California Department of Transportation

Independent Assurance Manual

April 2024

ISSUED BY:
DIVISION OF ENGINEERING SERVICES
MATERIALS ENGINEERING AND TESTING SERVICES

Independent Assurance Manual Approval

This manual is effective upon review and acceptance by Caltrans Division of Engineering Services, Caltrans Division of Construction, and the Federal Highway Administration, California Division.

APPROVED BY:

04/23/2024

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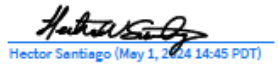

05/01/2024

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SUMMARY OF REVISIONS

The following is a summary of major revisions from the July 2005, *Caltrans Independent Assurance (IA) Manual and all associated Manual Amendments*:

- Initial technician certification by IAP Staff is valid for 1 year, with all subsequent certifications valid for 2 years provided certification has not lapsed for more than 1 year. For a certification that has lapsed more than one year, the certification process is reset to initial certification. Supersedes July 1, 2011, IA Manual Amendment IAP 2005-001.
- The technician must pass the written exam on initial certification, then every other recertification thereafter. The technician must pass the practical exam for initial certification and for every recertification. Supersedes July 1, 2011, IA Manual Amendment IAP 2005-001.
- Definition and inclusion of mandatory training programs. Currently approved mandatory programs, such as the Joint Training and Certification Program (JTCP), are detailed in Appendix D. Supersedes March 1, 2021, IA Manual Amendment IAP 2005-002 Rev. 1, "Joint Training and Certification Program."
- Definition and inclusion of alternate certification programs. Currently approved alternate certification programs, such as the Inertial Profiler Certification Program (IPCP), are detailed in Appendix E.
- Specific requirements for mobile laboratories.
- Cases of failure to notify IAP regarding laboratory staff, equipment or location changes have been identified as minor infractions.
- Requirement that Caltrans IAP maintain a web-based repository of laboratory and technician qualifications that is accessible by the public.
- Expanded details on Corroboration Sample Program (CSP) requirements.
- Expanded details on Reference Sample Program (RSP) requirements.
- Modification to technician and laboratory disqualification and appeals process.
- Plain language for consistency with Caltrans standard specifications.
- Requirement that IA Program provide digital access to the IA Manual and supporting documents.
- With the exception of IA Manual July 2005 Appendix B: Websites Related to the Caltrans IAP (now Appendix A), Appendix C: Glossary and Acronyms, and Appendix (now Appendix B), and F: Caltrans Laboratory Accreditation Manual (now Appendix C), all appendices (guidelines, forms, and customer feedback) transferred to the IA Program website.

This manual, along with Chapter 6 of the California Department of Transportation (Caltrans) *Construction Manual* and Caltrans *Construction Quality Assurance Program Manual*, outlines the procedures for the Caltrans Quality Assurance.

The following stakeholders have provided input to this manual:

- Caltrans Division of Construction
- Caltrans Division of Engineering Services (DES), Materials Engineering and Testing Services (METS)
- Caltrans DES Structure Construction (SC)
- Caltrans Independent Assurance (IA)
- Caltrans Division of Local Assistance
- Federal Highway Administration (FHWA) – California Division

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CALTRANS INDEPENDENT ASSURANCE MANUAL

1 Authority, Purpose, and Scope

(a) *Authority*. Title 23, Code of Federal Regulations, Chapter I, Part 637, Subpart B (23 CFR 637B), requires each state transportation department to develop a Quality Assurance Program (QAP) that includes an acceptance program and an Independent Assurance Program (IAP) for all Federal-aid highway construction projects on the National Highway System (NHS).

(b) *Purpose*. The Caltrans Independent Assurance Manual defines the components of the Caltrans IAP with the objective of ensuring that all sampling and testing used in the acceptance decision is performed by qualified technicians and laboratories in conformance with 23 CFR 637B.

(c) *Scope*. Participation in the Caltrans IAP is required for materials testing laboratories and technicians providing test results that may be used in an acceptance decision. This applies to all project-produced materials within federal and/or state funded Caltrans projects, or local agency projects relying wholly or partially on federal and/or state funding.

(1) *Laboratories and technicians*. All laboratories and technicians that submit test results used for acceptance of materials or as evidence in disputes are required to be qualified through the Caltrans IAP or through a Caltrans IAP approved Agency QAP.

(2) *Local agencies*. Participation in the Caltrans IAP applies to local agencies that have adopted the Caltrans IAP as part of their Agency QAP. Local agencies that have developed their own IAP within the Agency QAP must obtain Caltrans IAP approval.

2 Roles and Responsibilities

(a) *Headquarters Division of Construction*. Responsible for setting statewide policies or processes that pertain to contract administration, developing, maintaining, and administering the Caltrans QAP, and enforcing the Caltrans IAP.

(b) *District Construction and Division of Engineering Services (DES) Structure Construction*. Responsible for administering the Caltrans QAP and enforcing the IAP.

(c) *DES Materials Engineering and Testing Services (METS)*. Responsible for developing, maintaining, and administrating the IAP.

(1) *Office of Materials Management and Independent Assurance (OMMIA)*. Responsible for directing, managing, developing, and reporting the IAP statewide, including related support programs.

(2) *IAP Branch Chiefs.* Responsible for IAP Staff supervision, management of IAP support programs, delivery of the IAP Annual Meeting and assuring proper document maintenance and timely reporting.

(3) *IAP Staff*. Responsible for accrediting laboratories, certifying technicians, witnessing proficiency testing as required by related support programs, reviewing local agency QAPs as related to the Caltrans Local Assistance Procedures Manual, and maintaining records as required in Section 7 of this document.

(d) *Laboratories and technicians*. Those sampling and/or testing for the purpose of materials acceptance or as required by specification on Caltrans projects must adhere to IAP requirements. Any test results used in the acceptance decision, including those provided in dispute resolutions, must be provided by IAP qualified laboratories and technicians.

(e) *Local Agencies*. Local Agencies must adhere to the IAP for projects on the National Highway System (NHS) or State Highway System (SHS). A Local Agency may adopt the Caltrans IAP as part of the Agency's QAP for projects administered off the NHS/SHS.

(1) *IAP Staff support*. IAP Staff shall be available to support local agencies adopting the Caltrans IAP.

(2) *Self-supported IAP*. Local agencies developing their own Agency IAP must do so in accordance with the Caltrans Local Assistance Procedures Manual.

3 Laboratory Accreditation

(a) *General.* Laboratory accreditation requires submittal of a Request for Caltrans Laboratory Accreditation form (TL-0118), a complete and accurate Caltrans Laboratory Accreditation Manual (CLAM, see Appendix C), undergoing and passing a site assessment, maintaining and calibrating appropriate equipment, notifying the IA Program of personnel, location or equipment changes, and participating in the Reference Sample Program (RSP).

