A. **Purpose/Scope**:

Within this document are general guidelines that are important for maintaining the integrity and forensic defensibility of the work performed within the Controlled Substances (CS) Unit. A controlled substance is generally a drug or chemical whose manufacture, possession, or use is regulated by a government entity (e.g., illicitly used drugs or prescription medications). Evidence is usually submitted for two (2) purposes – weight, qualitative, or semi-quantitative examination. Currently quantitative analyses (other than weight measurements) are not conducted within the CS Unit. Comparisons of analyte quantities within evidence, as long as numerical values are not reported, can be considered qualitative and may be performed. Such requests usually come from evidence that has been suspected of being tampered or adulterated and accompanies known exemplars for comparison purposes.

B. **Responsibility**:

Analysts assigned to the Controlled Substance Unit.

C. **Safety**:

Refer to the DSS GL 2 Safety Manual for precautions..

D. **Procedure**:

1. Transfer of Evidence
    a. Cases are initially received from submitting agencies through the Evidence Receiving Unit (ERU) and then transferred the CS Unit.
    b. Evidence must be under proper seal during all transfers between sections.
    c. Appropriate chain of custody will be maintained at all times, including for aliquots of samples.
    d. The evidence can be transferred into storage in the “Cases in Review” location until all the reviews have been completed.
2. LIMS
    a. Evidence transfers will be documented within the laboratory information management system (LIMS) software (e.g., LIMS-Plus) following normal laboratory procedures.
    b. If an aliquot of evidence is split and transferred to a second analyst, a sub-item will be created in LIMS-Plus. The chain of custody will be maintained for all portions of evidence if said evidence is to be analyzed or returned.
3. Storage
    a. Evidence lockers are usually assigned to individual analysts and can contain evidence, aliquots of evidence, extracts of evidence, and other similar case materials.
    b. All such evidentiary materials will be stored under proper seal and kept locked when not being actively analyzed.
    c. Any incident where an analyst feels evidence or integrity of evidence may be of concern is required to contact the appropriate Unit Lead (and higher) for necessary QA action.

d. All supplies and reagents will be stored in a manner so as to ensure that they are suitable for use and to preserve their integrity. Manufacturer's guidelines should be followed.
e. Analysts will store and maintain reagents with special handling requirements in a manner that meets said requirement. Manufacturer's information (e.g., MSDS, SDS) should be consulted when analysts are unsure of storage (e.g., refrigerator, solvent cabinet), use, or potential hazards.

4. Opening / Inventory and Closing of Evidence

a. If needed, cases may be opened, inventoried, and/or closed by analysts with the assistance of a witness.
b. Only one case should be opened and/or closed by an analyst at a time.
c. The inventorying of a case is documented using the appropriate Unit form(s) or electronically captured in LIMS.
    i. When the analyst transfers the evidence into their custody for the purpose of taking inventory of the case, they must notate in the "Note" field within the Evidence Transfer box "Inventory". This transfer indicates the date that analysis started.
d. If a discrepancy is discovered upon inventory, the Unit Lead (or higher) will be informed to confirm and the submitting agency will be notified. This is documented on the Discrepancy Record and is saved electronically. Additionally, a note should be added to the case synopsis that a discrepancy was present in the case.
    i. A discrepancy is considered any quantity that does not match what is reported by the submitting agency.
    ii. The verbiage "approximately"/ "approximate" will be accepted and not considered a discrepancy if the exact quantity does not match what was found upon inventory.
    iii. Analysis will be halted when the quantity found is less than what is reported by the submitting agency or at the discretion of a FSE2 or higher. To proceed with analysis, the quantity found at the laboratory must be accepted by the submitting agency.
e. Prior to return of evidence to the Evidence Receiving Unit the case is re-inventoried and closed (sealed) by the analyst.

