County of Westchester, NY

Request For Proposals For A Laboratory Information Management System for:

Division of Forensic Sciences
Division of Forensic Toxicology
Medical Examiner’s Office

Department of Laboratories & Research and
Department of Information Technology

Issue Date: 10/13/2006
Reply Date: 11/06/2006
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Requests For Proposals
for a Laboratory Information Management System…
Department of Laboratories and Research and
the Department of Information Technology

Notice to Vendors

The Westchester County Department of Laboratories and Research, in cooperation with the Westchester County Department of Information Technology, is seeking proposals from qualified individuals and companies to provide a laboratory information management system for the divisions of forensic sciences, forensic toxicology and Medical Examiner’s Office. The County desires and expects bids based on the ability of the vendor to meet or exceed the requirements contained in this request. Contracts will be awarded to the vendor that the Departments of Laboratories and Research and Information Technology determine to be best able to provide the mandated information and functionality.

All proposals must be received in a sealed envelope at the offices of the Westchester County Department of Laboratories and Research, Attention: Robert Adamo, 10 Dana Road, Valhalla, NY 10595 on or before 4:00 PM (Eastern Standard Time), on November 6, 2006 Westchester County is not responsible for any internal or external delivery delays that may cause the RFP to arrive beyond the deadline. The Vendor must submit one original and ten (10) copies of the proposal in hard copy and an additional electronic copy in PDF or MS Word format.

The County will review the proposals and if warranted, schedule demonstrations to be conducted by one or more of the qualified Vendors as part of the final selection process. The County of Westchester reserves the right to reject any and all proposals and/or waive any informalities in any proposal. The County reserves the right to accept, reject or negotiate modifications to any proposal as it shall, in its sole discretion, deem to be in its best interest. The determination of adequacy of qualifications shall be at the sole discretion of the County.

The Request for Proposal is available on the County’s Web Site at: http://www.westchestergov.com/RFP.
Any questions regarding this RFP should be directed to: Robert Adamo by E-mail at: raa9@westchestergov.com.

No Vendor may withdraw its proposal within 120 days of the above submission date.

COUNTY OF WESTCHESTER
DEPARTMENT OF LABORATORIES AND RESEARCH
Dr. Millard J. Hyland, M.D.
Pathologist/Medical Examiner

COUNTY OF WESTCHESTER
DEPARTMENT OF INFORMATION TECHNOLOGY
Dr. Norman J. Jacknis
Chief Information Officer

Executive Summary
The purpose and intent of this RFP is to provide a Laboratory Information Management System (LIMS) to replace the current system used by the Westchester County Department of Laboratories and Research Divisions of Forensic Sciences, Toxicology and Medical Examiner’s Office. The current system was installed in 1997 by Thermo Electron Corporation.

The three Divisions require a LIMS that will meet their ever-changing needs. It must be user friendly, require low maintenance, have great flexibility including reporting, require minimal operations and be expandable enough to handle increasing test volumes. A test environment, detailed documentation, 24/7 support and chain of custody are also required. Functional details are found later in the RFP.

Required Deliverables In Response To The RFP
Each copy of the respondent’s proposal should include the following:

- A 3-5 page explanation of why the vendor’s software best meets the goals and solves the critical problems of Westchester County, as described in the RFP
- Point-by-point response to list of minimum and desirable features.
- Detailed presentation of the initial and continuing costs and terms of the acquisition of the software
- Recommended server and client capacity requirements software, database, and image storage
- List of all server, client and peripheral software requirements, including an indication of whether the software is bundled in the vendor product or requires separate acquisition and installation
- Detailed presentation of the initial customization cost as well as any continuing costs and terms of the acquisition of the software
- Five years of audited financial income and balance sheet statements
- Three references of organizations similar to Westchester County that incorporate a forensic sciences laboratory, a forensic toxicology laboratory, and a medical examiner facility which have used the software being proposed by the vendor
- Signed and notarized forms showing satisfaction of requirements for software and escrow
- Recommended hardware requirements for server(s), client(s), and peripherals to support the training and production systems
- Detailed implementation plan and schedule presented in a standard project planning tool which can be shared electronically

10 printed copies of the response must be received by November 6, 2006 to:

Robert Adamo, RFP Coordinator  
Westchester County Department of Laboratories and Research  
10 Dana Road  
Valhalla, NY  10595  
(914) 231-1786

Additionally, an electronic version should be emailed to Robert Adamo at raa9@westchestergov.com, submitted in MSWORD/Excel or PDF format.

**Schedule of RFP Events**

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<tr>
<td>Release of RFP to Public</td>
<td>October 13, 2006</td>
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<td>RFP Responses Due Back to County</td>
<td>November 6, 2006</td>
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<td>Notification of Finalists</td>
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<td>Interview and Demonstration of Finalists*</td>
<td>December 15, 2006</td>
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<td>Final Selection of Vendor</td>
<td>December 22, 2006</td>
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<td>January 22, 2007</td>
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<td>Installation Begins</td>
<td>March 19, 2007</td>
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* May not be necessary for vendors who have previously demonstrated their LIMS system to the Department of Labs and Research
Each vendor is responsible for becoming familiar with the conditions relating to the work to be performed. Failure to do so will not relieve the successful Vendor of the obligation to furnish all material and labor necessary to carry out the provisions of the contract. For those Vendors requesting further clarification of the conditions, please contact the RFP Coordinator to set up a site visit.

At the time the proposals are received, each Vendor will be presumed to have completed any site inspections and to have read and be thoroughly familiar with the plans and contract documents (including all addenda).

**Evaluation Methodology and Selection of Vendor**

- Selection will be made, if at all, based on the proposal that is most advantageous to the County based on the specified evaluation criteria herein.
- Any and all statistical data provided in this RFP is for information purposes only. The County will not be held responsible for inaccuracies and does not warrant the validity of the data contained herein. The following criteria, not necessarily listed in order of importance, will be used to evaluate proposals:
  - Vendor’s profile, financial stability and other related background information
  - Vendor’s plan to increase the quality of service
  - Complete and responsive proposal as required by all sections, terms, and conditions of the RFP
  - Vendor’s projected approach and plans to meet the requirements of the RFP
  - Vendor’s ability to provide the required insurance coverage
  - System support and implementation
  - Database platforms and applications
  - Technical environment
  - Required hardware and networking
  - Application software requirements and functionality
  - Vendor’s system problem and upgrade response times
  - Networking environment
  - Provided training and implementation
  - System operation requirements
  - LIMS and support pricing
  - Description and analysis of existing system

**Description of Existing System**

The current system utilized by the Division of Forensic Sciences, the Division of Forensic Toxicology and the Medical Examiner is from Thermo Electron Corporation. The current software being utilized is Sample Manager 2000 R1. The current LIMS was installed in 1997.
Reasons For Replacing The Existing System
As a result of advances in technology and the need to work within a highly regulated environment, a newer and more robust LIMS system is required for our Divisions. This system should provide the laboratory with a more flexible way to deal with the ever increasing demands being placed on the Forensic, Toxicological and Medical Examiner fields. The current system utilizes software that is over five years old and is unable to keep up with our ever changing needs. In addition, the hardware component of the LIMS is outdated and is incapable of running the more sophisticated LIMS packages that are currently available. It is our desire to choose a system that seamlessly integrates and increases the efficiency of transactions between our three Divisions. The new system should allow for a maximum optimization of available computer technology. It should eliminate the need to use outdated methods for laboratory functions. For example, some members of our Divisions still use typewriters to create and fill in important documentation. Additionally, laboratory productivity is often reduced by the manual transfer of data from instruments to worksheets. Many newer LIMS systems allow for direct integration with laboratory instrumentation. The current LIMS does not allow for this type of data transfer throughout the laboratory. In addition, our user agencies demand varied reporting and remote access capabilities. Having the ability to pre-log evidence submissions and query case status remotely would greatly increase information flow with outside users. The current system does not perform these functions.

Goals of the Department
Our functions as the Forensic Sciences, Toxicology and Medical Examiner Divisions of Laboratory and Research demand state of the art testing and therefore, a state of the art Laboratory Information Management System. Our goal is to minimize turn around time and maximize communication to our user agencies. We pride ourselves in our reputation as a quality laboratory with state of the art technology and must move towards a Laboratory Information Management System that can help us keep that reputation. We expect the same immediate and quality service from the vendor that we choose as we provide to our user agencies.

Functional Requirements
Requirements are listed and attached in Appendix A of this document.

Mandatory Support Requirements
The following general areas of technical and end user support must be addressed by the respondent both here and, as appropriate, more specifically in response to the list of minimum and desirable system features. Omission of any area may be viewed as unfavorable.

IT System Requirements – See Appendix A - Page 49
Software Installation
Vendor software will be installed on Westchester County supplied server(s) by the vendor and Westchester County IT Systems Administrator. Both a testing environment and a production environment will be established so that users will be able to test the system and subsequent new features without effecting ongoing production. The software
installation process and requirements will be thoroughly documented by the vendor and be available to the County for review and acceptance prior to the actual installation. Additionally, criteria demonstrating a successful installation will be itemized and available for the County to review and approval. Technical and end user administrator knowledge transfers will be performed to assure that the County IT systems manager can maintain the installation or perform a re-install if necessary, and that the end user can sufficiently maintain business rules and mandates.

Software Configuration
At minimum, software configuration must be based upon the identified operational needs of end users. This can be accomplished through the respondent’s described process, through vendor-led business process analysis of the existing and anticipated workflows, or a hybrid of the two general approaches. Regardless of the intended approach, a detailed plan should be presented including requirements, tasks, resources, etc. The configuration must be documented for review and acceptance by the County.

Data Conversion
The existing historical data and all other related data supporting the current system (Thermo Systems’ Sample Manager) will be cleaned, converted where required, and imported into the new system database. This imported historical information will be accessible for viewing and for reporting in the new environment. A formal document detailing the data conversion tasks and required resources will be produced for review and acceptance by affected parties prior to production.

Training
End-user training will be provided to users (approximate number of staff requiring some level of training is expected to be between 55-60) at a county facility that will accommodate ten (10) students at a time. End-user training should cover all aspects of the software including but not limited to data entry, querying, reporting, administrative functions, and the authorization and completion of cases. Each session shall be focused on teaching end users how to perform their specific jobs using the tools provided in the system. Hard copy and electronic reference materials summarizing basic procedures should be provided as part of the training. Training should be group specific (ME, Forensic Sciences and Toxicology) because each group has specific needs. A separate administration course and electronic reference materials should be provided to the application administrators who will maintain the system for Labs and Research. Additionally, a knowledge transfer, including supporting reference materials, will be performed to assure that both the County IT systems administrator(s) and the Labs and Research systems administrator(s) can perform required software maintenance and successfully install system patches and upgrades.

Go-Live Support
Full implementation support must be described, including the respondent’s plan for on-site startup assistance and support for each effected division of Labs and Research and the Department of Information Technology.
Ongoing Support
The vendor will provide a post implementation review plan, to be conducted jointly with the County. Additionally, the vendor will provide a quote for annual maintenance and support of the system for the 5 years following a required one-year warranty period. The vendor will itemize the terms of this maintenance and support, including but not limited to items covered by support, hours and levels of support, methods of support (i.e. Help Desk, email, on-line, on-site), guaranteed response times, and costs associated with response or development of customized solutions.

Documentation
The vendor shall provide user documentation, including, but not limited to:

- Detailed system training manuals which thoroughly explain setup, use, and maintenance of the system. Vendor will grant permission to make copies of the manual to be used by Labs and Research staff.
- Procedural definitions of system user identity and access management (both internal and external users).
- On-line documentation, field level or otherwise, preferably in an industry standard, searchable help format such as a Microsoft Help or HTML file, or minimally as an ASCII text file.
- Planning and installation documentation for product upgrades.
- A detailed system configuration design.
- A detailed description of system installation, configuration and integration documentation.
- Installation instructions for all software components, including client computers, network servers, peripheral devices, instrumentation, databases, and any other vendor supplied utilities or existing customer assets which are required for the software to be implemented and supported by the County IT systems administrator.
- Record layouts for all files and database tables used in the system.
- Any special backup, restore, and/or recovery procedures.
- At least one thoroughly documented application example, if the vendor supplies an application-programming interface
- Interactive, computer-based training or on-line tutorial.
- Access to a vendor supported Web site containing documentation enhancements, bug reports, patches, etc.
- Implementation plan and schedule
- Status reporting
- Monthly (or other periodic) reports on progress
- Milestone reports
- System requirements
Software Warranty and Maintenance
The vendor must provide Westchester County with a one (1) year warranty period, which will begin when the system is accepted by Westchester County. The vendor shall warrant all software provided to be free of defects during this one-year period. Any repairs or “bug fixes” required during this period will be made at no expense to the County.

