

NORTH CAROLINA  
COUNTY OF ORANGE

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
AND THE  
TOWN OF CHAPEL HILL

**MUNICIPAL MAINTENANCE AGREEMENT**

TRAFFIC SIGNALS  
2.7950068

**THIS AGREEMENT**, made and entered into this the \_\_\_\_\_ day of \_\_\_\_\_, 2003, between the DEPARTMENT OF TRANSPORTATION, an agency of the State of North Carolina, hereinafter referred to as the Department, and the TOWN OF CHAPEL HILL, a municipal corporation, hereinafter referred to as the Municipality,

**WITNESSETH:**

**WHEREAS**, the Department and the Municipality, have a mutual interest in the efficient and effective operation of traffic signals within the Municipalities of Chapel Hill and Carrboro (including signals in Durham County which are part of the Chapel Hill Signal System),

**WHEREAS**, the provisions of the North Carolina General Statutes 136-66.1 and 136-18, authorize the Municipality to contract with the Department for the installation, repair and maintenance of highway signs and markings, electric traffic signals and other traffic control devices on State Highway System streets within the Municipalities of Chapel Hill and Carrboro and,

**WHEREAS**, the Department finds it desirable and advantageous to enter into a Cost Reimbursement Agreement with the Municipality under which the Municipality maintains and operates traffic signals at certain intersections which are on the State's Highway System within or near the Municipalities of Chapel Hill and Carrboro,

**WHEREAS**, the Municipality finds that it is in the best public interest to maintain and operate traffic signals at certain intersections which are on the State's Highway System within or near the Municipalities of Chapel Hill and Carrboro,

**NOW, THEREFORE**, the Department and the Municipality do hereby agree as follows:

1. The Municipality shall maintain and operate the traffic signals as indicated hereinafter.
  - A. The Department and the Municipality recognize that each party to this Agreement has an obligation and responsibility to provide for the safe, orderly, and efficient flow of traffic on their respective street systems.
  - B. The operation and maintenance of intersections on the State Highway System, both at the hardware and software levels, will be subject to the approval of the Department and will reflect the needs of traffic on both the State Highway System and the Town System. In the event the Department and the Municipality cannot agree on issues affecting the operation and maintenance of these intersections, the decision of the Department will be final.
2. The Department shall reimburse the Municipality based on an annual amount for the operation and maintenance of the traffic signals. The Department shall be billed quarterly by the Municipality at the Division Office for the maintenance and operation of traffic signals as indicated in the attached Schedule "C". Upon the presentation of an itemized quarterly invoice, the Department will pay for the cost of operating and maintaining traffic signals as indicated in Schedule "C". Beginning on July 1, 2003, the reimbursement rates shown on the attached Schedule "C" may be increased three (3) percent each annum in consideration of recent inflation rates and work performance.
3. This Agreement shall be in full force and effect on the first day of the month following the date that this agreement is executed by the Department and the Municipality, but it may be modified by mutual agreement of the parties. Either party may terminate the said agreement upon 30 days written notice.

4. This Agreement shall be for a period of one (1) year. At the end of the year, the provisions and quality of results may be reviewed by the Department and the Municipality. Any extensions will be contingent upon the increase of NCDOT maintenance funds by the General Assembly and may be made in one (1) year increments, incorporating any mutually agreed upon adjustments, up to a total duration of five years.
5. The Municipality shall keep and maintain all cost records and supporting documentation for the work for which they bill the Department and shall make such information available to the Department upon request for audit for a period of three (3) years after closing of each fiscal year.
6. The Municipality agrees to an annual audit of the performance of intersection equipment and systems. The audit is to be performed by the Department and the Municipality.
7. The Municipality shall not install any traffic control devices on any State Highway System street, which have not been approved by the Department pursuant to North Carolina General Statutes 20-169.
8. The Municipality agrees not to make any traffic signal phasing changes on the State Highway System without prior approval of the Department.
9. The Municipality shall maintain and operate the traffic signals in accordance with North Carolina General Statutes, the Department's current policies and guidelines, and all local codes and ordinances. If, in the opinion of the Department, the Municipality does not maintain the traffic signals in accordance with the specified criteria, the Department shall have the right to terminate this agreement.

IN WITNESS WHEREOF, this Agreement has been executed the day and year heretofore set out, in triplicate, on the part of the Department and the Municipality by authority duly given, as evidenced by the attached certified copy of Resolution, Ordinance or Charter Provision, as the case may be.

