NCARB

Architect Registration Examination®

GUIDELINES

NCARB

This document, effective September 2022, applies to the 5.0 version of the Architect Registration Examination® delivered with PSI. This document was revised September 2022.

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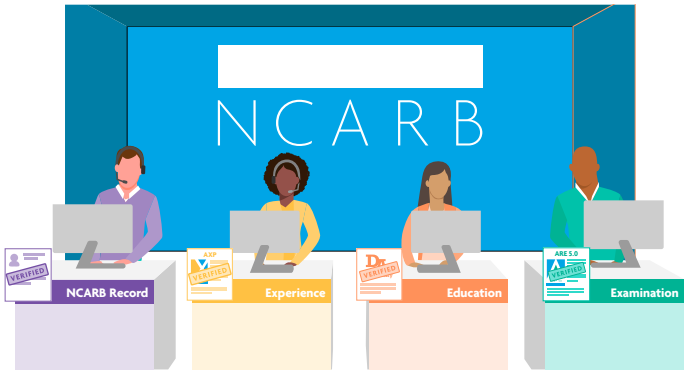
INTRODUCTION

About NCARB

The National Council of Architectural Registration Boards' (NCARB) membership is made up of the architectural licensing boards of the 50 states, the District of Columbia, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands. NCARB, in collaboration with these boards, facilitates the licensure and credentialing of architects to protect the health, safety, and welfare of the public.

While each jurisdiction is responsible for regulating the practice of architecture within its borders, NCARB works with its Member Boards and volunteers to develop and facilitate national standards for licensure, including the national examination and experience program. NCARB also recommends regulatory guidelines for licensing boards and helps architects expand their professional reach through the NCARB Certificate.



NCARB's Role

NCARB's services span the many phases of your career, from student to practicing architect. Whether you're navigating the Architectural Experience Program® (AXP®), completing the Architect Registration Examination® (ARE®), or earning your NCARB Certificate, NCARB is here to help.

Through your NCARB Record, NCARB will securely store all the documentation of your professional history needed to earn a license, so that it is ready to be sent to the jurisdiction of your choice.

In addition to our national programs, NCARB also assists its members and customers with initiatives related to:

- Future-focused research
- Data sharing
- Promoting awareness of the path to licensure
- Advocating for reasonable regulation of the architecture profession
- Developing tools and resources to aid the work of licensing boards

You can learn more about NCARB's goals and objectives by reading our Strategic Plan.

NCARB MISSION

NCARB, in collaboration with licensing boards, facilitates the licensure and credentialing of architects to protect the health, safety, and welfare of the public.

Licensure (Registration)

To practice architecture in the United States, you must earn a license from a U.S. state or territory (called a "jurisdiction") where you intend to practice. Earning a license signals to your firm, clients, and the public that you've developed the essential knowledge and skills to practice architecture safely and competently. And once you're licensed, you can call yourself an architect.

LICENSURE/REGISTRATION

NCARB uses the words "licensure" and "registration" interchangeably when talking about the process of becoming an architect.

Each of the 55 U.S. jurisdictions has its own set of requirements for licensure—you can find them at ncarb.org/requirements. While understanding the specific requirements in your jurisdiction is essential, most jurisdictions require three key components:

EDUCATION

For most candidates, the first step toward getting licensed is earning a degree. Most jurisdictions require that applicants for licensure graduate from an architecture program accredited by the National Architectural Accrediting Board (NAAB) or its Canadian equivalent. Some jurisdictions offer alternative ways to satisfy the education requirement, which you can explore on NCARB's Licensing Requirements Tool.

More information about starting your education in architecture can be found in NCARB's *Education Guidelines*.

EXPERIENCE

To earn a license in most jurisdictions, you'll also need to complete the AXP by earning and reporting a variety of real-world experience. The AXP outlines six key areas of architectural practice, as well as specific tasks you need to be able to competently perform before you earn a license.

More information about earning experience can be found in the *AXP Guidelines*.

EXAMINATION

Each of the 55 U.S jurisdictions requires that applicants for an architecture license complete the ARE. The ARE is a multi-part, national exam that focuses on aspects of practice related to health, safety, and welfare.

All you need to know about the exam's policies, procedures, and content is outlined in this document.

NCARB Certification

Once you've earned your initial license, you can apply for an NCARB Certificate! Being NCARB certified helps you get the most out of your career in architecture by providing the mobility to go wherever your work takes you. With an NCARB Certificate in hand, it's simpler to get licensed across jurisdictions—allowing you the freedom and flexibility to pursue your career and connect with clients regardless of location. Plus, being certified signifies that you have met the national standards for licensure. Learn more in the NCARB Certification Guidelines.

Benefits of the Certificate

Once you've earned your NCARB Certificate, you can take advantage of all the following benefits:

PROFESSIONAL MOBILITY

Having an NCARB Certificate gives you the flexibility to apply for reciprocal licensure in all 55 U.S. jurisdictions, in addition to some international locations.

FREE CONTINUING EDUCATION

Certificate holders have access to NCARB's free continuing education courses as part of our Continuum Education Program, a collection of in-depth, online self-study materials that help professionals maintain and expand their competence.

COMPETITIVE EDGE

You can use the "NCARB" credential in your title, which demonstrates you've met national standards for licensure. This qualification, and the flexibility it provides, can be an important factor for firms when hiring and promoting.

SECURE RECORDS

As a Certificate holder, you don't have to worry about record keeping. All your professional information is stored on our secure servers—ready whenever you need it.

LEADERSHIP OPPORTUNITIES

Certificate holders are often the first to hear about volunteer opportunities on licensing boards and NCARB committees, which shape the future of our programs and services.

About the ARE

The ARE is developed by NCARB and is used by U.S. jurisdictions as the examination for candidates seeking architectural licensure. It is also accepted by select Canadian provincial and territorial architectural associations for licensure.

The ARE assesses a candidate's knowledge and skills to provide various services required in the practice of architecture. No single examination can test for competency in all aspects of architectural practice; the ARE is not intended for that purpose. The ARE concentrates on the professional services that affect the public's health, safety, and welfare.

LANGUAGES

The ARE is only available in English.

UNITS OF MEASUREMENT

The ARE includes measurements in inch-pound units only.

In addition to testing for competence in specific subject areas, NCARB is aware of the responsibilities an architect may have for coordinating the activities of others involved in the design/construction process. The ARE assesses a candidate's qualifications in exercising the skills and judgment of a generalist working with numerous specialists.

Definition of Competence as Related to the ARE

To protect the health, safety, and welfare of the public, a newly licensed architect practicing independently must demonstrate the competence to be responsible for a project from its inception through completion. This includes, but is not limited to, the ability to:

- Apply architectural business practices
- Evaluate legal, ethical, and contractual standards
- Establish and coordinate project team activities
- Establish programmatic and regulatory requirements
- Provide design alternatives
- Evaluate and incorporate appropriate materials and building systems
- Provide and coordinate project documentation for a building and site
- Provide construction phase services
- Assess the project during all phases
- Address environmental sustainability, resiliency, and adaptation throughout project design

ARE 5.0 Divisions

ARE 5.0 evaluates your knowledge and skills in six areas of practice that are essential to protecting the public's health, safety, and welfare. The number of questions (also called items) and the time available to complete them depends on the division.

DIVISION	NUMBER OF ITEMS	TEST DURATION	ALLOWED BREAK TIME	TOTAL APPOINTMENT TIME*
Practice Management	65	2 hr 40 min	30 min	3 hr 20 min
Project Management	75	3 hr	30 min	3 hr 40 min
Programming & Analysis	75	3 hr	30 min	3 hr 40 min
Project Planning & Design	100	4 hr 5 min	45 min	5 hr
Project Development & Documentation	100	4 hr 5 min	45 min	5 hr
Construction & Evaluation	75	3 hr	30 min	3 hr 40 min
TOTAL TIME:		**19 hr 50 min**		**24 hr 20 min**

** Total appointment time includes 10 minutes for introductory and exit screens.*

Learn more about the format of each exam division, or explore the content covered in each division.

HOW TO TAKE THE ARE

Establishing Exam Eligibility

To take the ARE, you must request exam eligibility through your NCARB Record by following the steps outlined below:

1) Establish an NCARB Record by filling out the online application at https://my.ncarb.org/.

2) Log in to your NCARB Record and click on the "Exams" tab.

3) Click the "Request Eligibility" button and select the jurisdiction where you want to be licensed to practice architecture.

4) If you meet the ARE eligibility requirements in the jurisdiction where you want to be licensed to practice architecture, the board will provide your exam eligibility (or NCARB will approve your request if your board participates in NCARB's Exam Eligibility Services).

5) You will receive a confirmation email immediately after submitting your request with instructions on how to continue and a second email after your eligibilities have been established.

6) After your eligibilities have been established, verify that the name indicated in your NCARB Record is accurate and matches the name printed on an acceptable form of identification. If your first and last name are incorrect, immediately notify NCARB. **Do not schedule an appointment to test until you have verified that the first and last name in your NCARB Record match the first and last name on an acceptable form of identification.**

Maintaining Exam Eligibility

TEST ACTIVITY STATUS

Most jurisdictions have a test activity requirement that is separate from NCARB's rolling clock (see below). Your eligibilities to test may expire if you have not attempted to test (pass or fail) within a five-year period. If your jurisdiction-based eligibility period expires before you complete the ARE, you must contact your board of architecture (or NCARB if you were made eligible to take the ARE through a jurisdiction participating in the Exam Eligibilities Services Program) to establish a new eligibility under the current procedures of your board.

MAINTAINING EXAM ELIGIBILITY WITH YOUR JURISDICTION

You are responsible for maintaining your exam eligibility with your jurisdiction. Because the rules vary from jurisdiction to jurisdiction and are subject to change, it is important for you to stay informed of your jurisdiction's policies and procedures. This includes notifying your board of any address changes so they can contact you about eligibility renewals or any other important licensure information.

WHAT ARE NCARB'S EXAM ELIGIBILITY SERVICES?

NCARB manages eligibilities for candidates in participating jurisdictions whose requirements align with NCARB's current education and experience requirements. If your jurisdiction participates in Exam Eligibility Services but you don't meet the education and experience requirements, contact NCARB to learn about alternative methods of receiving exam eligibilities.

NCARB's Rolling Clock

ROLLING CLOCK OVERVIEW

A passing grade for any division of the ARE is valid for an initial period of **five years** plus any extensions granted under the rolling clock extension policy, after which time the passing score for your division will expire unless you have completed the ARE.

In addition to NCARB's rolling clock policy, your jurisdiction may have its own retake limit/exam validity time frame. Please contact your jurisdiction directly to determine your exam status under its rules and policies.

ROLLING CLOCK EXTENSION PROCESS

You can receive an extension to your rolling clock for the birth or adoption of a child or if you were not able to take the ARE due to a serious medical condition, active military service, natural disaster, or other like causes.

To be considered for a rolling clock extension, you must submit requests for a rolling clock extension directly to NCARB. Any request, including appropriate back-up documentation and a completed Rolling Clock Extension Request Form, must be received by NCARB before the passing score for your division expires.

SCHEDULING, RESCHEDULING, OR CANCELING AN EXAM

Exam Delivery

The ARE is available at both PSI test centers and through PSI's secure online proctoring delivery software, Bridge. Prior to scheduling an exam appointment, read and understand the requirements for taking an exam at a PSI test center and the requirements for taking an exam via online proctoring. You will be provided a consistent and secure testing experience in both delivery modalities.

Exam Scheduling

After you have been made eligible to test, you can schedule ARE appointments.

- You may take any division of the ARE at any time, and in any sequence you choose.
- You must pay for and schedule a separate appointment for each division of the ARE.
- You can take the ARE at any participating PSI test center or online, regardless of the jurisdiction where you are seeking initial registration.
- You can find the divisions you are eligible to take within the "Exams" tab of your NCARB Record.
- Testing reservations are accepted on a first-come, first-served basis and are restricted by seat and/or proctor availability.
- You must schedule your appointment a minimum of 48 hours in advance for exams delivered at a test center and 24 hours in advance for exams delivered using online proctoring.

Testing accommodations **must be approved prior to the scheduling of an exam appointment and can't be retroactively applied to previously scheduled appointments.**

Scheduling an Exam Appointment

The scheduling process requires you to read and acknowledge several ARE policies and procedures, so please be prepared to spend **15-30 minutes** scheduling your exam appointment. You'll be expected to verify your contact information and acknowledge that you have read NCARB's ARE Candidate Agreement, PSI's Test Center Candidate Security Agreement (if testing at a PSI test center), and PSI's Online Proctoring Candidate Privacy Agreement (if testing using online proctoring).

To schedule an exam appointment, follow the steps outlined below:

1) Log into your NCARB Record and click the "Exams" tab.

2) Within the "Exams" tab, you will see a "Schedule Division" button. Use the drop down arrow adjacent to this button to select the ARE division that you would like to schedule.

3) The ARE scheduling system will guide you through the scheduling process. If you have any questions while scheduling your exam, please contact NCARB for assistance.

4) After you have scheduled an exam appointment, you can view your appointment information within the "Exams" tab of your NCARB Record. You will also receive a confirmation email with your appointment details.

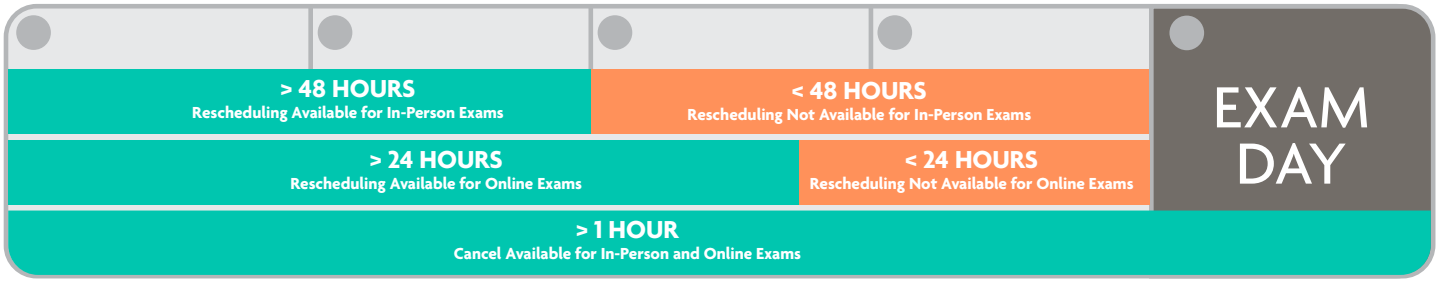
If you have an approved testing accommodation and are scheduling an exam at a PSI test center, you will be required to submit a contact phone number during the scheduling process. A PSI representative will reach out to you within 48 hours to provide assistance with scheduling your exam. If PSI is unable to reach you by phone, they will also email you at the address listed in your NCARB Record. Be on the lookout for an email from an @psionline.com domain, and if possible, add them to your safe senders list. You might need to check your junk or spam.

Rescheduling or Canceling an Exam Appointment

You can reschedule an appointment through your NCARB Record 48 hours in advance for exams scheduled at a test center and 24 hours in advance for online proctored exams. Rescheduling an appointment can only be done via your NCARB Record.

For both test center and online-proctored delivery, you may reschedule an appointment with one delivery modality to a new appointment with the other delivery modality—for example, you can reschedule an online-proctored appointment to be taken at a test center and vice versa. You may also reschedule a test center appointment to a new appointment at a different test center. You will need to select a new date and time. If you only want to change the delivery modality of your appointment, you still must go through the rescheduling process.

You may cancel your appointment in either modality up to one hour before your scheduled appointment time. Any changes to scheduled appointments will be subject to exam rescheduling and cancellation fees. If you fail to arrive for your scheduled appointment or attempt to reschedule an appointment without giving the required notice, you will forfeit the entire test fee.



To reschedule or cancel an appointment, follow the steps outlined below:

1) Log into your NCARB Record and click the "Exams" tab.

2) Within the "Exams" tab, you will see a "Reschedule or Cancel" button for each exam division that you currently have scheduled. Click on this button to reschedule or cancel.

3) The ARE scheduling system will guide you through the rescheduling or cancellation process. If you have any questions while rescheduling or canceling your exam, please contact NCARB for assistance.

4) **Reschedule only**—After you have rescheduled your exam appointment, you can view your appointment information within the "Exams" tab of your NCARB Record. You will also receive a confirmation email with your new appointment details.

5) **Cancellation only**—After you have canceled your exam appointment, an exam seat will be applied to your NCARB Record within 24 hours. The seat will expire one year from the date of the transaction. Cancellations are subject to the exam cancellation fee.

Rescheduling When Your Test Center is Closed

In the event your test center is closed during your scheduled appointment time, you will be contacted by NCARB. You will also receive a replacement exam seat within your NCARB Record, which you can use to reschedule your exam for a new date and time. Neither NCARB nor PSI will provide impacted candidates with compensation for lost time due to a test center closure.

If you are unsure whether a test center is closed due to inclement weather or any other reason, please refer to PSI's Test Center Openings page. If the center is open, it is your responsibility to keep the appointment. If the center is closed, you will be given the opportunity to reschedule.

Exam Fees and Payment Options

EXAM SCHEDULING FEES

- Cost of the ARE (six divisions): $1,410
- Individual divisions: $235
- Retakes: $235

PAYMENT OPTIONS

You may purchase an exam seat (which is valid for a one-year period) prior to scheduling your appointment, or you may submit payment at the end of the scheduling process. Please note, third-party payment is only available when purchasing exam seats prior to scheduling.

All payment must be made in your NCARB Record using VISA, MasterCard, or American Express.

EXAM RESCHEDULING FEES

You may reschedule your appointment up to 48 hours before an in-person appointment and 24 hours before an online appointment. You can reschedule appointments free of charge.

EXAM CANCELLATION FEES

You may cancel your appointment for a $100 fee up to one hour before your scheduled appointment time. You will receive a replacement exam seat, which will expire one year from the date of the transaction.

REFUNDS

NCARB does not offer refunds of exam, rescheduling, or cancellation fees.

EXAM FORFEITURE

If you fail to arrive at your in-person or online appointment, you will be marked as absent and your entire test fee will be forfeited.

PAYMENT DISCREPANCIES/DEBT

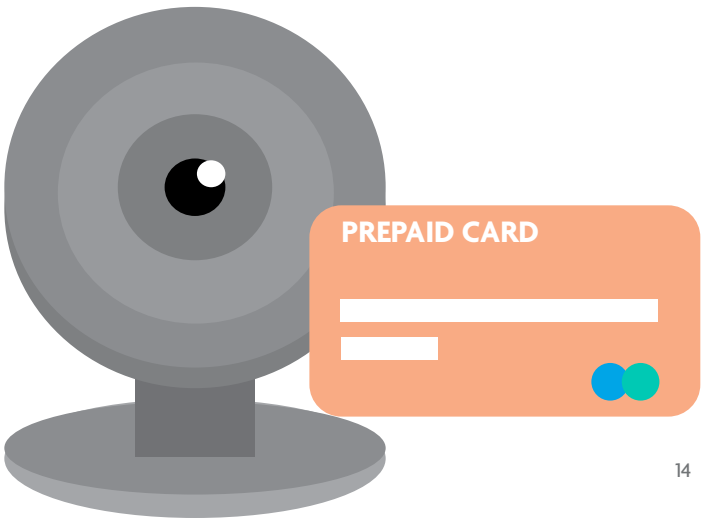
NCARB reserves the right to withhold test scores and suspend test-taking privileges until any outstanding debt or payment discrepancies with NCARB are resolved.