Source Code in Escrow
The vendor must place and maintain a current copy of the source code as delivered to Westchester County in escrow. In addition, the vendor must indicate that the escrowed software is updated as the source code is modified and that the County will be permitted access to the source code should the vendor enter into bankruptcy or otherwise cease to operate or otherwise be unable to provide support for the product. The County reserves the right to verify that the item(s) placed in escrow includes the source code for the delivered system. The source code in escrow must be in a format and location acceptable to the County. The cost for establishing and maintaining the required escrow account is to be born by the vendor.
LEGAL REPRESENTATIONS

UNDERSTANDINGS

Please take notice, by submission of a proposal in response to this request for proposals, proposing entity agrees to and understands:

- that any proposal, attachments, additional information, etc. submitted pursuant to this Request for Proposals constitute merely a suggestion to negotiate with the County of Westchester and is not a bid under Section 103 of the New York State General Municipal Law;

- submission of a proposal, attachments, and additional information shall not entitle the proposing entity to enter into a service agreement with the County of Westchester for the required services;

- by submitting a proposal, the proposing entity agrees and understands that the County of Westchester is not obligated to respond to the proposal, nor is it legally bound in any manner whatsoever by submission of same;

- that any and all counter-proposals, negotiations or any communications received by a proposing entity, its officers, employees or agents from the County, its elected officials, officers, employees or agents, shall not be binding against the County of Westchester, its elected officials, officers, employees or agents unless and until a formal written agreement for the services sought by this RFP is duly executed by both parties and approved by the Westchester County Board of Acquisition & Contract, and the Office of the Westchester County Attorney.

In addition to the foregoing, by submitting a proposal, the proposing entity also understands and agrees that the County of Westchester reserves the right, and may at its sole discretion exercise, the following rights and options with respect to this Request for Proposals:

- To reject any or all proposals;
- To issue additional solicitations for proposals;
- To issue amendments to this RFP;
- To waive any irregularities in proposals received after notification to proposers affected;
- To select any proposal as the basis for negotiations of a contract, and to negotiate with one or more of the proposers for amendments or other modifications to their proposals;
• To conduct investigations with respect to the qualifications of each proposer;
• To exercise its discretion and apply its judgment with respect to any aspect of this RFP, the evaluation of proposals, and the negotiations and award of any contract;
• To enter into an agreement for only portions (or not to enter into an agreement for any) of the services contemplated by the proposals with one or more of the proposers;
• To select the proposal that best satisfies the interests of the County and not necessarily on the basis of price or any other single factor;
• While this is a Request For Proposals and not a bid, the County reserves the right to apply the case law under General Municipal Law § 103 regarding bidder responsibility in determining whether a proposer is a responsible vendor for the purpose of this RFP process;
• The County assumes no responsibility or liability of any kind for costs incurred in the preparation or submission of any proposal;
• The County is not responsible for any internal or external delivery delays which may cause any proposal to arrive beyond the stated deadline. To be considered, proposals MUST arrive at the place specified herein and be time stamped prior to the deadline.
• Evaluation criteria are not necessarily listed in order of importance. The County reserves the right to weigh its evaluation criteria in any manner it deems appropriate.

PROPOSAL REQUIREMENTS

• Requests for clarification of this RFP must be written and submitted to Robert Adamo no later than 4:00 p.m. on November 6, 2006. Formal written responses will be distributed by the County on or before November 27, 2006. NO COMMUNICATIONS OF ANY KIND WILL BE BINDING AGAINST THE COUNTY, EXCEPT FOR THE FORMAL WRITTEN RESPONSES TO ANY REQUEST FOR CLARIFICATION.

• Proposals MUST be signed. Unsigned proposals will be rejected.
• Proposers may be required to give an oral presentation to the County to clarify or elaborate on the written proposal.
• No proposal will be accepted from nor any agreement awarded to any proposer that is in arrears upon any debt or in default of any obligation owed to the County. Additionally, no agreement will be awarded to any proposer that has failed to satisfactorily perform pursuant to any prior agreement with the County.

**CONTRACT**

After selection of the successful proposer, a formal written contract will be prepared by the County of Westchester and will not be binding until signed by both parties and approved by the Westchester County Board of Acquisition & Contract and the Office of the County Attorney. **NO RIGHTS SHALL ACCRUE TO ANY PROPOSER BY THE FACT THAT A PROPOSAL HAS BEEN SELECTED BY THE COUNTY FOR SUBMISSION TO THE BOARD OF ACQUISITION & CONTRACT FOR CONTRACT APPROVAL. SAID BOARD HAS THE RIGHT TO REJECT ANY RECOMMENDATION AND THE APPROVAL OF SAID BOARD IS NECESSARY BEFORE A VALID AND BINDING CONTRACT MAY BE EXECUTED BY THE COUNTY.**

**INDEMNIFICATION AND INSURANCE**

The proposer accepts and agrees that language in substantially the following form will be included in the contract between the proposer and the County:

“In addition to, and not in limitation of the insurance requirements contained herein the Consultant agrees:

(a) that except for the amount, if any, of damage contributed to, caused by or resulting from the negligence of the County, the Consultant shall indemnify and hold harmless the County, its officers, employees and agents from and against any and all liability, damage, claims, demands, costs, judgments, fees, attorneys' fees or loss arising directly or indirectly out of the acts or omissions hereunder by the Consultant or third parties under the direction or control of the Consultant; and

(b) to provide defense for and defend, at its sole expense, any and all claims, demands or causes of action directly or indirectly arising out of this Agreement and to bear all other costs and expenses related thereto.

Upon execution of any contract between the proposer and the County, the proposer will be required to provide proof of the insurance coverage described in Schedule A.
Insurance coverage in amount and form shall not be deemed acceptable until approved by the County of Westchester, Department of Risk Management. The Director of Risk Management may alter insurance requirements at his discretion.

NON-COLLUSION

The proposer, by signing the proposal, does hereby warrant and represent that any ensuing agreement has not been solicited, secured or prepared directly or indirectly, in a manner contrary to the laws of the State of New York and the County of Westchester, and that said laws have not been violated and shall not be violated as they relate to the procurement or the performance of the agreement by any conduct, including the paying or the giving of any fee, commission, compensation, gift, gratuity or consideration of any kind, directly or indirectly, to any County employee, officer or official.

CONFLICT OF INTEREST

All firms must disclose with their proposals the name of any officer, director or agent who is also an employee of the County of Westchester. Further, all firms must disclose the name of any County employee who owns, directly or indirectly, an interest of ten percent or more in the firm or any of its subsidiaries or affiliates.

COMPLIANCE WITH LAWS

The preparation of proposals, selection of vendors and the award of contracts are subject to provisions of all Federal, State and County laws, rules and regulations.

CONTENTS OF PROPOSAL

The New York State Freedom of Information Law as set forth in Public Officers Law, Article 6, Sections 84-90, mandates public access to government records. However, proposals submitted in response to this RFP may contain technical, financial background or other data, public disclosure of which could cause substantial injury to the proposer's competitive position or constitute a trade secret. Proposers who have a good faith belief that information submitted in their proposals is protected from disclosure under the New York Freedom of Information Law shall:

a) insert the following notice in the front of its proposal:
“NOTICE

The data on pages ___ of this proposal identified by an asterisk (*) contains technical or financial information constituting trade secrets or information the disclosure of which would result in substantial injury to the proposer’s competitive position.

The proposer requests that such information be used only for the evaluation of the proposal, but understands that any disclosure will be limited to the extent that the County considers proper under the law. If the County enters into an agreement with this proposer, the County shall have the right to use or disclose such information as provided in the agreement, unless otherwise obligated by law.”

and

b) clearly identify the pages of the proposals containing such information by typing in bold face on the top of each page " * THE PROPOSER BELIEVES THAT THIS INFORMATION IS PROTECTED FROM DISCLOSURE UNDER THE STATE FREEDOM OF INFORMATION LAW."

The County assumes no liability for disclosure of information so identified, provided that the County has made a good faith legal determination that the information is not protected from disclosure under applicable law or where disclosure is required to comply with an order or judgment of a court of competent jurisdiction.

The contents of the proposal which is accepted by the County, except portions "Protected from Disclosure", may become part of any agreement resulting from this RFP.

MBE/WBE

Pursuant to Local Law No. 27-1997, it is the goal of the County to use its best efforts to encourage, promote and increase the participation of business enterprises which are owned and controlled by persons of color or women in contracts and projects funded by the County. Therefore, the County asks Proposers to complete the questionnaire attached hereto as Schedule “B”.
MACBRIDE PRINCIPLES

Pursuant to Act No. 56-1999, no County procuring officer may award or recommend for award any contract not subject to competitive bidding to a proposer that does not execute a certification substantially in the form attached hereto as Schedule _. Therefore, the County asks Proposers to complete the certification attached hereto as Schedule “C”.

RELATIONSHIPS TO COUNTY

Proposers are required to complete the questionnaire entitled “Required Disclosure of Relationships to County” attached hereto as Schedule “D”. In the event that any information provided in the completed questionnaire changes, Proposer agrees to provide a revised “Required Disclosure of Relationships to County” form to the County within ten (10) business days of such event.

QUALIFIED TRANSPORTATION FRINGE PROGRAM

Executive Order No. 7-2005 requires that contractors, concessionaires and vendors doing business with the County enroll in a Qualified Transportation Fringe Program as defined in §132(f)(1) of the IRS Tax Code for all contracts for goods or services of $100,000 or more in any twelve month period during the contract term if such contractor, concessionaire or vendor employs more than 25 individuals who utilize public transportation and/or pay for commuter parking at least 1 day per week regardless of whether those employees are engaged in work pursuant to the contract.

Bidders/Proposers shall submit the signed statement which is attached hereto as page 1 of Schedule "E". Notwithstanding the above, a Proposer may submit to the Commissioner a Waiver Application in the form attached hereto as page 2 of Schedule "E".

PROPOSER CERTIFICATION

The undersigned agrees and understands that this proposal and all attachments, additional information, etc. submitted herewith constitute merely an offer to negotiate with the County of Westchester and is NOT A BID. Submission of this proposal, attachments, and additional information shall not obligate or entitle the proposing entity to enter into a service agreement with the County of Westchester for the required services. The undersigned agrees and understands that the County of Westchester is not obligated to respond to this proposal nor is it legally bound in any manner whatsoever by the submission of same. Further, the undersigned agrees and understands that any and all proposals and negotiations shall not be binding or valid against the County of Westchester, its directors, officers, employees or agents unless an agreement is signed by a duly authorized officer of the County of Westchester and approved by the Office of the County Attorney.
It is understood and agreed that the County of Westchester reserves the right to reject consideration of any and all proposals including, but not limited to, proposals which are conditional or incomplete. It is further understood and agreed that the County of Westchester reserves all rights specified in the Request for Proposals.

It is represented and warranted by those submitting this proposal that except as disclosed in the proposal, no officer or employee of the County of Westchester is directly or indirectly a party to or in any other manner interested in this proposal or any subsequent service agreement that may be entered into.

____________________
Proposer Name

By: __________________
Name and Title
SCHEDULE "A"

STANDARD INSURANCE PROVISIONS
(Consultant)

1. Prior to commencing work, the Consultant shall obtain at its own cost and expense the required insurance from insurance companies licensed in the State of New York, carrying a Best's financial rating of A or better, and shall provide evidence of such insurance to the County of Westchester, as may be required and approved by the Director of Risk Management of the County. The policies or certificates thereof shall provide that thirty days prior to cancellation or material change in the policy, notices of same shall be given to the Director of Risk Management of the County of Westchester by registered mail, return receipt requested, for all of the following stated insurance policies. All notices shall name the Consultant and identify the Agreement.

If at any time any of the policies required herein shall be or become unsatisfactory to the County, as to form or substance, or if a company issuing any such policy shall be or become unsatisfactory to the County, the Consultant shall upon notice to that effect from the County, promptly obtain a new policy, submit the same to the Department of Risk Management of the County of Westchester for approval and submit a certificate thereof. Upon failure of the Consultant to furnish, deliver and maintain such insurance, the Agreement, at the election of the County, may be declared suspended, discontinued or terminated. Failure of the Consultant to take out, maintain, or the taking out or maintenance of any required insurance, shall not relieve the Consultant from any liability under the Agreement, nor shall the insurance requirements be construed to conflict with or otherwise limit the contractual obligations of the Consultant concerning indemnification. All property losses shall be made payable to and adjusted with the County.

In the event that claims, for which the County may be liable, in excess of the insured amounts provided herein are filed by reason of any operations under the Agreement, the amount of excess of such claims or any portion thereof, may be withheld from payment due or to become due the Consultant until such time as the Consultant shall furnish such additional security covering such claims in form satisfactory to the County of Westchester.

2. The Consultant shall provide proof of the following coverage (if additional coverage is required for a specific agreement, those requirements will be described in the "Special Conditions" of the contract specifications):

(a) Workers' Compensation. Certificate form C-105.2 or State Fund Insurance Company form U-26.3 is required for proof of compliance with the New York State Workers' Compensation Law.

NOTE: Other generally recognized forms/certificates may be substituted for the above at the sole discretion of the Director of Risk Management.

State Workers' Compensation Board form DB-120.1 is required for proof of compliance with the New York State Disability Benefits Law. Location of operation shall be "All locations in Westchester County, New York."
(Where an applicant claims to not be required to carry either a Workers' Compensation Policy or Disability Benefits' Policy, or both, a temporary permit may be issued if the employer completes form WC/DB-100 or, if applicable, form WC/DB-101. PLEASE NOTE THESE FORMS REPLACE FORM C-105.21. THE APPROPRIATE REPLACEMENT FORM MUST BE NOTARIZED PRIOR TO BEING SUBMITTED TO THE WORKERS' COMPENSATION BOARD, INFORMATION UNIT FOR INVESTIGATION AND REPORT).

If the employer is self-insured for Worker's Compensation, he should present a certificate from the New York State Worker's Compensation Board evidencing that fact.

