

3.1.7 In the event the Program is not completed within the contract's term and budget, the amount retained shall be applied to satisfy the guarantee set forth in section 3.3 below.

3.2 **Design Services.** For the satisfactory performance of the Design Services by **STIP or its sub-contractor** as set forth in section 7.3 of the RFP WS/FCS agrees to compensate the STIP based on the following percentages of the construction cost, as that term is defined in section 8.4 of the RFP:

3.2.1 Architectural	9.5%
3.2.2 Network	8.0%
3.2.3 Electrical	7.0%
3.2.4 HVAC	9.5%

The said sum to be paid based on monthly progress payment based on Applications for Payment in each phase of the Work for each Project. Progress payments in each phase shall total the following percentages of the total compensation payable:

Design Development Phase	=	Thirty-five percent (35%)
Construction Documents Phase	=	Forty percent (40%)
Construction Phase	=	Twenty-five percent (25%)

3.3 **Budget and Guarantee.** It is understood and agreed that WS/FCS' budget for the total Program Work as described in the RFP, including STIP's Management and Design Fees and the costs of the products and services contained in the pre-existing contracts between WS/FCS and Ambassador Technologies, Inc. and Commercial Sound, Inc. is sixteen million, four hundred seventy-eight thousand four hundred seventy-four and no/100's dollars (\$16,478,474.00). STIP agrees to a pro rata reduction in its Management and Design Fees if the total cost of the Program exceeds the Owner's budget as set forth herein. For and in consideration of the above guarantee, WS/FCS and STIP agree to the following changes in the Scope of the Work described in the RFP and budget reductions.

3.3.1 WS/FCS agrees to reduce the initial number of active ports (5 active, 3 inactive per classroom) by approximately 37.5%. These will be supplemented later with the reuse of existing equipment remaining in the budget.

- 3.3.2 WS/FCS agrees to the reuse of 50% of suitable, certified, existing copper cabling within schools.
- 3.3.3 WS/FCS agrees that cabling and electrical work described in section 7.5.5 of the RFP as it applies to the five high school addition and renovation projects listed and described at Tab 18 of the RFP (West Forsyth, Reynolds, Parkland, North Forsyth and Mt. Tabor) shall be deleted from the Scope of the Work of this Agreement.
- 3.3.4 WS/FCS agrees to limit dispersion and placement of student data ports and electrical outlets for them within the classroom to a single wall.
- 3.3.5 As a result of the above enumerated budget reductions the final budget for the Program is \$16,478,474.00.
- 3.3.6 STIP agrees to develop and submit to WS/FCS for its approval other ways and means to achieve the Technology Goals and Performance Expectations set forth in Section 7.1 of the RFP so that the total cost of the Program Work will be within WS/FCS' budget which approvals shall not be unreasonably withheld.

4.0 Procurement Services. STIP ~~agrees has offered~~ to procure, **as agent of WS/FCS**, the equipment listed in Section 10.3 of the RFP for not more than the discounts from the manufacturer's suggested retail prices through quantity procurement practices stated in its financial proposal. ~~WS/FCS accepts this offer.~~ Both STIP and WS/FCS understand and agree that the procurement of the specified equipment at the lowest discount price is essential to completing the total Program Work within WS/FCS' budget. With regard to the procurement of equipment, it is further understood and agreed:

- 4.1 Section 7.4 of the RFP describes the scope of STIP's procurement services.
- 4.2 The STIP shall comply with the North Carolina laws and regulations regarding purchasing including but not limited to the purchasing flexibility authorized by NCGS §115C-522.1.
- 4.3 To the extent that the RFP specifies particular brands, makes and/or models of equipment, these specifications are intended, in general, to indicate the quality that WS/FCS seeks to obtain. The STIP may recommend the substitution of items of equipment subject to the approval of WS/FCS provided however, that the substituted item is of equal to or greater quality

than the item specified and will have no negative impact on the performance and security of the LAN and WAN. However, in a few instances, WS/FCS has specified a particular brand of equipment to standardize and assure the quality of the performance of the LAN and WAN.

5.0 General Terms and Conditions. The general terms and conditions of the Agreement are set forth in Section 8.0 of the RFP and are incorporated herein by reference as if fully set out herein except as noted below.

5.1 Section 8.50.2 is **superseded by a new section 8.50.2** amended to read as follows: "Except to the extent the provisions of the Contract are clearly inconsistent therewith, the applicable provisions of the Uniform Commercial Code as modified and adopted in North Carolina shall govern this Contract. To the extent **services and work of the STIP under this Agreement requires** ~~the Contract entails~~ both the supply of "goods" and **provision of "services," or requires the providing of services only, then** STIP's ~~management services or work~~ shall not be deemed "goods" within the meaning of the Uniform Commercial Code. Deeming such services as "goods" would result in a clearly unreasonable interpretation **inconsistent with the Uniform Commercial Code.**

5.2 Section 8.57, **Performance and Payment Bonds**, is amended to read: "First Tier Contractor(s) shall provide to Owner performance and payment bonds as required by N.C.G.S. §143-129(c) and Article 3 of Chapter 44A for the full amount of the Project to secure the faithful performance of the terms of the contract and the payment of all sums due for labor and materials less the amount due to be paid the Supplier for apparatus, supplies, materials, or equipment under the Preferred Customer Agreement.

5.3 **In providing the services or performing the work required hereunder, STIP shall act as an agent of and on behalf of WS/FCS, but not as a fiduciary. Subcontractors to STIP shall consist only of Design Consultants. In no event shall services and work of STIP be construed or deemed to be general contracting or work which requires the license of a construction contractor. Nor shall STIP be construed or deemed to be a Trade Contractor, a Prime Contractor or a First Tier Contractor.**

5.4 *STIP shall be the representative of WS/FCS during the construction phase of the Project. It shall advise and consult with WS/FCS. Instructions to the*

prime contractors shall be forwarded through STIP. STIP shall have authority to act on behalf of WS/FCS only to the extent provided in the contract documents unless otherwise modified by written instrument.

- 5.5 STIP or its agent shall visit each site not less than once per week while work pertinent to the phase of each project is in progress, and as often as necessary and appropriate to the stage of construction or as otherwise agreed by the WS/FCS and STIP in writing (with particular emphasis on structural work) to inspect the site and work in accordance with the requirements of N.C.G.S. §133-1.1(b); to familiarize itself with the progress and quality of the work completed; and to determine, for WS/FCS' benefit and protection, if the work is proceeding in accordance with the intent of the contract documents and the construction schedule and is being performed in a manner indicating that the work when completed will be in accordance with the Contract Documents. In a like manner, STIP's Consultant Engineers shall visit each site at least once per week while work pertinent to their phase of the project is in progress or as often as necessary and appropriate to the stage of Construction or as otherwise agreed by WS/FCS and STIP in writing. On the basis of on-site inspections, STIP shall keep the Owner informed of the progress and quality of the Work, and shall use reasonable care to guard the Owner against defects and deficiencies in the Work of the Prime Contractors and against the Prime Contractors' failure to carry out the Work in accordance with the Contract Documents and the Construction Schedule.*
- 5.6 STIP shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequence or procedures or for safety precautions and programs in connection with the Work of Prime contractors and their sub-contractors. STIP shall not be responsible for the Prime Contractor's schedules or failure to carry out the Work in accordance with the Contract Documents; except to determine that the Work is in accordance with the intent of the Contract Documents. STIP shall not have control over or charge of acts or omissions of the Prime Contractors, Subcontractors, or their agents or employees or of any other persons performing portions of the Work. STIP shall give prompt notice to WS/FCS in writing of any major or material deviations in the Work from the Contract Documents or any defects or deficiencies therein that are observed during*

STIP's inspections of the Work as provided in paragraph 5.5 above. This paragraph shall govern and control in the event of any conflicts herewith in the Agreement.

6.0 Contract Documents. As noted in Section 8.8 of the RFP the Agreement between the parties includes a number of documents as set forth in section 8.8.2. These documents taken together form the Agreement between the parties.

In witness whereof there parties hereto have executed the Agreement as of the date and year first written above.

Winston-Salem/Forsyth County
Board of Education

Eperitus, LLC

By: _____
Donny Lambeth, Chairperson

By: _____
Charles B. Swaim, President

Attest: _____
Donald L. Martin, Jr., Superintendent

Attest: _____

SECTION 7. PERFORMANCE SPECIFICATIONS

Draft Dates: 5/12/03, 5/23/03, 6/6/03

7. **Introduction.** WS/FCS is requesting Financial proposals to design, procure, manage, and install standardized network infrastructure and support architecture in a specified number of the district's sixty-seven (67) schools to determine which pre-qualified STIP offers the "Best Value" to WS/FCS.