5. LIMS and Case Documentation

a. Evidence is tracked, casework documentation is maintained, and specific requests for disciplines are created through the use of LIMS.

b. Members of the Unit will work with the ERU and the Case Management Unit (CMU), as well as other laboratory staff, in order to coordinate evidence transfers, update information about cases, issue reports, and update other relevant aspects regarding cases (e.g., testimony, subpoenas).

c. The inventorying/accessioning of evidence, taking of case notes, and generation of other documentation will be the responsibility of the assigned analyst and will normally be captured within the case file. The term 'case file' is a combination of hardcopy documents within case file folder(s) and electronic data within LIMS.

d. All case documentation will be according to laboratory policy and relevant Unit SOPs.

e. Labels put on evidence and/or paperwork need only be accurate regarding laboratory case number, evidence item identification number, and general description. Evidence descriptions within LIMS may change slightly based on the needs of the DSS or other sections. Printing/placing new labels is not necessary if such changes do not impact the use of the label in question.

f. All relevant communications, especially those with outside entities, must be captured within case files. All relevant e-mails should be uploaded/placed into case files. Other communications can be logged within the case synopsis in LIMS.

g. Photographs may be taken of evidence, as appropriate.

   i. Photographs can be used to supplement case notes and allow analysts to minimize written notes.
   ii. All photographs will be retained within appropriate storage locations (hard copy or electronic within LIMS).
   iii. It is acceptable to annotate case pictures with necessary information – just as long as critical information is not blocked.

6. Case Analyses

   a. The analysis of evidence will be performed according to applicable SOPs within the Unit. Any minor deviations (i.e., those that don't affect the overall quality of analyses) will be documented. Major deviations (i.e., those that may affect the overall quality of analyses) will be preapproved according to laboratory policy prior to occurrence.

   b. All appropriate documentation should be incorporated, where feasible, into LIMS. Supplemental documentation can be kept within hardcopy case file folders. Laboratory document control policies will be followed and all appropriate initials/dates will accompany relevant paperwork.

   c. Once cases and requests are established within LIMS they are can be assigned to appropriate analysts.

   d. Evidence is transferred, analyzed, and results are obtained. All documentation, including photographs, will be maintained according to DSS policy. Instrumental data will be retained and stored according to both DSS and Section policies.

7. Results and Reports

   a. Analysts will summarize their results and include them within LIMS to produce a draft laboratory report.

   b. Technical review (TR) and administrative review (AR) milestones will be captured within LIMS.

c. Reports will be appropriately reviewed and if any corrections to the draft report are required, then the reason for the correction will be recorded within LIMS and a new draft report generated.

d. Reports will be appropriately released and distributed to submitting agency representatives. Tracking of reports will be done within LIMS as sub-itemized pieces of evidence.

e. All appropriate case documentation can be found either in physical case file folders or within LIMS. Analytical data must support the results/conclusions within reports and another competent analyst should be able to arrive at the same result/conclusion based on documents retained within case files.

f. Reports will be in a format complying with DSS policy.

g. All items that were received and analyzed will be listed within reports along with any appropriate comments/results associated with each item.

h. Supplemental reports are those which contain additional information to previous reports. Such reports must be able to be linked to previous reports for clarity of information.

i. Amended, or revised, reports are those which contain corrections to previous reports. Such reports must also be able to be linked to applicable previous reports for clarity.

j. Validations will occur for procedures prior to their use with casework. Documentation will be kept in appropriate validation binders and approval for use will follow GL and Section policies.

APPENDIX – Abbreviations and Definitions:

Below are some abbreviations which may be found within documents related to the Controlled Substances Unit. More abbreviations may be found within specific unit procedures:

APAP: Acetaminophen; Paracetamol; N-acetyl-para-aminophenol
BB: Borate Buffer
BBX: Borate Buffer Extraction
Benzo: Benzodiazepine
bl: Blood
BM: Botanical Material
CBD: Cannabidiol
CFB: Cocaine Free Base
CH: Cystolithic-like Hairs
CH P/A: Cystolithic-like Hairs present or absent
CHEP: Cyproheptadine
cont: Containing/Container
CPB: Clear Plastic Bag
CRM: Certified Reference Material
CS: Controlled Substance(s)
CSF: Cocaine Salt Form