(b) Employer's Liability with minimum limit of $100,000.

(c) Commercial General Liability Insurance with a minimum limit of liability per occurrence of $1,000,000 for bodily injury and $100,000 for property damage or a combined single limit of $1,000,000 (c.s.1), naming the County of Westchester as an additional insured. This insurance shall include the following coverages:

(i) Premises - Operations.
(ii) Broad Form Contractual.
(iii) Independent Contractor and Sub-Contractor.
(iv) Products and Completed Operations.

(d) Automobile Liability Insurance with a minimum limit of liability per occurrence of $1,000,000 for bodily injury and a minimum limit of $100,000 per occurrence for property damage or a combined single limit of $1,000,000 unless otherwise indicated in the contract specifications. This insurance shall include for bodily injury and property damage the following coverages:

(i) Owned automobiles.
(ii) Hired automobiles.
(iii) Non-owned automobiles.

(e) Consultant's Professional Liability. The Consultant shall provide proof of such insurance. (Limits of $1,000,000 per occurrence/$3,000,000 aggregate).

3. All policies of the Consultant shall be endorsed to contain the following clauses:

(a) Insurers shall have no right to recovery or subrogation against the County of Westchester (including its employees and other agents and agencies), it being the intention of the parties that the insurance policies so effected shall protect both parties and be primary coverage for any and all losses covered by the above-described insurance.

(b) The clause "other insurance provisions" in a policy in which the County of Westchester is named as an insured, shall not apply to the County of Westchester.
(c) The insurance companies issuing the policy or policies shall have no recourse against the County of Westchester (including its agents and agencies as aforesaid) for payment of any premiums or for assessments under any form of policy.

(d) Any and all deductibles in the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of, the Consultant.
For Informational Purposes Only

QUESTIONNAIRE REGARDING BUSINESS ENTERPRISES OWNED AND CONTROLLED BY PERSONS OF COLOR OR WOMEN

As part of the County’s program to encourage the meaningful and significant participation of business enterprises owned and controlled by persons of color or women in County contracts, and in furtherance of Local Law No. 27-1997 we request that you answer the questions listed below.

The term persons of color means a United States citizen or permanent resident alien who is and can demonstrate membership of one of the following groups: (a) Black persons having origins in any of the Black African racial groups; (b) Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American descent of either Indian or Hispanic origin regardless of race; (c) Native American or Alaskan native persons having origins in any of the original peoples of North American; or (d) Asian or Pacific Islander persons having origins in any of the Far East countries, South East Asia, the Indian sub-continent or the Pacific Islands.

An enterprise owned and controlled by persons of color or women means a business enterprise including a sole proprietorship, limited liability partnership, partnership, limited liability corporation or corporation that is (a.) at least 51% owned by one or more persons of color or women; (b.) an enterprise in which such ownership by persons of color or women is real, substantial and continuing; (c.) an enterprise in which such ownership interest by persons of color or women has and exercises the authority to control and operate, independently, the day-to-day business decisions of the enterprise; and (d.) an enterprise authorized to do business in this state which is independently owned and operated.

In addition, a business enterprise owned and controlled by persons of color or women shall be deemed to include any business enterprise certified as an MBE or WBE pursuant to Article 15-a of the New York State Executive Law and implementing regulations, 9 NYCRR subtitle N Part 540 et seq., or as a small disadvantaged business concern pursuant to the Small Business Act, 15 U.S.C. 631 et seq., and the relevant provisions of the Code of Federal Regulations as amended.

1. Are you a business enterprise which is owned and controlled by persons of color or women in accordance with the standards listed above?
1. No
   ______ Yes (as a business owned and controlled by persons of color)
   ______ Yes (as a business owned and controlled by women)

2. If you are a business owned and controlled by persons of color, please specify, the
   minority classifications which apply: ____________________________________________

3. Are you certified with the State of New York as a minority business enterprise
   ("MBE") or a women business enterprise ("WBE")?
   ______ No
   ______ Yes (as a MBE)
   ______ Yes (as a WBE)

4. If you are certified with the State of New York as an MBE, please specify the minority
   classifications which apply: _________________________________________________

5. Are you certified with the Federal Government as a small disadvantaged business
   concern?
   ______ No
   ______ Yes

Name of Firm/Business Enterprise: _____________________________________________
Address: _________________________________________________________________
Name/Title of Person completing MBE/WBE Questionnaire: _______________________
Signature: ____________________________________________________________________
SCHEDULE “C”

CERTIFICATION REGARDING BUSINESS DEALINGS WITH NORTHERN IRELAND

A. The Contractor and any individual or legal entity in which the Contractor holds a ten percent (10%) or greater ownership interest and any individual or legal entity that holds a ten percent (10%) or greater ownership interest in the Contractor (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Principles.

B. For purposes of this Certification, “MacBride Principles” shall mean those principles relating to nondiscrimination in employment and freedom of workplace opportunity which require employers doing business in Northern Ireland to:

1. increase the representation of individuals from underrepresented religious groups in the work force, including managerial, supervisory, administrative, clerical and technical jobs;
2. take steps to promote adequate security for the protection of employees from underrepresented religious groups both at the workplace and while traveling to and from work;
3. ban provocative religious or political emblems from the workplace;
4. publicly advertise all job openings and make special recruitment efforts to attract applicants from underrepresented religious groups;
5. establish layoff, recall and termination procedures which do not in practice favor a particular religious group;
6. abolish all job reservations, apprenticeship restrictions and differential employment criteria which discriminate on the basis of religion;
7. develop training programs that will prepare substantial numbers of current employees from underrepresented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade and improve the skills of workers from underrepresented religious groups;
8. establish procedures to assess, identify and actively recruit employees from underrepresented religious groups with potential for further advancement; and
9. appoint a senior management staff member to oversee affirmative action efforts and develop a timetable to ensure their full implementation.
C. For purposes of this Certification, “Northern Ireland” shall be understood to be the six counties partitioned from the Irish Province of Ulster, and administered from London and/or from Stormont.

D. The Contractor agrees that the warranties and representation in paragraph “A” are material conditions of this Agreement. If the County receives information that the Contractor is in violation of paragraph “A”, the County shall review such information and give the Contractor opportunity to respond. If the County finds that such a violation has occurred, the County may declare the Contractor in default, and/or terminate this Agreement. In the event of any such termination, the County may procure the supplies, services or work from another source in accordance with applicable law. The Contractor shall pay to the County the difference between the contract price for the uncompleted portion of this Agreement and the cost to the County of completing performance of this Agreement either by itself or by engaging another Contractor. If this is a contract other than a construction contract, the Contractor shall be liable for the difference in price if the cost of procurement from another source is greater than what the County would have paid the Contractor plus any reasonable costs the County incurs in any new procurement and if this is a construction contract, the County shall also have the right to hold the Contractor in partial or total default in accordance with the default provisions of this Agreement. In addition, the Contractor may be declared not to be a responsible bidder or proposer for up to three (3) years, following written notice to the Contractor, giving the Contractor the opportunity for a hearing at which the Contractor may be represented by counsel. The rights and remedies of the County hereunder shall be in addition to, and not in lieu of, any rights and remedies the County has pursuant to this Agreement or by operation of law or in equity.

Agreed:

Name of Contractor: ___________________________

By (Authorized Representative): ____________________

Title: ______________ Date: ________
SCHEDULE “D”
REQUIRED DISCLOSURE OF RELATIONSHIPS TO COUNTY
(Prior to execution of a contract by the County, a potential County contractor must complete, sign and return this form to the County)

Contract Name and/or ID No.:
(To be filled in by County)
Name of Contractor:  
(To be filled in by Contractor)

A.) Related Employees:
1. Are any of the employees that you will use to carry out this contract with Westchester County also an officer or employee of the County, or the spouse, or the child or dependent of such County officer or employee?

Yes _____  No _____

If yes, please provide details:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

B.) Related Owners:

1. If you are the owner of the Contractor, are you or your spouse, an officer or employee of the County?

Yes _____  No _____

If yes, please provide details:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

To answer the following question, the following definition of the word “interest” shall be used:

Interest means a direct or indirect pecuniary or material benefit accruing to a county officer or employee, his or her spouse, child or dependent, whether as the result of a contract with the county or otherwise. For the purpose of this chapter, a county officer or employee shall be deemed to have an "interest" in the contract of:

i. His/her spouse, children and dependents, except a contract of employment with the county;
ii. A firm, partnership or association of which such officer or employee is a member or employee;
iii. A corporation of which such officer or employee is an officer, director or employee; and
iv. A corporation of which more than five (5) percent of the outstanding capital stock is owned by any of the aforesaid parties.

2. Do any officers or employees of the County have an interest in the Contractor or in any subcontractor that will be used for this contract?

   Yes _____  No _____

   If yes, please provide details:________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

   Authorized Company Official shall sign below and type or print information below the signature line:

   Name: 
   Title: 
   Date: 
1. I am the ______________________ of

__________________________________________

(title)         (Bidder's/Proposer's full legal name)

2. This statement is not applicable because (check all that apply, skip number 3 and sign below):

☐ The total value of the contract is less than $100,000 in any twelve month period
during the contract term.

☐ Bidder/Proposer employs less than 25 individuals who utilize public
transportation and/or pay for commuter parking at least 1 day per week.

(If question 2 does not apply proceed with question 3 and sign below).

3. This Statement is applicable and is submitted in order to comply with the
requirements of Executive Order No. 7-2005 of the County of Westchester which
requires prospective contractors, concessionaires and vendors to submit a signed
statement at the time of procurement of the contract that they are enrolled in or have
initiated the process to enroll in a Qualified Transportation Fringe Program as defined in
§132(f)(1) of the IRS Tax Code.

As of the date hereof the above indicated Bidder/Proposer:

☐ is enrolled in a Qualified Transportation Fringe Program as set forth in
§132(f) of the Internal Revenue Service Tax Code, or

☐ has initiated the process of enrolling in a Qualified Transportation Fringe
Program as set forth in §132(f) of the Internal Revenue Service Tax Code and will
notify the appropriate County personnel in wiring upon the commencement of
their participation in such a program.

________________________ __________________
signature    date

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SCHEDULE "E"
WAIVER APPLICATION
Qualified Transportation Fringe Program

Date: ____________________
Name: ____________________
Company: ____________________
Address: ____________________

This Application for a Waiver from the requirements of Executive Order No. 7-2005 is being submitted based upon one of the following:

☐ an inability to comply with Executive Order No. 7-2005, or

☐ hardship would result from such compliance.

Provide detailed explanation below:

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

__________________________________
signature of authorized company official

Approved: ____________________
Disapproved: ____________________
Date: ____________________

Commissioner or Department Head
APPENDIX A

OVERVIEW OF CURRENT OPERATIONS

Introduction
The Westchester County Department of Laboratories (WCDLR) intends to purchase a Laboratory Information Management System (LIMS) that will integrate information management for three of the divisions of the Department. These include the Division of Forensic Sciences, the Division of Forensic Toxicology and the Medical Examiner’s Office. This document will serve to provide potential vendors with information and requirements of each division as it relates to this system.

Scope of Project
The services and expertise required of the vendor for this project include:

- Installation
- Configuration
- Limited Customization
- User Training
- Evidence Tracking
- Electronic Case Management
- Analytical Instrument Interfacing
- Integration with Enterprise Systems/Components
- Data Conversion Support
- A documented configuration management methodology
- Deployment consulting and implementation assistance

Ongoing maintenance and support, including product upgrade assistance in applying new products, including advice on the use of available product features, and other forms of ongoing support and maintenance are also components of this project.

It is important that the selected vendor be capable of consulting and assisting in configuring the supporting infrastructure components, as well as providing expertise about their specific products and the best ways to utilize their products based on WCDLR’s anticipated environment and documented requirements.
Overview of Organization

Department of Laboratories and Research

The mission of the Department of Laboratories and Research is to fulfill the medicolegal, criminalistic, public health and environmental needs and requirements of Westchester County through laboratory analyses and death investigations and by conducting professional research in these areas.

Among the governmental organizations within the counties and New York State, Westchester's Department of Laboratories and Research remains unusual. Our department represents a fusion between the Medical Examiner’s Office and the associated laboratory functions of Toxicological and Forensic Science Services with the County's Public Health Laboratories.

This arrangement groups nearly all county laboratories under single administrative control concentrating laboratory expertise and sophisticated instrumentation to the good of all sections, thus permitting interchange of scientific knowledge, technology and data. This arrangement works favorably toward the department's goal which is fulfillment of the medicolegal and public health needs and requirements of Westchester County through service and developmental research.

Division of Forensic Sciences

The principal mission of the Division of Forensic Sciences, commonly referred to as the “crime lab”, is to provide quality and timely scientific analyses of physical evidence to law enforcement agencies operating in Westchester County. The laboratory also provides expert scientific testimony to the various courts in our jurisdictional area. The various units that comprise this division examine evidentiary materials such as blood, tissue, drugs, footwear impressions, fibers, hairs, glass, etc. To promote these objectives various quality assurance measures have been instituted over the years to ensure the legal system of the accuracy of the work product of our laboratory.