VETERANS AFFAIRS BENEFIT

The ARE has been approved by the Department of Veterans Affairs and qualifies as an education benefit. U.S. military veterans may be eligible for payment assistance to take divisions of the ARE. Please contact your regional Veterans Affairs Office for further details regarding the program, or visit the Veteran's Affairs website.

$50 REBATE FOR FIRST ONLINE-PROCTORED APPOINTMENT

To help offset the cost of meeting the system requirements for testing via online proctoring (such as the cost to purchase an external webcam), NCARB will provide all candidates who schedule their first online appointment with a $50 prepaid card. A test run does not count as a first online proctored appointment. Every ARE candidate who tests online is eligible to receive one rebate. This prepaid card is issued automatically after a candidate schedules their first online-proctored appointment. Candidates who do not schedule an online-proctored appointment are not eligible. The prepaid card will be delivered to the email address on file in your NCARB Record.



TESTING ACCOMMODATIONS

Americans With Disabilities Act (ADA) Accommodations

NCARB and PSI are committed to ensuring the availability of reasonable accommodations for qualifying individuals by making feasible modifications to our examination procedures for candidates with documented disabilities or temporary medical conditions. This includes appropriate accommodations for individuals who are pregnant or breastfeeding.

To protect exam security, maintain the validity of the exam, and meet the overall delivery capabilities of the ARE, there are limits to the accommodations that NCARB and PSI are able to provide. NCARB will use the Americans with Disabilities Act (ADA) as a guide when evaluating requests. Common examples of reasonable ADA accommodations include additional break time, extended testing time (up to 50 percent longer), and testing in a separate room within the test center.

Testing accommodations are granted to allow equal access to the ARE and to ensure fairness to all candidates while remaining consistent with ADA principles. NCARB will not grant requests that will alter the measurement of the skills or knowledge that the ARE is intended to test or result in an undue burden on NCARB or PSI.

ACCOMMODATIONS FOR PREGNANCY AND NURSING

NCARB and PSI offer reasonable ADA accommodations for individuals who are pregnant or breastfeeding. Common examples include additional break time, extended testing time (up to 50 percent longer), candidate-supplied food or drink, and testing in a separate room within the test center. If you are planning to test while pregnant or breastfeeding, please contact NCARB for more information on how NCARB and PSI can support you.

English as a Second Language (ESL) Accommodations

NCARB offers two language accommodations for qualified ARE candidates who speak or read English as a second language. The accommodations include:

- **Additional testing time:** Twenty percent (20%) of the original testing time for each division added as an extension to the original testing time.
- **Word-to-word translation dictionary:** For candidates testing at a PSI test center, use of a personally supplied, printed word-to-word translation dictionary of the candidate's choosing that has no additional notes or markings added to the text. The dictionary will be inspected by test center staff. This accommodation is not available for online proctored exams.

ELIGIBILITY

You are eligible for an ESL accommodation if English is not your native language. You will be required to attest to this as part of the application process.

NEW YORK LIMITATIONS

New York will not accept an examination given under non-standard conditions except per the provisions of the Americans with Disabilities Act. Examples of such non-standard conditions include the use of a word-to-word translation dictionary or extra testing time for applicants who are English as a second language (ESL) readers. If you pass the examination under such non-standard conditions for another jurisdiction, you will be required to retake the examination under standard conditions.

Applying for ADA Accommodations

Accommodations must be approved prior to the scheduling of an exam appointment and can't be retroactively applied to previously scheduled appointments.

To apply for an ADA testing accommodation, follow the steps outlined below:

1) **Download and Complete the ADA Accommodations Request Form**
   Download the form from NCARB's website. If applicable, you may provide:

   a) Documentation of any past accommodations to support your request, and/or

   b) A specific diagnosis by an appropriately licensed professional that includes a description of the appropriate accommodations for your condition .

2) **Submit the ADA Accommodations Request Form**
   Submit the completed form, including any documentation, to NCARB at Testingaccommodations@ncarb.org with the subject line "ADA Accommodation." Some jurisdictions require accommodation requests to be submitted directly to the licensing board. Refer to the ADA Accommodations Request Form for jurisdiction specific information on where to submit your completed form.

3) **Receive Accommodations Approval**
   Accommodations must be approved prior to the scheduling of an exam appointment. Do not attempt to schedule an appointment before receiving written approval. Please allow 7-10 business days for NCARB to process your request. If your request must be submitted to your licensing board, the process may take longer.

4) **Schedule Your Appointment**
   Once you have been approved for testing accommodations, you will receive instructions on how to schedule an appointment. While some appointments may be able to be scheduled through your NCARB Record, depending on the accommodation, it may be necessary to schedule by phone. **Do not attempt to schedule any exam appointments until you receive written notification that accommodations have been approved.**

Applying for ESL Accommodations

Accommodations must be approved prior to the scheduling of an exam appointment and can't be retroactively applied to previously scheduled appointments.

To apply for ESL testing accommodations, follow the steps outlined below:

1) **Download the Application**
   Download and review the Application for English as a Second Language Testing Accommodations form from NCARB's website. Please note: New York does not accept divisions of the ARE passed using an ESL accommodation.

2) **Submit the Application**
   After you have completed the application, please email it to NCARB at Testingaccommodations@ncarb.org with the subject line "ESL Accommodation."

3) **Receive Accommodations Approval**
   Accommodations must be approved prior to the scheduling of an exam appointment. Do not attempt to schedule an appointment before receiving written approval. Please allow 7-10 business days for NCARB to process your request.

4) **Schedule Your Appointment.**
   Once you have been approved for testing accommodations, you will receive instructions on how to schedule an appointment. While some appointments may be able to be scheduled through your NCARB Record, depending on the accommodation, it may be necessary to schedule by phone. **Do not attempt to schedule any exam appointments until you receive written notification that accommodations have been approved.**

Please note: NCARB conducts audits to verify the validity of applications for ESL accommodations.

Accommodations Not Supported for Online Appointments

Some available accommodations (e.g. word-to-word translation dictionary, reader, sign language interpreter, physical scratch paper, etc.) are not supported for online-proctored appointments. Candidates requiring these accommodations must test in a test center. If your testing accommodation request is only available via onsite testing, NCARB will inform you during the evaluation process.

Pre-Approved Personal Items

You **DO NOT** need to request testing accommodations for the specific items indicated below. However, if any other accommodations are needed that are not listed below, the formal testing accommodation request process indicated previously must be followed.

For example, if you wear a hearing aid (which by itself does not require approval) and require a separate room and/or additional break time, etc.; the formal testing accommodation request process indicated previously must be followed.

All pre-approved personal items are subject to inspection by the test center administrator or online proctor. If an approved medical device makes any alert noises, it must be able to be silenced. If you are unable to silence your medical device, you will need to request a formal testing accommodation.

MEDICINE AND MEDICAL DEVICES

- Arm/shoulder sling
- Bandages
- Braces – neck, back, wrist, leg, or ankle
- Casts/cervical collar
- Cough drops (must be unwrapped and not in a bottle/container)
- Earplugs (foam with no strings)
- EpiPen
- Eye drops
- Eye patches
- Eyeglasses (without a case)
- Glucose tablets
- Handheld magnifying glass (non-electric, no case)
- Ice packs/Non-electrical heating pads
- Inhaler
- Medical alert bracelet
- Medical masks
- Medical rubber gloves
- Nitroglycerin tablets
- Pillow/lumbar support
- Pills (must be unwrapped and not in a bottle/container). Candidates may bring pills that are still in the packaging if the packaging states they MUST remain in the packaging, such as nitroglycerin pills that cannot be exposed to air.
- Stool for elevating a limb
- Surgical facemask
- Walking boot casts

MEDICAL DEVICES (ATTACHED TO A PERSON'S BODY)

- Catheter
- Ostomy bag/appliance
- Insulin pump
- Oxygen tank
- Spinal cord stimulator
- TENS units (Transcutaneous Electrical Nerve Stimulation) for nerve pain
- Urine drainage bag

COMMUNICATION AIDS

- Hearing aid/cochlear implant
- Vocal cord magnifiers

MOBILITY DEVICES

- Cane
- Crutches
- Walker
- Wheelchair

OTHER

- Service animal

IDENTIFICATION REQUIREMENTS

When you arrive at the test center or online-proctored exam check-in, you will be required to present an acceptable form of identification as outlined below. **You will not be admitted to the examination without acceptable identification, and there will be no refund of your test fee.**

Your identification must be valid (not expired) and include your full name, photo, and signature. The first and last name on the identification must be the same as the first and last name that appears in your NCARB Record. If you need to change the name shown in your NCARB Record, you must send a request and official documentation to NCARB. **Name discrepancies must be resolved at least seven (7) business days prior to your scheduled exam appointment.**

ACCEPTABLE FORMS OF IDENTIFICATION

- Driver's license
- State issued ID
- Passport
- National ID card
- Residency card
- Green card

UNACCEPTABLE FORMS OF IDENTIFICATION

- Expired ID
- ID with no photo or signature
- Military ID
- Draft classification card
- Letter of identity from a notary
- Social Security card
- Credit card or bank card of any kind
- Employee ID

If you are testing using online proctoring, your webcam must have the ability to autofocus on your ID, or you will not be able to complete the check-in process.

TAKING AN EXAM AT A PSI TEST CENTER

Before scheduling an exam at a test center, please read about PSI test centers on PSI's Taking the ARE webpage and review the test center policies and procedures outlined in this document.

Arriving at the Test Center

You should arrive at the test center **at least 30 minutes before your scheduled appointment**. If you arrive later than 30 minutes after your scheduled appointment time, you may be required to forfeit your appointment and your test fee will not be refunded.

Your test session should begin within 30 minutes of your scheduled appointment. If circumstances arise that delay your test session more than 30 minutes after your scheduled appointment time, you will be given the choice of continuing to wait or rescheduling your appointment.

Upon arrival at the PSI test center, you must review and sign the PSI Test Center Candidate Security Agreement. If you do not sign the agreement, your exam will be canceled, and all exam fees will be forfeited. After signing in with the proctor, you must remain in the test center throughout your exam appointment. Leaving the test center for any reason during your exam, including while on a break, may result in your exam being canceled, and there will be no refund of your test fee.

Personal Belongings at the Test Center

Before beginning the security screening, you will be asked to present a proper form of identification, as outlined in the Identification Requirements section of this document, and place all personal belongings into a secure storage locker or bag provided by PSI.

Personal belongings include, but are not limited to, the following items:

- **Electronic devices of any type (must be turned off)**, including cell phones, smart watches, computers, calculators, tablets, headphones, earbuds, etc.
- **Bulky or loose clothing or coats** that could be used to conceal recording devices or notes, including all outerwear
- **Hats or headgear not worn for religious reasons**
- **Reference materials, notebooks, paper, and pens**
- **Other personal items**, including purses, wallets, keys, backpacks, large jewelry, food, drinks, etc.

Small lockers or storage bags are provided at test centers for candidates' use to secure small personal items only. Lockers or storage bags **WILL NOT** accommodate large items like briefcases, backpacks, laptops, purses, or other large personal items. Do not bring large items to the testing center. Any personal belonging that does not fit into a secure locker or locker bag may not remain in the test center, with no exceptions. **Failure to comply may result in your exam being canceled, and there will be no refund of your test fee**.

You will not have access to your personal belongings that are placed in secure storage while in the testing room. You may access your personal belongings in secure storage after first completing the check-out procedure with the proctor, either by going on break during your test or by completing your test administration.

Security Screening

To ensure the integrity of the ARE, specific security measures are enforced prior to and during your exam administration. You will be subject to a security screening prior to entering the testing room, including returns from breaks.

During the screening, you will be asked to complete the following:

- Roll up/roll down sleeves
- Roll up pant legs (to the knee)
- Empty all pockets, including back pockets
- Remove glasses for inspection
- Show ears to ensure electronic devices are not in use

Candidates refusing to be scanned may not be permitted to test.

Following the security screening, you will be escorted to a workstation by the proctor. You must remain in your seat during your examination, except when authorized to leave by the test center staff.

Taking a Break During Your Exam

Each division of the ARE includes break time, which may be used all at once or split into multiple breaks throughout your test until you have used up the allotted time. If you need additional breaks beyond your allotted time, you may take a break, but the exam timer will continue to count down. During a break, you must remain within the PSI test center. Leaving the test center during a break may result in your exam being canceled, and there will be no refund of your test fee.

For every break you wish to take during your exam, you will be required to navigate to the "On Break" screen and notify the proctor that you intend to take a break. **Failure to do so may result in your exam being terminated.**

Please make sure to use the following process when taking a break:

1) Navigate to the "Exam Summary" page.
2) Click the "Break" button in the upper-right corner.
3) A pop-up window will appear that asks, "Do you wish to start a break?" Click "Yes" in the lower left corner if you are sure you want to use your break time.
4) The "On Break" screen will appear.
5) Notify the proctor that you are starting a break.
6) You must comply with all PSI re-admittance security procedures each time you return from a break.

Following a break, all items that you have already viewed will be locked, including those marked for later review, and you will not be able to view or edit them again.

Completing Your Exam

When you are finished answering all items within your exam, click the "End Exam" button and confirm through the pop-up that you would like to submit your exam for scoring.

After ending your exam, you will be given the option to view provisional feedback on your exam performance. You can read more about ARE scoring in the Receiving Your Score section of this document.

When you are finished with your examination, quietly leave the testing room. The test center administrator will dismiss you after completing all necessary PSI check-out procedures.

Technical Issues During Your Exam

If a software or hardware problem occurs before or during your exam administration, please follow the steps outlined below:

1) **Notifying the Proctor**
   Immediately raise your hand and notify the proctor that you are experiencing a technical issue. If there is an error message on the screen, do not clear the message.

2) **Troubleshooting the Issue**
   Allow the proctor and technical support team sufficient time to troubleshoot and resolve the issue. In the event your computer must be restarted, the exam delivery software has been designed to suspend testing time until the computer is operating again. Most candidates who experience an exam restart are able to complete their exam administration without further interruption.

   If the proctor and technical support team are able to resolve the issue within 30 minutes, you are expected to complete your exam administration. If the technical issue delays your test session more than 30 minutes, you will be given the choice of continuing to wait or rescheduling your appointment.

3) **Reporting the Technical Issue**
   If your exam administration cannot be administered because of technical issues, please file an incident report with the proctor and contact NCARB in writing. **DO NOT** wait until you've received your test results to contact NCARB. All concerns must be received within 15 days of your appointment date.

   Filing an incident report with the proctor does not satisfy the requirements of notifying NCARB directly.

4) **NCARB Investigation**
   Upon receiving your communication regarding your exam technical issue, NCARB will investigate the technical issue, including reviewing any logs, documentation, or reports provided by PSI. Following the investigation, which may take up to five business days, NCARB will reach out to you directly.

5) **Resolution**
   If it is determined that the technical issue was due to an exam software malfunction or other issue outside of your control, NCARB will provide you with a replacement exam seat and new exam eligibility. NCARB will not provide candidates who experience a technical issue with a rolling clock extension or compensation for lost time.

   - If you viewed 75 percent or more of the items on your exam prior to the technical issue occurring, you will be subject to the 60-day retest policy, and your exam will count as a valid, scored exam within your NCARB Record.
   - If you viewed fewer than 75 percent of the items on your exam prior to the technical issue occurring, you will be provided immediate eligibility to reschedule your exam, you are exempt from the 60-day retest policy, and your exam score will be invalidated within your NCARB Record.

Candidate Conduct at the Test Center

A candidate who engages in misconduct, unprofessional behavior, and/or does not heed the administrator or proctor's warning to discontinue inappropriate behavior may be dismissed from the test center, have examination results canceled, and/or have examination eligibilities suspended, and no refund for the administration will be given.

Examples of misconduct in the test center include:

- Failing to follow the instructions of the test center administrator.
- Violating the test center regulations.
- Creating a disturbance of any kind.
- Removing or attempting to remove examination questions and/or responses (in any format).
- Attempting to take the examination for someone else.
- Tampering with the operation of the computer or attempting to use it for any function other than taking the examination.
- Leaving the testing room without permission.
- Using any unauthorized references or devices.
- Accessing, or attempting to access, inappropriate materials during the exam.

Candidates who engage in any form of misconduct are subject to NCARB's Policy for the ARE: Exam Candidate Conduct, which establishes procedures in the case of candidate misconduct.

TAKING AN ONLINE-PROCTORED EXAM WITH PSI

Prior to scheduling an online-proctored exam with PSI, please read and understand the following policies, procedures, and requirements surrounding online testing. **By scheduling a division of the ARE in this delivery setting, you are acknowledging that your system and testing environment meet all requirements outlined by both PSI and NCARB.**

If you believe that you can't meet the requirements for online proctoring outlined within this section, please consider testing in-person at a physical test center. If you schedule an online-proctored appointment but do not meet the requirements and are unable to test because you do not meet the requirements, **you accept responsibility for any fees lost as a result.**

Scheduling a Test Run

Before taking an online-proctored exam, **it is highly recommended that you take a free PSI test run to confirm with a proctor that your computer and testing environment meet the requirements to take an online exam.** You can schedule this appointment through the "Exams" tab within your NCARB Record.

Before you schedule a test run, be aware of the following:

- The test run is designed to help you identify potential problems with your online testing setup. You should schedule your test run far enough in advance of your actual ARE appointment that you are able to implement a solution or reschedule if necessary.
- You should be prepared to use the exact same setup for your test run appointment that you are planning to use for your actual ARE appointment. It's also recommended that you take your test run at the same time of day as you plan to take the ARE.
- The test run will operate on PSI's secure testing browser, Bridge, just like the actual exam.
- During your test run appointment, you'll go through the same check-in process that you can expect during your ARE appointment.