7.1 Technology Goals and Performance Expectations of STIP.

- 7.1.1 To develop and recommend to WS/FCS a common technology infrastructure strategy capable of supporting WS/FCS academic and administrative requirements for individual schools within the district and a plan to achieve a strategic integrated communications system.

- 7.1.2 To design, procure the necessary equipment and install or manage the installation of wired Ethernet Local Area Networks (LAN) at 59 of WS/FC schools as listed at Tab 11.

- 7.1.2.1 Each LAN should include cabling for the installation of administrative work stations with the WS/FCS desktop and printers assuming that there will be at least 1 administrative networked printer in a school, a Lotus Notes server, and integration into the WS/FCS WAN.

- 7.1.2.2 The LAN should be based on a core Layer3 switch with 100 Mbps Layer2 switch connectivity for server and user. The Layer2 switch must have 100 Mbps or Gigabit Ethernet uplink transmission capability.

- 7.1.2.3 The layer2 switches may be placed in either the MDF with the Layer 3 switch, in IDFs supporting one or more classrooms, or in classrooms themselves based on the physical school layout, user populations and on the best value to the district.

- 7.1.2.4 The LAN shall support all teachers and school based staff with:

- 7.1.2.4.1 Access by both PCs and laptops
- 7.1.2.4.2 Internet access
- 7.1.2.4.3 Wireless access
- 7.1.2.4.4 Intranet access to Lotus notes, AS400 servers, Linus servers, windows 2000 servers and data warehouse
- 7.1.2.4.5 Tivoli network management
- 7.1.2.4.6 Teacher webpages through Learning Village or similar software.
- 7.1.2.4.7 Broadcast video from classroom (mpeg-1 quality)
- 7.1.2.4.8 Media delivery system in media center (analog and digital)
- 7.1.2.4.9 Central media server to eliminate physical movement of media
- 7.1.2.4.10 Instructional management system
- 7.1.2.4.11 Remote access to LAN
- 7.1.2.4.12 Flexible PC placement in classrooms
- 7.1.2.4.13 A telephone in every classroom
- 7.1.2.4.14 Digital video surveillance camera connectivity
- 7.1.2.4.15 E-learning (internet-delivered)
- 7.1.2.4.16 Two-way video conferencing
- 7.1.2.4.17 E-procurement ordering system
- 7.1.2.4.18 DDC from each building to a central location for HVAC monitoring and control.

- 7.1.2.4.19 Work order scheduling
- 7.1.2.4.20 Monitoring of sprinkler, fire, etc.
- 7.1.2.5 The LAN shall provide students with support for:
 - 7.1.2.5.1 Access by Four PC's per classroom
 - 7.1.2.5.2 Access for home-bound or hospitalized students
 - 7.1.2.5.3 Parent access to school's systems at school
 - 7.1.2.5.4 E-mail accounts
 - 7.1.2.5.5 Internet access (high speed)
 - 7.1.2.5.6 Web serving (10MB/student for student page)
 - 7.1.2.5.7 Firewall/filtering technology for Internet access (centralized)
- 7.1.2.6 The STIP shall provide a detailed network and cabling design that will be scalable and take into consideration various available technologies (e.g. Voice Over IP, Wireless LAN) that may be adopted in future years. The design must demonstrate scalability and investment protection.
 - 7.1.2.6.1 The LAN shall provide eight (8) CAT 5E drops for each classroom.
 - 7.1.2.6.2 Classroom wiring requirements: 1 WestPenn 352 (Intercom), 1 CAT5E (phone); 7 CAT5E (Ethernet), 1 CATV and 1 set hi/low S-video.
 - 7.1.2.6.3 All room types require intercom wiring.
 - 7.1.2.6.4 Mobile classrooms wiring requirements: all data will be via wireless LAN, plus 1 CATV for TV monitor, a CAT5E cable for phone, and 1 WestPenn 352 drop for intercom and speaker.
 - 7.1.2.6.5 Administrative Office requirements, for each office: 2 CAT5E, 1 WestPenn 352 for Intercom, future VoIP phones to replace Executone PBXes and 1 CATV for televisions in lobby, principal's office and each assistant principal's office.
 - 7.1.2.6.6 Media center wiring requirements: servers will be moved to media centers, add video, TV, S-video and support wiring. Reconnect existing data wiring or plan for wireless connectivity.
 - 7.1.2.6.7 Computer Lab wiring requirements: fewer labs will be used as computers are moved into classrooms; more mobile labs will be used vs. fixed-location physical computer labs; more bandwidth will be delivered into computer labs as needed, using additional CAT5E drops and Ethernet switches. Reconnect existing computer labs or provide other connectivity. Provide wiring for TV, intercom, speakers, S-Video similar to classroom setup.
 - 7.1.2.6.8 *Teacher Workroom wiring requirements will vary by type of school: Middle and High school teacher workspace will be the same as that of a classroom, except that the Ethernet cable drops will vary based on school requirements; Elementary school teacher workrooms will be that of a Cafeteria/Gym/ Auditorium/Conference room as defined below.*
 - 7.1.2.6.9 Common area wiring requirements: Wireless LAN access plus intercom cabling.
 - 7.1.2.6.10 Cafeteria/Gym/Auditorium/Conference Room wiring requirements: 3 CAT5E cables (1 for WAP, 2 for Ethernet, a CATV cable, S-video plus an extra CAT5E cable and WAP for cafeterias).

- 7.1.2.6.11 Wire pathways in classrooms and interior exposed spaces such hallways and common areas shall be in Wire Mold or other equivalent and approved methods appropriate to need and location.
 - 7.1.2.6.12 Wire pathways outside the building, in concealed areas or in service rooms shall be in conduit, cable tray, J-hooks or other equivalent and approved methods appropriate to need and location.
 - 7.1.2.6.13 Provisions shall be made for electrical and data back up and recovery, such as UPS, surge protection, grounding, lightening protection, etc.
- 7.1.3 To coordinate and manage the installation of the technology infrastructure and cabling for a media retrieval system at 32 schools as listed at Tab 11. The media retrieval system equipment is to be purchased by WS/FCS directly from vendors under a separate contract. The system includes a web based media storage, management and retrieval system.
- 7.1.4 To coordinate and manage the installation of the Intercom system at 29 schools as listed at Tab 11. The intercom system equipment is to be purchased by WS/FCS directly from vendors under a separate contract. The intercom system includes classroom handsets which interface with the existing telephone system, clock messaging and class bell systems.
- 7.1.5 To design and procure a CATV bi-directional broadband distribution network at each school using existing cabling when possible, to include procurement of brackets for installation of televisions and procurement of televisions, and to install televisions.
- 7.1.6 To design and procure the necessary equipment for and install a wireless connectivity system for the transfer of electronic data and information from mobile classrooms to a school's LAN and the internet as required to support the existing wireless system.
- 7.1.7 To design and prepare bid specifications, publicly bid and manage, as a construction manager, the installation of cabling, electrical upgrades, and other building modifications required for the technology infrastructure described above at each school listed at Tab 11.
- 7.2 **Project Management. Task Description:** The STIP accepts the relationship of trust and confidence established between it and the Owner. It covenants with the Owner to furnish its best skill and judgment and to cooperate with the Design Consultants, as needed, and Prime Contractors in furthering the interests of the Owner. It agrees to furnish efficient construction **management** and business administration and to use its best efforts to insure the completion of the Program and each Project in an expeditious and economical manner consistent with the interest of the Owner. STIP acknowledges that it shall be responsible for monitoring the performance of the Project Construction Teams and providing leadership and program and construction management services to assure that the Program and each Project shall be completed within the Owner's budget and on schedule as adjusted from time to time. The objective is to provide technical direction, maintain project control and to establish a framework for reporting, procedural, and contractual activity for the tasks described below. This task consists of the following activities and documentation:

7.2.1 General Requirements For Program & Construction Management.

- 7.2.1.1 **Communications:** Establish effective communications in the decision making process.
- 7.2.1.2 **Staffing:** Provide adequate expertise and experience in staffing. STIP shall submit a staffing plan as part of its response to Owner's Request for a Financial Proposal. Such staffing plan shall be considered to be minimum staffing, and STIP shall provide such additional staffing as may be required to perform the duties required by the Agreements. STIP should plan for adequate staffing, at an estimated eighteen (18) schools per year, to complete preconstruction services, design, bidding, performance and completion of the district wide technology and related systems contract. Adequate staffing is expected to include, but not be limited to, project coordinators with background and experience necessary to assist with initial school surveys, design document coordination/ preparation, and to perform onsite coordination for the performance of all work as well as expediting school by school project completion/closeout. STIPs are to identify proposed staffing and office space included as a part of the Management Fee.
- 7.2.1.3 **Control:** Provide continuity and close control throughout the Program.
- 7.2.1.4 **Information:** Keep the Owner currently and accurately informed.
- 7.2.1.5 **Public Relations:** Actively assist the Owner in establishing and maintaining a positive perception of the Program.
- 7.2.1.6 **Costs:** Institute and maintain programs for costs savings and costs control.
- 7.2.1.7 **Leadership:** Provide leadership to the Project Development Teams and the Project Construction Teams and foster a spirit of teamwork and cooperation.
- 7.2.1.8 **Claims Management and Documentation:** It is the practice and intention of the Owner to compensate Contractors fairly and in compliance with the Construction Contract. Claims by Contractors can, however, be minimized and in some instances avoided if the issues giving rise to the claims are identified early and resolved expeditiously. The STIP shall closely monitor the progress of construction and identify any issues that might result in claims by any of the Project Construction Team. STIP shall use his best efforts to identify issues which may potentially result in claims sufficiently in advance so that a resolution can be reached and implemented before the issue results in a claim. STIP shall expeditiously investigate and document all such issues, determine the method for best resolving such issues and make suggestions to the Owner for prompt resolution. With Owner's agreement, the STIP shall then implement resolution of such claims issues and obtain the cooperation of the Project Construction Team. The STIP shall also fully document such issues as well as any claims arising therefrom and maintain a full written record for the Owner's use and protection in the resolution of any claims which may arise.

- 7.2.1.9 **Reports:** At least monthly during the term of this Agreement, STIP shall prepare and deliver to Owner a report showing status and progress of the Program to date; and such periodic report shall describe the status of the Program and each Project, list and describe significant problems and suggested corrective actions, as well as decisions, consents and approvals which are required to be taken, made or given by Owner at or shortly after the time of delivery of the periodic report. Reports on any special meetings shall be submitted promptly following such meetings. Periodic reports shall be delivered to the Owner's appointed representative.
- 7.2.1.10 **Change Order Management and Documentation:** It is the policy and practice of the Owner to fairly compensate Contractors for changes as provided in the Construction Contract. STIP shall use his best efforts to identify issues which may result in changes to the Construction Contract which would result in additional cost or delay sufficiently in advance so that the issues can be resolved in a manner which minimizes the additional cost and delay involved. To the extent that changes occur, the STIP shall fully document on a contemporaneous basis the issues and events which result in a change and the cost and additional time involved therein.
- 7.2.1.11 **Internet Access:** STIP in conjunction with Owner will establish Internet access providing current information for the Program. This may involve a brief description of the improvements being undertaken at each Project and the posting of photographs depicting the current status of construction. This information will be updated as necessary to keep the posted materials current.
- 7.2.2 **PROGRAM DEVELOPMENT.** STIP will establish a clear understanding of the scope of work and the objectives of the proposed Program. In this regard, the STIP will perform, at a minimum, the following services:
- 7.2.2.1 **Meetings:** Schedule meetings with Owner's representatives.
- 7.2.2.2 **Existing Information:** Review past studies and pertinent existing information.
- 7.2.2.3 **Existing Conditions:** Review existing condition site surveys including a review of existing plans and specifications. Owner has notebooks that contain a site survey of the electrical utilities at each school and a site survey of the data cabling and infrastructure at each school. These site surveys are available for STIP inspection in the Office of the Assistant Superintendent for Operations.
- 7.2.2.4 **Decision Making Process:** Establish communications and define the decision making process.
- 7.2.2.5 **Services:** Confirm services to be provided.
- 7.2.2.6 **Objectives:** Clearly establish all objectives.

7.2.2.7 **Project Scope:** Review scope of each Project developed by Owner to date.

7.2.2.8 **Management Plan:** Develop a management plan which identifies, and time line for accomplishing the essential tasks for the Program and each Project.

7.2.3 **PROGRAM DESIGN AND PRE-CONSTRUCTION.**

7.2.3.1 **Site Plans:** Obtain plans as required to complete **Design Services.**

7.2.3.2 **Team Assembly:** STIP shall assemble a team for the implementation of this project that will start with preconstruction services and follow through startup and project completion. This team should include the appropriate STIP personnel, network design and installation personnel, building engineers and/or architect with the appropriate owners personnel to provide an overall district wide plan.

7.2.3.3 **Engineers:** Select and employ those engineers necessary to provide for each site the following:

7.2.3.3.1 Verification of existing building layout and improvements.

7.2.3.3.2 Verification of existing utilities to include electrical power, telephone, CATV, etc.

7.2.3.3.3 Plans to bring new utilities to the Project from off-site, as needed.

7.2.3.4 **Design Consultants:** Select and employ those Design Consultants necessary to provide the following:

7.2.3.4.1 Prototype network designs to facilitate using typical installation plans, common to more than one Project.

7.2.3.4.2 Value engineering and redesign as required for networks in buildings previously designed.

7.2.3.4.3 If possible, standardized plans and specifications for repetitive use at other installations.

7.2.3.4.4 LAN Plans and specifications for each site.

7.2.3.4.5 Engineering plans and specification for utility and building related work at each site.

7.2.3.5 **Site Visits:** Perform initial school walk through coupled with existing site surveys, existing plans, district personnel and general fact finding in order to establish three (3) initial district wide design/cost scenarios within project budgets. Consider electrical, ventilation, architectural, space, aesthetic needs, telephone, TV, media, and intercom distribution system needs.

7.2.3.6 **Prototype designs:** Work with owner's representative to establish three (3) possible district wide design scenarios.

7.2.3.7 **School Design Selection:** Work with designers and owner's personnel to establish by school which of the three (3) design scenarios will provide the best service for the lowest cost at each school.

7.2.3.8 **Design Approvals:** Prepare and present a preliminary district wide design and costing scenario for Owner approval.

7.2.4 **PROGRAM AND PROJECT DEVELOPMENT.**

7.2.4.1 **Consultation During Program and Project Development:** STIP shall schedule and attend regular meetings with the Design Consultants and/or the Project Development Teams during the development of conceptual and preliminary design to advise on site use and improvements, selection of materials, building systems and equipment. Provide recommendations on construction feasibility of materials and labor, time requirements for installation and construction, and factors related to cost.

7.2.4.2 **Pre-Construction Scheduling:** Develop a basic Program Schedule for all Projects that coordinates and integrates the Design Consultant's design efforts and the Owner's activities with a feasible construction schedule so as to deliver the completed Program by the date required. Insure that the schedule incorporates all activities for design and construction of each Project, including realistic activity sequences and durations, processing of shop drawing and samples, and delivery of products requiring long lead-time procurement. Include the Owner's staging and occupancy requirements, showing portions of the Program which must be completed by specific dates to accommodate the Owner's operational needs.

7.2.4.3 **Program Scheduling.** STIP services include Program and school Project Scheduling

7.2.4.3.1 STIP shall plan on installation for no less than eighteen (18) schools substantial completions per year. Schools are to be scheduled by year in coordination with the owner and successful STIP selected. The schedule for sequence of school installations will consider E-rate schools, equity plus schools, renovation schedules for schools that are a part of the \$150M bond, and other scheduled school district improvements.

7.2.4.3.2 The Total duration for the design, implementation and completion of total district wide technology and related systems program is five (5) years. An estimated schedule is set forth below.

7.2.4.3.3 Months one & two – Overall district team formation, overall district wide preconstruction services necessary to provide a total district wide budget/cost estimate.

7.2.4.3.4 Month Three – Total district wide budget/cost review and revisions necessary to release the work within an approved budget plan.

7.2.4.3.5 Month four – Design of the initial projects.

- 7.2.4.3.6 Month five – Advertise bids, receive bids, secure Owner approval, and then contract with prime contractors, trade contractors, and suppliers for discount pricing on initial projects.
- 7.2.4.3.7 The items shown above allow for initial project starts no later than six (6) months from STIP's selection ~~date of this Agreement, or a later date as agreed by Owner and STIP.~~
- 7.2.4.3.8 All schools that are a part of this contract must be substantially completed no later than 4 years **and six months from** STIP's selection ~~as provided in this Agreement or other date as mutually agreed by Owner and STIP.~~
- 7.2.4.3.9 At the conclusion of the Program, it shall be no more than six (6) months for final completion, training, warranties, as-builts, etc., so as to provide total Program completion.
- 7.2.4.3.10 Revisions or modifications to the overall district schedule will be allowed subject to coordination with the districts cash flow, bidding, improvements, and building renovations.