Quality Assurance

Quality Assurance has been defined as “A system of activities whose purpose is to provide to the producer or user of a product the assurance that it meets defined standards of quality with a stated level of confidence”.*

The standards that are well accepted in the field of Forensic Laboratories are ASCLD/LAB, ISO/IEC 17025 and FBI Quality Assurance Standards for DNA. The Division of Forensic Sciences abides by all of the above listed standards. As such quality
assurance involves designing a system that will meet the requirements to these standards and maintaining it to meet the changes in the standards. The other part of quality assurance is to ensure that we continue to meet these standards all the time.


**Evidence Receiving**
The Evidence Receiving section plays an important role as well as a vital function for the Forensic/Toxicology Laboratories. Submitting agencies include municipal, State and Federal law enforcement agencies, as well as the District Attorney’s Office (DAO) and the Medical Examiner.

Responsibilities include, but are not limited too, insuring that the evidence is properly sealed and labeled, and that the container (package) is appropriate for the item of evidence being submitted. Evidence is checked with the appropriate paperwork to ensure that all the information is filled out correctly. Evidence is then given a unique identifying laboratory number, followed by entering the information into LIMS (Laboratory Information Management System). In some cases the information is also noted into a logbook. Upon the evidence being received from the agency, it is then placed into a secure area pending analysis. Evidence is tracked by the chain of custody along its travels throughout the laboratory to insure the integrity of the evidence. Evidence, after the completion of the analysis, will then be returned to the receiving area to then be returned to the proper agency. It is extremely important for this section to maintain accurate records of items in the vault for either long-term storage or to be returned to the agency. The ability to be organized plays a vital roll in ensuring the correct status of the evidence so that at a moments notice law enforcement, district attorneys, as well as forensic analysts can be informed as to the status of the evidence and its current location. The receiving section also distributes biological specimen kits (blood, urine). Rape kits and Drug Facilitated Sexual Assault (DFSA) kits are also distributed to the medical centers (ER’s) with a careful record of where they go; in addition to they’re being noted upon the submissions of the kits (submission date, agency, and laboratory number).

Maintaining a working relationship with the various agencies in Westchester (as well as the state) is paramount to the function of this laboratory by insuring proper and correct information is distributed and that the integrity of the evidence submitted is never compromised.

Future responsibilities may include maintaining and overseeing the forensic garage as well as the maintenance and record keeping of the Mobile Laboratory Vehicle (MLV).

**Evidence Receiving Workflow**
Laboratory Technicians work in the Evidence Intake area at the WCFL, receiving, transferring, and inventorying evidence. Evidence is received at the WCFL Evidence Intake area primarily by Walk-Ins.
When evidence comes into the Evidence Intake area at WCFL, a Laboratory Technician checks the paper submission form against the actual received evidence. If there is a discrepancy the technician will bring it to the attention of the officer who is submitting the evidence.

An Evidence Submission Form, which is a single-page (Doc# QA-001), accompanies evidence when it is received into the WCFL Evidence Section. Additionally, an Investigator’s Information Sheet (Doc# QA-F012) will also accompany evidence upon its submission. A Laboratory Technician will then enter as much of the submission form information into the current LIMS as possible. The current LIMS provides printed labels with specific information. The labels are placed on the submission form, Investigative Information Sheet, and the evidence packaging. The evidence is then assigned to a specific laboratory for analysis or storage location within the evidence vault using bar codes generated by the current LIMS.

Once the examiner has finished their examination, the evidence is returned to the Evidence Intake area, following the same steps as the check out process, but in reverse. The original Evidence Submission Form and Chain of Custody (Doc# QA-002) is filed back into the Evidence Intake area with the evidence.

On rare occasions, the Laboratory Technicians at the Evidence Intake area receive requests from the DAO for evidence from a case to be used in court.

**Biology/DNA**

The Forensic Biology section of the Forensic Science Laboratory performs serological and DNA analyses of physiological fluids for the purpose of identification and individualization. The type of material typically examined includes, but is not limited to blood, semen, saliva and dental pulp collected at crime scenes and from articles of physical evidence. These types of physiological fluids are frequently generated during
the commission of violent crimes such as homicides, rapes, assaults, and hit and run fatalities. The lab’s ultimate goal is to identify what type of material is present and then, through the use of DNA analysis, develop a DNA profile to compare with a known sample. The Forensic Biology section analyzes approximately 600 cases per year submitted from over 50 different law enforcement agencies throughout Westchester County. Personnel from this section perform laboratory analyses on samples submitted by police agencies as well as assisting in the processing of crime scenes. Eleven full time analysts as well as other support personnel are currently employed in this section.

**Biology/DNA Workflow**

Upon submission of biological evidence, articles are stored in a secure refrigerated walk-in cold room to await analysis. An analyst is assigned to a specific case currently using paper and will bring the evidence to the evidence examination room where it is documented and analyzed. The alternate light source is utilized to locate stains that may contain blood, semen, or saliva. These stains will undergo a series of presumptive screening tests. If these stains test positive during this stage of analysis they will then be subjected to more extensive analysis, including confirmatory and DNA analysis. The DNA profiles generated from these stains will then be compared to possible known samples.

The Forensic Biology section performs DNA analysis utilizing Short Tandem Repeat analysis (STR’s). This laboratory currently utilizes three ABI 310 single capillary Genetic Analyzers and one high throughput ABI 3130 multicapillary Genetic Analyzer for DNA analysis. In addition to the analysis of autosomal STR’s the laboratory also performs STR analysis of the Y sex chromosome which is only found in males.

After a DNA profile is created it can be searched against local, statewide and national law enforcement databases. The Forensic Biology section is linked to the FBI CODIS (COmbined DNA Index System) DNA database network. Through this network the laboratory is able to take an unknown profile and compare it to samples from other unsolved cases throughout the country, as well as convicted offender samples. This CODIS link allows investigators from different jurisdictions working on serial-type cases to share important investigative information at earlier stages.

**Biology/DNA - Crime Scene Analysis**

In addition to providing analytical testing utilizing state of the art DNA technologies, the Forensic Biology/DNA sections also provide field services to law enforcement agencies investigating crime scenes. On occasion and when requested by a police agency, the forensic laboratory will provide personnel to assist in the detection and collection of biological and trace evidence at a crime scene. The laboratory can dispatch personnel trained in the use of alternate light sources and chemical enhancement techniques for the detection of blood and other body fluids should this be required.

Additionally, the laboratory has on staff specially trained personnel that can examine bloodstain patterns and can provide investigational information on how these patterns may have been generated.
Forensic Chemistry
The Forensic Chemistry section has combined the responsibilities of the Controlled Substances laboratory section and incorporates the subdisciplines of arson and elemental analysis of gunshot residue:

Controlled Substances
The Controlled Substances laboratory (drug lab) performs examinations on powders, liquids, tablets and capsules, and vegetable material looking for the presence or absence of controlled substances.

Controlled Substances Workflow
DA requests – Request comes into the lab from the DA’s office. The secretary enters information into LIMS. Info entered includes Lab number, Office requesting rush, date and time request received (usually by fax), date case needed, number of requests, whether request is a rush (only felonies are rushes, others are to meet 30 turnaround time), and the reason that the case is needed. Case is then assigned to an analyst, or is taken by an analyst as below.

Analysts sign cases out of the vault. Evidence transfer is entered into LIMS. The analyst opens the case, verifies that the information from the request for examination matches the evidence, and inventories the case. If there is a discrepancy in the inventory, a paper discrepancy report form is filled out. The analyst briefly describes the evidence on the handwritten report form and may also describe it on the evidence examination worksheet.

The weight of the material is determined, and the maximum charge by weight is used to determine how many samples are to be analyzed. If weight is below the minimum cutoff by weight, one sample is analyzed. The gross weight of the sample may be determined and reported. For multiple samples, the weight may be determined by direct weighing of each sample, or may be calculated by determining the gross weight of the samples then weighing the empty containers from either the square root of the number of samples (if less than 100) or 10% of the samples (if greater than 100). The weights are entered into the calculated net weight worksheet. The online worksheet then calculates the minimum net weight and the number of samples that need to be positive to meet the charge. If random sampling is to be done, the weight can be calculated on the random sampling worksheet and the number of samples that need to be analyzed will also be calculated.

White powders – Once the weight and number of samples to be analyzed is determined, one item is sampled for color tests. Marquis and Cobalt Thiocyanate. The color is recorded on the examination worksheet. If no color change is observed, the result is recorded as negative. Based on the results of the color tests, a microcrystal test will be performed. Either Sodium Acetate or Gold Chloride. The results are entered as positive, negative or inconclusive on the worksheet. As an alternative for a large number of samples, thin layer chromatography may be run with a standard. The result is entered as positive if the samples are consistent with the standard. If no color change is observed for the color tests, or the crystal test results are negative or inconclusive, or the samples
on thin layer chromatography are not consistent with the standard, a GC/MS screen is run and results are compared to an electronic library. If the results of any of the previous tests indicate the presence of a controlled substance, the sample is confirmed by GC/MS against a known standard. The final result is recorded on the worksheet as positive for the drug found or no controlled substances detected.

Vegetable material – The material is examined under the stereomicroscope for specific botanical characteristics. If any of these are found, they are checked off on the checklist on the examination worksheet. If at least two characteristics of marihuana are found, the Modified Duquenois-Levine color test is done. The color observed is recorded on the worksheet as well as if the color extracts into the chloroform layer. If the results of the Modified Duquenois-Levine test give a color indicating marihuana that extracts into chloroform, thin layer chromatography is run against a known sample of marihuana. If the unknown samples show spots with the same color and Rf as the known sample. The result is recorded as positive for marihuana. If no characteristics consistent with marihuana are observed, or the Modified Duquenois-Levine test does not show a blue to purple color change that extracts into chloroform, the material is run on a GC/MS screen and the results are searched against an electronic library. If the library search indicates a controlled substance, the material is run on the GC/MS against a known standard. If the sample matches the standard, the result is recorded as positive for the drug. If the library search does not indicate a controlled substance, the result is recorded as no controlled substances detected.

**Forensic Chemical Analysis**
Forensic Chemistry deals with the chemical analysis of a variety of types of physical evidence. These include suspected accelerants from arson debris, gunshot residue on the hands of a shooter, lubricants and noxious chemicals such as tear gas and capsaicin (pepper spray). The type of cases typically examined include arsons, homicides, assaults, bank robberies, and vandalism.

**Arson Workflow**
Arsonists may use a variety of possible accelerants to set a fire. During the examination of a potential arson scene, cause and origin investigators collect fire debris that they believe contains residues of these accelerants. At the fire scene debris is collected and is placed in airtight containers to avoid possible loss of the volatile components. The debris is transported to the laboratory for analysis. The Forensic Chemistry section utilizes Gas Chromatography-Mass Spectrometry to identify traces of ignitable liquid residue in these samples. The forensic chemists will often have to concentrate the small amounts of residue. They accomplish this by adsorbing the accelerant residue onto activated charcoal strips. The concentrated accelerant is then eluted off the strip by dissolving in a solvent.

**Elemental Analysis - Gun Shot Residue - Workflow**
In addition to arson debris, this section also examines evidence associated with shooting cases. When a firearm is discharged, gases are generated containing burned and unburned components from both the propellant and primer of the cartridge. This material may deposit itself on the clothing of a victim or on the hands of the person firing the
weapon and is referred to as gun shot residue. The Forensic Chemistry laboratory utilizes a state of the art Scanning Electron Microscope (SEM) fitted with an Energy Dispersive Spectrometer (EDS) to examine tape lifts taken from the hands of suspected shooters. This automated instrument is capable of searching several hundred microscopic fields overnight for the presence of small primer residue particles. When a particle is located, its coordinates are recorded and the particle is analyzed using the EDS unit. If a particle is identified as containing barium, antimony, and lead it is classified as primer residue. The particle's coordinates can also be recalled and it can be photographed using the SEM.

**Miscellaneous Analyses**
Noxious chemicals such as tear gas and capsaicin can be identified using the gas chromatograph-mass spectrometer. Tear gas is commonly found as a component in dye packs used by banks to identify suspected bank robbers and may be detected on an individual's clothing after the dye pack has exploded. The Forensic Chemistry section can also assist in sexual assault investigations by examining traces of lubricants used by suspects in rape cases.

**Trace Evidence**
The trace evidence section of the Forensic Science Laboratory deals with the analysis of both microscopic and macroscopic traces of physical evidence. These may include but are not limited to hairs, fibers, paint, soil, polymers, glass, and impressions. These types of evidence are frequently found at crime scenes such as homicides, rapes, assaults, burglaries and automobile accidents. During the commission of a crime a suspect may often come into contact with the victim, the environment of the crime scene, or both. During this interaction, exchanges of physical evidence may occur. For example a suspect may leave behind a shoeprint at a crime scene or may take away fibers shed from an item of clothing worn by the victim. The trace evidence laboratory specializes in the examination of this type of evidence with the goal of linking suspects to victims and/or crime scenes. The Trace Evidence section currently employs three full time analysts for the examination of this type of evidence.

Evidence that is received by the Trace Evidence section can be transferred from different people/locations. These include: the evidence technician from the evidence receiving area; an analyst from another section of the laboratory; directly from the police department (via the evidence receiving area); from the Medical Examiner’s office; and sometimes directly from the scene, if our crime scene team was called to the scene. All the various transactions are noted on the chain of custody form.