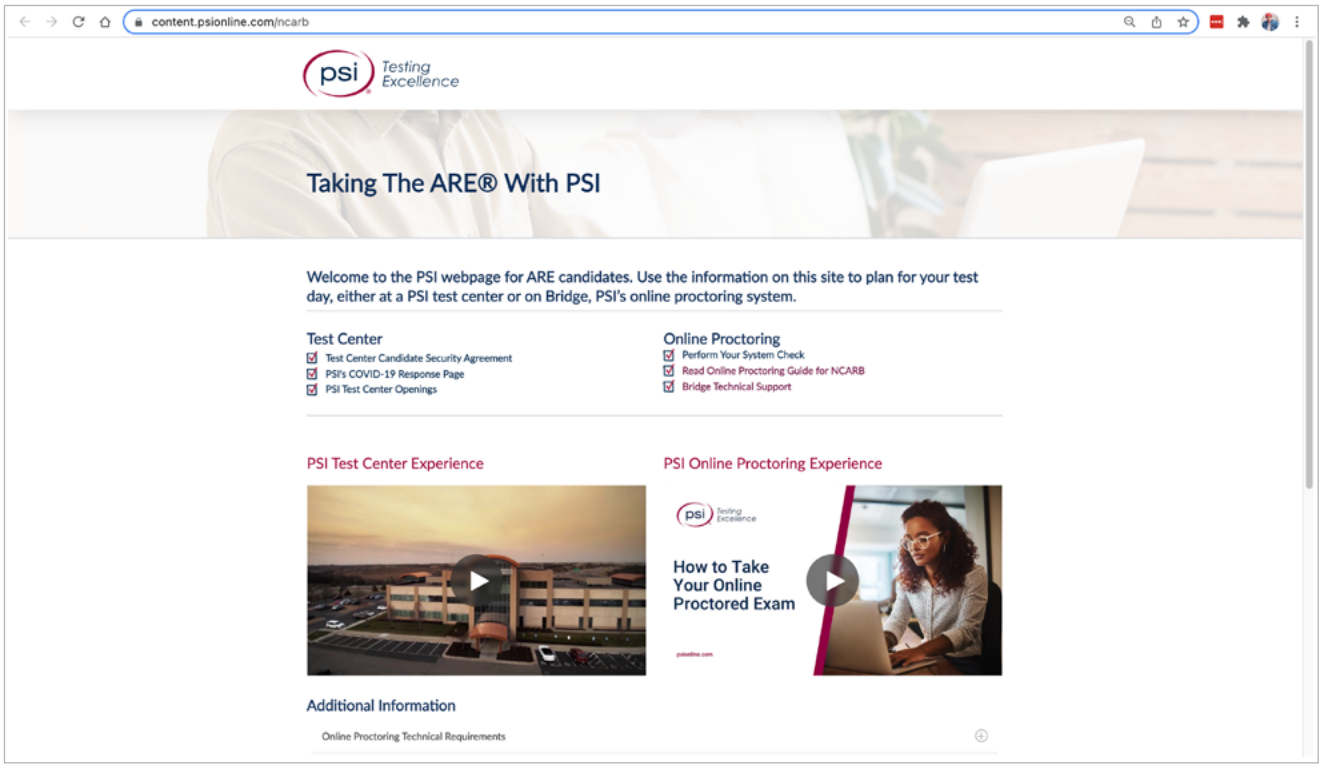
You'll also see a short, unscored "quiz" covering the requirements for online proctoring. If you run into a technical issue during your test run, work with PSI's proctor and technical support team to identify and resolve the issue.

PSI Technical Requirements and Systems Check

Before scheduling an online-proctored exam, please read and understand the requirements and policies within PSI's Taking the ARE webpage, including the Online Proctoring Guide for NCARB.

This PSI documentation includes the following content:

- A link to perform a systems check and download Bridge. This check typically takes 1-2 minutes. When you run the check, please try to replicate the conditions under which you expect to take your test. Use the same computer, at the same time of day, in the same room, and with the same setup.
- Technical requirements to run Bridge
- Environmental requirements
- Directions on how to check in and launch your exam
- Bridge technical support
- Prohibited items
- Prohibited actions during your exam
- Online proctoring FAQs



NCARB Technical Requirements

In addition to PSI's requirements, NCARB has established the following technical requirements to support the online delivery of the ARE. In instances where PSI's and NCARB's requirements do not align, please adhere to the most stringent requirements.

COMPUTER:

- Laptop or desktop computer in a single monitor configuration. Tablets, Chromebooks, and touchscreen monitors are not acceptable. Tablet/laptop hybrids must be configured in laptop mode with tablet mode disabled. All cables connected to the computer and/or peripheral devices must be accessible and visible for full inspection prior to testing. **You must have administrative permissions on the computer you plan to use for testing. PSI's Bridge secure browser may require you to modify computer settings and close prohibited programs**.

LAPTOP SETUP:

- Laptops are required to be plugged directly into a power source and unattached from a docking station. If you wish to use a single external monitor configuration with your laptop, connect a computer monitor cable directly from your external monitor to your laptop and close the laptop screen. You will not be able to use the laptop's integrated keyboard or trackpad.

WEBCAM:

- You must use an external webcam (even if you are testing from a laptop with an integrated webcam) with the flexibility and cord length to provide a 360-degree view of your testing environment including under your workstation and behind any monitor. **Integrated webcams are NOT acceptable.** Your camera should have the ability to autofocus to allow the proctor to fully visualize your ID, your surroundings, and yourself during the check-in process and throughout testing. To help offset the potential cost of purchasing an external webcam, NCARB is offering all candidates a one-time, $50 rebate the first time they schedule an online appointment.

KEYBOARD:

- Laptop or external keyboard. If you test from a laptop plugged into an external monitor, you must close your laptop screen and use an external keyboard. If you use a wireless keyboard, ensure the batteries are fully charged and can last for the duration of the exam.

AUDIO:

- Your microphone must be enabled at all times, and **headphones, headsets, or earbuds are NOT allowed.** Adjust the speaker volume to a comfortable setting before launching the Bridge software.

MOUSE:

- Laptop trackpad or mouse. If you use a wireless mouse, ensure the batteries are fully charged and can last for the duration of the exam. If you test from a laptop plugged into an external monitor, you must close your laptop screen and use an external mouse.

MONITOR:

- A single 19-inch or larger monitor displaying at 1920 x 1080 resolution is recommended.

INTERNET:

- You will need a minimum of three (3) mbps of dedicated bandwidth connected through an ethernet cable. **A WiFi connection should not be used.** Make sure there is no additional load (video streaming, gaming, music, etc.) on your internet connection during your exam administration. Consider scheduling your exam at a time when other individuals in your household/secure testing location will not be online. **You are responsible for ensuring a stable internet connection throughout the duration of your exam.**

NETWORK AND COMPUTER SECURITY SETTINGS:

- Bridge accesses your computer, including your camera and microphone, which may be identified as a security threat by your system. **Remember, you must have administrative permission on your computer to make changes to security settings.** Prior to your exam, adjust or disable the security settings on your computer, router, and those set through your internet service provider (ISP) to ensure Bridge is not blocked throughout your appointment. If you're unsure how to check your ISP security settings, reach out to your ISP provider directly.

VIRTUAL PRIVATE NETWORK (VPN):

- Connecting your computer through a VPN can impact the performance of the exam delivery software, so you'll need to disable it prior to your exam. If using a company computer, reach out to your company's IT support team for assistance in identifying your VPN and disabling it.

OTHER COMPUTER APPLICATIONS:

- Allowing your computer to run applications in the background while testing via Bridge will impact the performance of the exam delivery software. **To limit technical disruptions, make sure to close all applications prior to launching Bridge.**

As an online tester, you take full responsibility for ensuring your setup meets the requirements for online proctoring. This includes the integrity of equipment, internet connectivity, system performance or other issues related to but not limited to the above that are outside of the control of NCARB, PSI, or NCARB's other test delivery vendors.

NCARB is not able to provide technical support regarding individual setup for online-proctored delivery. Prior to your testing day, review PSI's Online Proctoring Guide for NCARB and other information on PSI's Taking the ARE webpage.

Setting Up Your Testing Space

Whether you test at your home, office, school, or other location, your testing environment must meet the following requirements and any others outlined by PSI:

- **Indoors:** You must test indoors in a walled environment.
- **Privacy:** You must have a private space, preferably with a single closing door. No people or animals can be present in the room while you test. If your testing room does not have a door, you can block the entrance with a bed sheet.
- **Lighting:** Your testing environment must be well-lit.
- **Quiet:** Your room must be free of background noise.
- **Workspace:** Your computer must be placed on a clutter-free table or desk. You cannot test with your computer in your lap.
- **Free from distractions:** The room must be as uncluttered as possible. Your workspace and the surrounding area must be free of:
    - Reference materials, scratch paper, pens/pencils, notepads, or language dictionaries
    - Calculators
    - Cell phones, smart watches, tablets, or other electronic devices
    - Headphones, earbuds, or any in-ear device
    - Baggage, handbags, purses, wallets, or briefcases
    - Food or beverages
    - Tobacco or other smoking products

If the room you plan to test in has other screens (such as a television), a bookcase, or clutter, please cover these areas with a bed sheet.

If you are viewed by the proctor with any prohibited items during your exam administration, your exam will be terminated, and your exam fees will be forfeited.

Launching Your Online Exam

Before launching your online exam, ensure that your testing environment and system are setup to meet all requirements outlined by both NCARB and PSI. Failure to appropriately meet the online proctoring requirements may prevent you from testing, and any fees will be lost as a result.

To launch your online-proctored exam, follow the steps outlined below:

1) **Be Ready 30 Minutes Prior to your Exam**
   You should be prepared to log into your online exam 30 minutes before your scheduled appointment. If you log in later than 30 minutes after your scheduled appointment time, you may be required to forfeit your appointment and your test fee will not be refunded.

2) **Log into your NCARB Record**
   Navigate to NCARB.org and log into your NCARB Record. Click on the "Exams" tab to view all scheduled exams.

3) **Locate Your Scheduled Exam**
   Next, you'll need to locate your scheduled exam and confirm the exam division, date, and time. Next, click the "Launch Exam" button.

4) **Download and Install PSI's Bridge Secure Browser**
   After clicking the "Launch Exam" button, a PSI page will display and automatically download PSI's Bridge secure browser. You'll need to install Bridge on your computer and launch the application.

5) **Confirm Your Camera and Microphone**
   You will be asked to select a webcam and microphone prior to moving to the security screening check-in process. Remember, you will need to have an external webcam with autofocus to successfully take your exam online. This prompt may not appear if you have only one camera or one microphone.

At this point, you have successfully launched PSI's Bridge secure browser and are prepared to begin the check-in and security screening process. PSI requires all online-proctored candidates to complete the check-in process each time they access their test, including returns from breaks. **Candidates refusing to complete the check-in process will not be permitted to test.**

Security Screening

To ensure the integrity of the ARE, specific security measures are enforced prior to and during your exam administration. You will be subject to a security screening prior to beginning your exam, including returns from breaks.

Prior to your exam, you will be asked to complete a brief check-in process and security screening, requiring you to complete the following:

- Close any prohibited programs or processes you have running on your computer as identified by the secure browser
- Accept PSI's Online Proctoring Candidate Privacy Agreement
- Authenticate your identity by taking a picture of your photo ID. Your ID must meet the requirements outlined in the Identification Requirements for Check-in section of this document. **Please note, failure to have an external webcam with autofocus will prevent the software from capturing a clear picture of your ID, which may prevent you from testing.**
- Authenticate your identity by taking a selfie
- Complete a 360-degree scan of your testing environment, including the entire worksurface
- Roll up/roll down your sleeves and show your arms to the camera
- Show ears to ensure electronic devices are not in use
- Remove and show glasses

Candidates refusing to complete the check-in process or security screening may not be permitted to test.

Taking a Break During Your Online Exam

Each division of the ARE includes break time, which may be used all at once or split into multiple breaks throughout your test until you have used up the allotted time. If you need additional breaks beyond your allotted time, you may take a break, but the exam timer will continue to count down.

For every break you wish to take during your exam, you will be required to navigate to the "On Break" screen and notify the proctor via chat that you intend to take a break. **Failure to do so may result in your exam being terminated.**

Please make sure to use the following process when taking a break:

1) Navigate to the "Exam Summary" page.

2) Click the "Break" button in the upper-right corner.

3) A pop-up window will appear that asks, "Do you wish to start a break?" Click "Yes" in the lower left corner if you are sure you want to use your break time.

4) The "On Break" screen will appear.

5) Notify the proctor that you are starting a break.

6) After you have completed your break, please inform the proctor via chat before resuming your exam. You must comply with all PSI re-admittance security procedures each time you return from a break.

Following a break, all items that you have already viewed will be locked, including those marked for later review, and you will not be able to view or edit them again.

Completing Your Online Exam

When you are finished answering all items within your exam, click the "End Exam" button and confirm through the pop-up that you would like to submit your exam for scoring.

After ending your exam, you will be given the option to view provisional feedback on your exam performance. You can read more about ARE scoring in the Receiving your Score section of this document.

When you are finished with your examination, click the "End Proctoring Session" button inside PSI's Bridge software and confirm you want to permanently end your exam session.

Technical Issues During Your Online Exam

In the event that a software or hardware problem occurs before or during your exam administration, please follow the steps outlined below:

TECHNICAL ISSUES PRIOR TO LAUNCHING YOUR ONLINE EXAM

1) **Review the Online Proctoring Technical Requirements**
   Failure to meet the online proctoring technical and system requirements outlined by NCARB and PSI will prevent the Bridge software and your exam from successfully launching.

   Prior to contacting PSI Technical Support, ensure your system setup, including internet speed, security settings, and VPN meet all online proctoring requirements. **NCARB is not able to provide technical support regarding individual system setup for online-proctored delivery.**

2) **Contact PSI Technical Support**
   After verifying that your system setup meets all requirements, please reach out to PSI Technical Support at 855-560-3716. Allow the PSI Technical Support team sufficient time to troubleshoot and resolve the issue.

3) **Reporting the Technical Issue**
   If your exam cannot be administered because of technical or software issues, please contact NCARB in writing within 15 days of your appointment date.

4) **NCARB Investigation**
   Upon receiving your communication regarding your exam technical issue, NCARB will investigate the technical issue, including reviewing any logs, documentation, or reports provided by PSI. Following the investigation, which may take up to five business days, NCARB will reach out to you directly.

5) **Resolution**
   If it is determined that the technical issue was due to an exam software malfunction or other issue, outside of your control, NCARB will provide you with a replacement exam seat and new exam eligibility. The 60-day retest policy does not apply to exams that failed to launch. NCARB will not provide candidates who experience a technical issue with a rolling clock extension or compensation for lost time.

If the investigation determines that your examination could not be administered due to your online proctoring setup, outside of the control of NCARB and its vendors, all exam fees will be lost, and NCARB will not provide you with a replacement exam seat. You will be provided with a new exam eligibility only. The 60-day retest policy does not apply to exams that failed to launch.

TECHNICAL ISSUES DURING YOUR ONLINE EXAM

1) **Notifying the Proctor**
   Immediately inform the proctor via the chat feature that you are experiencing a technical issue. If there is an error message on the screen, do not clear the message.

   If you lose internet connection during your exam and are disconnected, you can restart Bridge when your connection stabilizes, and you will be assigned to the first available proctor. The exam delivery software has been designed to suspend testing time until the computer is operating again.

2) **Contact PSI Technical Support**
   After informing the proctor of the technical issue, please reach out to PSI Technical Support at 855-560-3716. Allow the PSI technical support team sufficient time to troubleshoot and resolve the issue.

   If the technical support team is able to resolve the issue within 30 minutes, you are expected to complete your exam administration. If the technical issue delays your test session more than 30 minutes, you will be given the choice of continuing to wait or rescheduling your appointment.

3) **Reporting the Technical Issue**
   If your exam administration cannot be administered because of technical issues, please file an incident report with the proctor and contact NCARB in writing. **DO NOT** wait until you've received your test results to contact NCARB. All concerns must be received within 15 days of your appointment date.

   Filing an incident report with the proctor does not satisfy the requirements of notifying NCARB directly.

4) **NCARB Investigation**
   Upon receiving your communication regarding your exam technical issue, NCARB will investigate the technical issue, including reviewing any logs, documentation, or reports provided by PSI. Following the investigation, which may take up to five business days, NCARB will reach out to you directly.

5) **Resolution**
If it is determined that the technical issue was due to an exam software malfunction or other issue, outside of your control, NCARB will provide you with a replacement exam seat and new exam eligibility. NCARB will not provide candidates who experience a technical issue with a rolling clock extension or compensation for lost time.

- If you viewed 75 percent or more of the items on your exam prior to the technical issue occurring, you will be subject to the 60-day retest policy, and your exam will count as a valid, scored exam within your NCARB Record.
- If you viewed fewer than 75 percent of the items on your exam prior to the technical issue occurring, you will be provided immediate eligibility to reschedule your exam, you are exempt from the 60-day retest policy, and your exam score will be invalidated within your NCARB Record.

If the investigation determines that your examination could not be administered due to your online proctoring setup, outside of the control of NCARB and its vendors, all exam fees will be lost and NCARB will not provide you with a replacement exam seat. You will be provided with a new exam eligibility only. If you viewed 75 percent or more of the items on your exam prior to the technical issue occurring, you will be subject to the 60-day retest policy, and your exam score will remain valid within your NCARB Record.Candidate Conduct During Your Online Exam

Candidate Conduct During Your Online Exam

A candidate who engages in misconduct, unprofessional behavior, and/or does not heed the administrator's or proctor's warning to discontinue inappropriate behavior may be dismissed from their online administration, have examination results canceled, and/or have examination eligibilities suspended, and no refund for the administration will be given.

Examples of misconduct during an online exam include:

- Leaving the testing room or your desk/worksurface without clicking the break button and informing the proctor.
- Accessing, or attempting to access, prohibited items.
- Using any unauthorized references or devices.
- Obstructing the proctor's view.
- Creating noise, unrelated to keyboard typing, including speaking aloud.
- Using your computer for any function other than taking the examination.
- Failing to maintain a private testing environment.
- Eating or drinking.
- Failing to follow the instructions of the proctor.
- Attempting to take the examination for someone else.
- Copying or attempting to copy examination questions and/or responses (in any format).

Candidates who engage in any form of misconduct are subject to NCARB's Policy for the ARE: Exam Candidate Conduct, which establishes procedures in the case of candidate misconduct.

RECEIVING YOUR SCORE

Score Reporting

All divisions of the ARE are administered and graded by computer on a pass/fail basis. Keep in mind that:

- **Official test results are not released at the test center or during online-proctored delivery.** Results for all divisions are typically processed within one week of your test date. You may view provisional feedback at the end of your exam appointment; however, the feedback is not official.
- NCARB's first priority is to ensure that all examinations are scored fairly and accurately. While every effort is made to process examination scores in a timely manner, it is more important that no errors are made in the score-reporting process.
- You will be notified via email when your score has been processed and is available to you within your NCARB Record.

PROVISIONAL FEEDBACK

At the end of each exam, you will be asked if you would like to view provisional feedback on your exam performance. The provisional feedback displayed on screen will inform you of your overall likelihood to pass or fail the division. The feedback provided is fully accurate but not official, because the results have not yet undergone further statistical analysis. A printout of the feedback will not be provided following your exam. To view provisional feedback following your exam administration, follow the steps outlined below:

1) When you have answered all questions within your exam, click the "Exam Summary" button and then the "End Exam" button.

2) Next, you'll need to confirm you are ready to submit your results for scoring by clicking the "Yes. End Exam and Submit." button within the pop-up message.

3) You must now navigate through **ALL** closing screens to view provisional feedback. Review the "Candidate Agreement Reminder" screen and click the "End Exam" button.

4) You will then see a screen asking if you would like to view provisional feedback on your performance. You must click on the "Yes, View Feedback" button.

   Your provisional feedback will not display if you fail to click this button or respond within the alloted two minutes.

5) After clicking the "Yes, View Feedback" button, you will then be presented with your provisional feedback.

   Your provisional feedback will not display if you fail to navigate through all the closing screens within the exam software or exit the secure browser application.

OFFICIAL SCORE REPORT

Your official score report will be available in the "Exams" tab in your NCARB Record within one week of your test date. The official score report contains complete information about the appointment, your performance on the exam, and rolling clock information.