CZLB: Clear Zip Lockable Bag
DS: Daily Standard
DSS: Division of Scientific Services
ea: Each
ECO: Evidence Control Officer
Encl: Enclosed
env: Envelope
EPB: Evidence Plastic Bag
ETOAc: Ethyl Acetate
EtOH: Ethanol
evid: Evidence
FA: Fatty Acid
FB: Forensic Biology
FTIR: Fourier Transform Infrared Spectrophotometry
GC: Gas Chromatography
GCMS: Gas Chromatography/Mass Spectrometry
GHB: Gamma Hydroxybutyrate; Gamma-Hydroxybutyric Acid
HPLC/MS; LC/MS: High Performance (Pressure) Liquid Chromatography/Mass Spectrometry
HS: Heat Sealed
IPA: Isopropanol
IR: Infrared
IS: Internal Standard
KPB: Knotted Plastic Bag
KPBC: knotted plastic bag corners
liq: liquid
LIMS-Plus; JT; JTRAX: JusticeTrax® laboratory information management system (LIMS) software
LSD: Lysergic Acid Diethylamide
6-MAM; 6-AM: 6-Monoacetylmorphine
Mar: Marihuana; Marijuana
ME: Manila-like Envelope
MeOH: Methanol
MS: Mass Spectrometry
NCS: No Controlled Substances
Neg: Negative
NS: Not Scheduled
P1: Portion One
P2: Portion Two
PCP: Phencyclidine; Phenylcyclohexylpiperidine
Pdr; pwdr: Powder
PE: Petroleum Ether
PKG: Package/Packaging
plb: Plastic Bag

PM: Plant Material
Pos: Positive
PPE: Personal Protective Equipment
Proc: Procedure
PZB: Plastic Ziplockable Bag
QAQC; QA/QC: Quality Assurance/Quality Control
QA: Quality Assurance
QC: Quality Control
res: Residue
RS: Rock Substance
Sol; Sol'n: Solution
Sub: substance
STD: Standard
RT: Retention Time
Tbt; tab: Tablet
THC: Tetrahydrocannabinol
Total U; TU: Total Uncertainty
TX ; tox: Toxicology
Uncer; U: Uncertainty
ur: Urine
UV: Ultra Visible
UV/VIS: Ultraviolet/Visible Spectrophotometry
vol: Volume
WE: Weighing Events
wt: Weight
ZLB; zip: Ziplockable Bag

Visible Residue: A term used to describe an amount of a solid material that is visible within evidence and is in a quantity too small to be adequately isolated and weighed (e.g., less than a milligram of solid, a few particles of solid powder).

Non-Visible Residue: A term that can be used to describe evidence where no solid drug-like material is visible but which non-visible particles of potential analyte may be present.

Reference Standards: materials (usually pure) that are commonly purchased and which meet certain traceability requirements. Product information (e.g., purity, lot number, expiration date) are usually found on reference standard containers. These are sometimes referred to as pure standards and are commonly used to verify the identity of a detected analyte.

DEA Exempt Standard: Chemicals purchased with a DEA license.

"Like" items: evidence within a case that have similar physical appearance, including packaging and contents.

Sample Selection: A process wherein evidentiary "Like" items, or portions of said items, are selected to be analyzed. There is no assumption of homogeneity – only that the "Like" items may contain the same material(s). Any reported analytical results will only be from items that were actually selected and tested. Results are only considered related to the whole population of the submitted evidence when all of the items have been analyzed.

Sampling Plan: The CS Unit does not currently use a sampling plan.

Analyst: a scientist who has certain authorizations, such as to handle and analyze evidence in a particular discipline or Unit. They are typically responsible for the security of the evidence they handle, analytical work they perform, and reporting of results.

Witness: An employee or authorized analyst within the DSS laboratory that can act as a verifier of an action. Although the witness may not be responsible for analytical work, they are responsible for verifying that an activity took place (e.g., evidence was sealed, number of items of evidence were received/returned, weight value was transcribed and/or recorded correctly).