7.2.4.4 Program and Project Construction Budgets:

- 7.2.4.4.1 Establish by school project a budget/cost estimate to ensure that the technology installed in the last school will be equal to the technology installed in the first school.
- 7.2.4.4.2 Establish a total district-wide Program budget/cost estimate including all Project Management Fees, estimated design fees, and individual school budget/cost estimates to insure funding is in place prior to proceeding.
- 7.2.4.4.3 In collaboration with the Design Consultant and Owner's Project Construction Team Members, review and evaluate the Project "Technical Goals and Performance Expectations" as described in Section 7.1 and the Project Budget as prepared by Owner. Advise as to deficiencies in budget to meet Owner's objectives and request direction from the Owner in making changes in the Program and/or Project budgets or Technical Goals or Performance Expectations to accommodate these deficiencies. Similarly advise Owner of program deficiencies in meeting the Owner's objectives to provide technology to each of the Projects included in the Program and request direction from the Owner making changes in the Program or Project Budgets or Goals to accommodate these deficiencies. Similarly advise Owner of program deficiencies in meeting the code requirements associated with the contemplated modification or if known associated with the continuing operation of each of the Projects included in the Program and request direction from the Owner making changes in the Program or Projects Budgets to accommodate these deficiencies.

- 7.2.4.5 **Value Engineering.** Throughout the design process, monitor the cost of the design, and make the recommendations for cost savings without extending design, bid or construction time.
 - 7.2.4.6 **Constructability Studies:** Plans and specifications are to be thoroughly studied prior to bidding to identify and eliminate errors or lack of necessary detail and to insure that the Project as designed can be constructed in the period available.
 - 7.2.4.7 **Life Cycle Costing:** Evaluate and compare the total costs of competing proposals based on anticipated life of the facility, system or component to be used in the Project. To the extent possible establish uniform product specifications to facilitate maintenance.
 - 7.2.4.8 **Coordination of Contract Documents:** Review Project Drawings and Specifications as they are being prepared, recommending alternative solutions whenever design details affect construction feasibility or schedules without, however, assuming the Design Consultant's responsibilities for design.
 - 7.2.4.9 **Construction Planning:** Recommend for purchase and expedite the procurement of long-lead items to ensure their delivery by the required dates. Give direction regarding the division of Work in the Drawings and Specifications to facilitate the bidding and awarding of Contracts, allowing for phased construction taking into consideration such factors as time of performance, availability of labor, provisions for temporary facilities and Owner's occupancy and operational requirement.
 - 7.2.4.10 **Pre-qualification of Contractors:** Prepare pre-qualification criteria for Prime Contractors and suppliers, as appropriate.
 - 7.2.4.11 **Minority Participation Program:** Establish a WMBE participation program to insure compliance with the minority participation goals established by Owner. This will include sizing bid packaging to allow smaller local and minority contractors and vendors to participate in the Program and active solicitation of these contractors and vendors. STIP will document compliance efforts by STIP and the Program participants.
- 7.2.5 **PRE-BID AND BID AND CONTRACT STAGE:**
- 7.2.5.1 **STIP Services include,** but are limited to, Management of all design and bid services and costs in this section unless specifically excluded.
 - 7.2.5.2 **Administration and Supervision** of the design of desired technology, telephone, TV, Media, Intercom and support systems (such as, but not limited to, electrical, ventilation, architectural space and modification needs) that are impacted by the installation of those desired systems.
 - 7.2.5.3 **Design of Technology** and related systems may be performed individually or by groups of schools for cost saving benefits and is included in the STIP's design fee not the Management Fee.
 - 7.2.5.4 **Design Estimates:** STIP shall produce and provide to owner interim design estimates of annual costs to owner's representative

demonstrating project cost within budgeted costs for individual schools or groups of schools to be completed each year. (Actual engineering and architectural design will be paid as cost of the work at agreed upon percentage costs).

- 7.2.5.5 **Establish Discount Pricing.** Establish estimated quantities of major materials and recommend to owner the best method to secure discount pricing (BID, RFP, etc.) Consider using the discount pricing with individual school bidders and installers to secure overall lowest price, smoothest installation, and best Payment process. Bid and negotiate contracts for standardization of major material components with manufacturers for the items selected.
- 7.2.5.6 **Obtain quantity discount pricing** bids of standardized major materials and equipment as described in Section 10.3. The cost of shipping and storage by bulk shipment and storage method should be considered as part of the factors for best value manufacturer quantity discounts.
- 7.2.5.7 **Contract and Plan Review:** Review Bid Packages and Contract Documents and verify that plans and specifications contained in the bid documents are complete so that Prime Contractor(s) will not be delayed in commencement of construction after award of the contract for construction.
- 7.2.5.8 **Permits and Approvals:** Verify that all permits and governmental approvals have been obtained or can be obtained upon submission of the required fee so as not to delay commencement of construction upon award of the contract. To the extent that all permits and governmental approvals have not been obtained, coordinate the activities of the Project Construction Team to expedite the obtaining of all necessary approvals and permits.
- 7.2.5.9 **Promotion of Participation:** Actively solicit participation by contractors and suppliers in the Program. This will include, but not be limited to, a strong and active direct contact effort with contractors and suppliers to notify them of upcoming bids, solicitation of their participation, and follow up to insure active participation. This effort will also include scheduling bidding of smaller Projects in order to allow unsuccessful bidders on previous Projects to bid subsequent Projects.
- 7.2.5.10 **Pre-Bid Construction Conferences:** STIP will participate in Pre-Bid Conferences for all Projects. These conferences will be a forum for the Owner, STIP and the Design Consultant to explain the Project requirements to the bidders, including information concerning schedule requirements, time/cost control requirements, access requirements, Owner's administrative requirements and technical information on the Project.
- 7.2.5.11 **Bid Analysis:** Upon receipt of bids, the STIP will evaluate all bids including alternate prices and unit prices and will make recommendations to the Owner in regard to the award of contracts.
- 7.2.5.12 **Establish Project Organization:** The STIP will establish a Project organization for STIP's personnel for each Project which will provide for

job site construction management for all on-site management services required from STIP by this Agreement to meet the Project objectives. The STIP's site management team will be monitored and supported by the STIP's central office which will overview all control systems and provide support services in construction, engineering, schedule updating, value engineering, estimating, accounting and computer services.

- 7.2.5.13 **Establish On-Site Communication Procedures:** STIP will include a comprehensive program for establishing and maintaining an effective communications program on the job site throughout the duration of construction. The communications process must provide a timely flow of information to facilitate the construction process with a minimum of delay and error. The STIP, at a minimum, will provide for distribution, expediting, and documentation of the following throughout the duration of the Project: contract documents, contractor requests for information and Design Consultant's responses, design modifications, Owner directives, STIP directives, Design Consultant directives, submittals and approvals, changed conditions and claims, change orders, minutes of meetings, periodic project reports, and construction contract compliance.
- 7.2.5.14 **Quality Control Procedures:** STIP shall establish quality goals and institute a quality control program to achieve the goals and monitor compliance by all members of the Project Construction Team.
- 7.2.5.15 **Establishment of Project Schedule and Monitoring Schedule Compliance:** Immediately upon award of the construction contract(s), STIPs shall monitor compliance of the prime contractor(s) in preparing the schedule required by the Construction Contract. STIP shall review the project schedule, as it is prepared, provide his comments to the Prime Contractor(s) and the Design Consultant and insure full involvement of all participants in preparing and establishing the Construction Contract Schedule. STIP shall also assure that all-necessary staging and milestones are included in the Project Schedule. STIP shall insure that the Construction Contract Schedule is signed by all required parties.
- 7.2.5.16 **Contractor Documents:** STIP shall prepare contracts for prime contractors, suppliers and/or vendors utilizing Owner approved contract forms. STIP shall transmit and receive executed Contracts and verify Payment and Performance Bonds and Insurance Certificates.
- 7.2.5.17 **Pre-Construction Conference:** Promptly after selection of Contractors, schedule and conduct a Pre-Construction Conference with the Project Construction Team at which lines of communication, and mobilization and construction issues for the first ninety days of the Project will be discussed. STIP will identify and seek prompt resolution of any issues that might delay or impede expeditious commencement of construction.