NCARB's psychometric testing experts complete forensic analysis of each candidate's results between the test administration and the release of the official score report. This analysis looks for candidate performance anomalies that may suggest misconduct. In extreme cases, forensic analysis may lead to the official score report being held or invalidated after further investigation.

Reading Your Official Score Report

All official score reports are clearly labeled pass or fail along the top of the first page. On passing score reports, the division's expiration date—five years after the date of your exam—is also noted. Reports include a verification link should anyone need to confirm the authenticity of your score. All your rolling clock information and testing history is provided on the lower half of the first page.

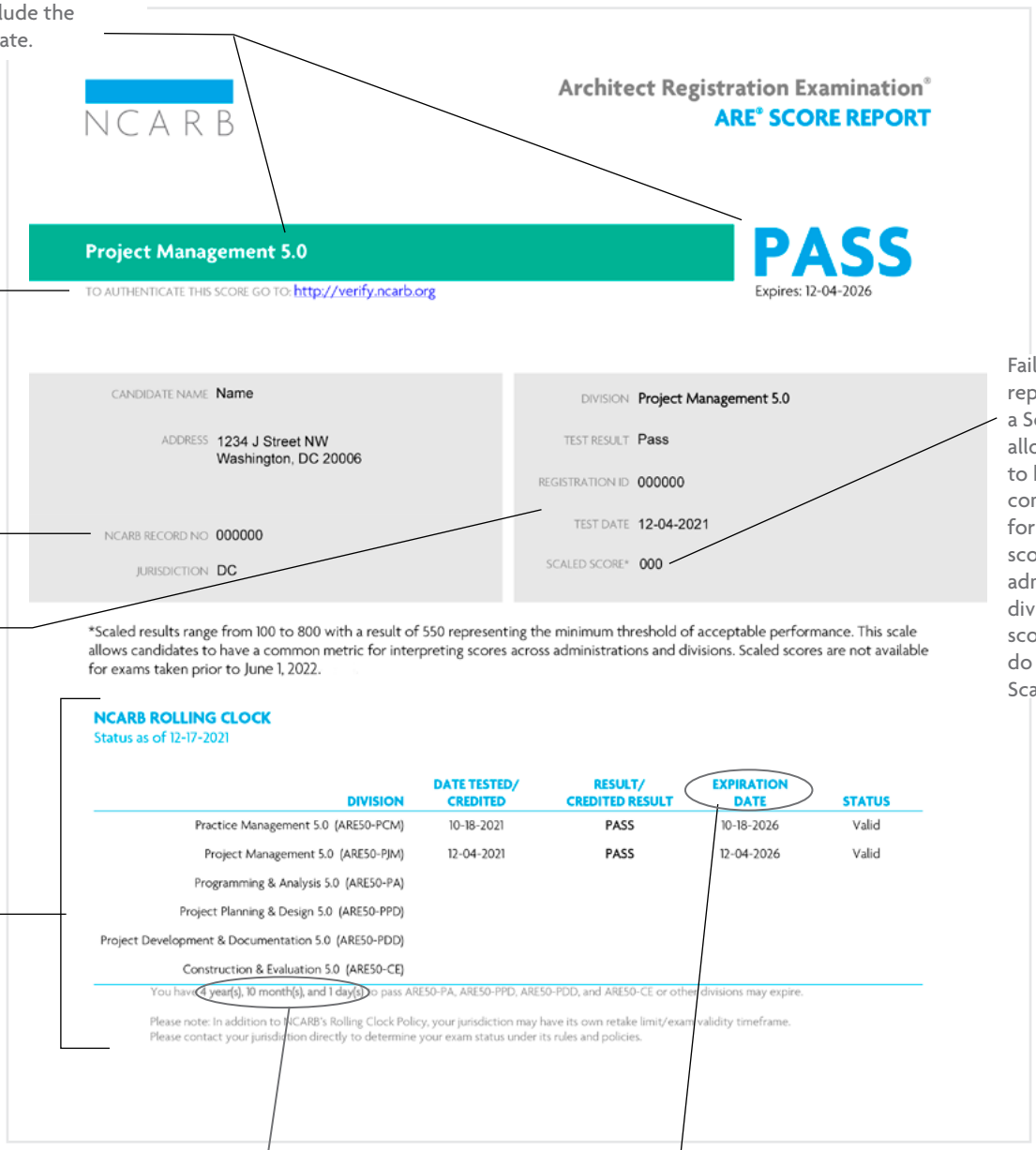
All score reports include the division name and score (pass or fail). Passing score reports also include the division's expiration date.

Reports include a link should anyone need to verify the authenticity of your score.

You will need your Record Number when contacting NCARB Customer Service.

This box contains a summary of your score report.

All of your rolling clock information is in this section.



NCARB

Architect Registration Examination®
ARE® SCORE REPORT

Project Management 5.0

PASS

TO AUTHENTICATE THIS SCORE GO TO: http://verify.ncarb.org

Expires: 12-04-2026

CANDIDATE NAME Name
ADDRESS 1234 J Street NW
Washington, DC 20006
NCARB RECORD NO 000000
JURISDICTION DC

DIVISION Project Management 5.0
TEST RESULT Pass
REGISTRATION ID 000000
TEST DATE 12-04-2021
SCALED SCORE* 000

*Scaled results range from 100 to 800 with a result of 550 representing the minimum threshold of acceptable performance. This scale allows candidates to have a common metric for interpreting scores across administrations and divisions. Scaled scores are not available for exams taken prior to June 1, 2022.

NCARB ROLLING CLOCK
Status as of 12-17-2021

DIVISION	DATE TESTED/ CREDITED	RESULT/ CREDITED RESULT	EXPIRATION DATE	STATUS
Practice Management 5.0 (ARE50-PCM)	10-18-2021	PASS	10-18-2026	Valid
Project Management 5.0 (ARE50-PJM)	12-04-2021	PASS	12-04-2026	Valid
Programming & Analysis 5.0 (ARE50-PA)				
Project Planning & Design 5.0 (ARE50-PPD)				
Project Development & Documentation 5.0 (ARE50-PDD)				
Construction & Evaluation 5.0 (ARE50-CE)				

You have 4 year(s), 10 month(s), and 1 day(s) to pass ARE50-PA, ARE50-PPD, ARE50-PDD, and ARE50-CE or other divisions may expire.

Please note: In addition to NCARB's Rolling Clock Policy, your jurisdiction may have its own retake limit/exam validity timeframe. Please contact your jurisdiction directly to determine your exam status under its rules and policies.

Failing score reports include a Scaled Score, allowing candidates to have a common metric for interpreting scores across administrations and divisions. Passing score reports do not include a Scaled Score.

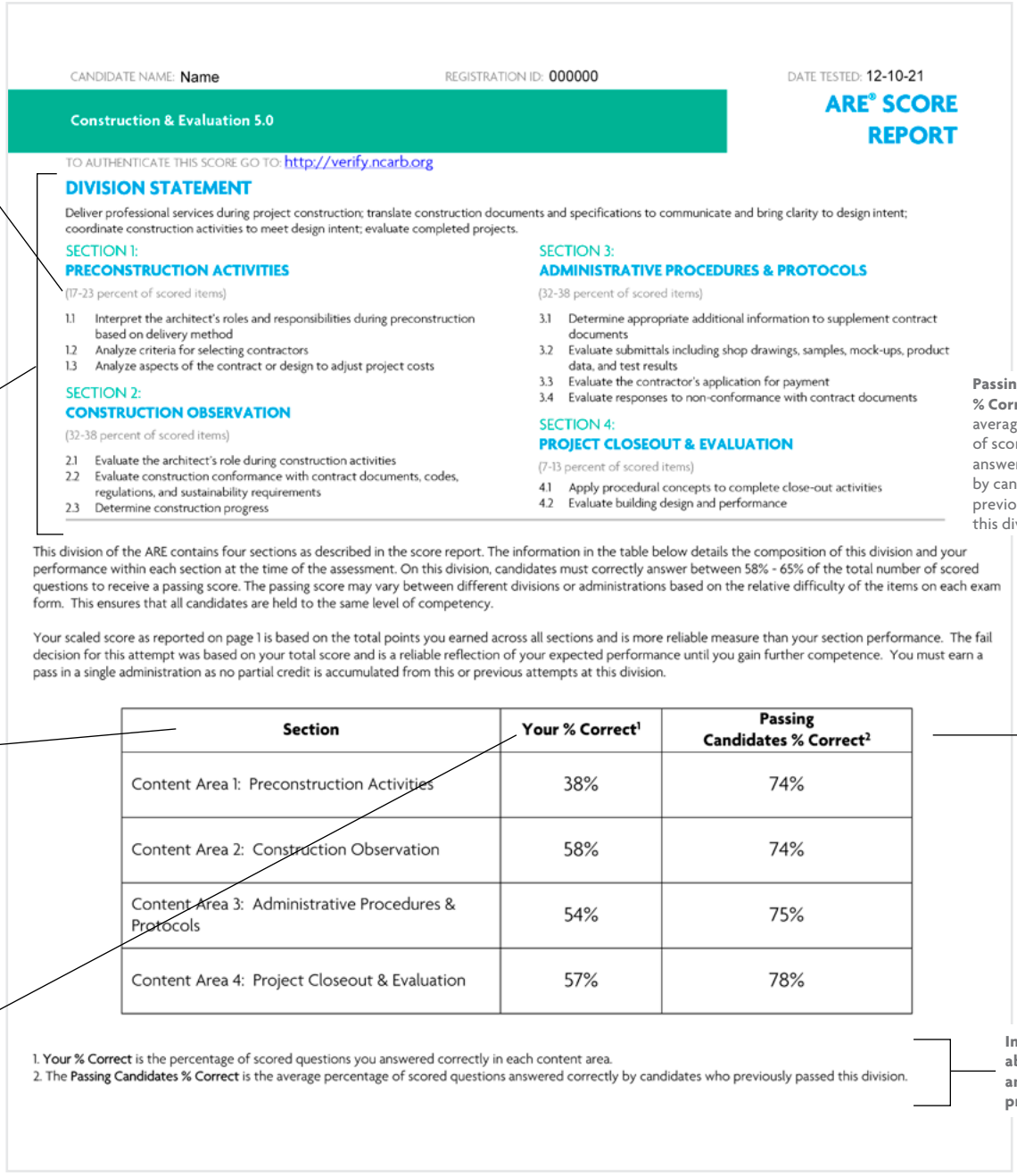
This is how long you have left to complete remaining divisions before your oldest passing score expires.

These are the expiration dates for each division you've passed.

DIVISION CONTENT AND FEEDBACK

On the top half of the second page of your score report, you'll see a description of the sections assessed within the division. On failing score reports, these descriptions correspond with percentage-based performance feedback provided at the bottom half of the page. If you fail, use the feedback to guide your preparation for your retest. The feedback chart is not provided on passing score reports.

A pass/fail decision on an ARE division is determined by the total number of items answered correctly across all sections and is not based on individual performance within each section.



CANDIDATE NAME: Name REGISTRATION ID: 000000 DATE TESTED: 12-10-21

Construction & Evaluation 5.0

ARE® SCORE REPORT

TO AUTHENTICATE THIS SCORE GO TO: http://verify.ncarb.org

DIVISION STATEMENT

Deliver professional services during project construction; translate construction documents and specifications to communicate and bring clarity to design intent; coordinate construction activities to meet design intent; evaluate completed projects.

SECTION 1:
PRECONSTRUCTION ACTIVITIES
(17-23 percent of scored items)

1.1 Interpret the architect's roles and responsibilities during preconstruction based on delivery method
1.2 Analyze criteria for selecting contractors
1.3 Analyze aspects of the contract or design to adjust project costs

SECTION 2:
CONSTRUCTION OBSERVATION
(32-38 percent of scored items)

2.1 Evaluate the architect's role during construction activities
2.2 Evaluate construction conformance with contract documents, codes, regulations, and sustainability requirements
2.3 Determine construction progress

SECTION 3:
ADMINISTRATIVE PROCEDURES & PROTOCOLS
(32-38 percent of scored items)

3.1 Determine appropriate additional information to supplement contract documents
3.2 Evaluate submittals including shop drawings, samples, mock-ups, product data, and test results
3.3 Evaluate the contractor's application for payment
3.4 Evaluate responses to non-conformance with contract documents

SECTION 4:
PROJECT CLOSEOUT & EVALUATION
(7-13 percent of scored items)

4.1 Apply procedural concepts to complete close-out activities
4.2 Evaluate building design and performance

This division of the ARE contains four sections as described in the score report. The information in the table below details the composition of this division and your performance within each section at the time of the assessment. On this division, candidates must correctly answer between 58% - 65% of the total number of scored questions to receive a passing score. The passing score may vary between different divisions or administrations based on the relative difficulty of the items on each exam form. This ensures that all candidates are held to the same level of competency.

Your scaled score as reported on page 1 is based on the total points you earned across all sections and is more reliable measure than your section performance. The fail decision for this attempt was based on your total score and is a reliable reflection of your expected performance until you gain further competence. You must earn a pass in a single administration as no partial credit is accumulated from this or previous attempts at this division.

Section	Your % Correct[1]	Passing Candidates % Correct[2]
Content Area 1: Preconstruction Activities	38%	74%
Content Area 2: Construction Observation	58%	74%
Content Area 3: Administrative Procedures & Protocols	54%	75%
Content Area 4: Project Closeout & Evaluation	57%	78%

1. **Your % Correct** is the percentage of scored questions you answered correctly in each content area.
2. The **Passing Candidates % Correct** is the average percentage of scored questions answered correctly by candidates who previously passed this division.

The range is the percentage a section is worth toward determing your overall division score.

This information describes the sections tested in this division. These sections are also listed in the chart below.

Passing Candidates % Correct is the average percentage of scored questions answered correctly by candidates who previously passed this division.

The information in the table details the composition of this division and your performance within each area.

Your % Correct is the percentage of scored questions you answered correctly in each content area.

Information about feedback and scoring is provided here.

Sharing Your Score

NCARB recognizes your right to control any personal information that NCARB (or its third-party service providers) maintain. NCARB policy is designed to safeguard this information from unauthorized disclosure. To protect your right to control score distribution, NCARB will only release your score reports under two circumstances:

1) **NCARB will release your score reports to the board of architecture where you are seeking licensure.** A board of architecture may reserve the right to cancel one or more of your test scores, if, in its sole opinion, there is any reason to question its validity.

2) **NCARB may release test scores for use in research studies or under compulsion of legal processes**. In the case of research studies, NCARB will ensure that your anonymity is preserved.

The Passing Standard

Passing or failing the ARE depends solely on your level of performance in relation to the established point representing entry-level competence. Careful judgment has been exercised in setting the passing standards for all divisions of the ARE. The passing scores are the same for every board of architecture and are not affected by the number of people who pass or fail each division of the examination. There is no fixed percentage of candidates who pass or fail the ARE.

ARE Scoring

ITEM SCORING

Each item, regardless of item type, is worth one point and is scored as either correct or incorrect. There is no partial credit for completing just part of an item correctly. You'll earn a point if you answer correctly, but you won't lose a point if you answer incorrectly. Because of this, you should answer every question presented. If you are not sure of the correct answer, make your best guess and/or mark the question for later review. All unanswered questions will be counted as incorrect responses.

Every division includes some pretest items, which do not count toward your score. The number of pretest items per division ranges from 6-9, and they're randomly scattered throughout each exam division.

EXAM SCORING

Each division of the ARE has a minimum score, or cut score, that must be met in order to pass. Your total score is determined by adding up the points earned for all correctly answered items, excluding pretest items.

If your score is equal to or greater than the cut score established for the division you are taking, you'll receive a passing score. If your score is less than the cut score, you'll receive a failing score. Your score is based on your performance across the entire division, not section by section. If you do poorly in one section, it's still possible to pass by doing well in other sections.

After an Unsuccessful Attempt

In the event you do not pass a division of the ARE, a new eligibility to test on that division will be created based on the rules of your jurisdiction. Failing score reports will contain feedback on your performance on page two of the score report identifying areas of relative strength and weakness.

- **You can retake a failed division of the ARE as soon as 60 days after the previous attempt of that division.**
- **You may only take the same division of the ARE three (3) times within any 12-month time frame.**

SCORE VERIFICATION

Any candidate can request a score verification, which will involve the review of your performance on all questions by NCARB staff. The process will verify that the score and feedback on your score report accurately represent your performance on the division.

You can request a score verification of a failed division up to 60 days from the date your test was administered by contacting NCARB. The fee for a score verification is $100. If NCARB determines that the score or feedback reported to you was not accurate, NCARB will refund your score verification fee.

REVIEW AND CHALLENGE

Unlike a score verification, the exam review process is conducted by your jurisdiction's board of architecture. You will have the opportunity to review the question(s) you missed but won't receive the correct answers or any explanations.

You may only initiate the review process if your board of architecture permits reviews of failed divisions. It is at the sole discretion of each board of architecture whether to administer the review process.

If you wish to pursue the review process, keep in mind the following information:

- **Immediately contact your board of architecture to better understand the procedures and fees involved.** NCARB charges a $300 fee to review a failed exam. Your board may charge additional fees. The application for review and the review fee must be received by NCARB within four months of the administration of your test, and the review process must be completed within six months of your test date.
- Only those questions you answered incorrectly can be reviewed. The correct answer will not be revealed.
- You may only challenge a question answered incorrectly if your board of architecture allows challenges and appeals. Your challenge will be forwarded to NCARB for review and response.
- **NCARB Review:** If there is a successful challenge to a question(s) on your exam that has been determined by NCARB through the NCARB-facilitated review/challenge process to change your score from fail to pass, NCARB will recognize the new score for the purpose of NCARB certification.
- **State Review:** If your board of architecture (or a court with jurisdiction) changes your score from fail to pass outside of the NCARB-facilitated review/challenge process, ONLY that jurisdiction is required to accept the new score, and NCARB will not recognize the new score for purposes of NCARB certification.

REPORTING TEST CONCERNS

If you have concerns about your test, do not wait to receive your test results before expressing your concerns. NCARB can only respond to complaints received within 15 days of your test date. You must send your complaint to NCARB in writing via the contact form. **PLEASE NOTE: The filing of a report by the test center administrator or online proctor does not satisfy the requirements of notifying NCARB directly.**

Inquiries About Specific Exam Questions

NCARB employs extensive quality control procedures throughout the development of the ARE. However, candidates may encounter typographical errors or flawed questions on rare occasions. If you suspect an error in a specific question, write to NCARB after taking the test. In your correspondence, include:

- The name of the division
- The test date
- The specific concern(s) about the question

You are not permitted to copy the question before leaving the test center or completing your online exam and are not expected to recreate the entire question in your correspondence. NCARB will review the question, and you will be notified of the findings. The correct answer will not be revealed.

EXAM SECURITY AND CANDIDATE MISCONDUCT

Exam Security

To ensure the integrity of the ARE, specific security measures are enforced during the administration of your examination. You will be observed at all times while taking the examination. This may include direct observation by test center staff or online proctors, as well as audio and video recording of your examination session.

Waiting areas at the test center are for candidates only. Anyone who accompanies you to the test center will not be permitted to wait in the test center or contact you while you are taking the examination. During an online-proctored test, friends or relatives are not permitted to contact you or enter your secure testing area.