A very general description of a typical trace evidence examination is as follows:
- Gross examination and initial description of the items
- Collection of appropriate trace evidence
- Photography of items, whether by the analyst in the lab or by the photography section
- Stereomicroscopic analysis
- Higher-powered microscopic analysis, including polarized-light microscopy, comparison microscopy and/or scanning electron microscopy (as needed)
- Instrumental analysis, including FTIR, VIS-SPEC, PGC/MS, SEM/EDS, etc.
- In some examinations there may be databases to search. These results should also be kept with the case file.

For each type of analysis, there are worksheets that need to be filled out. There may be photographs to add to the file, as well as instrumental data and the appropriate QC data if instrumental analysis was carried out.

**Trace Evidence Workflow**

**Microscopy**

Evidence such as hairs, fibers, paint, polymers, glass and other materials are typically examined by various microscopes in the laboratory. A stereomicroscope is used to preliminarily examine particles and debris to determine what category of trace evidence is present. Freeform worksheets, sketches, as well as a specialized fiber worksheet are used in this stereomicroscope work. A polarized light microscope is used for more detailed work with trace evidence samples. A specialized worksheet is used at this stage. Microscope slides are often generated and need to be tracked as separate items of evidence. More definitive categorization of evidence is also made at this stage and recording observations and categories of trace evidence is performed.

A comparison microscope allows two microscope slides on two separate microscopes to be viewed simultaneously so that point by point comparisons of two specimens may be made. A specialized worksheet is used at this stage. At any stage of microscopy, photography may be performed. These photographs must be linked to the case and also be available to a reviewer of the case.

Since numerous subclasses of trace evidence follow the same microscopy flow in the laboratory, the following data is tracked: the type of evidence examined, how many specimens, the technique used, the number of containers (slides, lifts, paper fold, etc.) how much time was spent and the analyst performing the work. At times, microscopy examination may determine that specimens have to be submitted to our biology section or to an outside agency. These samples must be tracked accordingly.

**Instrumentation**

Evidence such as fibers, paint, polymers, glass and other materials are typically examined by various instruments in the laboratory. Instruments offer sophisticated analyses of chemical compositions, color, and other properties of evidentiary samples. Instrumental analysis confirms work performed on microscopes as well as bolsters the value of comparisons made with questioned and known samples. Instrumentation is also used to aid in the identification of evidence samples.

The trace evidence section uses a Micro Visible Spectrophotometer to determine if the colors of fibers, paints, plastics and other forms of colored trace evidence are the same. This instrument is much more sensitive to color than the human eye. A spectrum is printed out which displays these specific wavelengths in the form of peaks and valleys.
Chemical composition is another significant characteristic of trace evidence. A Fourier Transform Infrared Spectrophotometer or FTIR, is used to determine the chemical composition of a sample. The chemical composition of the sample will be represented as a spectrum displaying the specific wavelengths of light that the sample absorbed. A pyrolysis gas chromatograph mass spectrometer is an additional instrument used to determine chemical composition of a sample. Solid samples such as fibers, paints and polymers are heated to extremely high temperatures. The gaseous form of the sample moves through a column and separates into its components. As the components emerge from the column, the mass spectrometer identifies the chemical composition of the components.

A scanning electron microscope is used for elemental analysis of trace evidence samples as well as high power imaging of small specimens. For each instrument used in the trace evidence laboratory, there are quality control procedures in place to ensure proper functioning of the instrument. These quality control checks need to be recorded and monitored.

Spectra and data generated from each instrument needs to be incorporated into the case file and easily accessed by a reviewing analyst.

For instrumentation work, the following data is tracked: the type of evidence examined, how many specimens, the instrument/technique used, how much time was spent and the analyst performing the work.

**Databases/Libraries**
Most of the instruments have reference libraries and some have searchable databases of reference data. This data is often incorporated into the case file.

**Impression Evidence**
The main purpose of conducting an impression examination is typically to see whether or not a shoe or a tire can be associated with a questioned impression found at the scene of a crime. Objectives of shoeprint and tiretrack examinations conducted in the laboratory may include the following:
Comparison of the questioned (scene) impressions with the tread pattern of the footwear or tires for agreement in class characteristics (i.e. tread pattern, size and general wear).
Comparison of the questioned (scene) impression with the tread pattern of the footwear or tires for positive identification through accidental characteristics (i.e. cuts or gouges found in the tread).
Examination of the questioned (scene) impression in order to supply investigative information (i.e. type of footwear, manufacturer, model or general type).
Comparison of the questioned (scene) impressions with submitted footwear or tires for elimination.

Submissions of scene items may consist of:
Photographs, casts, lifts, objects which contain impressions, negatives.
The sole pattern of a footwear impression can sometimes yield investigative information, such as the manufacturer and model. Our laboratory does maintain a computerized reference collection of the sole patterns of various types of footwear. If a match is established, the image of the reference sole pattern should be with the case file. It is also possible to utilize databases from other agencies, such as the FBI, to help associate an impression with a manufacturer and model. If a possible class match is made to a database, it may be possible to obtain an exemplar from the manufacturer for further investigative information.

Tire impressions can aid in establishing the class characteristics of the tire and class of vehicle making the impression. Examination of the tread patterns can determine the number of different patterns present and their respective positions on the vehicle. The Laboratory uses a computer database called the Tread Design Guide.

Use of the Tread Design Guide can lead to the following information:
- Type of tire (radial, snow, retread, etc.)
- Manufacturer and model of tire
- Sidewall content (white wall, raised letters, etc.)
  - Type of vehicle (truck, passenger, etc.)
- Original equipment or replacement (contacting manufacturer may be necessary)

Measurement of tire impression and track dimensions can lead to the following information:
- Possible tire size/available sizes (contacting manufacturer may be necessary)
- Relative amount of wear (contacting manufacturer may be necessary)
  - Wheelbase, track width and other dimensions can lead to a list of vehicles that can be used for investigative purposes.

Preliminary Gross/Stereoscopic Examination Of Questioned Impressions
- Write a description of the items for the report and fill out the appropriate worksheets.
- For casts: Photograph the cast as received. This could be done by the analyst in the Laboratory. Collect a small sample of debris present on the cast being careful not to destroy any portion of the cast itself. Clean the cast, re-photograph the cast after the cleaning process.

For examination quality photographs:
- Fill out a Photography Request Form and submit it with the items to photography. Currently, not all of the photographs are taken with a digital camera, although the non-digital ones can be scanned and saved.
Additional examinations:
- Chemical Enhancement of Impression (Optional)
- Lift Impression (if possible)
- Cast Impression (if possible)
- Photograph Enhanced, Lifted and/or Casted Impressions
- Fill out a Photography Request form and submit it with the items to photography.

Comparison with Knowns
- Gross and Stereoscopic Examination
- Comparison Microscope Examination (when possible)
- Photograph image on split screen through microscope

Write report, stating results and conclusions.
Seal items and place in vault.

Knowns
Preliminary Gross/Stereoscopic Examination
Photograph Items - Fill out a Photography Request form and submit it with the items to photography
Create an Exemplar Impression
Photograph Exemplar Impression (optional) - Fill out a Photography Request Form and submit it with the items to photography

Miscellaneous Trace Evidence Procedures

There are several types of analyses that are carried out less-frequently by the Trace Evidence Section. They include the following:
The analysis of the components of exploding dye packs
Lamp filament analysis
Speedometer slapmark analysis
Physical match examination
Carpet analysis
Adhesive tape analysis
Miscellaneous fabric examinations

These procedures all involve a typical trace evidence examination, as follows:
- Gross examination and initial description of the items
- Photography of items, whether by the analyst in the lab or by the photography section
- Stereomicroscopic analysis
- Higher-powered microscopic analysis, including polarized-light microscopy, comparison microscopy and/or scanning electron microscopy (as needed)
- Instrumental analysis, including FTIR, VIS-SPEC, PGC/MS, SEM/EDS, etc. In the case of dye pack analysis, a GC/MS instrument is used.
In some examinations, such as tape analysis, there may be databases to search. These results should also be kept with the case file.

For each type of analysis, there are worksheets that need to be filled out. There may be photographs to add to the file, as well as instrumental data and the appropriate QC data if instrumental analysis was carried out.

### Procedures for the Collection of Gunshot Primer Residue

Articles that are suspected of having gunshot primer residue will first be examined visually. A description of each article will be performed. Any observed trace evidence should be noted and removed if necessary (sub-numbering is necessary). The examined articles may be photodocumented. After written documentation, the analyst may decide that the condition of the evidence dictates that the article may be stubbed using special alloy aluminum specimen mounts with adhesive tabs or gunshot residue collection stubs to collect the primer residue (sub-numbering is necessary). These areas of smudging can also be chemically tested for the presence of lead and/or nitrites using the Griess-Walker and Sodium Rhodizonate tests (chemicals need to be prepared to conduct tests, sub-numbering is necessary for the Griess-Walker test and the results of the Griess-Walker test may be scanned). The stubs are transferred to the Forensic Chemistry section for possible further analysis.

### Procedures for the Examination of Gunshot Residue: Nitrites

Articles that are suspected of having gunshot primer residue will first be examined visually. A description of each article will be performed. Any observed trace evidence should be noted and removed if necessary (sub-numbering is necessary). Holes, including suspected bullet holes and cut/tears, should be assigned numbers and the numbers should be recorded in the notes. A diagram should be made and relative position of the damage noted. After written documentation is completed, each article that is suspected of having GSR based on visual examination is to be examined using the stereomicroscope. All observations should be recorded on the stereomicroscopic exam worksheet. Sometimes it is necessary to look for GSR on items that do not contain holes that are consistent with the passage of a projectile. In these cases, trace evidence can be collected and can then be stereomicroscopically searched for propellant particles and/or other GSR related materials (sub-numbering is necessary). Articles that are suspected of having GSR may have infrared photographs taken of them as well as normal photodocumentation. The article can now be chemically tested for GSR using the Griess-Walker, Dithiooxamide and Sodium Rhodizonate tests (chemicals need to be prepared to conduct tests, sub-numbering is necessary for the Griess-Walker test and the results of the Griess-Walker test may be scanned).

### Tests Used

Griess-Walker – chemicals prepared (with worksheets filled out), sub-numbering needed and results may be scanned and/or photographed.
Dithiooxamide – chemicals prepared (with worksheets filled out) and results may be photographed.

Sodium Rhodizonate - chemicals prepared (with worksheets filled out) and results may be photographed.

**Forensic Garage**
When a vehicle is brought to the laboratory’s forensic garage it will undergo examinations by several departments. Trace evidence examinations could include the examination of the speedometer to determine if a speedometer needle slap mark exists. This can be used to determine the speed of the vehicle at the moment of impact. The filaments in a broken headlight can be examined to determine if they were on during the collision. In addition the brake pedal can be examined for shoe print impressions to determine who was driving the car at the moment of impact. Biology analysis can include the examination for physical fluids using the Alternate Light Source (ALS) or presumptive screening tests, including blood-enhancing techniques.

**Imaging Analysis**
The forensic imaging section supports the forensic science, toxicology and medical examiner's departments by documenting evidence, crime scenes, and autopsies. The photography section is also responsible for the design of displays, and graphics for court, training and the web.

Documentation of evidence is important in many aspects of a case, from simply recording the condition of evidence to enhancing details that may not be discernable to the human eye. In most cases evidence is documented only to save a record of the evidence, in these cases the items are placed on a seamless background, evenly lit and the entire piece of evidence is photographed. Some items require close up photographs to document aspects of that evidence that may be important to a case, especially bloodstains or cut/tears in clothing. It is also important to photograph evidence when it will undergo changes during analysis, where trace or biological evidence will be removed for further analysis.

Not all evidence can be seen with the human eye, so several tools are used to aid the search for evidence. Special light sources are often used to see in alternate spectrums; semen is documented in the ultraviolet spectrum, and some fibers fluoresce under different wavelengths of light. Infrared film is used to record Gun Shot Residue on clothing; this procedure is often used as a preliminary test for gunshot residue since it is often difficult to see GSR, especially when it is on dark clothing.

Some items of evidence, due to their small size, require special techniques for documentation. Photomacrophotography, which is the use of a bellows or extension tubes between the lens and camera to increase magnification, is useful for documenting bullets and headlamp filaments. Photomicrography (photography through a microscope) is often used for documentation of trace evidence such as paint chips, hairs and fibers.
The analysis of impression evidence requires photographs in several stages of analysis. First the impression is photographed using contrast enhancing film and lighting. Then the item that is suspected of making the impression, often times a shoe or tire, is photographed. These photographs are printed 1:1 (actual size) and used to compare impressions to the object that may have made them. Test impressions are made, and photographs taken of them, these photographs are printed on transparency material to make an overlay. The overlay is then used to compare the test impressions to the unknown impression.

Recent advances in digital imaging technologies, greatly improve many aspects of forensic photography. Digital imaging makes it possible to capture, edit, output and even transfer images faster than processing film. It is also possible to import individual frames of video for enhancement. Techniques that used to be applied in the darkroom through trial and error can now be applied on a computer, and the results are immediately visible on screen. There are several techniques available using digital imaging that were previously unavailable using traditional photographic means. One technique the forensic photography section utilizes is the ability to correct the perspective of an image. As long as it contains a scale of reference it is possible to take an image that was shot at an incorrect angle and correct it so that the scale is the same across the plane of focus. This is especially important in cases where measurements must be taken of the evidence in an image.