(1) *Accreditation Certificate*. Accreditation is granted on a test-by-test basis for CT, AASHTO, and ASTM test methods. Laboratories that successfully complete the laboratory accreditation process will receive a TL-0113: Caltrans Accredited Laboratory Inspection Report certificate that is valid for one year starting from the initial IAP assessment date.

(2) *Test method scope*. Accreditation applies to both testing performed at the laboratory and testing performed in the field (project site) by laboratory staff.

(3) *Temporary and mobile facilities*. Separate accreditation is required for temporary or mobile facilities (e.g., trailers, mobile laboratories, or other structures).

(4) *Request deadline*. Requests and related documentation for new accreditation or re-accreditation must be submitted at least 30 calendar days in advance of the desired site assessment date and/or accreditation expiration date.

i. If the request has been submitted at least 30 calendar days in advance of the expiration date, accreditation extensions may be provided if IAP Staff is unable to perform the site assessment before the expiration of the current accreditation. The extension is limited to a maximum of 30 calendar days.

ii. Accreditation extensions that are not primarily caused by an IAP Staff delay must be approved by the respective IAP Branch Chief.

(5) *AASHTO accreditation*. AASHTO accreditation is not required except when noted in project specifications.

(b) *Caltrans Laboratory Accreditation Manual (CLAM)*. As part of an accreditation request, a CLAM (see Appendix C) must be provided. The CLAM must be separate from other manuals or binders such as AASHTO Re:source accreditation, radiation safety programs, or calibration reports.

(1) *Minimum requirements*. The CLAM shall include, but is not limited to, contacts, organization chart, laboratory affiliations, RSP and CSP records, list of test methods, list of equipment requiring calibration with calibration dates, list of personnel and qualifications, and nuclear storage information (if applicable).

(2) *CLAM acceptance*. A site assessment will not be conducted until IAP Staff has reviewed and accepted the CLAM.

(3) *Additional documentation*. The IAP reserves the right to require additional documentation as changes to construction specifications, safety rules, or test methods become evident, or as other needs arise.

(4) *CLAM maintenance*. A readily accessible physical or electronic copy of the current IAP-approved CLAM must be maintained in each accredited laboratory.

(c) *Site assessment*. IAP Staff will perform a site assessment to verify CLAM documentation and to evaluate testing equipment and procedures used to conduct the physical tests for which the laboratory has requested accreditation.

(1) *Minimum requirements*. The site assessment will include, but is not limited to, a review of the laboratory quality control manual, hardcopy binder of applicable test methods, all related test equipment, calibration and service documentation, and the CLAM.

(2) *Deficiencies.* A list of deficiencies, if noted, will be summarized immediately following the site assessment and provided to the laboratory manager.

i. A formal deficiencies report will be provided to the lab within 5 business days.
ii. The laboratory must provide IAP Staff with satisfactory evidence that all deficiencies noted have been corrected before accreditation can be granted.
iii. The laboratory will be suspended for test methods affected by deficiencies that cannot be immediately corrected.
iv. IAP Staff may provide conditional accreditation for up to 90 days following the initial site assessment for test methods and related equipment determined to be acceptable.

(3) *Resolution of deficiencies.* Following the site assessment, the laboratory must respond to any deficiencies within 90 calendar days.

i. Response to deficiencies must include a description of the corrective action taken and substantiating evidence.
ii. If more than 90 calendar days are needed to resolve a deficiency, the laboratory shall provide IAP Staff with a written plan for resolving the deficiency, including an estimated completion date and evidence of action taken.
iii. If more than 180 calendar days are needed to resolve a deficiency, the laboratory must resubmit the full request for laboratory accreditation when the deficiency has been corrected.

(d) *Maintenance and calibration*. The laboratory is responsible for ensuring all equipment related to accredited test methods is maintained in good working order. Failure to maintain and calibrate equipment will result in suspension of accreditation of the equipment-related test method(s).

(1) *Maintenance*. All equipment associated with a test method must be available for examination during the site assessment and maintained in working order for the duration of the accreditation.

(2) *Calibration requirements*. All equipment requiring calibration must be calibrated on the required interval and must have an appropriate calibration decal affixed to the equipment. New equipment without initial calibration or existing equipment with expired calibration shall not be used for testing.

i. Calibration decals shall include the equipment identification number, date of calibration, date calibration is due, the name of the calibration company, and the initials of the person performing the calibration.
ii. Intervals for calibration shall be no greater than 12 months or as specified by the equipment manufacturer or as required in the related test method, whichever is the lesser time period.
iii. New equipment without initial calibration or existing equipment with expired calibration shall be clearly labeled "Do Not Use," "Out of Service," or other similar message that will prevent use of the equipment.
iv. Standards used for calibration do not require annual calibration but must have a current National Institute of Standards and Technology (NIST) calibration certificate. A standard must be at least twice as accurate as the equipment to which it is applied. Calibration standards must be reasonably protected from daily laboratory work and cannot be used for regular materials testing.

(3) *Calibration methods*. The laboratory shall have detailed written procedures for all in-house calibration and verification activities including:

i. A training and evaluation program for personnel performing calibrations or verifications.
ii. A description of the equipment to be calibrated or verified including the parameter range and tolerance.
iii. A description of the reference standard(s) required, including parameter(s), range(s), and tolerances or uncertainties.
iv. A detailed procedure for performing the calibration or verification.

v. A calibration report with results of the work performed according to the procedure.

(4) *Calibration reports*. All calibration or verification reports shall include:

i. Title (e.g. "Calibration Report" or "Calibration Certificate"), unique report or certificate number, location, name of the person performing the calibration, and dates of calibration, previous calibration and next due calibration.
ii. Test equipment identification including serial number, manufacturer make, model, range, and accuracy.
iii. Identification of calibration or verification procedure used.
iv. Notes regarding any deviation, addition to, or exclusion from the calibration method, any special limitations of use, or any other relevant information.

(e) *Personnel, equipment, and location changes*. The laboratory must notify the IAP in writing within 10 business days of any major change including, but not limited to, laboratory ownership, management and personnel, contact information, location, or equipment operational issues.

(1) *Personnel*. Test results are valid only if the test is performed by a certified technician, therefore the laboratory should maintain at least one technician with valid certification in each accredited test method. If a laboratory does not have a certified technician for an accredited test method, the TL-0113 Caltrans Accredited Laboratory Inspection Report and public access database (see Section 7. Reporting and Maintenance of Records) will be noted accordingly. Failure to notify Caltrans IAP of personnel changes that affect a laboratory's qualified test methods will be considered an infraction as defined in Section 6, Disqualification and Appeals.