ARE Candidate Agreement

The ARE not only ensures the public's health, safety, and welfare, but also affirms that you and other licensure candidates have the required knowledge and skills to competently practice architecture. To maintain the exam's security, all candidates must read, understand, and accept the ARE Candidate Agreement prior to scheduling an exam appointment.

By taking divisions of the ARE, you are personally responsible for maintaining the confidentiality of all information relating to the exam. Disclosure of exam content in any manner is prohibited, including but not limited to, discussing exam content with family, friends, other examinees, study groups, and test preparation providers. This agreement also covers online forums and chat rooms, mailing list servers, websites, etc.

At the start of your exam administration, you are required to reaffirm that you understand and accept the ARE Candidate Agreement in order to proceed with your exam. The following text will be provided to you, summarizing the key aspects of the ARE Candidate Agreement:

> *I reaffirm that the information given in my NCARB Record is true, correct, and complete to the best of my knowledge. By clicking "I Reaffirm," I confirm my agreement to abide by the ARE Candidate Agreement ("Agreement"), which is a binding agreement between me and the National Council of Architectural Registration Boards (NCARB).*
>
> - *I agree to conduct myself professionally, civilly, and honestly throughout my test administration.*
> - *I understand that all ARE content is confidential and may not be copied, reproduced, or disclosed by any means or for any reason.*
> - *I agree that I have not obtained, or sought to obtain, ARE content disclosed by others. I will notify NCARB if I believe I have received exam content disclosed by others.*
> - *I understand that violation of the Agreement may result in disciplinary action against me and/or my civil liability to NCARB. Further action may be taken against me by the registration board responsible for my exam eligibilities.*

At the end of your exam, you will be provided a final reminder of your agreement to abide by the ARE Candidate Agreement. The following text will be provided to you:

> *Remember that you have agreed not to divulge any questions or content on this examination after your exam appointment to any individual or entity, and you have agreed that a violation of the ARE Candidate Agreement can result in NCARB seeking recovery of costs and civil damages in a court of law, which could be substantial, as well as other actions by NCARB and your licensing board.*
>
> *Ensuring the confidentiality of the ARE is important to the Council's core mission of protecting the public health, safety, and welfare. Thank you for your cooperation.*

Any disclosure of ARE content is strictly prohibited and may result in severe disciplinary action, including the suspension of testing privileges and/or the cancellation of scores.

ARE Candidate Misconduct

Candidates who do not follow the ARE Candidate Agreement or other NCARB rules and security measures are subject to NCARB's policy on exam candidate conduct. The NCARB Board of Directors has created the "Policy for the ARE: Exam Candidate Conduct" to establish procedures in the case of candidate misconduct while preparing for, taking, or after taking the ARE.

ARE candidate misconduct includes, but is not limited to, the particular violations described in this document, any other violation of the ARE Candidate Agreement, test center regulations, online proctoring regulations, and any other misconduct, inappropriate behavior, or breach of examination security. The Board reserves the right to impose any sanction it believes appropriate, either more or less than those noted in the policy. Action taken by the NCARB Board of Directors is final and non-appealable. In addition, if the candidate subsequently seeks NCARB certification, the matter will be considered in deciding whether to grant NCARB certification.

In addition to the sanctions described in the "Policy for the ARE: Exam Candidate Conduct," where warranted, NCARB may pursue all legal remedies available to recover monetary damages caused by such conduct and to enjoin violations of its rights with respect to the ARE.

Upon discovery of any exam candidate misconduct in any category, NCARB has the authority to place a "hold" on pending scores and all open exam eligibilities to test and cancel any scheduled exam(s) pending further investigation, review by NCARB's Professional Conduct Committee (PCC), and action by NCARB's Board of Directors if applicable. If no action is taken or only a warning letter is issued, NCARB will reopen any closed eligibilities to test and assist the candidate in rescheduling the canceled exam(s) at no additional cost to the candidate.

EXAM DEVELOPMENT AND MAINTENANCE

How ARE 5.0 Was Created

To ensure the exam measures candidates' knowledge and skills in areas that are relevant to current architectural practice, NCARB bases the ARE on the results of a profession-wide study called an analysis of practice. NCARB last completed an analysis of practice in 2012, and the results were used to create ARE 5.0. Subject-matter experts used the *NCARB 2012 Practice Analysis of Architecture* to determine the divisions, sections, and objectives needed to evaluate licensure candidates' ability to competently and independently practice architecture.

Development of ARE 5.0

The six ARE divisions are broken down into four to five sections, with each section focusing on a content area. The sections are further divided into objectives, which address the skills and knowledge (also called competencies) identified in the *NCARB 2012 Practice Analysis of Architecture*. Each objective describes one of those competencies. Every item you will see on an ARE 5.0 division is authored to assess competence in the skill or knowledge area described in an objective.

Exam items are authored by volunteer architects. These volunteers are professionals who have been through the licensure process but who are not employed by NCARB. Over 100 volunteer architects gather every year to write and review new items for ARE 5.0 in NCARB's examination development committees. The authoring of each item follows the same multi-step process:

1) First, a volunteer architect item writer will use the *ARE 5.0 Guidelines*, which outlines the structure and content of the exam, to make sure that items being authored assess a competency that has an impact on the health, safety, and welfare of the public. The items often draw directly from the author's experience in practice. In many of the items, you'll find terms like "southeastern United States" and "XYZ Architecture." That's because the original place and firm names have been scrubbed from the real-life situations experienced by the author. Item authors are also required to make sure that the information needed to correctly answer the item can be found in a recognized architectural reference, such as *The Architect's Handbook of Professional Practice; Sun, Wind, and Light;* or *Mechanical and Electrical Equipment for Buildings*.

2) Once the item has been written, a volunteer architect (called a coordinator) who has experience authoring exam items will provide feedback on whether the item is ready to move forward in the development process. If it isn't, the item will be sent back to the author, and they will be required to incorporate the feedback given by the coordinator.

3) If the coordinator decides that the item is well-crafted and successfully assesses an objective, the item will be edited by a professional NCARB editor for all non-content-related aspects of the item, including grammar, spelling, form, style, and conformance to ARE item writing standards.

4) Next, the items are assessed for validity, relevance, and inarguable correctness by a workgroup of 5-10 architects in a workshop setting called item review. The workgroup will do one of the following for each item up for review:

    a) Move the item forward to be placed on the exam as a pretest item.

    b) Recommend minor suggestions for improvement that can be made during the item review process and then move the item forward to be placed on the exam as a pretest item.

    c) Recommend major suggestions for improvement to be completed prior to the next item review.

    d) Determine that the item is confusing, flawed, difficult, or irrelevant and has no place on the exam.

5) If the item is ready for placement, a professional NCARB editor will give the item a final review before it is ready for pretesting.

6) After the ARE 5.0 Item Development Subcommittee finishes writing, reviewing, and editing items, NCARB's third-party psychometricians (or testing experts) assemble an appropriate combination of items for each division of the exam. The psychometricians use an NCARB Board-approved set of guidelines to make sure that the proper balance of content is tested on each exam. These guidelines make it so that each section and objective aren't under- or over-represented. The psychometricians also use statistical analyses of items to make sure that an exam isn't made of too many difficult or easy items.

7) After the psychometricians assemble the forms, another group of volunteer architects on the ARE 5.0 Forms Assembly Subcommittee review the items grouped together on a given exam to make sure that they don't test the exact same content or provide clues as to how to answer other items.

ARE 5.0 CASE STUDY DEVELOPMENT

Between volunteer architects and NCARB staff, 15-20 people are involved in the development of each case study item. NCARB's Case Study Subcommittee creates the case studies, where five volunteer architects and two NCARB staff members are involved in developing and editing each case study. NCARB's ARE 5.0 Item Development Subcommittee then uses the case studies to write items, where another five to ten architects and three NCARB staff members are involved in the writing, development, and editing of the items.

You will notice that case studies seem to feature generic place names and firm names. This is intentional. Volunteer architects develop these case studies using the specifics and resources from real-life projects that they've designed. Unique names and places are substituted with generic ones to protect the privacy of firms and clients. What you should know, though, is that the projects and scenarios presented in case studies are far from generic—they actually happened in the world of architectural practice.

Maintenance of ARE 5.0

Items that are ready for placement on the exam spend roughly one year as an unscored, or pretest, item. Between six and nine of the items on each exam division are unscored—whether you get the items wrong or right, they won't count for or against your score. However, you won't know which items are unscored. The reason for all these measures is to make sure that the items on ARE 5.0 exams are statistically and psychometrically valid. NCARB only wants items on the exam that are effective in determining whether a candidate is competent in a particular skill or knowledge area. Items must prove they are effective before they become scored items on the exam.

Psychometricians evaluate the performance of exam items every year, and some of the unscored items are statistically flagged as being poor indicators of competence. These items are then reviewed by another 5-10 volunteer architects, who will make a final determination as to whether the statistical flag is warranted. They will once again assess the content and construction of the item and decide if it should be retired, modified, or allowed to return to the exam as a scored item.

Psychometricians also monitor scored items every year. If their performance dips below an acceptable standard, they are also flagged and reviewed.

EXAM STRUCTURE

Delivery Format

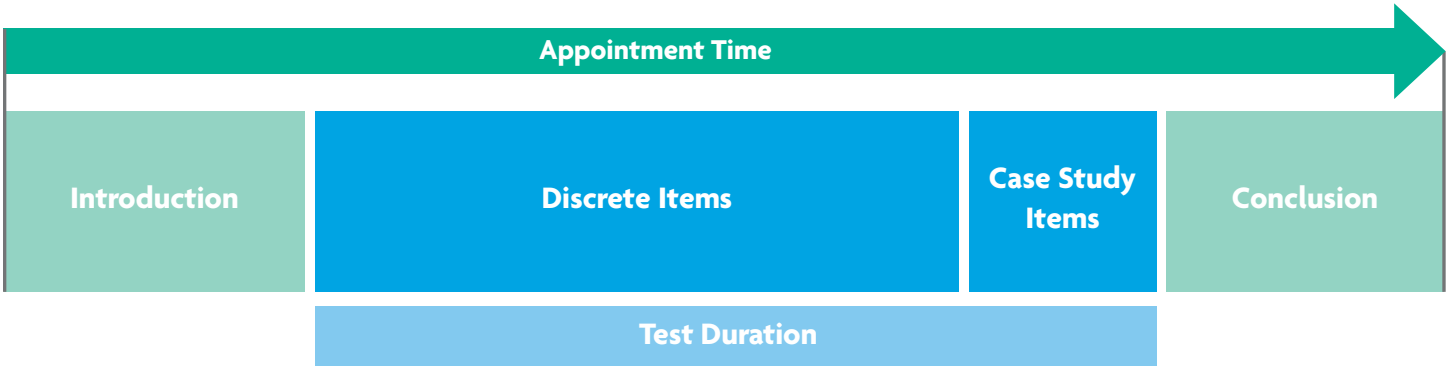
All six divisions of ARE 5.0 are organized the same way. Each exam appointment will begin with a few introductory screens, including a set of final testing reminders. Once you complete the introduction, the content portion of your exam will begin.

The content portion of each division includes standalone questions and case study questions. Standalone questions are located at the beginning of the content portion, and case studies are located at the end. You don't need to answer questions in a specific order, so you may navigate directly to a case study whenever you feel most comfortable by using the "Exam Summary" tool.

Your exam appointment will conclude with a reminder screen and the option to view provisional feedback on your overall exam performance. Typically, you will receive your official exam score within a week of your appointment.

Optional break time is offered during each exam administration. This time can be used for a few short breaks or one long break. You can begin a break at any time. **However, after returning from a break, you will not be allowed to go back to any of the items you have already viewed, regardless of whether you have answered them or not. They will be locked.**

Prior to scheduling your exam, please take the ARE 5.0 Practice Exams, which can be accessed through the Practice Exam Dashboard in your NCARB Record, to familiarize yourself with the structure and delivery of the ARE.



ARE 5.0 Division Structure

Each division's content is broken down into 4-5 topic-based sections. The sections are further divided into objectives. Each objective addresses a specific knowledge area or skill. Learn how NCARB determines what should be included on the exam.

DIVISION	SECTIONS	OBJECTIVES
Practice Management	4	12
Project Management	5	17
Programming & Analysis	4	16
Project Planning & Design	5	17
Project Development & Documentation	5	17
Construction & Evaluation	4	12

Cognitive Levels

Every ARE objective is tied to a certain type of mental operation or thinking skill, which is called the cognitive level. ARE 5.0 uses two cognitive levels, and every ARE item is authored to address both the objective and one of the following cognitive levels paired with that objective:

1) **Understand/Apply (U/A):** These items will require you to understand a concept and apply it to a scenario.

2) **Analyze/Evaluate (A/E):** These items will ask you to analyze a set of concepts or factors and make an evaluative judgment.

Understand/Apply: deduction of meaning from information, demonstration of comprehension of concepts or processes, application of processes or procedures in familiar or unfamiliar situations.

- Requires conceptual understanding to answer
- Focuses on standard, straight-forward application of knowledge
- May require the employment of a mathematical formula

Analyze/Evaluate: reduction of overall concept into component parts, determination of how parts relate to one another and to the overall structure, arrival at judgments based on given criteria.

- Requires integration of new information with existing information
- May require the prioritization of information
- Often focuses on non-standard situations

COGNITIVE LEVELS NOT USED ON THE ARE

While ARE 5.0 uses only the U/A and A/E cognitive levels, there are two other types of cognitive levels: the "Remember" level and the "Create" level. The "Remember" level only requires rote memorization or simple recall, and questions written at this level only ask for definitions and facts. ***You will not find "Remember" level items on the ARE****. Nor will you find items that ask you to use the highest cognitive level, "Create." Items that require the use of these cognitive levels are not appropriate for the ARE's purpose of assessing competence in a newly licensed architect.*

Example of a U/A-Level Item

Below you will find an example of a U/A-level item and a rationale explaining why it is at the U/A level.

U/A SAMPLE ITEM

A residential development is composed of large building lots. On-site sewage disposal for each lot is permitted subject to the suitability of the soil.

Which type of soil investigation should the architect request?

- ● Percolation test
- ❍ Evaporation test
- ❍ Test for soil alkalinity
- ❍ Test for soil density

U/A LEVEL

RATIONALE

This is a U/A-level item because you are required to **understand** *the purpose of a percolation test. After reading the item, you should recognize that the scenario being described is a standard-use situation for a percolation test. In short, you will need to* **apply** *your understanding of a percolation test to the scenario.*

Example of a A/E-Level Item

Below you will find an example of a A/E-level item and a rationale explaining why it is at the A/E level.

A/E SAMPLE ITEM

A 100% design development cost estimate for a two-story, construction type V-B, three-unit townhouse is completed and comes back higher than expected. The client asks an architect to value engineer the structural design.

What changes should the architect consider as they move forward with construction documentation?

- ● Change from a balloon-framed to a platform-framed structural system.
- ❍ Replace wood stud shear walls with glue-laminated columns.
- ❍ Use prefabricated floor elements instead of a site-assembled floor system.

RATIONALE

This is an A/E-level item because you are required to **analyze** the elements of the project, including construction type, number of stories, and the purpose of the structure, along with the various changes proposed to construction elements in the response options. After your analysis, you will then need to **evaluate** which one of the construction elements would be appropriate to exchange considering the given project information, and of the appropriate exchanges, which one will realize the most cost savings.

ARE 5.0 Item Types

Each division of ARE 5.0 uses the following five item types for both the exam's standalone and case study items: multiple choice, check-all-that-apply, quantitative-fill-in-the-blank, hotspot, and drag-and-place. All items are worth one point and there is no partial credit.

MULTIPLE CHOICE

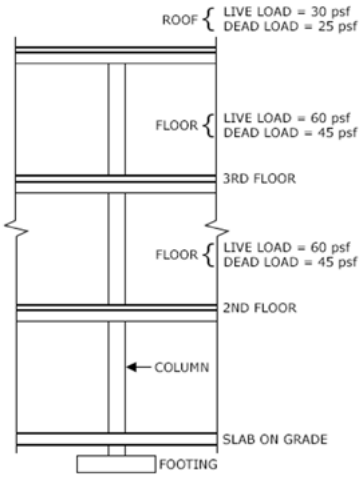
A multiple choice item contains a question followed by either three or four response options. This item type is used when only one correct answer is needed. To respond to this item type, you'll need to select a single response out of the possible response options.

Refer to the exhibit.

The cross section shown indicates an interior column. The tributary area for loading on the column equals 20 feet by 24 feet.

Assuming no live load reductions, which one of the following is the design live load for the footing?

- ❍ 43,200 lb
- ❍ 57,600 lb
- ● 72,000 lb
- ❍ 96,000 lb



TIP

Use the strikethrough tool to cross out incorrect options. You can also use the highlight tool to identify key elements in the question or response options. These tools not only work for multiple choice items, but all item types and even case study scenarios.

CHECK-ALL-THAT-APPLY

A check-all-that-apply item, sometimes called a CATA, is similar to a multiple choice item. The main difference is that this item type allows you to select multiple answers. This item type contains a question followed by a prompt to select between two and four responses out of six possible response options. All correct response options must be selected in order to answer the item correctly. There is no partial credit for selecting only some of the correct response options.

Seven months after substantial completion for a new office building, a building owner contacts an architect to report that mold has been found in a basement utility room. It appears a mechanical exhaust fan has malfunctioned.

In which of the following ways should the architect address this issue? **Check the two that apply.**

- ❑ Submit an additional service request to the owner.
- ■ Meet with the owner to review the building operations.
- ❑ Advise the owner to file a claim for damages.
- ■ Advise the owner to notify the original contractor about the issue.
- ❑ Advise the owner to hire a new contractor to fix the fan.
- ❑ Specify a new fan for the owner to purchase as a replacement.

TIP

All correct response options must be selected to correctly answer the item. Pay close attention to the number of correct responses you'll need to check. CATA items will always tell you the number of correct responses to check in bold type, like this: ***"Check the two that apply."***

QUANTITATIVE-FILL-IN-THE-BLANK

A quantitative-fill-in-the-blank item, sometimes called a QFIB, contains a question followed by an input box. This item type allows you to provide a numerical answer to the question being asked. The appropriate units for the correct answer will be provided as part of the item.

ARCHITECT A

ID	PROJECT NAME	TASK/ROLE	AVERAGE WEEKLY HOURS
01886.01	Westside Community Center	Project Manager	20
02778.06	City View Rehabilitation Clinic	Project Manager	7.5
01994.02	Parkside Apartments	Drawing Review/Redlining	4.5
03020.00	Northview Gymnasium	Responding to RFP	4.5
02001.02	Office Operations	Firm Staffing	2.5
09012.01	Continuing Education	Varies	1

Refer to the exhibit.

Office leadership at an architecture/engineering firm is performing an evaluation of the efficiency of their office and overall effectiveness of each employee.

What is the utilization rate of Architect A?