7.2.6 CONSTRUCTION PHASE.

- 7.2.6.1 **Project Control:** Administer and supervise work of Prime Contractors and the Design Consultant and coordinate the Work with the activities and responsibilities of the Owner, Design Consultants, Prime Contractors

and Suppliers to complete the Program in accordance with the Owner's objectives of cost, time and quality. (Also reference Tab 13).

7.2.6.2 **Separate Contractors.** STIP Management Services include administration and supervision of the Owner's separate contractors. The separate contractors and/or suppliers services include, but are not limited to:

7.2.6.2.1 Prime Contractors such as Ambassador Technology Inc. and Commercial Sound, Inc..and

7.2.6.2.2 Suppliers who agree to provide Unit discount price contracts with CM or WS/FCS, such as Rauland-Borg Corporation and Bogen Communications, Inc.

7.2.6.3 **Staff:** Maintain a competent full-time staff to accomplish the necessary control for each Project, as a part of the staffing required by 7.2.1.2 which may include full time Project site supervision as necessary.

7.2.6.4 **Organization and Procedures:** Establish an organization and lines of authority in order to carry out the overall plans of the Project Construction Teams. Implement procedures for coordination among the Owner, Design Consultants, Prime Contractor(s) and STIP with respect to all aspects of each Project.

7.2.6.5 **Meetings:** Schedule and attend progress and coordination meetings at which Owner, Prime Contractor(s), Design Consultants and STIP can discuss jointly such matters as procedures, progress, coordination, problems and scheduling. Prepare minutes of such meetings. Attend Project coordination meetings held by Prime Contractors and prepare minutes.

7.2.6.6 **Monitor Construction Progress.**

7.2.6.6.1 Determine the adequacy of the Prime Contractors' personnel and equipment and the availability of materials and supplies to meet the schedule. Recommend courses of action to the Owner when the requirements of a Prime Contract are not being met.

7.2.6.6.2 Provide regular monitoring of the Project schedules as construction progresses to insure that the Construction Schedule accurately portrays work completed to date and the actual plan for completion of the remainder. Identify potential variances between scheduled and probable completion dates. Review schedule for Work not started or incomplete. STIP shall review the updated schedules and progress reports prepared by the Prime Contractors and provide comments to the Project Construction Team. To the extent that issues arise which are impacting or may impact the progress of the Project, the STIP shall make recommendations as to how such issues should be resolved. To the extent that the Project falls behind schedule, the STIP shall make recommendations to the Owner as to how best to recover lost time and resolve any

outstanding issues impeding progress. To the extent recovery schedules are required, STIP shall monitor the preparation of the Recovery Schedule and provide to Owner STIP's assessment and recommendations in connection with the proposed Recovery Schedule.

- 7.2.6.7 **Cost Control:** Implement and monitor a system of cost control for each Project; review the Project schedule of values for each Project to insure that it accurately reflects the value of each segment of the Work; incorporate into the Project budget approved changes as they occur; identify variances between actual and budgeted costs and advise Owner and Design Consultants whenever projected cost exceeds contract values; maintain cost accounting records on authorized Work performed under unit costs, actual costs for labor and material, or other bases requiring accounting records.
- 7.2.6.8 **Project Reports:** STIP shall prepare reports for each Project which will allow Owner to monitor on a current basis the costs incurred in connection with each Project. These reports shall include at a minimum: the adjusted contract amounts, value in place, amounts invoiced and paid, retainage and balance on contracts, approved change orders, pending change orders, estimated cost to complete, and unapproved amounts claimed by Prime Contractor(s).
- 7.2.6.9 **Project Documentation:** STIP shall maintain such documentation as necessary to clearly evidence the status and progress of construction throughout the course of the Project. This documentation shall include daily logs, construction inspection reports, construction progress reports, meeting minutes and monthly status reports. The purpose of these reports will be to allow Owner to assess at any given time the status of each individual Project including, but not limited to, whether the Project is on time, within budget, and whether there are outstanding issues which could result in delay and extra cost. To the extent that there are any budget overruns or delays in the schedule, STIP will provide a brief explanation of the cause and STIP's recommendations for bringing each Project back within budget and within schedule.
- 7.2.6.10 **Project Change Orders:** Implement a system for the preparation, review and expedite processing of Change Orders; recommend necessary or desirable changes to the Owner and Design Consultants; review requests for changes; submit recommendations to the Owner and the Design Consultants, and negotiate Change Orders.
- 7.2.6.11 **Payments to Prime Contractors:** Develop and implement a procedure for the prompt review, processing and payment of applications by Prime Contractors and suppliers for progress and final payments.
- 7.2.6.12 **Permits and Fees:** Assist the Design Consultants and Prime Contractors in obtaining all building permits and special permits for permanent improvements; expedite the obtaining of approvals from all authorities having jurisdiction.
- 7.2.6.13 **Notices of Non-Compliance or Violation:** STIP shall monitor the progress of the Work for any potential permit violations and recommend

corrective action. In the event warnings or notices of violation are issued by any governmental agency, STIP shall make recommendations as to how to respond to such notices or warnings and coordinate the steps necessary to be taken by the Project Construction Team to expeditiously resolve such issues.

- 7.2.6.14 **Owner's Consultants:** As required, select and recommend to Owner professional services such as testing laboratories and special consultants, and coordinate these services, without assuming any responsibility of liability of or for these consultants.
- 7.2.6.15 **Review of Safety Program:** Review the safety programs of each of the Prime Contractors and make appropriate recommendations. In making such recommendations, STIP shall not be required to make exhaustive or continuous inspections to check safety precautions and programs in connection with a Project. The performance of such services by the STIP shall not relieve the Prime Contractors of their **sole** responsibilities for the safety of persons and property, and for compliance with all federal, state and, local statutes, rules, regulations and orders applicable to the conduct of the Work.
- 7.2.6.16 **Safety and Code Violations.** The STIP is responsible under this RFP to identify and report to Owner any existing safety and/or code violations, whether federal, state or local, including but not limited to fire and electrical codes in WS/FCS existing infrastructure. If STIP should discover any safety and/or code violations during the course of this project, STIP shall notify WSFCS of the problem. The STIP will not be responsible for delays to the Work caused by such violation.
- 7.2.6.17 **Document Interpretation:** Promptly refer to the Design Consultants such questions for interpretation of the documents prepared by the Design Consultants as STIP may deem appropriate and take such steps as may be required to obtain a prompt response.
- 7.2.6.18 **Shop Drawings and Samples:** In collaboration with the Design Consultants, establish and implement procedures for expediting and documenting the processing and approval of shop drawings and samples.
- 7.2.6.19 **Reports and Project Site Documents:** Insure that the following is maintained on each Project site (as they pertain to that site), on a current basis: A daily log, a set of record Drawings, Specifications with all bulletins and addenda, change orders, and a current schedule.
- 7.2.6.20 **Salvage & Reuse:** Program/Construction Management Services include identifying reusable or salvageable property of Owner that will be recommended to the Owner for reuse as a part of this work. Should Owner not desire to reuse, receive, or accept the salvaged goods, equipment, materials, etc., materials become the property of the STIP or their designee for appropriate removal and disposal.
- 7.2.6.21 **Asbestos and other hazardous/regulated existing materials** are the responsibility of Owner for handling, removal and disposal at Owner's cost upon proper receipt of notice by Construction Manager or their

designee. STIP will not be responsible for the detection or removal of asbestos, hazardous waste or other pollutants. All matters relating to detection and/or abatement; and/or removal of asbestos, hazardous waste or other pollutants are beyond the scope of this RFP. The STIP shall not be liable for any delay or additional cost incurred as a result of such detection and/or abatement upon receipt of timely notice. If asbestos, hazardous waste or other pollutants are uncovered during the course of the work on the contract, WSFCS shall be responsible for retaining the experts necessary to remove such asbestos, hazardous waste or pollutants from the site. WSFCS shall also be responsible for any testing, cleanliness and corresponding with appropriate government authorities.

7.2.7 PROJECT STARTUP & CLOSEOUT. STIP Management Services include, but are not limited to, all contract system startup, checkout, and warranty services unless specifically described in the documents and listed as a "construction cost." The STIP shall:

7.2.7.1 Startup-Checkout: Supervise and/or perform startup-checkout of all systems and/or components so as to provide a total working systems a part of this scope or work.