(2) *Equipment*. Equipment must be calibrated within required intervals and be in good working order. Failure to notify Caltrans IAP of equipment operational issues affecting the scope of accreditation will be considered an infraction as defined in Section 6, Disqualification and Appeals.

(3) *Permanent laboratory relocation*. Laboratories that move to a new physical location must submit a new laboratory accreditation request and undergo the entire CLAM review and site assessment process to obtain accreditation. The laboratory's accreditation for the previous location will be suspended.

(4) *Mobile laboratory relocation*. Mobile laboratory relocation is the process whereby a mobile laboratory is moved to alternate sites within a project, from one project to another project, or to or from an off-project location. A new CLAM review and site assessment will not be required for each relocation. Failure to notify Caltrans IAP of relocation will be considered an infraction as defined in Section 6, Disqualification and Appeals. The requirements for mobile laboratory relocation are as follows:

i. The laboratory must maintain a relocation process binder that includes a log of each relocation and date of the change, a listing of equipment and recalibration dates, and new organization charts, if applicable.
ii. The laboratory must notify IAP Staff a minimum 15 calendar days prior to a

proposed relocation date.

iii. Prior to resuming operations, the laboratory shall provide IAP Staff with a list of personnel changes and revised organizational chart, if applicable.

iv. Prior to resuming operations, the laboratory shall provide IAP Staff with records demonstrating that equipment has been calibrated and standardized at the new location.

v. Upon review of relocation documents, IAP Staff may elect to perform an on-site assessment to verify the mobile laboratory status and condition.

vi. Truck-, van-, or trailer-mounted laboratories that move regularly to maintain close proximity to daily worksite operations must maintain a logbook or binder of calibration checks. Calibration of sensitive equipment, such as compression testing machines or scales, must be verified each day prior to the commencement of testing operations. If the laboratory movement frequency is every two days or more, the sensitive equipment can be verified with each movement. IA Staff notification for relocation, calibrations, and personnel changes is only required if the truck or van has been relocated to a different project.

(f) *Reference Sample Program (RSP)*. To maintain accreditation, the laboratory must participate in the RSP.

(1) *RSP Number (Laboratory Identification)*. A new laboratory must submit an RSP Questionnaire form (TL-0119) to the Caltrans IAP. Upon receipt of a complete questionnaire, the IAP will assign the laboratory an identification number. A copy of the questionnaire must be maintained in the laboratory's CLAM.

(2) *Proficiency testing*. To maintain accreditation in test methods under RSP evaluation, the laboratory must participate in RSP testing.

i. Caltrans IAP will offer at least one opportunity for participation each calendar year. Caltrans IAP will provide an RSP schedule, notify laboratories of RSP requirements, and deliver RSP samples as needed.

ii. Caltrans IAP maintains the right to require a fee for participation that is commensurate with preparing and delivering proficiency samples. For RSP participation documents that are submitted after the required deadline, the IAP will charge a late fee. Public agencies are exempt from participation fees and late fees.

iii. If a laboratory is accredited in a test method subject to RSP evaluation, the laboratory must participate in testing and produce an acceptable result. Non-participation will result in suspension of accreditation in the test method under RSP evaluation. Laboratories that do not maintain accreditation in a test method under RSP evaluation are exempt from participation.

iv. Failure to report RSP sample results by the required deadline will result in suspension of accreditation in the test method under RSP evaluation.

v. The technician performing the testing on behalf of the laboratory must be IAP certified in the test method and must be identified in the results report.

(3) *Reporting and Evaluation*. The IAP will evaluate each laboratory's reported RSP result and provide a rating of acceptable or unacceptable.

i. The IAP will evaluate RSP sample test results using a statistical system to apply a numerical rating to individual laboratory test results. The statistical evaluation uses the mean (X) and standard deviation (σ) for a given test method. The rating system for RSP sample results are summarized in the following table:

Statistical Value	Numerical Rating	Interpretation of Individual Laboratory Result
X ± 1.0σ	5	Acceptable (very good)
X ± 1.5σ	4	Acceptable (good)
X ± 2.0σ	3	Acceptable (fair)
X ± 2.5σ	2	Unacceptable (poor)
X ± 3.0σ	1	Unacceptable (very poor)

ii. If the laboratory reports an unacceptable RSP sample test result, the IAP will deliver another sample for retesting (first retest). The retest result must be returned to the IAP within 15 calendar days of receipt.

iii. If the laboratory reports an unacceptable result on the first retest, the laboratory must submit a corrective action plan (CAP) to the IAP. The IAP will deliver another sample for retesting (second retest). The retesting must be witnessed by IAP Staff. If the laboratory reports an unacceptable result or otherwise fails to properly conduct procedures on the second retest, the laboratory accreditation will be suspended for that test method. Refer to Section 6, Disqualification and Appeals.

iv. If the laboratory provides an acceptable result from the RSP testing or retesting, the IA Program will provide the laboratory with a letter of successful participation. A copy of the letter must be maintained in the laboratory's CLAM.

4 Technician Certification

(a) *General*. IAP certification is required for materials testing technicians providing test results that may be used in an acceptance decision. The process to obtain certification and length of valid term will depend on the applicable certification process.

(b) *Certification by IAP Staff*. Technician certification by IAP Staff must be performed at the technician-associated laboratory, a designated laboratory, or, for specific field test methods, at an IAP-approved field location. The laboratory used for certification must have current accreditation in the test methods to be certified.

(1) *Certification request*. Technician certification requires submittal of a Request for Technician Certification form (TL-0120) to the IAP. Additionally, the technician must submit a Technician Training and Evaluation Record form (TL-0121) and an Employer Affidavit of Testing Proficiency form (TL-0122) to demonstrate ability with test methods requested for certification.

(2) *Request deadline*. Requests and related documentation for new certification or recertification must be submitted 30 calendar days in advance of the desired technician evaluation and/or certification expiration date.

i. If the request has been submitted at least 30 calendar days in advance of the expiration date, certification extensions may be provided if IAP Staff are unable

to evaluate the technician before the expiration of the current certification. The extension is limited to a maximum of 30 calendar days.

ii. Certification extensions that are not primarily caused by an IAP Staff delay must be approved by the respective IAP Branch Chief.

(3) *Test method(s) employed within a test method*. The technician does not need certification in all associated test methods cited within a particular test method to obtain a certification. However, any associated test method results required within a test method must be provided by a technician that is certified to perform that associated test.