80 %

TIP

The appropriate units for the correct answer will be provided before or after the input box. Responses for QFIB items can be a whole number, a decimal, or a combination of the two. Be sure to read the question carefully. After some QFIB questions, you will find information that will help you to respond correctly to the item, such as:

- *Some QFIB items will include language instructing you to "Round the answer to the nearest whole number."*
- *Other QFIB items might include the following sub-heading in the body of the item: "Reference Formulas:" This sub-heading will be followed by a mathematical formula. If you see that the item provides a reference formula, know that it must be used in order to correctly answer the item.*

HOTSPOT

A hotspot item contains a question followed by an architectural drawing, photograph, diagram, map, or other image. This item type is used to assess competence graphically. To respond to this item type, you'll need to click on an area or object within the provided image. If your answer is located within the acceptable scoring area, it will be scored as correct. Also, be aware of the following features of hotspot items:

- You will never be required to click on a small, extremely precise area on the image.
- Hotspot items are designed in such a way as to require you to click in an *acceptable scoring area.*

During a construction observation visit to a new townhouse development, an architect reviews the contractor's installation of the roof sheathing.

Click on the material in the photo that contributes to the required fire separation between adjacent townhouses.

TIP

You can change your response by clicking on a different area on the image as many times as you would like. The last area on which you click will be recorded as the answer. A crosshair will appear on whatever area you clicked last. This is the response that will be recorded and scored.

DRAG-AND-PLACE

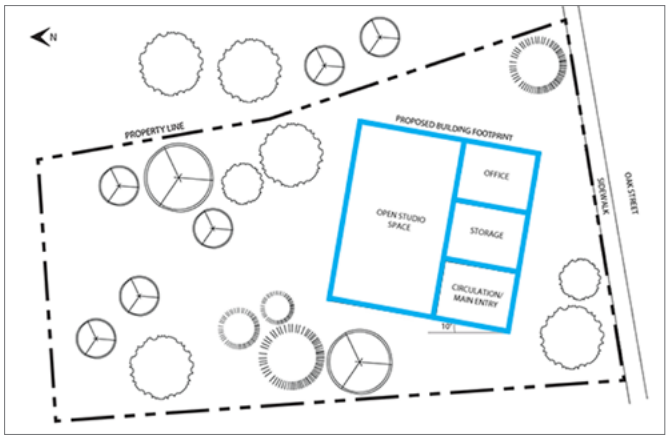
A drag-and-place item contains a question followed by a drawing, photograph, diagram, map, or other image. You will also be presented with a series of tokens along the left side or top of the image. This item type is used to assess competence by requiring a visual solution to a visual problem. To respond to this item type, you'll need to select one or more of the tokens and place them onto the image. If all your tokens are located within the acceptable scoring areas, the item will be scored as correct. You will not receive partial credit for placing some of your tokens correctly. Also, be aware of the following features of drag-and-place items:

- **You may rotate tokens by right clicking on them.** (See next page for instructions.)
- You will never be required to drag a token into or onto a small, extremely precise area on the image.
- Drag-and-place items are designed in such a way as to require you to drag the token into or onto an *acceptable scoring area*.

An architect has been commissioned to design a painting studio in the Southwest region of the United States. The client has provided the following information:

- Daylight must be provided in all spaces.
- The office must receive direct morning sun.
- The open studio space must have a panoramic view of the landscape with limited direct sunlight.
- The storage space must be directly accessible from both the office and open studio space.
- The circulation/main entry space must have a view of Oak Street.

Drag the spaces onto the proposed building footprint to fulfill all client requirements.



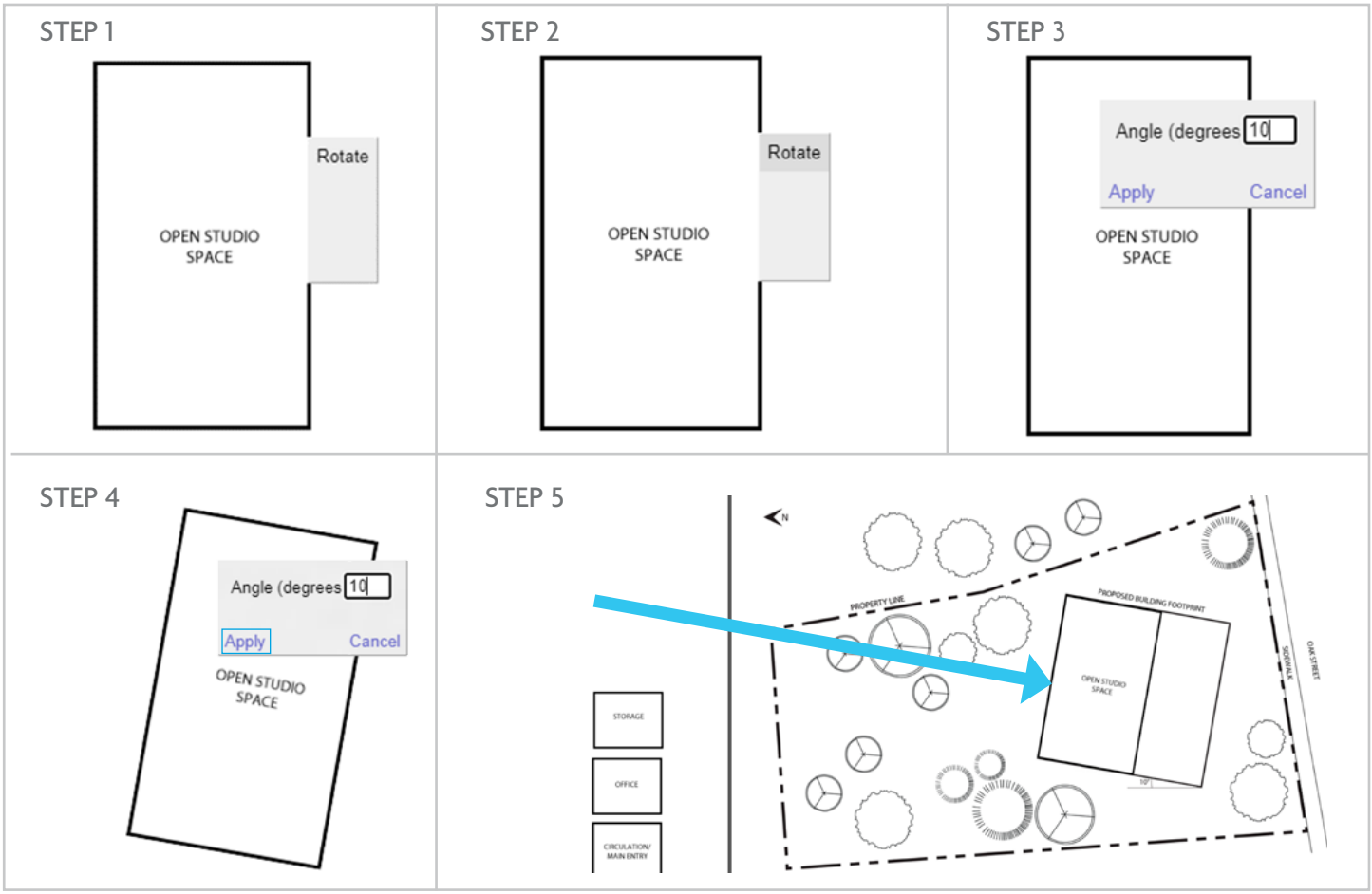
TIP

Some drag-and-place items might not require you to drag and place all the tokens. These items will include an instruction after the question like the following: "Not all tokens will be used." If you do not see this instruction, then all the available tokens must be placed somewhere on the image.

Rotating Drag-and-Place Item Tokens

The sample drag-and-place item above is an example of an item that requires you to rotate tokens. Below you will find step-by-step instruction on how to rotate drag-and-place tokens.

- **Step 1** - In order to rotate a token, it is necessary to right click the token. A gray box will appear.
- **Step 2** - Click "Rotate."
- **Step 3** - A window will appear. Enter the number of degrees you want to rotate the token.
- **Step 4** - Click "Apply." The token will rotate in the number of degrees specified.
- **Step 5** - You will then be free to drag the token onto the image and place it on the appropriate area.



ARE 5.0 Case Studies

ARE 5.0 uses case studies to assess your ability to synthesize multiple pieces of information and apply that information or make an evaluative judgment based on that information to select a correct solution. Case studies represent real-world architectural projects. They are intended to be more similar to day-to-day architectural practice than standalone items, as case study items require consideration of many factors.

A case study is a snapshot of a project in a particular point in time. This information is found in the case study scenario, which provides a description of the case study and other key information. Case studies also include three to six resources. These resources might take the form of code excerpts, AIA contracts, architectural drawings, budgets and schedules, or program requirements. A list of the most common case study resources currently used on the ARE is provided in this document.

Each ARE division will include two case studies. Depending on the division, you will have to answer 10-20 items associated with those two case studies. The scenario and resources within a case study will not change from question to question. Questions do not build on each other based on previous responses, so answering one question incorrectly will not impact your ability to answer the remaining case study questions correctly. You will be able to access all the resources associated with a case study while reviewing any of that case study's items.

TIPS FOR ANSWERING CASE STUDY ITEMS

To correctly answer a case study item, you'll need to be familiar with the scenario and use one to three case study resources provided. Usually, you won't be told which resources you will need to use for each item, so you'll have to infer which case study resources and information might be needed from the context of the item. It's a good idea to familiarize yourself with the scenario and all the resources the first time you encounter a case study. After getting a good sense of the project, you can more quickly assess what resources and information might be needed to correctly answer the items. You can then dig into the details as required by each item.

Case study items are not designed to assess whether you can simply find information in a resource. They will require you to find information and then apply or analyze it. For this reason, it will usually take longer to answer case study items than standalone items. This is accounted for in the duration assigned to each division. Though case study items are located at the end of the exam, you don't have to wait until the end to answer them. By using the "Exam Summary" tool, you can begin answering case study items whenever you wish.

Check out sample case studies within the ARE 5.0 Practice Exams, which can be accessed in the Practice Exam Dashboard within your NCARB Record. Use the exams to practice navigating through the various resources, using the search function and bookmarks, and answering the sample case study items.

HOW TO ANSWER A CASE STUDY ITEM

Here is an example of how case study items rely on the case study's scenario and resources.

EXAMPLE CASE STUDY

Case Study 1: Question 1 of 7

Scenario | Site Plan | Program Elements | Geotechnical Report | Zoning Ordinance | IBC Excerpts

An architecture firm has been selected by a university to design a new Event Center. The purpose of the new Event Center is to provide the university with a flexible space to host a variety of campus events. The primary use of the building is for men's and women's basketball games, although the university would like the flexibility to host other events including women's volleyball, commencement, concerts, featured speakers, and banquets.

The university has developed a program for the Event Center and selected a site near its main suburban campus for the building to be located. The site is bounded by University Drive to the west, a stream to the south, a sidewalk and parking lot to the north, and a service road to the east.

The client has provided the following general information about the project to the architect:

- Programmed building area - 72,350 NSF / 108,525 GSF
- The campus is located in the Northeastern United States (climate zone 5).
- Visitors to the Event Center must be served by the customary amenities typically found in assembly facilities including a main concourse, public restrooms, concessions, and retail.
- Most buildings on the campus use brick as the primary exterior material. Secondary materials include both precast concrete and metal panel. The university would like to create a consistent exterior feel for all buildings on the campus.
- The Event Center should have easy pedestrian access from University Drive.
- Sustainability is a core value of the university.
- All off-street parking for the Event Center will be located on a neighboring site.
- The Event Center must be fully sprinklered.
- A smoke evacuation system must be provided for the main event space and main concourse.
- The heritage trees located on the northern boundary of the site must remain undisturbed.
- The wetland area must remain undisturbed.
- The existing buildings located on the site will be demolished.

The following resources are available for your reference:

Site Plan, showing existing conditions and boring locations
Program Elements, listing the required spaces, space characteristics, and adjacencies
Geotechnical Report,containing excerpts from the geotechnical report
Zoning Ordinance, containing excerpts from the zoning ordinance
IBC Excerpts, containing excerpts from the building code

EXAMPLE CASE STUDY ITEM

What is the minimum number of off-street parking spaces required for the new Event Center?

1,250 Parking Spaces

The correct answer to this item is 1,250 parking spaces. To arrive at this answer, you should familiarize yourself with the case study scenario. The scenario tells you that the project involves the design of a new Event Center for a university that is 108,525 GSF. Being familiar with this context, you can now approach the item with the minimum necessary understanding to answer it correctly.

The item asks you for the minimum number of off-street parking spaces required for the new Event Center. To answer this item correctly, you'll first need to determine which available resource outlines the parking requirements. The Zoning Ordinance resource provides information regarding land use, setbacks, building massing, and parking. Per Section 4, Off-Street Parking Requirements, a theater, auditorium, arena, or stadium requires one off-street parking space per four seats.

Next, you'll need to determine the number of seats proposed for the new Events Center. The Program Elements resource states the building will include 5,000 fixed spectator seats.

The final step is to divide the number of seats defined in the Program Elements by four since the Zoning Ordinance requires one off-street parking space per four seats. The result of this calculation will tell you that the Event Center requires 1,250 off-street parking spaces.

COMMON CASE STUDY RESOURCES

ARE 5.0 case studies feature many of the same types of resources, regardless of the individual scenario. Below you will find a list of the five most common types of resources used for each division. You will find some resource types in multiple divisions.

Practice Management	Project Management	Programming & Analysis
AIA Contracts	AIA Contracts	ADA Excerpts
Firm Financial Statements	Design & Construction Schedules	ICC Excerpts
Requests For Proposals	Program Requirements	Program Requirements
Staff Labor And Utilization Rates	Project Budgets And Cost Estimates	Site Plans
Staff Resumes	Staff Labor Rates	Zoning Ordinances
Project Planning & Design	**Project Development & Documentation**	**Construction & Evaluation**
ADA Excerpts	ADA Excerpts	AIA Contracts
Architectural Drawings	Architectural Drawings	Architectural Drawings
ICC Excerpts	Consultant Drawings	Design & Construction Schedules
Program Requirements	ICC Experts	Field Reports
Zoning Ordinances	Specifications Excerpts	Specifications Excerpts

EXAM NAVIGATION AND TOOLS

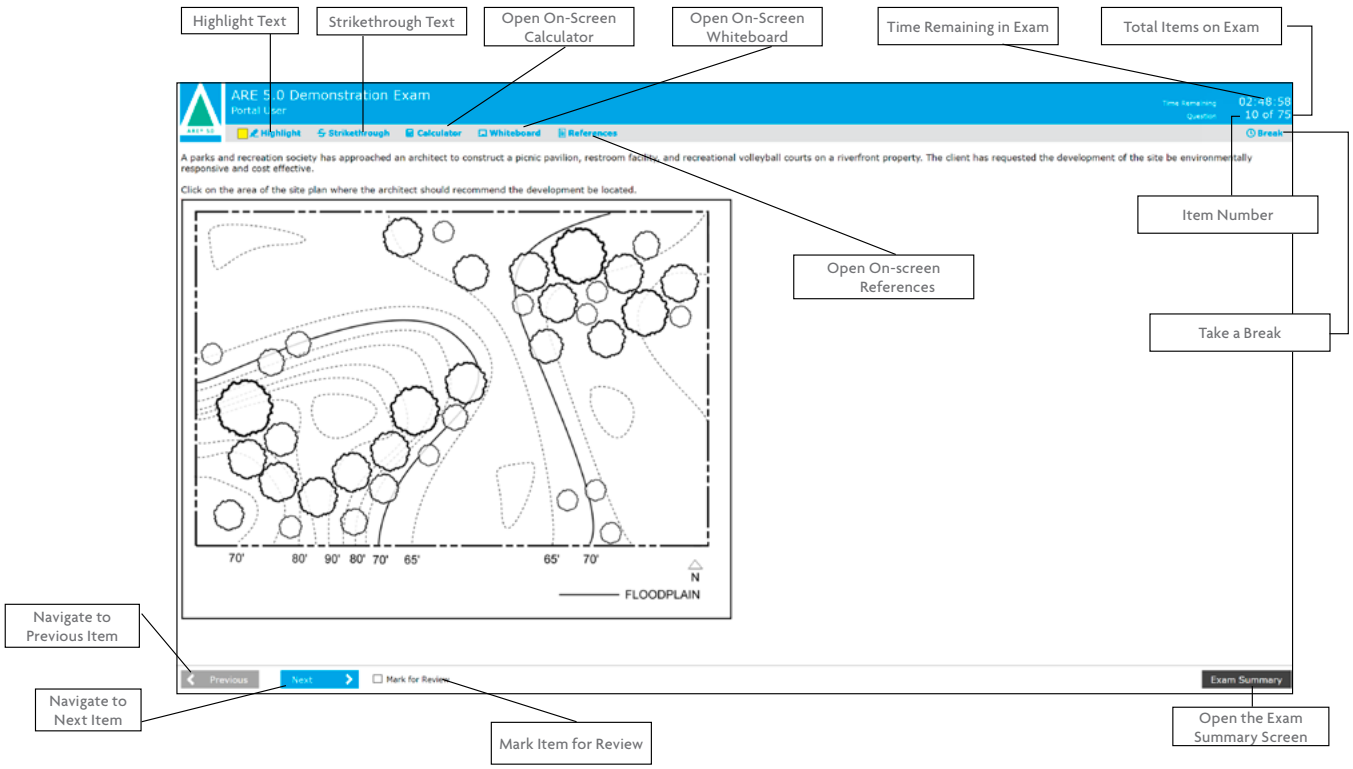
Testing Interface

Within the ARE testing interface, you can navigate between items by clicking the "Next" or "Previous" buttons. If you encounter an item you'd like to answer later or if you want to check your work later, select the "Mark for Review" checkbox at the bottom of your screen. Be sure to return to any marked items before you take a break.

To see the items you have marked for review, click on the "Exam Summary" button in the lower right corner. This will take you to a screen that displays all items, including those marked for review, and allows you to navigate directly to them.

On the top menu bar, there are several tools to assist you throughout your exam. The "Highlight" button allows you to identify useful information within a question or response option. You can also strikethrough text to eliminate information you find distracting by clicking the "Strikethrough" button. You will also have access to an on-screen calculator, whiteboard, and reference formulas throughout your exam.