7.2.7.2 Training: Provide training for owner's end users for all systems installed as a part of this agreement.

7.2.7.3 Wireless LAN Systems Training. The purpose of this task is to perform up to two, one-day training sessions for WS/FCS personnel on the operation and administration of the RF system. The major sub-tasks are:

7.2.7.3.1 Demonstrate RF System Operation.

7.2.7.3.2 Train WS/FCS personnel on the operation and administration of the RF System.

7.2.7.3.3 Develop and provide Training Guide for utilization during training sessions.

7.2.7.4 Certification Documentation: Provide to owner's representative and/or designee copies of all startup/checkout/certifications as proof of system compliance.

7.2.7.5 Inspections & Punch List: Perform final inspections, punch lists, checkoff/signoff of record/closeout documents and punch lists by designer, construction manager, or approved designee, prior to final construction manager, contractor, and/or supplier final payment.

7.2.7.6 Substantial Completion: In conjunction with the Design Consultant, determine Substantial Completion of the Work or designated portions thereof and assist the Design Consultants and Owner in preparing a list of incomplete or unsatisfactory items and a schedule for their completion **by the Prime Contractors and equipment/materials suppliers.**

7.2.7.7 Final Completion: In conjunction with the Design Consultant, determine that Final Completion of the Work has been achieved. Secure and transmit to the Design Consultant and/or Owner required guarantees,

affidavits, releases, bonds, and waivers. Turn over to the Owner all keys, manuals, record drawings and maintenance stocks. Coordinate with Owner and Design Consultant final written acceptance of each Project.

- 7.2.7.8 **Warranty:** The STIP shall collect and deliver to the Owner any specific written warranties given by the Prime Contractors and/or equipment/materials suppliers on each Project. In procurement contracts and/or bid specifications prepared by STIP or its Design Professionals, STIP shall provide for manufacturer, installers, contractors total system warranties for a minimum of one (1) year period beginning with the date of substantial completion of each school or group of schools. Extended warranties and/or maintenance agreements (over one year) may be requested by project as an additional to the Owner.
- 7.2.7.9 **Occupancy Permit:** The STIP and Design Consultant will identify all state and local agencies requiring documentation, final inspection or testing concerning the completeness of the Project. The STIP will confirm these requirements and monitor all activities to secure the permit.
- 7.2.7.10 **Contractor Call-Backs:** STIP will institute a process whereby the Owner personnel are in possession of contact information and will make calls to each Contractor for the Project when warranty work becomes needed. STIP will provide assistance in the case of any Contractor's failure to respond to the request of the Owner to honor a warranty request.
- 7.2.7.11 **Contract Closeout:** The STIP will coordinate and expedite the completion of contractor submittal requirements prior to contract closeout including final lien waivers, guarantee/warranties, debts and claims, consent of surety, vendor payment record, payroll certifications, tax payments and final pay application. STIP shall provide to the Owner such information as may be necessary in order to determine and complete a final project cost accounting.
- 7.2.7.12 **Care and Storage of Construction Documents and Files after Job Completion:** Job records for each completed Project will be organized and stored at Owner's facility for use by Owner's future use. STIP shall provide as-built record documents by trade (in paper and electronic form meeting district needs).
- 7.2.7.13 **Change Order Resolution:** The STIP will expedite the resolution and execution of Project Change Orders during the course of construction. STIP will have all valid change orders processed and concluded by completion of construction so that the final total cost summary can reflect the final total project cost with the project closeout.
- 7.2.7.14 **Claims Negotiations:** During the course of construction of the Project through final completion, STIP will assist Owner in claims negotiation and resolution which shall include STIP's best estimate of the validity and value of the claim being asserted. STIP will also negotiate on the Owner's behalf claims resolution through final completion.

7.2.7.15 **Project Closeout Report:** STIP will prepare a closeout report which will include, but not be limited to, certificates of substantial and final completion; all occupancy permits; agency inspections and approvals; claims status and disposition; contract summaries and closeout, final inspection reports; and Project cost summary report.

7.2.8 ADDITIONAL SERVICES.

7.2.8.1 **Acts of God:** Consultation on replacement of Work damaged by fire or other cause during construction and furnishing services for the replacement of such Work.

7.2.8.2 **Adversary Proceedings:** Preparing to serve or serving as a witness in connection with any public hearing, arbitration proceeding, or legal proceeding.

7.2.8.3 **STIP Performed Work:** In the event that STIP shall determine that portions of a Project can be performed more expeditiously or economically using STIP's own forces, he shall so notify Owner. A written Change Order shall be issued to this Agreement authorizing the STIP to proceed with such Work and establishing the basis for STIP's compensation for the Work.

7.2.8.4 **Services Performed After Expiration of Agreement:** Inspections of and services related to the Program or Projects after the completion of the services under this Agreement.

7.2.8.5 **Extension of Agreement: Services rendered after the contemplated term of this Agreement.** It is the contemplation of the parties hereto that the Projects contained in the Program will be completed by December 31, 2008 and that the services required hereunder will be completed by January 2009.

7.3 DESIGN SERVICES.

7.3.1 General Design Services.

7.3.1.1 **Designer's Role During Construction.** The STIP or its Design Consultant shall be the representative of the Owner during the construction phase, and shall advise and consult with the Owner. Instructions to the prime contractors shall be forwarded through the STIP. The STIP shall have authority to act on behalf of the Owner only to the extent provided in the contract documents unless otherwise modified by written instrument.

7.3.1.2 **Bid and Contract Documents.** The STIP or its Design Consultant shall produce design documents, included but not limited to: drawings, specifications and contract terms and conditions, suitable for bidding and contracting systems installations. The contract documents for the Program or a Project shall comply with applicable laws, statutes, ordinances, codes, orders, rules, and regulations in force as of the date the documents are submitted to the owner.

- 7.3.1.3 **Modifications in Contract Documents to Conform to Budget.** In the event the lowest responsible bids exceed the funds appropriated for the Program or a Project, the STIP or its Design Consultant, in consultation with and at the direction of the Owner, shall provide such modifications in the contract documents as shall be necessary to bring the cost of the Program or Project within the Program's or Project's budget. The Owner recognizes that such modifications may reduce the scope and/or quality of the work. Such services shall not result in an increase in STIP's fee for Design Services.
- 7.3.1.4 **Inspections.** The STIP or its designee shall visit each site as often as necessary and appropriate to the stage of construction to inspect the site and work; to familiarize itself with the progress and quality of the work; and to determine for the Owner's benefit and protection if the work is proceeding in accordance with the intent of the contract documents and the construction schedule. STIP shall use reasonable care to guard the Owner against defects and deficiencies in the work of the prime contractor(s) and against the prime contractor(s). **STIP shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequence or procedures or for safety precautions and programs in connection with the Work of Prime contractors and their sub-contractors.**
- 7.3.1.5 **Discovery of Defects in the Work.** The STIP shall provide services for the Owner made necessary by major defects or deficiencies in the Work of the STIP, Prime Contractors or any Subcontractors or their respective agents or employees which through reasonable care the STIP should have discovered and promptly reported to the Owner but failed so to do. In addition, the STIP represents that it will follow the standards of its profession in performing all services under this Agreement. Any defective designs or specifications furnished by the STIP or its designee shall be promptly corrected by the STIP at no cost to the Owner for additional design services. The Owner's approval, acceptance, use of or payment for all or any part of the STIP's or its designee's services hereunder or the Project itself shall in no way diminish or limit the STIP's obligations and liabilities or the Owner's rights. **Prompt written notice shall be given by the Owner to STIP if the Owner becomes aware of any fault or defect in the Project or nonconformance with the Contract Documents but the Owner's failure or omission to do so shall not relieve STIP of its responsibilities hereunder and the Owner shall have no duty of observation, inspection or investigation.**
- 7.3.1.6 **Substantial Completion.** The Design Services of STIP include determination of substantial and Final Completion of prime contractors' work.
- 7.3.1.6.1 Substantial Completion is the stage in the progress of a project when the project is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the project for its intended use.
- 7.3.1.6.2 Upon receipt of a Contractor's punch list, the STIP or its designee will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the STIP's or its designee's inspection discloses any item, whether or not included on the Contractor's list, which is not in

accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. When the a **PROJECT** or designated portion thereof is substantially complete, the STIP will prepare a Certificate of Substantial Completion which will establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the **PROJECT** and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate.