(4) *Written and practical exams*. For initial certification to a test method, the technician must successfully pass the written and practical exam within a 90 calendar day period. For recertification, the technician must successfully pass the practical exam every recertification cycle and the written exam every other certification cycle. For recertification cycles requiring both written and practical exam, both must be successfully passed within a 90 calendar day period.

i. Written exams are confidential property of the IAP. Unauthorized possession of written exams is considered fraud and will be treated as an infraction as defined in Section 6, Disqualification and Appeals.

ii. Written exams are closed book. Basic, non-programmable calculators will be allowed. The maximum time allowed to complete each exam is 30 minutes. A minimum of 70 percent correct answers is required for a passing score.

iii. Practical exams are open book for the purpose of referencing tables or equations only. Continuous reference to procedures that impacts the progression of the testing will result in suspension of the examination. Basic, non-programmable calculators will be allowed. The practical exam must be correctly completed in its entirety to pass.

iv. The IAP reserves the right to require a passing score on a written exam prior to any attempt at the respective practical exam.

(5) *Failing written or practical exams*. A failing score on either written or practical exam will result in the following mandatory waiting periods before reexamination:

i. First failure: 7 calendar days
ii. Second failure: 21 calendar days
iii. Third failure: 90 calendar days
iv. Fourth failure: 270 calendar days

(6) *Certification obtained date*. Certifications will be given an obtained date based the date when both written and practical exams have been successfully completed.

(7) *Certification term*. Initial certifications are valid for 1 year. Recertifications are valid for 2 years.

i. If recertifying and the certification has lapsed more than 45 calendar days, the technician will be required to retake the written exam regardless of previous recertification cycles.

ii. A certification that has lapsed more than 1 year will not be considered for recertification and will reset to initial certification.
iii. Mandatory training programs or alternative certification programs may provide alternate certification terms.

(c) *Certification through mandatory training programs*. The IAP can require participation in training programs to obtain certification in specified test methods. Refer to Appendix D for currently approved mandatory training programs.

(1) *Program approval.* Prior to adoption, mandatory training programs must be formally approved by the IAP, Caltrans Division of Construction, and the FHWA. Creation of an oversight committee with charter may be required.

(2) *Availability*. The program must be available to all testing technicians that perform work on Caltrans projects. The program must have in-person training facilities centrally located to major population centers in Northern and Southern California.

(3) *Facility requirements*. Training facilities are not required to maintain IAP accreditation but must have all appropriate equipment and tools to perform the tests included in the training. Tools and equipment must be maintained in proper working order.

(4) *Fees*. A fee for participation may be required. Fees must be commensurate with staffing requirements, training material development and printing, enrollment coordination, receiving and preparing samples, and maintenance of equipment and facilities.

(5) *Certification term*. Certifications obtained through mandatory training programs can be valid for longer time periods than those obtained through certification by IA Staff, not to exceed 5 years in length.

(6) *Certification outside a mandatory training program*. Certification by IAP Staff external to the mandatory training program may be allowed as approved by the IAP, the Caltrans Division of Construction and the FHWA.

(7) *External training program partners*. Through a complete evaluation and auditing process, and approval by the IAP, Caltrans Division of Construction and the FHWA, the IAP can adopt the training programs administered by national organizations.

i. The program must meet the requirements outlined in Section 4(c) of this document.
ii. For certifications obtained in an approved program, the IAP may offer parallel certification in equivalent California Test methods without requiring the certification by IAP Staff process. Parallel certification to equivalent California Test methods will maintain the same certification term as the adopted training program.

(d) *Certification through alternative certification programs.* For test methods requiring specialized equipment and/or technical knowledge, the IAP can implement an alternative process for certification. Refer to Appendix E for currently approved alternative certification programs.

(1) *External certification partners*. The certification process can rely on agencies or organizations external to Caltrans that hold expertise in the specialized testing. All certification activities must be overseen by IAP Staff.

(2) *Certification term*. The certification term will be based on the complexity of the test method and required maintenance and calibration of related equipment. The term length may differ from standard certification by IAP Staff.

(3) *Fees*. Caltrans IAP maintains the right to require a fee for participation that is commensurate with staffing levels, preparing and delivering samples, and/or maintenance of facilities.

(4) *Program approval*. Alternative programs and associated fees, if proposed, must be formally approved by the IAP, the Caltrans Division of Construction and the FHWA.

(e) *Corroboration Sample Program (CSP)*. A technician certified in test methods associated with the CSP must participate in CSP evaluations to maintain certification.

(1) *Test methods, schedule, and delivery*. Each calendar year, the IAP shall identify at least one test method for CSP evaluation. The IAP will provide a CSP schedule, notify laboratories and technicians of CSP requirements, and deliver CSP samples as needed.

(2) *Participation requirements*. If a technician is certified in a test method subject to CSP evaluation, the technician must produce an acceptable result from the CSP sample. Non-participation or failure to report CSP sample test results by the required deadline will result in suspension of certification in the test method under CSP evaluation.

i. The technician must report results to IAP Staff within 2 business days of receipt of the CSP sample. Witnessing of initial testing is optional and at the discretion of IAP Staff.
ii. Only the designated technician can perform the testing. Evidence that an alternate technician has been employed to conduct the testing on behalf of the designated technician will be considered a fraudulent infraction by both the technicians and laboratory.
iii. If the technician reports a poor CSP sample test result, the IAP will deliver another sample for retesting (first retest). The first retest must be scheduled with and witnessed by IAP Staff.
iv. If the technician reports a poor result or otherwise fails to properly conduct procedures on the first retest, the IAP will deliver another sample for retesting (second retest). The second retest must be scheduled with and witnessed by IAP Staff. If the technician reports a poor result or otherwise fails to properly conduct procedures on the second retest, the technician's certification for that test method will be suspended per conditions outlined in Section 6, Disqualification and Appeals.
v. If the technician provides an acceptable result from the CSP sample testing or retesting, the IAP will provide the technician with a letter of successful participation. A copy of the letter must be maintained in the laboratory's CLAM.

(3) *Results evaluation*. CSP results are graded with a Good, Fair, or Poor degree of corroboration. Results evaluation scales for each test method will be provided through the Caltrans Independent Assurance website (see Appendix A).

(4) *CSP and recertification*. IAP Staff witnessing of CSP testing will not be considered for technician recertification to the test method under evaluation.

(5) *CSP exemption*. A technician will be exempt from a CSP evaluation for a test method that the technician has certified through a mandatory training program in the same calendar year as the CSP evaluation.