Optional break time is offered during each exam appointment. You can begin a break at any time by clicking the "Break" button in the upper right corner. A popup message will confirm that you would like to take a break. Once you confirm, your exam time will pause, and a new clock will begin for your break period. When you have completed your break, click "Return to Test" to resume your exam. **When you return from a break, all items that you have already viewed will be locked, including those marked for later review, and you will not be able to view or edit them again. Only items identified as unseen prior to a break will be viewable following a break.**



Exam Summary

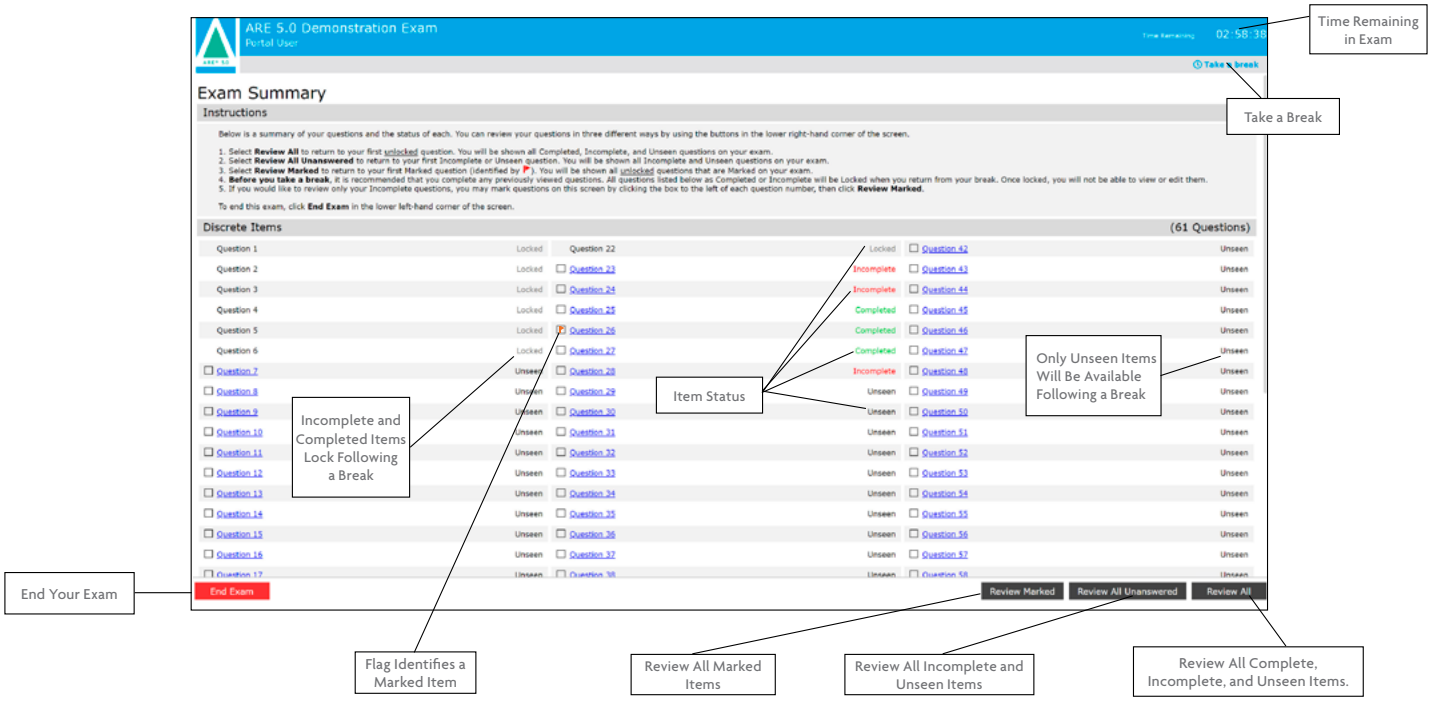
The Exam Summary screen can be accessed at any point during your exam administration by clicking on the "Exam Summary" button located in the lower right corner of the screen. This screen provides a summary of all the items on your exam as well as their status. Items will be assigned one of the four following statuses:

- Locked: Items that you can no longer access because you've taken a break.
- Completed: Items you have seen and answered but that are not yet locked. You can go back and change the responses of these items as long as they remain unlocked.
- Incomplete: Items that you have seen but have not answered and are not yet locked. If you wish to answer these items, do so before taking a break.
- Unseen: Items that you have not yet seen and are not yet locked. You can take a break and still see and answer these items afterward. They will not lock after taking a break.

You can review items from the Exam Summary screen in three different ways by using the buttons in the lower right corner of the screen.

- Click the "Review All" button to return to your first non-locked item. You will be shown all completed, incomplete, and unseen items on your exam.
- Click the "Review All Unanswered" button to return to your first incomplete or unseen item. You will be shown all incomplete and unseen items on your exam.
- Click the "Review Marked" button to return to your first marked item. You will be shown all unlocked items that you've marked for review on your exam.

Exams can only be ended from the Exam Summary screen. Once you are satisfied with all responses, you can end your exam by clicking the "End Exam" button. You will be asked if you want to end your exam or return and continue testing. Once you confirm by clicking "Yes. End Exam and Submit," your test will be submitted for scoring.



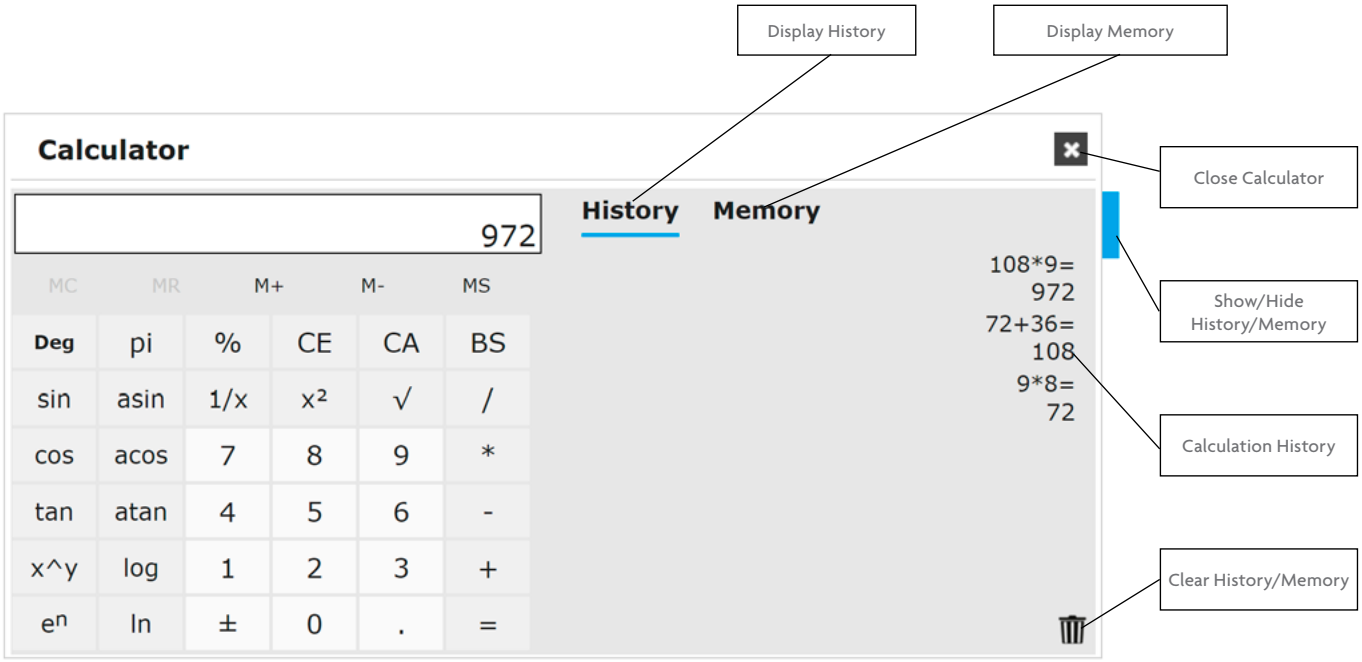
Calculator

ON-SCREEN CALCULATOR

You will be provided with an on-screen calculator throughout your exam administration. The calculator can be opened while viewing an item by clicking the "Calculator" button located on the top menu bar. The calculator provides the functionality required to answer ARE calculation items across all six divisions. When navigating between items, the calculator's history and memory reset each time you view a new item.

PERSONAL CALCULATORS

ARE candidates are **NOT** permitted to use a personal calculator at the test center or during an online-proctored exam administration. Use of a personal calculator during an exam is strictly prohibited and may result in disciplinary action, including the cancellation of exam scores.

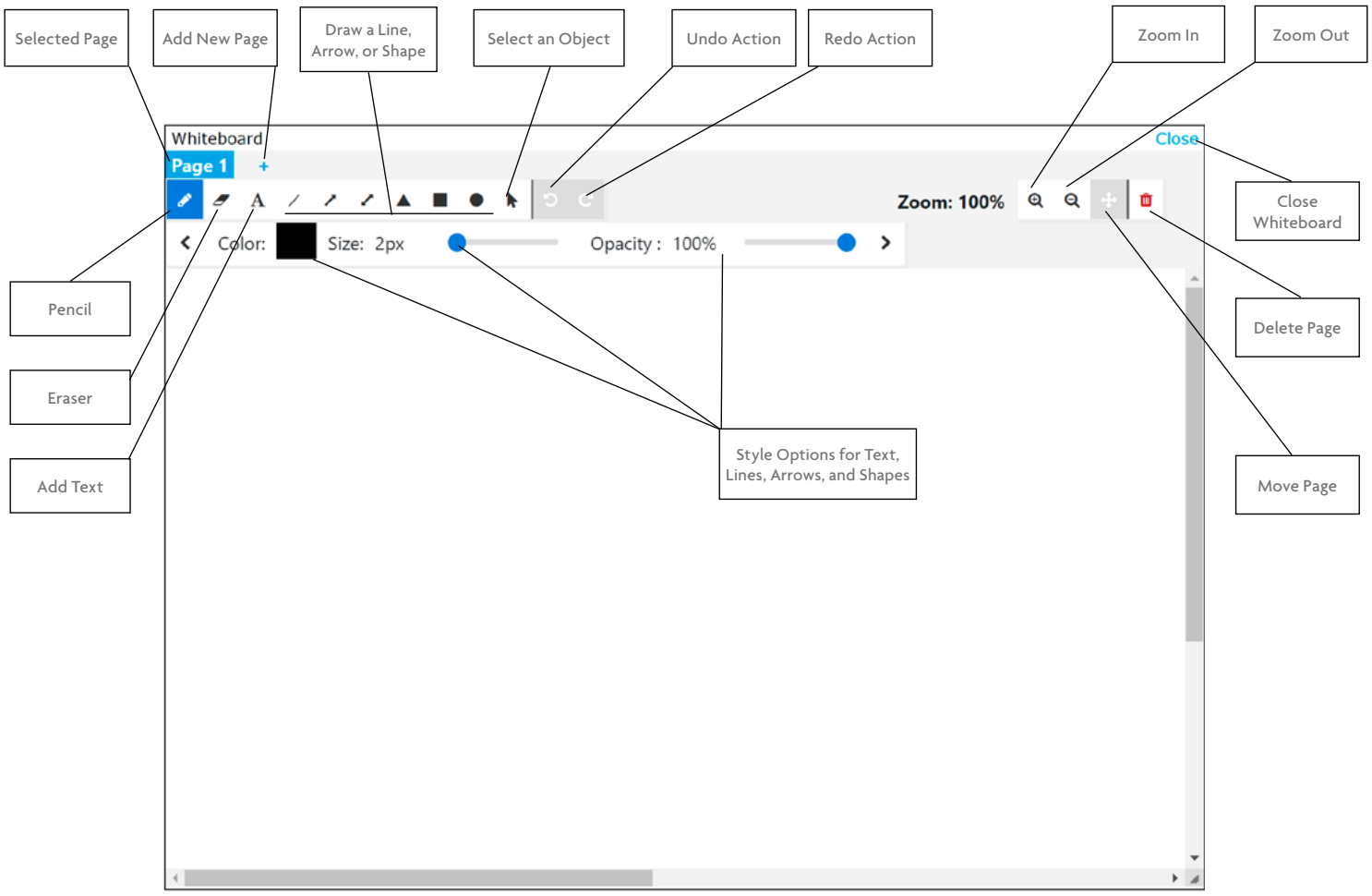


ARE Calculator Buttons & Descriptions	
Button	**Description**
History	Logs all calculations
Memory	Displays values added to the memory
MC	Clear the memory
MR	Recall the value from the memory
M+	Adds number in input box to value in memory
M-	Subtracts number in input box from value in memory
MS	Store the value in memory
Deg	Calculator mode (degree/radian)
pi	Displays pi
%	Defined percentage of a single number
CE	Erase the last value
CA	Reset the calculator
BS	Erase the last digit
sin	Sine function
asin	Arcsine
1/x	1 divided by current value
X^2	Square of current value
√	Square root
/	Divide
cos	Cosine function
acos	Arccosine
*****	Multiply
tan	Tangent function
atan	Arctangent
-	Subtract
X^Y	Current entry raised to power of next entry
log	Base 10 logarithm
+	Add
e^n	*e* raised to the power of n
ln	Natural log
±	Change sign
=	Equals

Whiteboard

The whiteboard serves as your virtual scratch paper when taking an ARE division. Once you've navigated to an item on your exam, you can open the whiteboard by clicking the "Whiteboard" button on the top menu bar. Information added to the whiteboard is saved and viewable throughout your exam administration, including when returning from a break.

ARE candidates are **NOT** permitted to use physical scratch paper at the test center or during an online-proctored exam administration. Use of physical scratch paper during an exam is strictly prohibited and may result in disciplinary action, including the cancellation of exam scores.



FREEHAND SHAPES

To draw a freehand shape on the whiteboard, simply select the "Pencil" tool, move your mouse to the whiteboard area, and hold down your mouse's single click option. You'll have the option to change the color, size, and opacity of the line. To erase pencil lines on the whiteboard, use the eraser tool.

TEXT

To type, click the "Draw a text" button, place the text box on the whiteboard, and type using your keyboard. With the text selected, you can change the font family, color, size, style, and opacity. To delete text, right click on the text box and select "Remove." Text can also be deleted using the eraser tool.

SHAPES, ARROWS, AND LINES

To draw a shape, arrow, or line, click the associated button, move your mouse to the whiteboard area, and hold down your mouse's single click option. You can activate the ortho functionality by holding down the shift key while placing an object. You'll also have the option to change the color, border, opacity, and width of objects. To delete an object, right click on it and select "Remove." Objects can also be deleted using the eraser tool.

PAGES

The whiteboard allows you to create multiple pages on which to work by clicking the "+" button next to the page designations. You may need to make your whiteboard larger to accommodate the number of tabs if you add several pages. Pages are saved and viewable throughout your exam administration, including when returning from a break. To delete a page, click the trash can symbol in the upper right corner of the whiteboard.

ZOOMING

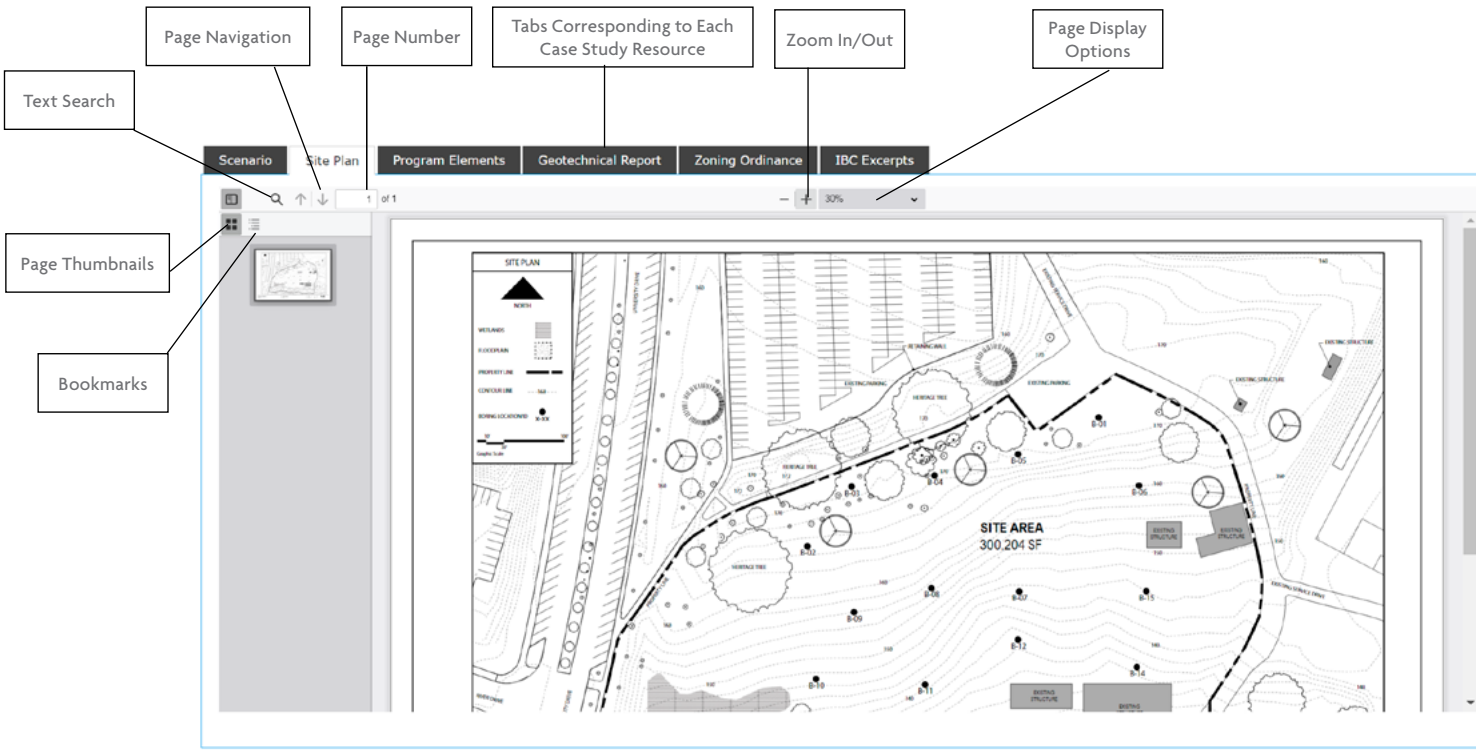
You can zoom in and out of the whiteboard by using the zoom buttons in the upper right corner. If you need to increase the space available on a page or canvas, expand the window size of your whiteboard or create a new page.

UNDO/REDO ACTION

You can undo your last action within the whiteboard by clicking the "Undo" button. If you would like to redo an action within the whiteboard, simply click the "Redo" button.

Case Study Navigation

All ARE 5.0 case studies are formatted the same way. The resources for each case study are displayed as PDFs and include various tools to assist you in navigating the documents. These include a text search function, which allows you to type a word or words and then navigate to the areas of the resource that include it. The bookmarks and page thumbnails will help you navigate through longer resources more efficiently. The zoom and page display functions enable you to see the resources in detail.



EXAM CONTENT

NCARB used the results of the *NCARB 2012 Practice Analysis of Architecture* when developing ARE 5.0 to determine the critical knowledge and skills an architect must perform competently. These knowledge and skills were organized into **six practice-based divisions:**

- **PcM** Practice Management
- **PjM** Project Management
- **PA** Programming & Analysis
- **PPD** Project Planning & Design
- **PDD** Project Development & Documentation
- **CE** Construction & Evaluation

Each division is broken down into multiple sections, and each section has objectives on which candidates will be assessed. All of the questions on an ARE division are authored to assess candidates based on the objectives in that division. Keep in mind that each of the objectives in a division are paired with a cognitive level appropriate for the type of mental functioning that the objective might require in practice. Every question on the ARE is authored to address one objective and one cognitive level.

Practice Management (PcM)

This division will assess objectives related to the management of architectural practice, including professional ethics, fiduciary responsibilities, and the regulations governing the practice of architecture. The division will focus on issues related to pre-contract tasks including negotiation, human resource management, and consultant development. Candidates must demonstrate an understanding of and abilities in business structure, business development, and asset development and protection.