Presentation is very important when appearing before a jury or when conducting police training. The quality of visual aids compromises a large part of the overall impression a participant gets from these public presentations. The complexity of a case makes it extremely difficult to explain to a jury all the findings in a case; displays make it possible to sum up an entire case using both text and photographs. The photographic section produces displays using imaging & layout software. The final piece is printed on a 24-inch inkjet printer and mounted on poster board, creating a professional quality display.

**Imaging Analysis Workflow**

The imaging section documents evidence for the forensic, medical examiners and toxicology sections.

In many cases the evidence is brought to the photo lab and transferred to the photographer’s possession. The evidence receipt is signed by both parties. The analysts requesting photography fill out and submit, along with the evidence, a photography request form. While in the photo lab, the evidence is stored in a locked cabinet until it is returned to the submitting analyst’s possession. The analyst will also get the original completed photography request form signed by the photographer; a copy is retained in photography for record keeping.

In other cases the photographer travels to the evidence, autopsy room, garage, or crime scene. In these cases an evidence transfer is not recorded since the evidence doesn’t leave the possession of the analyst. However a photography request form is submitted.
The photography section also provides prints, CD’s, court displays, and posters of images. An analyst requesting these types of images need only contact the photographer with the request, a request from is filled out but only kept by the photo lab for record keeping.

**Crime Scene**
Along with the numerous in-house, state of the art laboratory technologies utilized for the analysis of forensic specimens, the Westchester County Forensic Laboratory can also provide Crime Scene Investigation services.
With the acquisition of the laboratory's Mobile Laboratory Vehicle (MLV), the lab, when requested, can provide specialized crime scene investigation services. These services can augment the existing crime scene abilities of the requesting agency.
Some of the specialty areas in which services can be provided are: crime scene documentation, evidence collection, trace evidence analysis, bloodstain pattern analysis, biological evidence analysis, physical impression and footwear analysis, drug analysis and shooting trajectory reconstruction and analysis.
By utilizing state of the art crime scene investigation technology, investigators can avail themselves of knowledge of the events occurring during the criminal activity. The reconstruction of these events, or simple event segments, may help provide investigators with a more comprehensive picture of the possible sequence of events surrounding a criminal act.

**Crime Scene Workflow**
The following is an example of workflow for a crime scene investigation case, as processed by the Westchester County Forensic Laboratory:

The laboratory receives a request to become involved and assist in the processing of a crime scene via an investigating agency (i.e. police department, District Attorneys office).

A request is then made to the Chief Medical Examiner to obtain authorization for the staff to respond to the scene.

Upon ME approval a return call is made to the requesting agency to ascertain more information about the scene and the event. It is at this time that the Crime Scene Supervisor will begin to assemble a response team based upon the nature of the scene. A Team Leader is assigned, and team function is addressed. A WCFL laboratory number is secured for use prior to team departure.

Response vehicle operational status is assessed. Equipment and reagent inventory is checked on the vehicle as well. Any necessary equipment/reagents are loaded onto the truck.

The Crime Scene Investigation response team arrives at the scene and establishes contact with a representative from the requesting/investigating agency. At this time the documentation process begins.
Information about the scene (locale, weather conditions, etc.) is documented. The CSI team organizes and performs an initial walk-through to assess the scene and starts to formulate a plan of attack.

Documentation begins in earnest. Overall (establishing) photography is begun. The process of sketching the scene is begun at this time as well. Items/areas of potential interest are marked for identification. Additional documentation is performed in the form of more detailed photography (i.e. close-ups).

Chemical testing of any items/areas of interest begins. Some of these items/areas may be of a possible biological origin. Also, any trace evidence collection/processing will begin at this point as well. Often times this form of processing will be addressed prior to biological testing/collection, given the labile nature of various forms of trace evidence. Testing results are recorded.

Any items of potential evidence that may require special techniques (i.e. impression casting, bloodstain pattern analysis, electrostatic dust print lifting etc.) are addressed at this point. These results are documented and collected as per procedural guidelines.

The testing/collection of any items of evidence is recorded on the appropriate worksheets in order to effectively start to establish their chain of custody.

The team performs one last walk-through of the scene to ensure documentation/collection of all marked items and to ensure that all equipment/reagents are accounted for prior to departure.

The vehicle is re-loaded. Any evidence being transported back by laboratory staff is secured. Those items coming into the laboratory are entered via established laboratory protocols and introduced into the WCFL workflow.

**Division of Forensic Toxicology**

The Toxicology Laboratory analyzes biological specimens for the presence of alcohol, drugs and other toxic compounds as a part of postmortem medicolegal investigations of the Westchester County Medical Examiner's Office. The Medical Examiner’s Office uses information generated by the toxicology laboratory when determining the manner and cause of death of an individual. Through the application of toxicological and pharmacological principles, the toxicologists interpret the test results in order to assist with the formation of conclusions regarding the circumstances of the death. The laboratory provides Human Performance testing services to local, county and state law enforcement agencies within the county associated with the charges of driving while under the influence of alcohol (DWI) and driving while under the influence of drugs (DUID) arrests. Human performance testing refers to the testing of individuals for any impairment of their ability to operate motor vehicles due to the presence of drugs or other
performance impairing substances. Laboratory testing results may determine impairment due to alcohol or confirm impairment by other drugs and substances. Laboratory personnel also provide human performance testing consultations and testimony for breath alcohol testing conducted in the county by law enforcement agencies.

**Drug Facilitated Sexual Assaults (DFSA)**

Drug Facilitated Sexual Assault cases require the more selective and sensitive confirmation testing rather than simple screening. The screening tests are not sensitive enough to detect a one-time use of the benzodiazepines that could be used in this assault. GHB (gamma hydroxy butyrate) is a special test that must be run on all victims. The additional LC/MS screening for hundreds of drugs must occur in all cases, regardless of other drugs or alcohol found. This protocol is required by NYS and the Forensic Toxicology community.

**Forensic Toxicology Workflow - Submissions from Medical Examiner Cases**

- Samples taken from autopsies are given unique numbers and have the same sequence of numbers for all cases and type of sample (.01-.08) and keep the ME number through out
- Autopsy technicians request labels/samples through a schedule and cancel any samples that were not available during the autopsy
- All ante mortem samples are added to the list of ME work starting with .09 by the autopsy technicians
- Blood from ME autopsy have a schedule of tests in LIMS as soon as samples are requested. This includes alcohol, immunoassay screening tests and LC/MS and Result summary
- Urines from ME autopsy have a schedule of tests in LIMS as soon as samples are requested. This includes alcohol, immunoassay screening tests and LC/MS and Result summary
- Samples are transferred into toxicology by any person working in toxicology. The ME number and identifier stays the same throughout the entire process
- If blood alcohol is positive (>0.01%), then the urine and vitreous humor are automatically scheduled in LIMS for alcohol
- Any drug positive by immunoassay on AU400 is automatically scheduled for confirmation in LIMS
- If the opiate morphine confirmation is positive, the 6-MAM test is automatically scheduled
- All tests include a component for the number of extracts required for statistics.
- Other tests that are positive from the LC/MS screen and require confirmation will be scheduled and results entered when work is complete.

**Report/Results** include all samples transferred to toxicology

- A separate report summary is given for any drugs confirmed and unconfirmed for all blood and urine Medical Examiner samples
• Ethanol results are given in a specific order, with antemortem results first and always first on the report.
• Ethanol results are given, regardless if they are positive or negative.
• Gastric ethanol results are reported 2 separate ways to include the total volume of gastric.
• Quantitative results are given for all samples that are completed in LIMS, including results that are not detected at concentration of ug/mL or the appropriate units, or comments concerning interference.
• Immunoassay results are not reported.
• Glucose and electrolytes results must be recorded in LIMS and reports generated.
• Other tests are sent to Albany Medical center and NMS and recorded in LIMS.
• Canceling of tests are not required if reportable information is not entered.

Medical Examiner’s Office

The Office of the Medical Examiner is responsible for investigating and determining both cause and manner of death occurring “in or presumably in the County of Westchester due to unlawful act, criminal neglect, violence, casualties, or by sudden or unexplained circumstances”. Notification of such deaths is usually made to the office by a police officer, physician or funeral director at the scene of death. Because duty personnel are available every day of the year, twenty-four hours a day, notification should be made as soon as possible. In this way a decision as to whether or not the case falls under the Medical Examiner's jurisdiction can be made quickly.

When accepted as a Medical Examiner case, the death undergoes an investigation the extent of which depends on the nature of the case.

Medical Examiner’s Workflow

• A case is reported to the Medical Examiner’s Office.
• Upon acceptance of the case, a case number is generated and the Medical Examiner staff will be assigned to pick up the body.
• In the event that the Medical Examiner staff must report to the death scene, a Medical Examiner case number is generated and the body is logged in after it is picked up.
• A Medical Investigator is then assigned to pick up the body.
• At the scene, the Medical Investigator will document the scene through the use of notes, diagrams and photographs and will bring the body back to the ME facility.
• After arriving at the ME facility, a decision will be made by the Medical Examiner as to whether an autopsy should be conducted. Upon receipt of the body a property sheet will be filled out. This sheet details personal belongings associated with the body.
If an autopsy is performed, details of the autopsy are recorded in an audio format in conjunction with notes and diagrams. The audio, notes and diagrams are compiled to generate a report. Samples from the autopsy are distributed to various laboratories for analysis. The results of this testing are reported back to the Medical Examiner for incorporation into the autopsy report.

Additionally, other agencies may be contacted to assist in performing identification functions. These may include the fingerprint identification section of the investigating law enforcement agency, the forensic odontologist, anthropologist or forensic laboratory personnel. Additionally, other resources such as neuropathologists may need to be contacted. Transfers of evidence generated during the investigation of the scene or at the autopsy are conducted through a chain of custody protocol.

Upon completion of the autopsy a designated funeral home is then notified by the family and the body is released. A report is then generated which includes details of the autopsy, cause and manner of death. The case jacket for this report includes supporting materials such as police reports, photographs, diagrams, laboratory test results and other notes.

In the event that the death has occurred in a hospital, the body will be transported by an autopsy assistant and brought back to the ME facility for an evaluation. If an autopsy is performed, aspects of the protocol listed above will be followed. In the event that an autopsy is not performed the body will be issued a death certificate and released to the designated funeral home.

**IT System Requirements**

**Technical Requirements – Mandatory**

The proposed system must run on the County’s existing TCP/IP network.

Any client code in the proposed system must run on an industry standard platform – i.e., Microsoft Windows XP, Microsoft Windows 2000 or Microsoft Windows 2003.

The vendor must provide a detailed specification list for all hardware required for successful implementation. The vendor is not permitted to include the cost of standard computing hardware, such as client workstations, servers or printers as part of their response to this RFP. Rather, the County Department of Information Technology, in accordance with County procurement law, will use the recommended hardware specifications to order hardware through the County Bureau of Purchase and Supply.

Data shall be stored in a relational or object-oriented database, meeting the latest industry standards from a major vendor.

The system’s services and data must be accessible through an industry-standard interface, which must be at least one of the following: COM, .NET or ActiveX controls and
objects; JavaBeans, JMS, J2EE; XML, ODBC or SQL connectivity; a rich, well-documented API.

Database documentation in the form of an ERD (entity relationship diagram) or detailed schema. This documentation should not be in a propriety format but rather an industry standard format such as .vsd or html.

The system should offer ad-hoc query and reporting facilities, which are within the capability of end users.

System should suffer no degradation of service during system backup and maintenance functions.

System must be able to be backed up using County standard backup facilities (note: the backup solution currently employed at Westchester County is Legato Networker Enterprise).

Response time for PC client transactions must be measurable and should not exceed 5 seconds per transaction.

The system must be able to import and export data in ASCII, CSV, XML, or Access format.

The system must support Internet accessibility for users outside of the County network (i.e. city/town police departments).

**Technical Requirements - Desirable**

If a relational database is used, it is desirable that it be either the latest version of Microsoft SQL Server or Oracle.

It is desirable that the system have an open interface through .NET or ActiveX controls and objects; or J2EE/Java API.

The system must be able to handle all transactions which will occur over a 7-day workweek, and a 24-hour work period.

The system’s security should be capable of integration with the Microsoft Active Directory security model and support biometric authentication.

Software should not require Administrator rights to execute any client code.

Software should employ multi-tier technology.
General Requirements
The features listed below have been identified by the three Divisions as being important components in a LIMS system. Next to each feature is a designation as to the ranking of that feature: either Mandatory or Desirable. If a topic heading contains this designation, it is applicable to all subsequent features within that heading.

Security

Functional Security – Divisional Users - Mandatory
The delivered system will have a component that allows for the creation of work groups within the Division and will provide the ability to assign these work groups various rights and privileges with respect to interactions within the LIMS system. These rights and privileges will be established by management and will be implemented by an appointed system administrator. Each individual’s access to the LIMS will be regulated by the use of either a PIN or password. The use electronic signatures will also be regulated by the use of a PIN or password.

Functional Security – External Users - Mandatory
The delivered system will have a component that allows for the system administrator to assign rights and privileges for access to the system to external user agencies. The administrator should have the ability to cancel access to the system at any time.

Data Security - Mandatory
Users in defined security groups will have access to only the data required for that specific group. The system administrator will use a tool to define these data security requirements for a group and/or user.