(f) *Proficiency Testing by Witnessing*. The IAP will maintain a goal of annually checking the proficiency of at least 90 percent of active technicians. The IAP may also require checks whenever IA Staff have reasonable concern regarding proficiency or when concern of proficiency has been presented to the IAP. Proficiency checks can be satisfied with one or more of the following actions:

(1) *Participation in CSP*. The technician has satisfactorily met the requirements of a CSP evaluation.

(2) *Participation in RSP*. The technician has participated in RSP on behalf of an affiliated laboratory and has satisfactorily met the requirements of the RSP evaluation.

(3) *Participation in a mandatory training program*. The technician has successfully completed practical exams included in a mandatory training program.

(4) *IAP Staff witnessing at the laboratory or project site*. The technician has been observed properly conducting acceptance sampling or testing at the technician's associated laboratory or at a designated project site.

5 IAP Staff Certification

(a) *General*. All IAP Staff must be certified and maintain certification through the IAP by completion of specified training, testing, quality assurance verification (QAV) and/or peer review.

(b) *Initial certification*. The applicant must complete specified training programs and pass specified written exams to obtain official status as IAP Staff.

(1) *Training*. The applicant must attend and successfully complete IAP mandatory certification training programs, review and understand internal process documents and review training videos related to program delivery.

(2) *Written exams*. The applicant must pass written exams consisting of topics relative to the Independent Assurance Manual and laboratory and field tests under IAP purview.

(3) *Certificate of Completion*. Upon successful completion of the initial certification process, the IAP will issue an IAP Staff identification number and a TL-0100 Independent Assurance Certificate of Completion.

(c) *Maintaining certification*. IAP Staff maintains certification by complying with the following requirements:

(1) *IAP Annual Meeting*. IAP Staff must attend the IAP Annual Meeting in its entirety. Failure to attend the meeting will result in suspension of status as IAP Staff. For IAP Staff unable to attend the meeting, the respective IAP Branch Chief shall identify alternate training activities to fulfill this requirement. Upon completion of this requirement, the IAP will issue the IAP Staff a TL-0100 Independent Assurance Certificate of Completion.

(2) *Written exams*. IAP Staff may be required to pass written exams on new or updated test methods.

(3) *Quality Assurance Verification (QAV)*. IAP Staff will be required to demonstrate compliance with IAP policies through annual QAV or peer reviews.

(4) *Corrective actions*. IAP Staff will implement corrective actions identified by the respective IA Branch Chief or during a QAV/peer review.

(d) *Limitations*. IA Staff shall not perform acceptance testing on Caltrans projects and cannot maintain a dual role in the IAP and project materials acceptance.

(e) *Decertification*. The respective IA Branch Chief will decertify an IAP Staff member for any of the following reasons:

(1) *Performance of acceptance testing while designated an IAP Staff member*.

(2) *Substantial failure to adhere to IA Program policies and procedures*.

(3) *Unexcused absence from the IA Annual Meeting*.

(4) *Conflict of interest during performance of duties*.

(5) *Falsification of documents and/or fraud*.

(f) *Notice of Action and Appeals*. For Notice of Action regarding IAP Staff decertification and appeals to a decertification, refer to Section 6, Disqualification and Appeals, Parts (d) and (e).

6 Disqualification and Appeals

(a) *Infractions*. IA Staff reserve the right to disqualify a technician or laboratory for any materials testing and reporting infraction. When an infraction occurs, IA Staff will issue a Notice of Action to both the technician and associated laboratory manager. If cited for an infraction, the technician and/or laboratory must comply with related penalties and submit a Corrective Action Plan (CAP).

(1) *Infractions, minor*. Infractions in this category include the following:

i. Using equipment that has not been calibrated within the required interval or using calibrated equipment with no calibration decal.
ii. Failure to correctly perform calculations.
iii. Failure to notify IAP Staff of personnel or equipment changes that affect qualified test methods.
iv. Failure to notify IAP Staff of mobile laboratory relocation.

(2) *Infractions, major*. Infractions in this category include the following:

i. Using incorrect equipment.
ii. Incorrect sampling or testing procedures.
iii. Three consecutive poor corroboration sample program (CSP) test results for a given CSP evaluation.
iv. Two consecutive poor reference sample program (RSP) test results for a given RSP evaluation. Three consecutive poor RSP test results will be considered a second infraction.
v. Failure to comply with RSP, CSP, or witness testing requests.

(3) *Infractions, fraudulent*. Infractions in this category include the following:

i. Evidence of submission of fraudulent test results.
ii. Falsifying documents.

(b) *Penalty for infractions*. An initial infraction will be subject to a penalty. Repeated infractions within a certification period will result in escalated penalties. Infraction count and penalties are only applicable to the test method subject to the infraction. Any suspension must be completed in its entirety before the laboratory or technician may requalify. Requalification may be reinstatement of a certification with remaining term or may require recertification or reaccreditation due to expiration. Upon requalification, the infraction count will reset to zero.

(1) *Minor infraction penalties*. Initial and repeated infractions in this category will result in the following penalties:

i. First infraction: Submittal of a CAP and suspension until IA Staff approval of the CAP.
ii. Second infraction: Submittal of a CAP and 14 calendar day suspension starting after IA Staff approval of the CAP.
iii. Third infraction: Submittal of a CAP and 30 calendar day suspension starting after IA Staff approval of the CAP.
iv. Subsequent infractions: Additional 30 calendar days of suspension added for each subsequent infraction.

(2) *Major infraction penalties*. Initial and repeated infractions in this category will result in the following penalties:

i. First infraction: Submittal of a CAP, 30 calendar days of suspension starting from time of IA Staff approval of the CAP, and requalification at end of suspension (requalification applies to technicians only).

ii. Second infraction: Submittal of a CAP, 90 calendar days of suspension starting from time of IA Staff approval of the CAP, and IAP requalification at the end of the suspension.
iii. Third infraction: Submittal of a CAP, 180 calendar days of suspension starting from time of IA Staff approval of the CAP, and IAP requalification at the end of the suspension.
iv. Subsequent infractions: Additional 90 calendar days of suspension added for each subsequent infraction.

(3) *Fraudulent infraction penalties*: Technician or laboratory qualifications will be revoked for all test methods for a minimum of one year. During the revocation period, technicians will be prohibited from obtaining new certifications. After the revocation period is complete, the technician or laboratory must go through the complete certification or accreditation process.

(c) *Corrective Action Plan (CAP)*. The CAP must detail the corrective action taken and provide substantiating evidence, such as records, copies of newly prepared or revised documents, equipment documentation, and/or photographs. The CAP shall be signed by the technician and associated laboratory manager.

