERFORMED THIS WITHIN THE LAST YEAR AND DOES IT ON A REGULAR BASIS. THE COST OF TRAINING, INCLUDING COURSE MATERIAL, TRAVEL SUBSISTENCE AND RELATED COSTS, SHALL BE ENTIRELY BORN BY THE CONTRACTOR AND SHALL BE INCIDENTAL TO THE PREEMPTION EQUIPMENT.

PAYMENT FOR ITEM 633 CONTROLLER ITEM MISC.: PREEMPTION WILL BE MADE AT THE CONTRACT LUMP SUM PRICE FOR PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS EXCEPT FOR THOSE ITEMS BID SEPARATELY.

633 CONTROLLER ITEM, MISC.: PREEMPT DETECTOR

DETECTORS SHALL CONSIST OF A LIGHT WEIGHT, WEATHERPROOF AND DIRECTIONAL ASSEMBLY. EACH DETECTOR SHALL BE 360 DEGREE ADJUSTABLE. DETECTOR SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLER VIA THE PREEMPTION DETECTOR CABLE. DETECTORS SHOWN SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE.

PAYMENT FOR ITEM 633 CONTROLLER ITEM, MISC.: PREEMPT DETECTOR WILL BE AT THE CONTRACT UNIT PRICE FOR EACH DETECTOR IN PLACE, COMPLETELY INSTALLED AT THE LOCATION SHOWN IN THE PLANS, WIRED TESTED AND ACCEPTED

632 SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTOR CABLE IN THE LOCATIONS SHOWN IN THE PLANS. IT SHALL CONNECT THE PREEMPT DETECTORS TO THE PHASE SELECTORS IN THE LOCAL CONTROLLER CABINET.

PREEMPTION DETECTOR CABLE SHALL CONFORM TO O.D.O.T. SPECIFICATION 632. THE CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERIC TEMPERATURES AND STRESSES REASONABLY EXPECTED IN NORMAL INSTALLATIONS.

PAYMENT FOR 632 SIGNAL CABLE, MISC.: PREEMPT DETECTOR CABLE WILL BE MADE AT THE CONTRACT UNIT PRICE PER METER FOR THE CABLE FURNISHED, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

633 CONTROLLER ITEM, MISC.: PREEMPT PHASE SELECTOR

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT PHASE SELECTORS INCLUDING WIRING INTERFACE PANELS IN THE LOCAL CONTROLLER CABINET, AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTORS COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE LOCAL CONTROLLER CABINETS WHERE INDICATED IN THE PLANS.

THE PHASE SELECTORS SHALL CONSIST OF A MODULE OR MODULES THAT WILL PROVIDE THE NECESSARY INPUTS TO THE CONTROLLER. PHASE SELECTORS SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF CHANNELS TO PROVIDE PREEMPTION FOR ALL APPROACHES TO THE INTERSECTION SEPARATELY. POWER SHALL BE OBTAINED FROM THE PHASE SELECTOR OR PHASES SELECTOR POWER SUPPLY AND NOT FROM THE LOCAL CONTROLLER TIMER.

THE PHASE SELECTORS SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS. IT SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

PAYMENT FOR ITEM 633 CONTROLLER ITEM, MISC.: PREEMPT PHASE SELECTOR, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PHASE SELECTOR IN PLACE, COMPLETELY INSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

633 CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT CONFIRMATION LIGHT INCLUDING MOUNTING HARDWARE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL BE SUPPLIED FOR EACH INTERSECTION TO INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL.

THE CONFIRMATION LIGHT SHALL BE A VAPOR TIGHT ALUMINUM LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A BLUE COLORED GLOBE, 150 WATT INCANDESCENT LAMP AND MOUNTING HARDWARE TO ATTACH TO THE TRAFFIC SIGNAL MAST ARM. THE CONFIRMATION LIGHT SHALL BE POWERED BY A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER.

PAYMENT FOR ITEM 633 CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH LIGHT IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

633 CONTROLLER ITEM MISC.: SYSTEM TIMING AND EVALUATION

THE PURPOSE OF THIS WORK IS TO FURNISH ALL MATERIALS, LABOR, TOOLS AND EQUIPMENT NECESSARY TO PLACE INTO FULL OPERATION A TRAFFIC RESPONSIVE, CLOSED LOOP TRAFFIC SIGNAL COORDINATION SYSTEM.

THIS WORK SHALL CONSIST OF PREPARING SIGNAL TIMING AND TRAFFIC PROGRESSION PROGRAMS, LOADING THE PROGRAMS INTO THE SIGNAL SYSTEM, EVALUATING THE PERFORMANCE OF THE SYSTEM AND REFINING THE PROGRAMS AS NECESSARY TO OPTIMIZE TRAFFIC FLOW AND OPERATION. THE WORK SHALL INCLUDE TRAFFIC DATA COLLECTION AND EVALUATION, TRAFFIC SIGNAL PROGRESSION AND TIMING ANALYSIS, DEVELOPMENT OF TRAFFIC ADJUSTED PATTERN SELECTION PARAMETERS, PERFORMING THE SYSTEM EVALUATION AND REFINEMENT OF THE SYSTEM OPERATION AND PREPARING AND SUBMITTING A SUMMARY REPORT FOR REVIEW AND APPROVAL BY THE ENGINEER.

WHERE A PROJECT CONTAINS INDIVIDUAL "SUB-SYSTEMS" THAT ARE CONNECTED TO THE CENTRAL OFFICE MONITOR (VIA INDIVIDUAL PHONE DROPS), ALL WORK AS OUTLINED IN THIS NOTE SHALL BE PERFORMED FOR EACH SUB-SYSTEM. IF REQUIRED, SIGNAL "SUB-SYSTEMS" SHALL BE ANALYZED TOGETHER AND TRAFFIC PROGRESSION PROGRAMS SHALL BE COORDINATED TO OPTIMIZE THE OVERALL TRAFFIC FLOW BETWEEN VARIOUS SUB-SYSTEMS.

IT IS THE INTENT OF THIS ITEM OF WORK TO OPTIMIZE ONLY CYCLE LENGTHS, PHASE SPLITS, PERMISSIVES AND OFFSETS AND NOT TO CHANGE THE ACTUAL PHASING (AS DEPICTED IN THE PHASE DIAGRAM) THAT IS PROVIDED IN THE PLAN.

THE WORK SHALL BE PERFORMED BY OR UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER. THE ENGINEER SHALL HAVE A MINIMUM OF FIVE (5) YEARS EXPERIENCE IN TRAFFIC ENGINEERING AND SHALL BE KNOWLEDGEABLE WITH THE DESIGN AND OPERATION OF "CLOSED LOOP" TRAFFIC CONTROL AND SURVEILLANCE SYSTEMS. THE SYSTEMS ENGINEER SHALL BE FAMILIAR WITH THE SYSTEM USED ON THIS PROJECT AND SHALL PREVIOUSLY SET UP AND FINE TUNE A SYSTEM OF THIS TYPE.

CALCULATED | CHECKED

GENERAL NOTES

LAKE COUNTY
LAK-20-22.916/VARIOUS