"TOWN"

"DEPARTMENT"

TOWN OF CHAPEL HILL, NC

DEPARTMENT OF TRANSPORTATION

By: \_\_\_\_\_

By: \_\_\_\_\_

Typed Name: W. CALVIN HORTON

Typed Name: \_\_\_\_\_

Title: TOWN MANAGER

Title: STATE HIGHWAY ADMINISTRATOR

Attest:

Attest:

By: \_\_\_\_\_

By: \_\_\_\_\_

Typed Name: JOYCE SMITH

Typed Name: \_\_\_\_\_

Title: TOWN CLERK

Title: \_\_\_\_\_

[CORPORATE SEAL]

[CORPORATE SEAL]

APPROVED AS TO FORM: \_\_\_\_\_  
ASSISTANT ATTORNEY GENERAL

APPROVED AS TO FORM: \_\_\_\_\_  
TOWN ATTORNEY

THIS INSTRUMENT HAS BEEN PRE-AUDITED IN THE MANNER REQUIRED BY THE LOCAL GOVERNMENT BUDGET AND FISCAL CONTROL ACT.

\_\_\_\_\_  
FINANCE DIRECTOR

\_\_\_\_\_  
PUBLIC WORKS DIRECTOR

**COPY OF RESOLUTION PASSED BY THE TOWN COUNCIL OF  
THE TOWN OF CHAPEL HILL, NORTH CAROLINA**

A motion was made by \_\_\_\_\_ and seconded by \_\_\_\_\_ for the adoption of the following Resolution, and upon being put to a vote was duly adopted:

WHEREAS, the Department and the Municipality, have a mutual interest in the efficient and effective operation of traffic signals within the Municipalities of Chapel Hill and Carrboro and,

WHEREAS, the provisions of the North Carolina General Statutes 136-66.1 and 136-18, authorize the Municipality to contract with the Department for the installation, repair and maintenance of highway signs and markings, electric traffic signals and other traffic control devices on State Highway System streets within the Municipalities of Chapel Hill and Carrboro and,

WHEREAS, the Department and the Municipality propose to enter into an Agreement for the maintenance of traffic signals which are on the State Highway system; and,

WHEREAS, the Municipality has agreed to maintain and operate the traffic signals which are a part of the State Highway System within the Municipalities of Chapel Hill and Carrboro, subject to reimbursement by the Department as set forth in this Agreements; and,

WHEREAS, this Agreement shall cover the maintenance and operation of the traffic signals for the period from July 1, 2003, through June 30, 2004, with mutually agreed upon extensions being made in one (1) year increments, up to a total duration of five (5) years.

**NOW, THEREFORE, BE IT RESOLVED** that this Agreement is hereby formally approved by the Town Council of the Town of Chapel Hill and that the Town Manager and Clerk of this Municipality are hereby empowered to sign and execute the Agreement between the Town of Chapel Hill and the Department of Transportation.

I, \_\_\_\_\_, Clerk of the Town of Chapel Hill do hereby certify that the foregoing is a true and correct copy of excerpts from the Minutes of the meeting of the Town Council duly held on the \_\_\_\_ day of \_\_\_\_\_, 2003.

WITNESS, my hand and the official seal of said Municipality on this the \_\_\_\_ day of \_\_\_\_\_, 2003.

CLERK (Seal)

\_\_\_\_\_  
CLERK TOWN OF CHAPEL HILL

NORTH CAROLINA

**MUNICIPAL MAINTENANCE AGREEMENT - TRAFFIC CONTROL DEVICES**  
**SCHEDULE C - SIGNALS - LEVEL F (Page1)**

The Board of Transportation will reimburse the Municipality for maintenance of traffic signals on the following schedule.

Place a check beside the value for each maintenance function(s) the Municipality agrees to perform under any line item if all maintenance functions are not selected.

Place a check beside the value under "Total Maintenance" if the Municipality is to perform all maintenance functions for any line item.

Item	Emergency Maintenance	Preventive Maintenance	Bench Maintenance	Total Maintenance
A. Vehicular Signal Section(Average of 10 heads/int. or 30 section/int.)	<input type="checkbox"/> \$1.16	<input type="checkbox"/> \$4.75	<input type="checkbox"/>	<input type="checkbox"/> \$5.91
B. Pedestrian Signal Head(Average of 4 heads/int.)	<input type="checkbox"/> \$2.89	<input type="checkbox"/> \$9.63	<input type="checkbox"/>	<input type="checkbox"/> \$12.52
C. Fiber-Optic Blank-out Sign	<input type="checkbox"/> \$11.56	<input type="checkbox"/> \$7.70	<input type="checkbox"/>	<input type="checkbox"/> \$19.26
D. Pretimed Electronic Controller/Cabinet	<input type="checkbox"/> \$69.34	<input type="checkbox"/> \$46.22	<input type="checkbox"/> \$210.00	<input type="checkbox"/> \$325.56
E. 2-8 Assigned Phase Actuated Controller/Cabinet	<input type="checkbox"/> \$69.34	<input type="checkbox"/> \$134.82	<input type="checkbox"/> \$250.00	<input type="checkbox"/> \$454.16
F. 2-8 Assigned Phase Actuated Controller/Cabinet with Machine-vision Detection	<input type="checkbox"/> \$69.34	<input type="checkbox"/> \$134.82	<input type="checkbox"/> \$750.00	<input type="checkbox"/> \$954.16
G. Flashing Beacon Controller/Cabinet	<input type="checkbox"/> \$11.56	<input type="checkbox"/> \$38.52	<input type="checkbox"/>	<input type="checkbox"/> \$50.08
H. Travel Costs for Preventive Maintenance at Signalized Intersections(not Flashers)	<input type="checkbox"/>	<input type="checkbox"/> \$14.45	<input type="checkbox"/>	<input type="checkbox"/> \$14.45