Audit Trail - Mandatory
The delivered system will have a component that allows for a comprehensive audit trail of all transaction by any individuals or groups within the LIMS system. The audit trail should track access to the system, modifications and changes to data and forms, transfers of evidence and any other significant interaction within the LIMS. This information should be available in forms and reports.

Document Control - Mandatory
The system will allow for document control of all forms, manuals, worksheets and other documents so as to be in compliance with the laboratories current accreditation requirements and as spelled out in the laboratories Quality manual. The control will be exercised by giving limited “write” access to various documents.
Management Features

Management Reports - Mandatory
The system provided will have a management component that allows for the generation of reports relating to productivity and resource allocations with the laboratory and Medical examiner section. Reports would include such things as case backlogs, turnaround times, submission trends, submitters, and types of items being received.

The system should provide the ability to view these data in a graphic format. Additional features would include reports required by local, State and Federal agencies.

Employee Database - Desirable
The system provided will have an employee database component that will record such items as start and end date, positions held, record competency, disciplines, subdiscipline, training, proficiencies, court testimonies, continuing education, crimes scenes attended, etc. It will also have capability to flag any nonconformance to the requirements specified in the database. Access to this data will be password protected and will be limited to those individuals designated by management.

Quality Control Information - Mandatory
The system provided will have the capability of storing and linking quality control information regarding specific analyses including instrumental and chemical Q.C. runs.

The system will allow for viewing of this information during the technical review process.

The system will provide ability to create statistical range charts and control charts.

Reagent Quality Control - Mandatory
The system provided would have a component that allows for the tracking of information related to the quality control of both purchased, and laboratory generated reagents.

The system will track things such as the name of the chemical, CAS#, vendor, catalog #, dates of preparation, expiration dates, preparer, periodic testing records, etc.

The system will provide a flagging mechanism to prevent use of expired reagents.

Calibration Records - Desirable
The system provided will allow for the recording and tracking of calibrations of instruments and equipment. It will also have a component that allows for scheduling of calibrations with the capability to send reminders through Email about the need to schedule appointments for such calibrations.

The system will allow for the storage of calibration certificates provided by the vendor.
The system will provide for entering of criteria for successful calibration and comparing performance against these criteria. In cases of external calibrations, the system will allow for maintaining competency records of the calibrators.

**Repairs and Maintenance - Desirable**
The system provided will allow for the tracking, recording and scheduling of repairs and maintenance of equipment as per the policies of the laboratory.

The system will have the capability to send reminders through Email about the need to schedule appointments.

**Equipment and Asset Inventory - Desirable**
The system provided will have a component to track inventory of equipment in the laboratory to include name of item, section assigned, purchase date, installation record, vendor, model number, serial number, location in lab, use status, etc. and whether it is considered a critical piece of equipment.

**Billing - Desirable**
The system should have a component that would allow for future billing of user agencies.

**Workflow Features**

**Assignment of Cases - Mandatory**
The system should allow for multiple analysts to be working on a single submission.

The system should allow for unique identifications for each Division.

**Cross Referencing of Cases - Mandatory**
The system should allow for the linking, cross-referencing and tracking of associated case numbers and submissions throughout the LIMS. Any Division should through the use of their tracking # be able to find submissions in any other Division relating to that case. These might represent samples or evidence generated both within the WCDLR as well as submissions from outside the department. When accessing an individual case number the system should provide a list of already received related cases throughout the Division.

**Sub-Numbering - Mandatory**
The system should allow for a minimum 5 sub-levels of numbering in a parent/child type relationship, i.e., 1.1.1.1.1.

The system should also allow for the use of letter designations as part of the “sub-numbering” system (1.1.1A).
Barcode printing - **Mandatory**
The system provided will support a barcode system for the tracking of evidence and inventory.

The system will allow the laboratory to choose the items to appear on the barcode. The labels generated by the barcode printing system will contain both barcode and text information, and will support various sizes of barcode labels which can be accessed throughout the laboratory. Vendor response should include a complete list of hardware and software required to fully support the specified barcode printing, and should demonstrate their capability to facilitate the purchase of same in the event that Westchester Country decides to pursue such a purchase process.

Batch Evidence Transfer - **Mandatory**
The system will allow for the batch transfer of evidence. For example, instead of having to individually transfer each item in a 25 item submission, the system will allow for the transfer of all items (or subset of items) with one interaction.

Scheduling of tests - **Mandatory**
The system provided will have a component that allows for the scheduling and tracking of tests.

The system will allow for automatic test scheduling based on the results of previous tests in a “workflow” type system.

The system should allow for the linkage of test schedules to login group templates for automatic scheduling of tests based on section sample requirements, i.e. Rape Kits, DWI kits, ME kits, etc.

Data Input
The system should allow for the utilization of customized predefined drop-down lists in data input forms. **Mandatory**

The system should allow for input of data or text through the use of electronic tablet devices. **Desirable**

Instrument Interface - **Desirable**
The system provided will have the ability to bidirectional interface with laboratory instrumentation to allow for direct data transfer into the LIMS (see attached Excel spreadsheet of current instrumentation, Appendix B). The instruments to be interfaced and their application software is listed in each the functionality requirements for that section.

The system will allow for these files to be linked to a case file and can be viewed during the review process.
Reporting

Report Generation
The system provided will allow for the use of standardized reports (to be designed by the laboratory) as well as have the capability of creating custom reports for analytical results generated by the laboratory. - Mandatory

The system must allow for the modification of these standard reports. There should be no limit as to what or how many information fields may be used. All currently used reports must be available and complete prior to roll out of the system. Mandatory

The system should allow for the use of “boiler plate” report formats that incorporate test results taken from the LIMS system for automatic report generation. - Mandatory

The system should have the ability to add comments/findings to the pre-customized (“boiler plate reports”) reports. - Mandatory

The system shall allow for the electronic delivery of final reports to clients. - Desirable

The system should allow for the use of commonly used statements that can be accessed through a drop down menu or “auto-fill” in to assist in the generation of a report. - Desirable

The system should automatically assign sequentially supplemental report numbers when more than one report is being generated per case. - Mandatory

Report Review - Mandatory
The system provided would have a report review process that allows for independent technical and administrative reviews of data and reports. It should also be able to track the number of cases that have gone through such reviews. This report review process should be configurable by group.

E signature - Mandatory
The system provided will support the use of electronic signatures in reports, chain of custody, evidence receipts and for technical and administrative reviews. These electronic signatures will be password protected. The security system involved in such signatures should be as per the legal requirements under Federal and New York State laws in this regard and the requirements of accrediting bodies (ASCLD/LAB, ABFT, SWGDAM). The vendor response must include a description of all software and hardware required to support electronic signature requirements.

Printing - Mandatory
The system provided will support the generation of printed reports on dedicated as well as networked print devices.
Data and File Management

Document Storage and Archiving – forms, manuals etc. - Desirable
The system will allow for the storage, retrieval and archiving of forms, manuals, policies, worksheets, documents, and images that have been generated within the system or that have been migrated into the system. This should include an audit trail to show when a form was archived, etc. (i.e., not in use).

Data Migration - Mandatory
The system provided will allow for data migration from the current LIMS system and any MS Access files. It will also allow for the ability to archive transferred data as well as Word, Excel and Access documents.

Importing Files
The system provided will have the capability of importing and storing in an industry standard image format, documents and images from external sources. The LIMS will have the capability of linking these scanned images to case files. Mandatory

The system will have the ability to edit imported PDF files. Desirable

The system provided will have the ability to store and link documents in common file formats to case files. These should include files generated using MS Office products such as Word, Excel, PowerPoint, Access and other commonly used software products. In particular the system should have the ability to import existing Access databases related to tracking of cases and analysis. Mandatory

Exporting Data - Desirable
The system provided will have the ability to take information generated within the LIMS and export it to Word, Excel and other commonly used software products.

The system will accept documents created in Adobe Acrobat. Desirable

Functional Requirements By Section

The features listed below have been identified by the three Divisions as being important components in a LIMS system. Next to each feature is a designation as to the ranking of that feature: either Mandatory or Desirable. If a topic heading contains this designation, it is applicable to all subsequent features within that heading. These functional requirements are listed by both the Division and sub-divisional sections.

Quality Assurance

Statement Of Qualifications (SOQ) - Mandatory
The delivered system will provide for storing of SOQ (in ASCLD/LAB International format) of all the employees of the Division of Forensic Sciences.
**Education - Mandatory**
The delivered system shall provide for storage of records about education of all the analysts and technicians to the extent required by the ASCLD/LAB International and the Quality Assurance standards from the FBI (for DNA).

**Experience - Mandatory**
The delivered system shall enable storing of information pertaining to the past experience of analysts/technicians.

**Training/Retraining - Mandatory**
The delivered system shall provide for tracking information about the name of the trainee, discipline, subdiscipline, start date of training, identity of the trainer, start date of final competency, results of the competency, remediation completion (if necessary), date of successful completion of competency, performance in moot court, certificate of completion of training for every analyst/technician.

The delivered system shall also provide for tracking information (same as above) about any retraining that may be required.

The delivered system shall provide for an employee database of trained/retrained analysts/technicians for each discipline and subdiscipline.

The delivered system shall provide for storing records about the training and trained status of all the internal auditors in the organization.

**Proficiency testing (PT) Monitoring - Mandatory**
The delivered system will provide for the tracking of proficiency for each employee required to participate in the PT program. This will include the analyst name, type of proficiency test (external/internal), discipline, subdiscipline, dates of receipt (QA and analyst), dates of completion, time periods between testing, performance on the tests and remediation if necessary. The system will electronically notify individuals and the concerned Supervisors of the results of their performance in these tests.

**Continuing Education - Mandatory**
The delivered system will provide for maintaining annual records of continuing education received by every employee with information on discipline/subdiscipline, number of hours in each session, topic, venue, trainer, nature of training, and dates.

**Document Control - Mandatory**
The delivered system will provide for maintaining controlled documents as per the requirements of ASCLD/LAB International (ISO/IEC 17025:2005 and ASCLD/LAB International Supplemental Requirements 2006). In particular it will provide for maintaining control (by limited read/write privileges) over internally generated documents (manuals, forms, policies, report templates, of all disciplines/subdisciplines), maintaining Master Lists of controlled documents (internal and external), annually
reviewing all the documents, tracking changes to the manuals, and conveying changes in controlled documents to the concerned analysts/technicians.

**Internal Audits  -  Mandatory**
The delivered system will provide for storage of information about internal audits including dates, discipline/subdiscipline, auditors, questionnaire used for audit, results of audit (in terms of findings), completion of remediation(s) (if required), and sign-off of the audit by appropriate authority.

**External Audits/Corrective Actions  -  Mandatory**
The delivered system will provide for storage of external audit reports and the associated corrective action records.

**Corrective/Preventive/Quality Improvement Tracking  -  Mandatory**
The delivered system will provide for maintaining the forms used for corrective/preventive/QI that will be used by the organization. It will also provide for tracking of the various steps involved in initiation, analyzing, choosing (actions), completing (actions), testing (actions), timeliness in completion of the various corrective/preventive/QI actions that will be taken by the organization. The requirements in this regard will be as per the current requirements under ISO/IEC 17025.

**Client Survey  -  Mandatory**
The delivered system shall provide for maintaining the forms used for various client surveys, receiving electronic replies from clients, analyzing the replies received, storing of reports generated and actions taken in view of the reports.

**Management Review  -  Mandatory**
The delivered system will provide for storing information about the annual Management Review in terms of agenda, dates, attendees, minutes of the proceedings, and report generated.