7.3.1.6.3 Upon Substantial Completion of a **PROJECT** or designated portion thereof an upon application by the Contractor and certification by the STIP, the Owner shall make payment, reflecting adjustment in retainage, if any, for such **PROJECT** or portion thereof as provided in the Contract Documents.

7.3.1.7 **Final Completion and Final Payment.** Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the STIP will promptly make such inspection and when the STIP finds that the Work acceptable under the Contract Documents and the Contract fully performed, the STIP will promptly issue a final Certificate for Payment stating that to the best of the STIP's knowledge and in the professional opinion of the STIP, and on the basis of the STIP's observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in said final Certificate for Payment is due and payable. The STIP's final Certificate for Payment will constitute a further representation that conditions precedent to the Contractor being entitled to final payment have been fulfilled.

7.3.2 **Network Design and Engineering.** The STIP or its Design Consultant will produce a network design and engineering design for LANs at up to fifty-nine (59) WSFCS schools that includes an assessment of the current network, required network improvements and an implementation plan. The individual tasks, include but are not limited to:

7.3.2.1 Validate planned network logic functions.

7.3.2.2 Design topology and interconnection of components and sites using existing data cabling when possible.

7.3.2.3 Develop a limited number of 'Physical Design Templates' for a typical classroom, typical MDF installation, and typical IDF installation.

7.3.2.4 **The L3 switch should be the core of the LAN.**

7.3.2.4.1 The preferred LAN should be based on a core Layer3 (L3) switch, with Layer2 (L2) switches connected to it providing connectivity for servers and end-user clients. The L3 switch

should connect to Owner's exiting WAN router to preserve access to the WAN as well as integrating the existing devices that may or may not move to the new LAN.

7.3.2.4.2 The L3 switch should also provide connectivity to higher speed LAN/WAN services as they become available in the future.

7.3.2.4.3 L3 switch should route IP, but bridge IPX to avoid cost of IPX routing in the L3 switch software. IPX should continue to be routed in the WAN router.

7.3.2.4.4 There should be a single IPX network in each school so long as the school is all Ethernet.

7.3.2.4.5 L3 switch should be located behind the WAN router.

7.3.2.4.6 The new server subnet should connect to the L3 switch, as should the new user subnets, via L2 switches.

7.3.2.4.7 As higher speed WAN options become available, the should connect to the L3 switch within the school.

7.3.2.5 **Placement of L2 switches.** The other fundamental design issue for school infrastructure is switch placement for L2 switches. STIP should recommend one of three options for the placement of the L2 switch based on the best value to the Owner and the needs and logistics of each school:

7.3.2.5.1 In the MDF with the L3 switch;

7.3.2.5.2 In an IDF between the MDF and the classroom;

7.3.2.5.3 In the classroom.

7.3.2.6 **Develop and review IP addressing assignments.** The Owner desires to have a consistent IP addressing system.

7.3.2.7 Develop standard switch images / configurations.

7.3.2.8 Define required connection testing of the school cabling and network switches.

7.3.2.9 Develop switch installation scripts.

7.3.3 **Cable Design.** All cable design and installation shall conform to the following industry standards:

7.3.3.1 TIA/EIA-568A Commercial Building Telecommunications Wiring Standard.

7.3.3.2 TIA/EIA-568A-(1,2,3,4 &5) Propagation Delay and Delay Skew Specifications for 100 ohm,

7.3.3.3 4-pair cable, and all Commercial Building Standards Updates

- 7.3.3.4 TIA/EIA-569-A Commercial Building Standard for Telecommunications Pathways and Spaces
 - 7.3.3.5 TIA/EIA-569-A-(1,2,3&4) Commercial Building Standard for Telecommunications Pathways and Spaces Addendums.
 - 7.3.3.6 TIA/EIA 606 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings.
 - 7.3.3.7 TIA/EIA 607 Commercial Building Grounding and Bonding Requirements for Telecommunications.
 - 7.3.3.8 TIA/EIA TSB-36 Additional Cable Specifications for Unshielded Twisted-Pair Cables
 - 7.3.3.9 TIA/EIA TSB-40-A Additional Transmission Specifications for Unshielded Twisted-Pair Connecting Hardware
 - 7.3.3.10 TIA/EIA TSB-67 UTP Link Performance Testing
 - 7.3.3.11 TIA/EIA TSB-95 Additional Transmission Performance Guidelines for 4-pair 100 ohm Category 5 Cabling
 - 7.3.3.12 American National Standards Institute (ANSI) C2 National Electrical Safety Code
 - 7.3.3.13 National Fire Protection Association (NFPA) 70 National Electrical Code
 - 7.3.3.14 NFPA 75 Protection of Electronic Computer/Data Processing Equipment
 - 7.3.3.15 Uniform Building Code: 47 Code of Federal Regulations (CFR) part 68 and 29 CFR 1926/1910 OSHA Safety and Health Standards.
- 7.3.4 **Cabling Design Assumptions.** This Section of the RFP is based on the following key design assumptions.
- 7.3.4.1 Intercom and Media retrieval system selection is not a part of this RFP. Owner has, through a separate RFP, selected an intercom and media system.
 - 7.3.4.2 Media runs from the MDF to the IDF, if required, will be an average of 225 feet in length.
 - 7.3.4.3 STIP is responsible for developing a Local Area Network (LAN) school design. The Wide Area Network (WAN) is not in scope for this RFP.
 - 7.3.4.4 Three sites affected by STIP's performance under this RFP have been declared as "Historical Buildings," Reynolds High School, Old Town Elementary and Wiley Middle School.
- 7.3.5 **Data Cabling Design Assumptions.**
- 7.3.5.1 The average data drop length to use for this RFP is 225 feet for each data drop.

- 7.3.5.2 The number of classrooms per school is being based on the documentation provided by the Winston-Salem Forsyth County Schools.
- 7.3.5.3 It is assumed that wall penetrations will not exceed 2 inches in diameter.
- 7.3.5.4 It is assumed that every school that is multistory building shall need one (1) core drill per floor.
- 7.3.5.5 It is assumed that every school shall require a wall penetration from the hallway into each classroom.
- 7.3.5.6 Every floor core drill or wall penetration shall have a sleeve installed with an insulated bushing on each end. All penetrations shall be fire stopped at the completion of the job.
- 7.3.5.7 It is assumed that the pathways from the IDF cabinets/rooms to the classrooms shall be the space above the dropped ceilings in the hallways. The cables shall be supported by "J" hooks placed every 48" to 60" or shall be placed in cable tray such as G.S. Metals "Flextray" or similar product if space is available and cable count requires it.
- 7.3.5.8 Fiber optic cables shall be a "MIC" style (indoor/outdoor) fiber optic cable that is suitable for installation in a protected outdoor environment but does not have to be transitioned to an "inside" rated cable within 50 feet of the point of entrance. Fiber optic cables shall be terminated at both ends on "ST" style connectors and placed in a protective fiber optic housing with "ST" bulkheads. All fiber optic strands and cables shall be labeled with both numbers and far end location/remote building number or name. Fiber optic cables shall all be tested bi-directionally.

7.3.6 Network Electronics Design Assumptions.

- 7.3.6.1 Title for Cisco products will be passed to WSFCS upon completion and acceptance of the work. At the time of final completion, warranty period will commence.
- 7.3.6.2 SMARTnet maintenance may be purchased at time of hardware/software purchase if required to receive discounts stated in this RFP. SMARTnet maintenance will be provided in accordance with Cisco SMARTnet maintenance terms.

7.3.7 Wireless LAN Engineering Design Services. The objective of this task as described in 7.1.6 above is to design, procure the necessary equipment for and install a wireless connectivity system for the transfer of electronic data and information from mobile classrooms units (MCUs) to a school's LAN and the internet. Wireless connectivity will also be installed in Media Centers, common areas, cafeterias, gyms, auditoriums and conference rooms. The schools with MCUs are listed at Tab 14. The major sub tasks are:

7.3.7.1 Gather Requirements and Perform Assessment.

- 7.3.7.1.1 Review WSFCS existing network topology documentation.
- 7.3.7.1.2 Assess the validity of a wireless LAN solution for the WSFCS environment.