(d) *Notice of Action*. A Notice of Action can be applied to IA Staff, an individual technician, or laboratory and includes denial, suspension, revocation, and reinstatement of qualification.

(1) *Denial*. The action taken for failure to meet the requirements for initial certification, qualification, or accreditation or for recertification, requalification, or reaccreditation.

(2) *Suspension*. The action taken for failure to meet the requirements of the IA Program. Typical suspensions include, but are not limited to, equipment damage or problems, loss of key personnel, change in laboratory location, failure to pay fees, or failure to resolve deficiencies related to the requirements of the IA Program.

(3) *Revocation*. The withdrawal or loss of qualification for an extended period of time due to failure to meet the requirements of the IA Program or for fraudulent statements relative to qualifications.

(4) *Reinstatement*. The action taken to restore qualification such as in the case of a successful appeal by IA Staff, technician or laboratory.

(e) *Appeals*. Upon receipt of a Notice of Action resulting in suspension or revocation of qualification, the recipient may opt to enter an appeal. The decision must be appealed within 30 calendar days of notification.

(1) *Status during Notice of Action*. During the appeal process, the Notice of Action is in effect pending the outcome of the appeal.

i. IAP Staff is prohibited from participating in certification or accreditation activities related to the IAP.

ii. A technician or laboratory is prohibited from participating on Caltrans and local agency projects for tests related to the suspension or revocation.
iii. IA Staff, technicians, and laboratories will maintain a status of denied, suspended, or revoked in the IAP public record.

(2) *Appeal by IA Staff*. A full explanation and supporting documentation must be sent to the OMMIA Office Chief and Division of Construction (DOC) Office of Construction Standards (OCS) Office Chief within 30 calendar days of receipt of the Notice of Action. Both Office Chiefs must respond within 14 calendar days of receipt of the appeal. The response will include reasons for denial or acceptance of the appeal.

(3) *Appeal by technician or laboratory*. A full explanation and supporting documentation must be sent to the Chief of the IAP Branch whose staff member had issued the original qualification.

i. The appeal must be sent within 30 calendar days of receipt of the Notice of Action.
ii. The IAP Branch Chief must respond within 14 calendar days of receipt of the appeal. The response will include reasons for denial or acceptance of the appeal.
iii. If denied, the decision may be appealed to the OMMIA Office Chief and DOC-OCS Office Chief. The second level of appeal must include additional documentation beyond the original submittal in support of the appeal that adequately refutes the original denial.
iv. If denied by the OMMIA Office Chief and DOC-OCS Office Chief, the decision may be appealed to the METS Deputy Division Chief and the DOC Assistant Division Chief. The third level of appeal must include additional documentation beyond the second level of appeal submittal in support of the appeal that adequately refutes the second level denial.

7 Reporting and Maintenance of Records

(a) *Maintenance of laboratory and technician qualification documents.* Laboratories must maintain electronic copies of current accreditation (TL-0113) and technician certification (TL-0111) documents. Qualification documents must be available upon request.

(b) *Laboratory accreditation and technician certification accessibility*. The IAP shall maintain a web-based, public-accessible repository for all current laboratory accreditations and technician certifications. Accreditation (TL-0113) or certification (TL-0111) pdf format electronic files will be made available upon request.

(c) *Accreditation and certification documentation*. The IAP shall maintain records pertaining to accreditation and certification for a minimum of 5 years from the qualification expiration date.

(1) *Accreditation documentation*. Laboratory accreditation documentation includes, but is not limited to, service request history, laboratory CLAMs, TL-0113 certificates, RSP results, and general correspondence.

(2) *Certification documentation*. Technician certification documentation includes, but is not limited to, service request history, witness testing reports, written and practical exams, TL-0111 certificates, CSP results, and general correspondence.

(3) *Maintenance of documents*. Documentation will be maintained in a central electronic repository accessible only by qualified Staff.

(d) *Caltrans IAP Annual Report*. Per 23 CFR 637B requirements for a system-based approach, the IAP shall provide FHWA with an annual report summarizing the results of the IAP. The annual report will be submitted within 3 months of the end of the reportable calendar year.

Appendix A: Websites Related to the Caltrans Independent Assurance Program

Caltrans Independent Assurance:

https://dot.ca.gov/programs/engineering-services/independent-assurance-program

Caltrans Construction Manual:

https://dot.ca.gov/programs/construction/construction-manual

Code of Federal Regulations Title 23, Part 637B:

https://www.ecfr.gov/current/title-23/chapter-I/subchapter-G/part-637/subpart-B

California Test Methods:

https://dot.ca.gov/programs/engineering-services/california-test-methods

American Association of Highway and Transportation Officials (AASHTO):

https://transportation.org/

American Society for Testing and Materials

https://www.astm.org/

Appendix B: Glossary of Terms and Acronyms

AASHTO: American Association of State Highway and Transportation Officials

Acceptance: The formal written acceptance by the Director of the California Department of Transportation (Caltrans) of an entire contract that has been completed in all respects in accordance with the plans and specifications and any modifications thereof previously approved.

Acceptance Program: All factors that comprise the state highway agency's (SHA's) determination of the quality of the product as specified in the contract requirements. These factors include verification sampling, testing, and inspection, and may include results of quality control sampling and testing. (23 CFR 637B)

Accredited Laboratory: Accreditation for a laboratory in the Caltrans IAP applies to testing performed within the confines of the laboratory accredited and testing performed in the field (on-site). Temporary facilities, including trailers or other structures set up for a specific job and the personnel and equipment associated with them, require separate accreditation.

ACI: American Concrete Institute

AMRL: AASHTO Materials Reference Laboratory

ASTM: American Society of Testing and Materials

Calibration: The set of operations that establish, under specified conditions, the relationship between values indicated by a measuring instrument or measuring system, and the corresponding standard or known values derived from the standard.

Calibration Certificate or Report: Document that presents calibration results and other information relevant to a calibration.

Calibration Interval: Period of time or amount of use between calibrations required to ensure measuring and test equipment remains within tolerance for intended use.

Calibration Method: Defined technical procedure for performing a calibration or verification.

Caltrans projects: Federal and/or state funded highway projects, or local agency highway projects relying wholly or partially on federal and/or state funding.

CAP: Corrective Action Plan

CFR: Code of Federal Regulations

CLAM: Caltrans Laboratory Accreditation Manual

Contract: The written agreement covering the performance of the work and the furnishing of labor, materials, tools, and equipment in the construction of the work. The contract shall include the notice to contractors, proposal, plans, specifications, special provisions, and contract bonds. The contract will also include any and all supplemental agreements amending or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner. Supplemental agreements are written agreements covering alterations, amendments, or extensions to the contract and include contract change orders

Contractor: The person or persons, firm, partnership, corporation, or combination thereof, private or municipal, who have entered into a contract with Caltrans, as party or parties of the second part of their legal representatives.