MUNICIPAL MAINTENANCE AGREEMENT - TRAFFIC CONTROL DEVICES  
SCHEDULE C - SIGNALS - LEVEL F (Page 2)

Item	Lump Sum Payment
AA. Replace Loop (includes labor, materials, and other costs for sawcutting and sealing) <sup>1</sup>	\$4.50 per foot of sawcut
AB. Furnish and install Lead-in Cable	\$1.50 per foot installed
AC. Furnish Single Channel Loop Detector Unit <sup>2</sup>	\$100.00
AD. Furnish Two-Channel Loop Detector Unit <sup>2</sup>	\$160.00
AE. Furnish and install Pull Box	\$150.00
AF. Furnish and install Pull Box Cover	\$55.00
AG. Furnish and install Conduit	\$3.50 per foot installed
AH. Furnish and install Riser	\$200.00
AI. Furnish and install 35-foot Wood Pole <sup>2</sup>	\$500.00
AJ. Furnish and install 40-foot Wood Pole <sup>2</sup>	\$550.00
AK. Furnish and install Guy/Anchor Assembly	\$200.00
AM. Furnish and install Audible Pedestrian Signal <sup>2</sup>	\$400.00
AN. Furnish 12-inch 3-Section Vehicular Signal Head <sup>2</sup>	\$128.10
AO. Furnish 12-inch 4-Section Vehicular Signal Head <sup>2</sup>	\$171.25
AP. Furnish 12-inch 5-Section Vehicular Signal Head <sup>2</sup>	\$260.00
AQ. Furnish 8-inch 3-Section Vehicular Signal Head <sup>2</sup>	\$94.00
AR. Furnish 8-inch 4-Section Vehicular Signal Head <sup>2</sup>	\$129.75

MUNICIPAL MAINTENANCE AGREEMENT - TRAFFIC CONTROL DEVICES  
SCHEDULE C - SIGNALS - LEVEL F (Page 3)

Item	Lump Sum Payment
AS. Furnish 8-inch 5-Section Vehicular Signal Head <sup>2</sup>	\$211.30
AT. Furnish Pedestrian Signal Head <sup>2</sup>	\$150.00
AU. Furnish LED Indication - 12-inch RED Ball <sup>2</sup>	\$75.00
AV. Furnish LED Indication - 12-inch YELLOW Ball <sup>2</sup>	\$130.00
AW. Furnish LED Indication - 12-inch GREEN Ball <sup>2</sup>	\$255.00
AX. Furnish LED Indication - 12-inch RED Arrow <sup>2</sup>	\$68.00
AY. Furnish LED Indication - 12-inch YELLOW Arrow <sup>2</sup>	\$78.00
AZ. Furnish LED Indication - 12-inch GREEN Arrow <sup>2</sup>	\$118.00
BA. Furnish LED Indication - 8-inch RED Ball <sup>2</sup>	\$50.00
BB. Furnish LED Indication - 8-inch YELLOW Ball <sup>2</sup>	\$90.00
BC. Furnish LED Indication - 8-inch GREEN Ball <sup>2</sup>	\$130.00
BD. Furnish and install Grounding System	\$225.00
BE. Furnish Pretimed/Actuated Controller <sup>2</sup>	\$1,200.00
BF. Furnish Pole-Mounted Cabinet <sup>2</sup>	\$3,695.00
BG. Furnish Base-Mounted Cabinet <sup>2</sup>	\$5,251.00
BH. Furnish Fiber-Optic Blank-Out Sign <sup>2</sup>	\$1,600.00