- 7.3.7.1.3 Assess the existing Information Technology (IT) and site infrastructure environments to determine the viability of supporting a wireless LAN.
 - 7.3.7.1.4 Evaluate path requirements such as line of sight, potential obstacles (hills, trees, buildings, etc.), and distance.
 - 7.3.7.1.5 Evaluate potential requirements for cable support (type and locations), power support (type, location of source, loading), equipment mounting, and system grounding locations.
 - 7.3.7.1.6 Document findings in a Wireless LAN Network Assessment document.
- 7.3.7.2 **Wireless LAN System Design.** The purpose of the Wireless LAN system design is to develop a system design for implementing wireless technology. The major sub-tasks are:
- 7.3.7.2.1 Review and analyze the Owner's site survey data.
 - 7.3.7.2.2 Evaluate the connectivity requirements.
 - 7.3.7.2.3 Review bandwidth requirements to ensure the design provides for sufficient capacity.
 - 7.3.7.2.4 Design the IP network configurations.
 - 7.3.7.2.5 Develop a logical network design (functional and performance requirements) and the physical network topology (Ethernet).
 - 7.3.7.2.6 Compile maps of coverage areas indicating signal quality for the micro cellular architecture indicating Access Points and adapter card configurations.
 - 7.3.7.2.7 Compile detailed listing of equipment, materials and accessories, antennae orientations, frequency plan, installation location(s) and mounting details, required to implement the design.
 - 7.3.7.2.8 Document the location and types of cable and power, grounding and special mounting preparation requirements.
 - 7.3.7.2.9 Document design exceptions with respect to RF performance (freezers, coolers, x-ray rooms, elevators, microwave ovens, metal objects, etc.).
 - 7.3.7.2.10 Develop test criteria to verify coverage using the Client Utility, testing for link quality and roaming capability, and validating minimum data rate requirements used in the design parameters.
 - 7.3.7.2.11 Develop parametric specifications necessary to achieve wireless connectivity for your future installation of Network Interface Cards (NICs).

7.3.7.2.12 Develop integration instructions for connecting Access Points into the existing wired LAN infrastructure.

7.3.7.2.13 Prepare the Wireless LAN System Design Report.

7.3.7.3 **Key Assumptions Regarding Design of Wireless RFP.** This RFP is based on the following key assumptions.

7.3.7.3.1 Some services in this RFP may be performed by an STIP subcontractor.

7.3.7.3.2 Work under this contract will not be performed during school hours unless otherwise mutually agreed upon by STIP and WSFCS.

7.3.7.3.3 Any changes to the building and/or outdoor area may affect the radio frequency (called "RF") coverage for the surveyed location. This may result in performance variations from the RF information provided by the site survey.

7.3.7.3.4 Access Point means a connection allowing access into a LAN.

7.3.8 **Electrical, HVAC and Building Design Services.** The purpose of the electrical, HVAC and building design is develop related building improvements and renovations necessary to support installation of the technology systems described in the RFP. The design shall include, but is not limited to:

7.3.8.1 New wiring closets/equipment locations and retrofits for existing wiring closets/equipment locations, (general construction buildout, HVAC, lighting, construction permits) as needed to meet the technology goals of this RFP.

7.3.8.2 The design of the CATV replacement systems and/or possible relocation and reuse of CATV.

7.3.8.3 The evaluation of existing telephone system; the determination of the cost effectiveness and performance capability of integrating the telephone system with the data cabling and intercom systems such as the use of VoIP telephones; and, if requested and approved by Owner, the design of an integrated telephone system.

7.4 **Procurement Services.** The STIP is to seek and obtain quantity discount, as a percentage of the manufactured suggested retail price, for each of the major items of equipment listed in Section 7 of the RFP that will be provided during the term of the agreement based on a "preferred provider" agreement with one or more suppliers.

7.4.1 The STIP shall be compensated for procurement services as part of its Management Fee.

7.4.2 All products must be approved by WS/FCS prior to STIP placing its order. WSFCS reserves the right to review product specifications and if any product does not meet STIP or WSFCS product safety specifications, STIP will work with WS/FCS to identify an alternate product. Procurement of an alternate product will occur only upon your approval.

7.4.3 STIP may procure products listed on the NC State Procurement Contracts. If products are not listed on the NC State Procurement Contracts listing or if STIP may obtain better prices buying off State contract as provided by NCGS §115C-522.1, STIP may procure them as provided by NCGS §115C-522.1 and regulations or as approved via particular purchase order. WSFCS reserves the right to review product specification and if any product does not meet WSFCS product safety specifications, STIP will work with WS/FCS to identify an alternative product. Procurement of an alternative product will occur only upon WS/FCS approval.

7.4.4 The equipment and deliverables to be procured by STIP includes but is not necessarily limited to:

- 7.4.4.1 Fiber Optic Cabling
- 7.4.4.2 CAT5E cabling
- 7.4.4.3 Video Cabling
- 7.4.4.4 Cable Termination Equipment
- 7.4.4.5 DSU's
- 7.4.4.6 Exposed wiring pathways
- 7.4.4.7 Racks-patch panels-cabinets
- 7.4.4.8 Televisions
- 7.4.4.9 TV brackets or wall mounts
- 7.4.4.10 Electrical components
- 7.4.4.11 Routers
- 7.4.4.12 Layer 2 and 3 Switches
- 7.4.4.13 Switch enclosures
- 7.4.4.14 UPS Devices
- 7.4.4.15 Fiber Termination Enclosures
- 7.4.4.16 Wireless airports

7.5 **CONTRACTUAL SERVICES.** The purpose of this section of the RFP is to describe the Scope of the Work to be performed by Prime or Trade Contractors in up to fifty-nine (59) WSFCS schools under contract and supervision of the STIP serving as a "Construction Manager" as defined in NCGS §143-128.1(a)(1). These services include, but are not necessarily limited to:

7.5.1 **Install and Test Cabling and/or Wiring.** STIP, as a construction manager, will **prepare specifications, prepare bid documents and recommend to the Owner the award of** contracts for the procurement and installation of the designed cabling and wiring specified in this RFP and test the cables and wires once installed per the specifications. The sub-tasks are:

7.5.1.1 The cabling and wiring systems shall be installed in a professional manner by persons skilled and certified in the trades represented by the work, in accordance with the local building codes and applicable provisions of the National Electrical Code (NEC), except where specifications in the system design and specifications exceed Code and NEC requirements.

7.5.1.2 All electrical materials and equipment installed shall be of new manufacture, and approved by Underwriters Laboratories, Inc. (UL) and shall bear the UL label.

7.5.1.3 The contractor shall mark all data, power, intercom and CATV distribution panels, cables, and outlet plates with appropriate labels. These labels shall be MACHINE PRINTED on proper label material, and

they shall have "permanent" adhesive to attach them to the cables. Labels shall be installed as follows:

- 7.5.1.3.1 One label at each end of each cable prior to pulling. These labels do not survive the stripping back of the cable sheath.
- 7.5.1.3.2 One label at each end of each cable at the end of the cable sheath, after stripping.
- 7.5.1.3.3 One label on the inside of each outlet box, plus one label on the outside of each faceplate, in the space provided.
- 7.5.1.3.4 One label at the end of each cable where it enters the connector in the back of the distribution panel, plus one label on the front of the distribution panel, centered below or above each associated cable jack. The labels on the cable at the back of the panel and within the outlet box are the same labels as dictated by item #2.
- 7.5.1.4 The contractor shall make a final test of all cable runs between the wall faceplate and the distribution panel(s) as well as all newly installed telephone cables between the faceplate modular jack and the punch down blocks in the MDF or IDF. All drop and backbone cables shall be tested. Tests will be done as specified by TIA/EIA 568-A-5 and TSB-67 or later standards.
- 7.5.1.5 All test results shall be recorded on a test form or printed from the test equipment and provided to the customer in both hard copy format and a soft copy diskette or CD.
- 7.5.1.6 All equipment racks shall be grounded in accordance with the TIA/EIA-607 Bonding and Grounding Standards. Each rack must be individually connected to the TGB grounding bar and not serially connected with the other racks.
- 7.5.2 **Install and Configure Network Electronics Equipment.** The objective of this task is to procure, configure and install the equipment needed for effective system operation. The Subtasks are:
 - 7.5.2.1 Procure hardware in accordance with Preferred Customer agreements negotiated and obtained by STIP in behalf of Owner.
 - 7.5.2.2 Install Cisco network electronics hardware.
 - 7.5.2.3 Perform power on system test.
 - 7.5.2.4 Configure the Cisco switches with the standard image and run the installation script to configure site-specific parameters (e.g., IP address, default gateway, etc.).
 - 7.5.2.5 Perform verification of network connection by attaching a laptop PC to a switch port in the IDF and PINGing the core (Layer 3) switch in the MDF and PINGing the router.