**Division of Forensic Sciences**

**Evidence Receiving Functionality**

**Evidence Intake – Log in screens**
The delivered system shall include evidence intake screens that include at a minimum the following information:
Lab generated case #  **Mandatory**
Section of the lab the evidence is being submitted to (group ID)  **Mandatory**
Analyst ID(s) (analysts assigned to case)  **Desirable**
Date / Time stamp – military time  **Mandatory**
Agency Name  **Mandatory**
Agency case #  **Mandatory**
Type of case (in a drop down menu format – group dependant) Mandatory
Date of incident Mandatory
Date of Collection Mandatory
Submitting officer Mandatory
Number of names to be entered into the system Mandatory
Victim(s) last name if applicable Mandatory
Victim(s) first name if applicable Mandatory
Defendant(s) last name Mandatory
Defendant(s) fist name Mandatory
Number of items of evidence submitted Mandatory
A description field for each specimen submitted Desirable
A field describing the packaging of each article submitted (drop down) Mandatory
An area for comments (text) Desirable
Special status assigned to the case (i.e. rush) Desirable
Examination request (text) Mandatory

The system should have the ability to create specific mandatory fields which are required to be filled in before the submission will be accepted. These fields will be designated by the laboratory. Mandatory

The delivered system should provide case submission screens tailored to each section or type of evidence. Mandatory

The delivered system should allow for the use of predefined group templates to speed case submission. Mandatory

The ability to easily add a new field to the intake screen. Mandatory

The ability for the system upon intake, to flag the user that (an) associated case(s) have been submitted to the laboratory. Mandatory

The delivered system shall support the use of a barcode system (both software and hardware) for evidence intake, tracking within the lab and return of evidence to retrieval agencies. This will include the ability to print multiple sets of barcode labels of various sizes for a single case. Mandatory

The delivered system shall support the printing of evidence receipts containing information as previously outlined and as specified by the laboratory. Mandatory

The delivered system shall support the use of “Touch Screen” technology for the evidence intake area of the laboratory. The touch screen should support access of the designated fields as previously outlined. Mandatory

For Toxicology submissions name of case type must include victim, defendant, suspect, subject and other. Default will be described for each section and changeable. Mandatory
Evidence Tracking
The delivered system shall include evidence-tracking screens that include the following information:

- The location of individual items of evidence, samples, stains, and sub-items generated from these items anywhere in the laboratory. **Mandatory**

- An Audit trail of all transactions involving chain of custody transfers of all items or sub-items both within the lab and with submitting/retrieving agencies. **Mandatory**

- The ability to electronically notify submitting agency that a case is complete and ready for pickup. **Mandatory**

- The ability to schedule pick-ups / drop offs and to electronically notify police agencies of the times. **Mandatory**

Evidence Transfer
The delivered system shall handle evidence transfers only when both the sender and receiver are simultaneously present to make the transfer. The transfers will be electronic and will use log-in with a password for security. Evidence transfer functionality should include individual transfers and transfers by batches. **Mandatory**

Statistical information
The delivered system will have a software tool kit that will allow for the creation of simple queries by the person responsible for evidence intake to track statistical information regarding evidence receipt, tracking, storage and return. **Mandatory**

Remote Access of the LIMS System
The delivered system will allow for the completion of evidence input screen(s) off site by a submitting agency prior to submission to the laboratory. The system will allow for the completion of evidence intake screens via secure remote access using a variety of portable computing devices, i.e., laptops and hand held devices. The fields that can be filled out externally will be determined by the laboratory. The software will notify the person responsible for evidence intake that a request for submission has been filed. The system will allow for notification to the submitting agency that the intake form has been received and that the evidence can be brought to the laboratory. Access to this feature by outside agencies will be through a password provided by the agency. The system should allow for the system administrator to be able to easily cancel access to the system if necessary. **Mandatory**
Biology/DNA

Biology / DNA- Functionality
The system will have a function for evidence description utilizing drop-down lists and text and large comment fields. **Mandatory**

The system provided will have a component that allows for the scheduling and tracking of standard serology and DNA tests. The system will allow for scheduling based on the results of previous tests in a “workflow” type system. The system will have the flexibility to bypass the workflow scheduling if required. **Mandatory**

The system should be able to track all specimens and to flag specimens that have not been run for specific tests, based on laboratory criteria. Upon completion of a case, but before a report is generated, the system should be able to provide a list of what specimens have not been analyzed. Once reports are generated, the system should be able to provide a list of samples that do not have a DNA report associated with them. **Mandatory**

The system should allow for the transfer of specimens into a batch queue for a specific DNA tests or serology processes. There can be more than 1 batch queue at a time for a particular test. **Mandatory**

The system should allow for the population of worksheets and sample lists utilized by existing DNA laboratory instrumentation (ABI 310 and 3130 genetic analyzers, ABI 7000 Real time PCR system, Qiagen M48 robot). **Mandatory**

The system should allow for the exportation of data to populate worksheets outside the LIMS environment (i.e. exporting a sample sheet to create an injection list on the Capillary Electrophoresis (CE) units). **Desirable**

This exported data can then be converted to calculate new input information for the next test (i.e., real time PCR data calculated to produce DNA quantities needed for amplification). **Desirable**

The system should allow for the assignment of additional identifiers to specimens beyond the basic sample ID used to track the specimen (for example assignment of a Q# to a DNA specimen). **Mandatory**

The system should be able to keep a running tally of the unique identifiers (i.e., Q #’s) used and should assign these Q#’s automatically (Q#’s are not case #’s). **Mandatory**

The system should have the capability to barcode sample tubes, ranging from as small as 0.2 mL to 1.5 mL tubes microcentrifuge tubes, as well as multiwell plates for chain of custody and other tracking purposes. By scanning the barcode the analyst should be able to view the current status of individual samples and be able to track all worksheets/documentation pertaining to a single sample on the screen. **Mandatory**
The system should have the ability to barcode tubes for long-term archival storage. Security of this transaction will be through the use of a password log-on. **Mandatory**

The system should be able to assign a barcode to a run of tests. **Mandatory**

The system should be able to track samples that have been entered into CODIS and be able to produce statistical reports of CODIS activity on a monthly basis. **Mandatory**

The system should allow for a scheduling of analyst case assignment on a rotational basis established by the laboratory. **Desirable**

The system will allow for customized report generation using test results obtained during serology/DNA testing. **Mandatory**

The system should allow for the tracking of case status by number of days it has been in the laboratory. Scheduling of assignments can be based on a sample’s current status. **Mandatory**

The system will allow for both technical and administrative reviews of data and any applicable quality information online. **Mandatory**

The system should have the capability to populate samples/stains onto worksheets and work lists (i.e., if there are 25 stains to be tested, 1-25 can be entered without the need to do 25 separate entries). **Mandatory**

**Forensic Chemistry Functionality**

The delivered system should provide the ability for case assignment by the supervisor or other authorized individual. It should allow for electronic notification of assigned cases to the analytical staff as well as evidence receiving. **Mandatory**

The delivered system should allow a supervisor to track the status and output of cases assigned to a particular analyst. **Mandatory**

The delivered system should allow a supervisor to maintain a list of faxed rush and non-rush “request” cases. **Mandatory**

The delivered system should allow the tracking of reports awaiting technical and administrative review and allow for assignment of these cases to designated staff. **Mandatory**

The system provided will have a component that allows for the scheduling and tracking of tests and test results. The system will allow for scheduling based on the results of previous tests in a “workflow” type system (to be provided by the laboratory). The
system should be flexible enough to allow an analyst to opt out of performing a test if necessary without canceling of the samples for further analytical tests. **Mandatory**

The system should provide for flagging of priority or rush cases and allow for their tracking from intake to the issuance of a report. **Desirable**

The system should provide the ability to write and start sequences on instruments. **Desirable**

The system should provide the ability to operate instrumental data analysis software within the LIMS shell. **Mandatory**

The system should provide for inventory and tracking of controlled substance standards as per DEA requirements. **Mandatory**

The system should allow for linking of Lot # of reagents and standards to case jackets. **Desirable**

The system should allow for linking of tests to associated (electronic) procedure manuals. **Desirable**

The system should allow analysts to access instrumental libraries while working within the LIMS shell. **Mandatory**

The system should allow for linking of instrumental data to a case jacket. **Mandatory**

The system should allow for linking of associated Quality Assurance runs. **Desirable**

The system should allow for electronic report generation utilizing test result data that has been entered into the LIMS. **Mandatory**

The system should allow for the importation of other digital data and linking to a case jacket. **Mandatory**

The system should allow for designated agencies i.e. the DA’s Office the ability to electronically place rush requests and to be able to review cases status. **Desirable**

The system should allow for the electronic transmission of approved report results to a designated agency. **Desirable**

The system should allow for the use of electronic worksheets detailing drug tests and results. **Mandatory**

The system should allow the electronic worksheets to be populated by instrument data, weights from analytical balances as well as temperatures from ovens and refrigerators/freezers. **Desirable**
The system should allow for pre-inventory description of drug evidence using both a drop down menu format as well as a text feature. **Mandatory**

The system should allow for the generation of on the spot queries for statistical information. **Mandatory**

The system should provide for an approval feature that would allow for the supervisor to return evidence before a report is released or work begun on a case. **Mandatory**

**Trace Evidence Functionality**

The system should allow for test selection using a pull down menu system or checkbox format. **Mandatory**

The system should allow for linking of spectral curves and data as well as G.C. Mass Spec. data to a case jacket. This should also include linking associated Quality control runs to cases for technical review. **Mandatory**

The system should allow for the importation of lists and reports created as a result of external databases for the purpose of linking them to case jackets. **Desirable**

**Imaging Analysis Functionality**

The delivered system will provide for the storage and retrieval of digital images, video and audio files. **Mandatory**

The delivered system will have the capability to store and display images in the following formats: JPEG, TIFF, RAW, GIF, BMP. **Mandatory**

The delivered system will allow for access of any images, video and audio files outside the LIMS. **Mandatory**

The delivered system will allow for archiving using redundant media. **Mandatory**

The delivered system will provide password protection for access to images, video and audio files. **Mandatory**

The delivered system will authenticate images to insure no modifications have been made. **Mandatory**

The delivered system will allow electronic images to be linked to case files. **Mandatory**

The delivered system will contain a browser that will enable the analyst to view a stored image within the LIMS system. The browser should enable the analyst to view the electronic image as well as other data simultaneously. **Mandatory**
The delivered system will contain a component that will allow the user to electronically request the use of photographic services. **Mandatory**

The delivered system will have the ability to track non-digital images (e.g. negatives, prints, slides). **Mandatory**

**Division of Forensic Toxicology**

**Toxicology Functionality**

Toxicology will require either preliminary, final or supplemental reports. **Mandatory**

The delivered system will allow for batch analysis. **Mandatory**

The delivered system will allow for the opting out of performing a specific test without canceling of the sample for further analytical tests. **Mandatory**

The delivered system will allow for specific number identification of tissue type (example: Blood - .01, liver .04, bile .05, etc). These identifiers will always be assigned to these tissue types and will not be generated in a sequential fashion. **Mandatory**

The delivered system will allow for quantitative calculation of drug levels by tissue and will include additions and calculations. **Mandatory**

The delivered system should allow for the transfer of both sample data and controls into control charts. **Mandatory**

The toxicology lab will keep the Medical Examiner numbering system associated with samples. They must be able to complete/authorize the analytical results so that changes cannot be made easily without having to authorize the entire ME case. **Mandatory**

System must have the ability to reject results. This occurs because a preliminary result must be given and once the final quantitative result occurs, the preliminary result cannot be reported on the final report. **Mandatory**

Each test must have predefined components with predefined units so that data entry can select the test with the appropriate components for ease of data entry, for data transmission from instruments so that the database can accept appropriate data results. All tests will be set up either by a specific drug and metabolite or class of drugs and metabolites. One large list of all possible results cannot be used. **Mandatory**

Need the ability to create new tests as new drugs become available. **Mandatory**
Must be able to ad-hoc a result in any of the tests that will include the ability to supply units and results. Need the ability to include result phrases, i.e., Not detected at…, Greater than…, Less than…Invalid, Interference, etc. **Mandatory**

All tests must include appropriate reporting units for various samples. **Mandatory**

The Olympus AU400 results must be automatically downloaded to the system. This should be a bi-directional transfer of information. **Mandatory**

Only ME toxicology samples transferred to toxicology will appear on final report. Canceling of other samples required by the ME office will not be reported. **Mandatory**

Chain of custody will be generated automatically upon transfer of DWAI/DWI/DFSA cases to a toxicologist. **Mandatory**

Chain of custody will be generated automatically when ME samples are transferred into toxicology. **Mandatory**

Scheduled tests that are not required or completed will have no influence on reports. **Mandatory**

**Proficiency**

Individual and group participation lab proficiency must be tracked. **Mandatory**

Blood, urine and DFSA Human Performance samples each have their own unique schedule of tests assigned upon receipt of evidence. **Mandatory**

All ante-mortem and organ donation samples will appear as a group on the final report – Hospital samples, rather than listing all individual samples received. **Mandatory**

**Medical Examiner’s Office**

**Medical Examiner Functionality**

The system should have the capability of linking case information with reports, notes, scene images, ID photos, diagrams, and scanned or other electronically produced documents related to the case. **Mandatory**

The system should incorporate a sketch tool for ME/CRIM investigators while on a scene. The system should allow for linkage of sketches to the electronic case file. **Mandatory**
Images should be viewable within the shell of the LIMS system without the need to exit the system. **Mandatory**

The system should have the capability to track a body from arrival through release through the use of a bar coded “toe tag”. **Mandatory**

The system should have the ability to track both chain of custody and location of all evidence, personal effects and property related to a Medical Examiner case. **Mandatory**

The system should have the ability to generate a printed chain of custody receipt. **Mandatory**

The system must have the capability of electronic logging of a report of death by police or hospitals. **Mandatory**

The system should have the capability for remote pre-logging by ME investigators of a death case at the scene. **Mandatory**

The system should have the ability to transfer current LIMS Medical Examiner input screens with all associated fields and drop down menus. **Mandatory**

The system should allow for data migration from the current LIMS as it relates to Medical examiner data. **Mandatory**

The Medical Examiners component of the LIMS system should allow for sample tracking within the laboratory environment. **Mandatory**

The system should allow for the production of easy to create queries to create statistical information regarding Medical Examiner cases. **Mandatory**

The system should have the capability to track the status and location Medical Examiner case folders. **Mandatory**

The system should allow for the linking, cross-referencing and tracking of associated case numbers and submissions throughout the LIMS. The Medical Examiner should through the use of the MEO # be able to find submissions in both the Divisions of Forensic Science and Forensic Toxicology that relate to that case. These might represent samples or evidence generated with the Department as well as submissions from outside the department. **Mandatory**

The system should allow for the conversion of forms and other documents which are now being typed using a typewriter into an electronic version capable of being populated with information generated within the LIMS system. **Mandatory**

The system should have the capability of voice recognition /conversion to text for autopsy report generation from recorded tapes. **Mandatory**
The system should allow for the simultaneous viewing of images and notes or diagrams in separate windows within a single screen. **Mandatory**

The system should allow for the assignment and tracking of ME evidence and samples within the laboratory. **Mandatory**