**MUNICIPAL MAINTENANCE AGREEMENT - TRAFFIC CONTROL DEVICES  
SCHEDULE C - SIGNALS - LEVEL F (Page 4)**

Item	Lump Sum Payment
BI. Furnish 3-channel NEMA-Plus Conflict Monitor <sup>2</sup>	<input type="checkbox"/> \$217.00
BJ. Furnish 6-channel NEMA-Plus Conflict Monitor <sup>2</sup>	<input type="checkbox"/> \$413.00
BK. Furnish 12-channel NEMA-Plus Conflict Monitor <sup>2</sup>	<input type="checkbox"/> \$507.00
BL. Furnish NEMA TS-2 Malfunction Management Unit <sup>2</sup>	<input type="checkbox"/> \$613.00
BM. Furnish Type 210 Conflict Monitor with Absence of Red Monitoring <sup>2</sup>	<input type="checkbox"/> \$425.00
BN. Furnish Detection Camera/Sensor with Enclosure <sup>2</sup>	<input type="checkbox"/> \$1,500.00
BO. Perform Annual Inspection on Railroad-Interconnected Intersections	<input type="checkbox"/> \$181.00

<sup>1</sup> Replacement of defective loop with loop of identical or upgraded design requires no prior approval. Upgrading of functional rectangular loops to Quadrapole design requires prior approval from Division Traffic Engineer.

<sup>2</sup> Requires prior approval from Division Traffic Engineer for reimbursement of non-emergency replacements. If item is covered under warranty, Municipality will not be reimbursed without prior approval from Division Traffic Engineer.

**Emergency Maintenance:** This maintenance includes all labor and incidental items to bring the operation of the intersection into reasonable conformance with the existing plan of record. Reimbursements for items AA through BN will be given for items utilized in the completion of this work. Sufficient spare equipment must be purchased at the expense of the maintaining agency to insure all intersections are continuously operating according to the plan of record.

**Preventive Maintenance:** This maintenance includes the labor and materials as outlined in the attached Schedule of Preventive Maintenance. *Reimbursements for items AA through BN will be given for items utilized in the completion of this work only upon prior approval by the Division Traffic Engineer.* Where specialty equipment is not addressed specifically in the attached schedule, manufacturer's recommendations should be followed to insure continued optimum operation. Sufficient spare equipment must be purchased at the expense of the maintaining agency to allow the completion of this work.

**Bench Maintenance:** This maintenance includes labor, parts and materials to repair electronic traffic signal control components. This work typically involves in-house repair of electronic assemblies by troubleshooting and replacing specific integrated circuit chips, repairing damaged printed circuit traces, and making circuit modifications. This work includes making hardware, firmware and software upgrades to equipment to insure optimum operation. This work must be completed in a timely manner to support the emergency and preventive maintenance functions.



**MUNICIPAL MAINTENANCE AGREEMENT - TRAFFIC CONTROL DEVICES  
 SCHEDULE C - SIGNALS - LEVEL F (Page 5)**

Items included on this schedule may be added or deleted to those checked above by a request in letter form signed by the Mayor, Clerk (or Manager). The letter should be sent in quadruplicate to the Division Engineer accompanied by four (4) copies of the SCHEDULE with all appropriate items checked. If the Division Engineer approves the new SCHEDULE he should sign, as approved, all four (4) copies of the Municipality's letter of request. The Division Engineer then forwards one copy of the letter and SCHEDULE to the DOT Controller and the State Traffic Engineer, returns a copy of each to the Municipality, and retains a copy of each for his file. The new SCHEDULE will then become effective at the beginning of the next quarter for reimbursement.

The Board of Transportation reserves the right of verification that all selected maintenance functions are being properly performed. If it is determined that any authorized maintenance function is not being performed, the reimbursement will be reduced accordingly.

\_\_\_\_\_ CITY OR TOWN

\_\_\_\_\_ CLERK DATE  
 \_\_\_\_\_ MAYOR OR MANAGER DATE

DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_ DIVISION ENGINEER DATE

**QUARTERLY REPORT**  
**Schedule "C" and "D"**  
**Traffic System Operations Program**

QUARTER FROM \_\_\_\_\_ TO \_\_\_\_\_

Date: \_\_\_\_\_

**TOTAL MUNICIPALITY CHARGES IN QUARTER: \$** \_\_\_\_\_

Labor: \$ \_\_\_\_\_

Material: \$ \_\_\_\_\_

Equipment: \$ \_\_\_\_\_

Total number of DOT signals maintained by Municipality: \_\_\_\_\_

**SCHEDULE "C"**

No. of intersections PM performed: \_\_\_\_\_

No. of intersections with Trouble Calls: \_\_\_\_\_

No. of intersections re-timed: \_\_\_\_\_

**SCHEDULE "D"**

Total number of signals in traffic signal system: \_\_\_\_\_

No. of DOT signals in traffic signal system: \_\_\_\_\_

No. of intersection failures: \_\_\_\_\_

No. of local detector failures: \_\_\_\_\_

No. of system detector failures: \_\_\_\_\_

% of time computer system was off line: \_\_\_\_\_ %

List repairs made to the traffic signal system with dates of repairs/replacements.

List any new/deleted intersections in the traffic signal system.

List all traffic signal timing optimizations performed.

**CERTIFIED BY:** \_\_\_\_\_  
(System Operations Engineer)