CSP: Corroboration Sample Program

CT Method or CTM: California Test Method

DES: Caltrans Division of Engineering Services

Dispute Resolution: The process of denial, suspension, revocation, appeals, and reinstatement for IAP Staff certification, technician certification, or laboratory accreditation.

FHWA: Federal Highway Administration

IAP: Caltrans Independent Assurance Program

JTCP: Joint Training and Certification Program

METS: Materials Engineering and Testing Services, a subdivision of the Caltrans Division of Engineering Services.

NHS: National Highway System (Interstate freeways, US Highways)

NHS Project: Federally funded project on the NHS. Project can be administered by Caltrans or a local agency.

NIST: National Institute of Standards and Technology

OMMIA: DES-METS Office of Materials Management and Independent Assurance

SC: DES Structure Construction

Proficiency Samples: Homogenous reference samples, corroboration samples, or control samples that are distributed and tested by two or more laboratories and/or technicians. The test results are compared to ensure that the laboratories and/or technicians are obtaining the same results.

Project-produced materials: Highway construction materials such as soils, subbase, base course, asphalt, and cast-in-place concrete that require additional work (compaction, consolidation) at the project site prior to final acceptance.

QAP: Quality Assurance Program

QAV: Quality Assurance Verification

Qualified Technician: At the project level, the Caltrans quality assurance process requires that only qualified technicians and accredited laboratories provide test results on which acceptance decisions are based. A technician becomes qualified by successfully completing the process defined in this *Independent Assurance Manual*.

Quality Assurance: All those planned and systematic actions necessary to provide confidence that a product or service will satisfy given requirements for quality. (23 CFR 637B).

Quality Control: All contractor/vendor operational techniques and activities that are performed or conducted to fulfill the contract requirements. (23 CFR 637B)

Random Sample: A sample drawn from a lot in which each increment in the lot has an equal probability of being chosen. (23 CFR 637B)

RSP: Reference Sample Program

SIAD: Statewide Independent Assurance Database

SHS: State Highway System

Translab (TL): DES-METS, 5900 Folsom Boulevard, Sacramento, CA 95819

Appendix C: Caltrans Laboratory Accreditation Manual

The following sections must be included in the CLAM:

1. **Contacts** Laboratory name, address, telephone number, and fax number.

2. **Organizational Chart** Current laboratory organizational chart.

3. **Quality Control Manager** Laboratory Quality Control Manager qualifications.

4. **Laboratory Affiliations** Laboratory accreditations/certifications/qualifications (private, city, county, state, federal).

5. **Reference Sample Program (RSP) Records** Copy of the RSP Questionnaire form TL-0119 and proof of current and past successful participation in the RSP.

6. **List of Test Methods** List of relevant test methods for accreditation.

7. **Calibration** Testing equipment calibration, service and inventory list:

   - All test equipment calibration, maintenance, and service must be documented. All calibration devices will be traceable to the National Institute of Standards and Technology (NIST).
   - Calibration, maintenance, and service will be in accordance with accepted standards, manufacturer's recommendations, and applicable test procedures. Intervals will not exceed one year.
   - All test equipment will have a calibration decal attached. The calibration decal will have the information specified in the Caltrans Independent Assurance Manual.
   - Equipment inventory list will include the following information: equipment name, make, model, serial or ID number, calibration date, next calibration due date, the calibrator, and calibration method.
   - All maintenance records and calibration sheets must be kept in binders separate from the CLAM and made available at the time of the laboratory accreditation assessment.

8. **Personnel** List of personnel to be qualified for testing including:

   - Materials–related work experience summaries.
   - Copies of current certifications/qualifications (ACI, NICET, NRMCA, Caltrans, etc.).
   - Detailed summary of training, including comprehensive description of the training, total hours of training, and training dates.
   - Proof of current and past successful participation in the Corroboration Sample Program (CSP) for applicable test methods.

9. **Nuclear Gauge**

   - Nuclear gauge license (if applicable).
   - Nuclear moisture/density gauges will have current calibration.

Appendix D: Approved Mandatory Training Programs

1. Joint Training and Certification Program (JTCP)

Background: Caltrans established the Joint Training and Certification Program through collaboration with the Federal Highway Administration (FHWA) and Industry partners to make the IAP certification process more efficient, consistent, and reliable. The JTCP is administered by California State University, Long Beach (CSULB), in partnership with both San Jose State University (SJSU) and the American Concrete Institute (ACI). Through the JTCP, technicians receive training, gain proficiency, and become IAP certified to sample and test highway construction materials. The JTCP provides training and certification modules in hot mix asphalt (HMA), soils and aggregates (S&A), and Portland cement concrete (PCC).

Mandatory Training and Certification: Technicians working on Caltrans projects must be trained and certified through the JTCP when applying for new certifications or recertifying in the test methods included in JTCP.

Exceptions:

A. Technicians may obtain certification in specific test methods through Certification by IAP Staff (see IA Manual Section 4(b)) with the approval of the JTCP Advisory Council (see Oversight).
B. Certification in PCC modules that utilize ACI certification programs can be obtained from any ACI sponsored group. Caltrans specifications reference both California Tests (CT) and their equivalent American Society for Testing and Materials (ASTM) test methods for the quality characteristics encompassed in this certification. ACI or other external partner training programs must be approved by the Advisory Council.

Certification Process: Testers must attend all training days for the HMA I, HMA II, and/or S&A modules prior to receiving a JTCP Certificate of Training Completion (issued by CSULB) for the module(s) and taking the associated IAP certification exams.

IAP certifications obtained through the JTCP are given on a test-by-test basis upon successful completion of both the written and practical exams for a given test method. Two practical exam attempts are permitted with the second attempt evaluated by an alternate IAP staff member.

The JTCP may require successful completion of specific test method written and practical exams to attain certification in any other module test methods. These prerequisite requirements must be approved by the JTCP Advisory Council.

Certification to test methods under the HMA I, HMA II, and S&A modules are valid for three years. The ACI Concrete Field Testing Technician - Grade I and equivalent CT certifications are valid for five years.

CSULB and SJSU are responsible for administering the written exams and Caltrans IAP staff are responsible for conducting practical exams for the HMA and S&A modules. ACI is responsible for administering written and practical exams for the PCC module.

Technicians may submit their current ACI Concrete Field Testing Technician - Grade I certifications to obtain the equivalent CT certifications as identified in Table 1. These CT certifications are valid when either equivalent test identified in Table 1 is specified.

TABLE 1: Equivalent CT and ASTM Methods

Test Method	Quality Characteristic	ASTM Test Method
CT 540 CT 523.1	Making / Curing Specimens	ASTM C31
CT 518	Density, Yield, and Air Content	ASTM C138
CT 556	Slump	ASTM C143
CT 539	Sampling (Concrete)	ASTM C172
CT 543	Air Content (Volumetric)	ASTM C173
CT 504	Air Content (Pressure)	ASTM C231
CT 557	Temperature of Concrete	ASTM C1064

Employment, laboratory scope and Expenditure Authorization (EA) numbers are not considerations for technician certification status. The JTCP certifications are associated with the technician and will not change if the technician's employer changes. Current certification status can be verified at the Statewide Independent Assurance Database (SIAD) website at the following link:

https://sia.dot.ca.gov/

Opting Out: Technicians may opt out of examination for certain test methods by signing an opt out declaration on the day of the exam. However, the technician must still attend the entire training and there will be no change in module attendance fees. Technicians will still receive a JTCP Certificate of Training Completion for each completed training module. When a technician has opted out of an exam, they may opt back in by scheduling an examination with Caltrans IAP Staff. The technician must opt in and complete the examinations within one year of original training completion.

Reexamination: When a technician does not pass an HMA I, HMA II, or S&A written and/or practical examination, they are permitted to retest three times within one year of original training or recertification completion. Retests are conducted on a test-by-test basis. Written and practical exams can be retaken together or individually without attending additional training. Retests for the HMA I, HMA II, and S&A modules are coordinated through Caltrans IAP Staff. The technician is responsible for requesting reexamination for the failed tests.

Reexamination of written and/or practical exams for the PCC module will be in accordance with ACI policies.

Recertification: Returning technicians will be provided an option to recertify through alternate review modules. The recertification review modules are 2-day sessions where Day 1 is a full review of module-related test methods and Day 2 is certification day. The PCC module does not offer alternate recertification sessions.

To qualify for a recertification module, the technician must meet the following 2 conditions:

A. The technician must enroll in a recertification session that occurs before or within 45 days after their certification expiration date.
B. The technician must have attended the full training on their last module certification.

If the technician enrolls in a session that occurs more than 45 days after their certifications have expired, it must be a regular JTCP session rather than a recertification session. Exceptions will be made if the technician enrolls in a session that occurs within 45 days of certification expiration, but the session is cancelled or postponed.

Certification Extensions: Caltrans IAP will grant extensions to existing JTCP certifications for technicians who have enrolled in a session (regular or recertification) that will occur within 45 days after their certifications have expired. Extensions will not be provided automatically. Technicians needing an extension must contact Caltrans IAP at JTCP@dot.ca.gov with subject line "Extension Request".

The maximum extension that may be provided is 45 days unless the technician was enrolled in a JTCP session that has been cancelled or postponed. If the session has been cancelled or postponed, the technician will be required to enroll in the next available session and their certifications will be extended to the related exam date.

Dispute Resolution: The JTCP procedures for dispute resolution and appeal adhere to the *IA Manual* except the levels of appeal are defined as (1) CSULB Program Administrator, and (2) JTCP Advisory Council. While the JTCP Advisory Council may act as the second level of review for disputes between the CSULB Program Administrator and technician, findings are non-binding. The CSULB Program Administrator is the final decision maker. Certifications may be suspended or revoked in accordance with Section 6 of the *IA Manual*. Suspensions or revocations must be brought to the attention of the JTCP Advisory Council.

Oversight: The JTCP is managed by an Advisory Council (AC) of approximately 12 members consisting of Caltrans, Federal Highway Administration (FHWA), Industry organizations and Academia. The council meets semi-annually to address issues, concerns and results, with a focus on continuous program improvement.

The AC is required to maintain a charter defining purpose, goals, membership, roles and responsibilities, decision processes, meeting frequency and amendment procedures.

The AC will establish a Technical Committee consisting of Caltrans, Industry, and Academia partners. This committee will be tasked with reviewing curriculum, evaluating training material revisions, assessing validity of student and instructor technical comments regarding training material, and developing options and making recommendations to the AC regarding the structure and content of modules.

Resources: Details regarding enrollment, certification, module content, and Advisory Council membership and meeting minutes can be found on the JTCP website: https://dot.ca.gov/programs/engineering-services/joint-training-certification-program-jtcp

Appendix E: Approved Alternate Certification Programs

1. Inertial Profiler Certification Program (IPCP)

Background: Caltrans has adopted the inertial profiler for determination of pavement smoothness in compliance with Caltrans Standard Specifications. This Inertial Profiler Certification Program is intended to capture the annual calibration verification in accordance with California Test 387.

Inertial Profilers are used to measure a longitudinal surface elevation profile of pavements based on an inertial reference system that is mounted on a host vehicle. The devices must be calibrated, and operators certified, to measure profiles for acceptance and verification on projects.

Due to the specialized nature of the equipment and technical knowledge required for operators and certification staff, the Caltrans IAP has designated CT 387 certification process as an alternate certification program as defined in the Caltrans Independent Assurance (IA) Manual.

Certification: The certification process consists of an operator written test, an operator practical exam, and inertial profiler equipment certification.

Caltrans IAP administers written exams per the Certification by IAP Staff process defined in the IA Manual.

University of California Pavement Research Center (UCPRC), as an external certification partner per definition in the IA Manual, administers operator practical exams and equipment certification. Caltrans IAP Staff oversees and assists with the certification process.

Caltrans IAP Staff verify and endorse all certifications issued by UCPRC.

Exceptions to the IA Manual:

A. The certification and recertification for both operator and equipment is valid for 1 year.
B. For initial certification, the operator must pass the written exam prior to attempting the practical exam.

Reciprocity Agreement: A reciprocity agreement between Caltrans and Nevada Department of Transportation (NDOT) for the Inertial Profiler Certification is currently in effect. If a technician needing Caltrans certification currently holds a valid NDOT certification, please contact the Caltrans IPCP to obtain an equivalent Caltrans certification. The equivalent certification will be valid for conventional inertial profilers only and not for "stop-and-go" profilers.

NDOT Profiler Certification will not be accepted on Caltrans projects without documented reciprocity.

Resources: Email contact: Inertial.Profiler.Certification.Request@dot.ca.gov
Details regarding certification, fees, exam schedule, practical exam locations, and general practical exam expectations can be found on the IPCP website:
https://dot.ca.gov/programs/engineering-services/inertial-profiler-cer1tification-program