Practice Management

DIVISION DETAILS

TOTAL ITEMS	SCORED ITEMS	PRETEST ITEMS	NUMBER OF CASE STUDIES	NUMBER OF CASE STUDY ITEMS	TEST DURATION	OPTIONAL BREAK DURATION	TOTAL APPOINTMENT DURATION*
65	59	6	2	10-14	2 hr 40 min	30 min	3 hr 20 min

**Appointments allow for introductory screens, optional break time, and closing screens. Pretest items don't count against a candidate's final score.*

This division will test a candidate's ability to protect the public's health, safety, and welfare by:

- Applying competent delivery of professional architectural services
- Applying the laws and regulations of architectural practice
- Evaluating legal, ethical, and contractual standards in the performance of architectural tasks

The 65 items will assess you on four sections related to Practice Management. The number of items from each section will vary based on the targeted percentage of items within each section.

SECTION DETAILS

SECTIONS	EXPECTED NUMBER OF ITEMS	TARGET PERCENTAGE*
SECTION 1: Business Operations	13-17	20-26%
SECTION 2: Finances, Risk, & Development of Practice	19-23	29-35%
SECTION 3: Practice-Wide Delivery of Services	14-18	22-28%
SECTION 4: Practice Methodologies	11-15	17-23%

**The percentages shown for each section and objective represent a typical form of this division. The specific form you experience may vary slightly, as adjustments are made from form to form to balance factors such as overall form level of difficulty and average time to answer the assembled items.*

PcM SECTION 1

Business Operations

In this section you will need to understand that running a business requires attention to staffing, regulations, insurance, ethics, and the appropriate Standard of Care.

OBJECTIVE 1.1 (8-12%)

Assess resources within the practice (A/E)

You will need to analyze the staffing needs of a practice and recommend criteria and protocols for hiring, staffing assignments, staff evaluations, staff scheduling, and professional development. You will also need to evaluate capital expenditures, such as hardware, software, or training. These are items that support a firm's current business model or allow a firm to expand into a new practice area, evolve to offer more environmental design, or address other changing needs.

OBJECTIVE 1.2 (4-8%)

Apply the regulations and requirements governing the work environment (U/A)

You will need to demonstrate your understanding of laws, regulations, and insurance that apply to running a practice, including health insurance, worker's compensation, general liability, and labor laws.

OBJECTIVE 1.3 (2-6%)

Apply ethical standards to comply with accepted principles within a given situation (U/A)

You will determine the appropriate responses to given situations which demonstrate your understanding of laws, rules of conduct, and ethics in responding to client requests and business practices. This could include issues such as plagiarism, copyright or intellectual property infringement, exaggeration, and libel or slander.

OBJECTIVE 1.4 (1-5%)

Apply appropriate Standard of Care within a given situation (U/A)

You will need to understand the Standard of Care and its implications on providing professional services, the impact of errors and omissions, the responsibility to appropriately address vulnerabilities and risks associated with climate change, and how to appropriately respond to unknown conditions in order to protect the health, safety, and welfare of the public.

PcM SECTION 2

Finances, Risk, & Development of Practice

This section is about how running and developing a practice requires attention to finances, mitigating risk and liability, and negotiating services and contracts. This is the largest section within the Practice Management division.

OBJECTIVE 2.1 (11-15%)

Evaluate the financial well-being of the practice (A/E)

You will need to be able to analyze financial data, business strategies, and the firm's strategic priorities to identify actions that position the practice appropriately.

OBJECTIVE 2.2 (10-14%)

Identify practice policies and methodologies for risk, legal exposures, and resolutions (U/A)

You will need to understand the implications of various types of projects, client types, and contract terms as they relate to risk, legal exposure, and insurance coverage. The application of conflict resolution and quality management techniques to various situations that arise within a practice is also a necessary component.

OBJECTIVE 2.3 (5-9%)

Select and apply practice strategies for a given business situation and policy (U/A)

You will need to make decisions, and understand the impact of those decisions, related to negotiations of services, contracts, scope creep, and scope adjustments, as well as protecting intellectual property in a given business situation.

PcM SECTION 3

Practice-Wide Delivery of Services

In this section you will need to look at projects in the context of their impact on the overall running of a practice.

OBJECTIVE 3.1 (3-7%)

Analyze and determine response for client services requests (A/E)

One of the most important things you will need to do as an architect is assess the scope of services needed, completeness of requests, public interest conflicts, and fee proposals based on client requests, prior to finalizing a contract with a client.

OBJECTIVE 3.2 (10-14%)

Analyze applicability of contract types and delivery methods (A/E)

You will also need to differentiate between the appropriate types of contracts and agreements, estimate the impact and risk of changes to contracts, and understand the impact of various delivery options for a given project.

OBJECTIVE 3.3 (6-10%)

Determine potential risk and/or reward of a project and its impact on the practice (A/E)

You must be able to evaluate projects to assess their value, liability, risk, opportunity, and anticipated benefit to the practice as a whole.

PcM SECTION 4

Practice Methodologies

In this section you will need to analyze how a practice is structured to achieve its goals and how to coordinate various projects and services within a practice. This section is the smallest of the four sections in the Practice Management division.

OBJECTIVE 4.1 (8-12%)

Analyze the impact of practice methodologies relative to structure and organization of the practice (A/E)

Architects must be able to examine various ways to structure a practice to achieve the firm goals. This requires you to have an understanding of the various business structures and the role evidence-based design plays in order to achieve the firm goals.

OBJECTIVE 4.2 (8-12%)

Evaluate design, coordination, and documentation methodologies for the practice (A/E)

You must also be able to evaluate the impact of various methodologies—such as evidence-based design, integrated project delivery, or phasing—and analyze how these methodologies impact quality control and security throughout all phases of a project.

Project Management (PjM)

This division will assess objectives related to the management of architectural projects, including organizing principles, contract management, and consultant management. The division will focus on issues related to office standards, development of project teams, and overall project control of client, fee, and risk management. Candidates must demonstrate an understanding of and abilities in quality control, project team configuration, and project scheduling. In addition, candidates must demonstrate the ability to establish and deliver project services per contractual requirements in collaboration with consultants.

Project Management

DIVISION DETAILS

TOTAL ITEMS	SCORED ITEMS	PRETEST ITEMS	NUMBER OF CASE STUDIES	NUMBER OF CASE STUDY ITEMS	TEST DURATION	OPTIONAL BREAK DURATION	TOTAL APPOINTMENT DURATION*
75	68	7	2	12-16	3 hr	30 min	3 hr 40 min

**Appointments allow for introductory screens, optional break time, and closing screens. Pretest items don't count toward or against your final score.*

This division will test a candidate's ability to protect the public's health, safety, and welfare by:

- Administering contract requirements and competent delivery of project services
- Organizing a team to design and produce contract documents
- Coordinating project team activities and project budget
- Communicating information to all constituents throughout the project delivery process
- Developing a project schedule that defines tasks and meets milestones

The 75 items will assess you on five sections related to Project Management. The number of items from each section will vary based on the targeted percentage of items within each section.

SECTION DETAILS

SECTIONS	EXPECTED NUMBER OF ITEMS	TARGET PERCENTAGE*
SECTION 1: Resource Management	5-10	7-13%
SECTION 2: Project Work Planning	13-17	17-23%
SECTION 3: Contracts	19-23	25-31%
SECTION 4: Project Execution	13-17	17-23%
SECTION 5: Project Quality Control	14-19	19-25%

**The percentages shown for each section and objective represent a typical form of this division. The specific form you may experience may vary slightly as adjustments are made from form to form to balance factors such as overall form level of difficulty and average time to answer the assembled items.*

PjM SECTION 1

Resource Management

Once you have a signed contract, it's time to determine what resources will be needed to execute the project. In this section, you will need to determine the composition of the project team and how each team member's time will be managed and allocated in order to execute the project.

OBJECTIVE 1.1 (3-7%)

Determine criteria required to assemble team (U/A)

You will need to determine what internal staff and outside consultants will be needed to complete the project and fulfill the contract. This will include understanding fees related to the project and consultants. You will need to anticipate the specific responsibilities of the team being assembled.

OBJECTIVE 1.2 (3-7%)

Assess criteria required to allocate and manage project resources (A/E)

As the project proceeds, you will also need to assess appropriate levels of staffing relative to the project needs and fees. This will require tracking the progress of the project based on personnel, hours, fees, and schedule.

PjM SECTION 2

Project Work Planning

In this section, you will evaluate effective ways to develop and communicate a work plan with the assembled project team in order to complete the project.

OBJECTIVE 2.1 (5-9%)

Develop and maintain project work plan (U/A)

You will need to use resources such as Gantt charts or critical path schedules, to identify key activities and milestones in a project and how they can be achieved. You will also need to be able to modify schedules and work plans to incorporate feedback or changes to the project.

OBJECTIVE 2.2 (5-9%)

Determine criteria required to develop and maintain project schedule (A/E)

Prioritizing tasks and evaluating their impact on a balanced workload is a critical aspect of this section. You will need to assess how outside factors, like client reviews, regulatory submissions, and testing, impact work plans and schedules.

OBJECTIVE 2.3 (4-8%)

Determine appropriate communication to project team – owner, contractor, consultants and internal staff (U/A)

Architects must also determine the type and content of documents needed to communicate during the work planning phase of a project. These include documents such as agendas, meeting minutes, emails, and memos.

PjM SECTION 3

Contracts

In this section, you will analyze the contracts that establish relationships between the architect, owner, contractors, and consultants.

OBJECTIVE 3.1 (10-14%)

Evaluate and verify adherence to owner/architect agreement (A/E)

AIA Document B101 is the primary document in this relationship. With a clear understanding of each article, you should be able to differentiate between basic, supplemental, and additional services; determine requisite billing for each phase; and recognize when a phase is completed. You will need to select the appropriate delivery method based on standard contract requirements.

OBJECTIVE 3.2 (5-9%)

Interpret key elements of, and verify adherence to architect/consultant agreement (U/A)

AIA Document C401 is the primary document in this relationship. You will need to identify contract requirements related to completing a project, additional services, and payment schedules.

OBJECTIVE 3.3 (4-8%)

Interpret key elements of the owner/contractor agreement (U/A)

AIA Documents A101 and A201 are the primary documents for this relationship. You will need to understand the architect's role relative to the owner when working with a contractor across various delivery methods.

OBJECTIVE 3.4 (1-5%)

Interpret key elements of the owner/architect agreement to integrate an owner's consultant's work into the project (U/A)

You will need to understand how an owner's consultant's work affects project deliverables. This requires identifying how to sequence, integrate, and coordinate an owner's consultant's work in the overall project.

PjM SECTION 4

Project Execution

This section assesses management of the project's execution. It is not about the design-related decisions, but rather the necessary administrative procedures throughout the project.

OBJECTIVE 4.1 (3-7%)

Evaluate compliance with construction budget (A/E)

Architects must confirm all items in construction estimates to ensure they align with the budget. You must also evaluate estimates throughout the course of the project to mitigate changes in material or scope to comply with the budget.

OBJECTIVE 4.2 (3-7%)

Evaluate and address changes in scope of work and scope creep (A/E)

You will need to be able to analyze changes in scope to determine the impact on fees, schedules, and owner financing.

OBJECTIVE 4.3 (5-9%)

Evaluate project documentation to ensure it supports the specified delivery method (A/E)

As an architect, you must be able to determine the appropriate documentation needed for projects, including consultant documents. You must also be able to coordinate close-out and construction administration documentation.

OBJECTIVE 4.4 (1-5%)

Identify and conform with the requirements set forth by authorities having jurisdiction in order to obtain approvals for the project (U/A)

Lastly, you will need to be able to identify which authorities have jurisdiction over projects and determine what submittals are required for project approvals. This includes properly responding to questions or feedback from these authorities. Authorities could include zoning commissions, neighborhood review boards, or plan reviewers.

PjM SECTION 5

Project Quality Control

The last section in this division analyzes quality control methods, procedures, and review processes in order to maintain the proper Standard of Care throughout the entire project. As with the previous sections, this section is not about the design-related decisions, but rather the necessary administrative procedures throughout the project.

OBJECTIVE 5.1 (2-6%)

Apply procedures required for adherence to laws and regulations relating to the project (U/A)

You will need to be able to identify the government agencies who have jurisdiction on the project and determine what permits and procedures will be required throughout the project duration. This also includes establishing protocols to maintain compliance on the project site. In addition, you'll need to know the requirements for performing a code analysis and understand the impact of building, zoning, and other jurisdictional codes on design and construction.

OBJECTIVE 5.2 (4-8%)

Identify steps in maintaining project quality control, and reducing risks and liabilities (A/E)

You will need to establish review processes to be utilized throughout the project to evaluate quality control, assess risk and liabilities, and identify level of completion at each phase of the project. Understanding the different types of insurance related to architectural practice and understanding strategies for conflict resolution are also critical ways to manage risks and liabilities.

OBJECTIVE 5.3 (5-9%)

Perform quality control reviews of project documentation throughout life of project (A/E)

You will need to carry out the review steps and procedures identified and established in the previous objective with regards to quality control and risk. This includes coordinating the design work and documentation of consultants. It's critical to assess the impact of design decisions and changes on constructability.

OBJECTIVE 5.4 (3-7%)

Evaluate management of the design process to maintain integrity of design objectives (A/E)

As an architect, you must ensure design objectives are continually monitored and met across all phases of design. In this division, it is not about the design details, but the process of communicating the design objectives through regular collaboration with project stakeholders.

Programming & Analysis (PA)

This division will assess objectives related to the evaluation of project requirements, constraints, and opportunities. The division will focus on issues related to programming, site analysis, and zoning and code requirements. Candidates must demonstrate an understanding of and abilities in project type analysis, the establishment of qualitative and quantitative project requirements, evaluation of project site and context, and assessment of economic issues.

Programming & Analysis

DIVISION DETAILS

TOTAL ITEMS	SCORED ITEMS	PRETEST ITEMS	NUMBER OF CASE STUDIES	NUMBER OF CASE STUDY ITEMS	TEST DURATION	OPTIONAL BREAK DURATION	TOTAL APPOINTMENT DURATION*
75	68	7	2	12-16	3 hr	30 min	3 hr 40 min

**Appointments allow for introductory screens, optional break time, and closing screens. Pretest items don't count toward or against your final score.*

This division will test a candidate's ability to protect the public's health, safety, and welfare by:

- Evaluating qualitative and quantitative project requirements
- Analyzing environmental, social, and economic requirements of a project
- Synthesizing project requirements based on gathered information

The 75 items will assess you on four sections related to Programming & Analysis. The number of items from each section will vary based on the targeted percentage of items within each section.

SECTION DETAILS

SECTIONS	EXPECTED NUMBER OF ITEMS	TARGET PERCENTAGE*
SECTION 1: Environmental & Contextual Conditions	11-16	14-21%
SECTION 2: Codes & Regulations	12-17	16-22%
SECTION 3: Site Analysis & Programming	16-20	21-27%
SECTION 4: Building Analysis & Programming	28-32	37-43%

**The percentages shown for each section and objective represent a typical form of this division. The specific form you may experience may vary slightly as adjustments are made from form to form to balance factors such as overall form level of difficulty and average time to answer the assembled items.*

PA SECTION 1

Environmental & Contextual Conditions

In this section, you'll evaluate a project site and identify both the opportunities and constraints that may impact future development.

OBJECTIVE 1.1 (2-6%)

Evaluate site-specific environmental and socio-cultural opportunities (A/E)

You will need to analyze a project site and assess opportunities that could be incorporated into future site and building development. These opportunities may include alternative energy resources, natural landscape features, microclimates, and neighborhood context, along with other environmental, social, and cultural conditions.

OBJECTIVE 1.2 (7-11%)

Evaluate site-specific environmental constraints (A/E)

You will need to analyze a project site and assess constraints and hazardous conditions that could limit a building's location and future site development. These constraints may include issues like a floodplain, unstable soil, radon, lead, a brownfield, abandoned structures, environmental policies and regulations, or vulnerabilities and risks associated with climate change. You will also need to identify strategies that could mitigate adverse site conditions.

OBJECTIVE 1.3 (2-6%)

Determine optimal use of onsite resources by incorporating sustainability principles (U/A)

After evaluating a site for both opportunities and constraints, you must be able to identify appropriate design responses for a building's location, orientation, massing, footprint, and passive energy use in order to minimize the project's negative environmental impacts and make use of existing natural features.

PA SECTION 2

Codes & Regulations

In this section, you'll look at the codes and regulations appropriate to the initial analysis and programming phase of a project.

OBJECTIVE 2.1 (5-9%)

Identify relevant code requirements for building and site types (U/A)

As an architect, you need to be able to determine and understand the codes and regulations that govern a specific project type and geographic region. This includes distinguishing relevant accessibility and ADA requirements, applicable building and energy codes, and sustainability-related standards and guidelines. It's important to conduct an initial code analysis to understand how the codes will affect a project's design.

OBJECTIVE 2.2 (5-9%)

Identify relevant zoning and land use requirements (U/A)

You need to be able to determine and understand requirements that limit the extent of site and building development. This includes issues like setbacks, footprint limitations, maximum building heights, FAR, parking requirements, easements, and other zoning and land use regulations. Recognizing situations where a special exception or variance is suitable and understanding the process for approval are also included in this objective.

OBJECTIVE 2.3 (3-7%)

Identify relevant local and site-specific requirements (U/A)

You will need to determine and understand specialty regulations that apply to a particular site. These may include requirements about wetlands, flood plains, design overlay districts, or historic preservation.

PA SECTION 3

Site Analysis & Programming

In this section, you'll need to analyze a project site relative to the program and project requirements.

OBJECTIVE 3.1 (6-10%)

Evaluate relevant qualitative and quantitative attributes of a site as they relate to a program (A/E)

This objective assesses your ability to analyze a project site relative to the requirements in the program to determine if it is appropriate and feasible for development. You will need to consider the climate, topography, drainage, soil, built and natural features, utilities, access points, traffic patterns, easements, and other attributes relevant to the project and program.

OBJECTIVE 3.2 (8-12%)

Synthesize site reports with other documentation and analysis (A/E)

In addition to analyzing the attributes of the site, you will also need to review and interpret site documentation such as geotechnical reports, landscape reports, archaeological studies, utility surveys, topographic maps, demographics, traffic studies, environmental data, historic reports, and other site related reports. This is used to determine the feasibility of a project and verify the selection of site related consultants needed to execute the project.

OBJECTIVE 3.3 (4-8%)

Analyze graphical representations regarding site analysis and site programming (A/E)

You must be able to evaluate and understand diagrammatic graphics and how they are used to represent and communicate site conditions, relationships, and program requirements. These graphics include topographic, programming, circulation, adjacency, environmental, view, and vegetation diagrams, which communicate site information and relationships.

PA SECTION 4

Building Analysis & Programming

In this section, you'll analyze new or existing buildings relative to the program requirements, cost, and schedule. This is the largest section in the Programming & Analysis division.

OBJECTIVE 4.1 (3-7%)

Evaluate relevant qualitative and quantitative attributes of a new or existing building as they relate to the program (A/E)

As an architect, you will need to review an existing or new building to determine if the design addresses views, daylight, spatial organization, and other program requirements. You will also need to analyze an existing building to determine if renovation, adaptive reuse, preservation, or demolition are appropriate and feasible to meet project needs. Relevant factors may include a building's MEP systems, structural stability, hazardous materials, historic features, or eligibility for tax credits.

OBJECTIVE 4.2 (3-7%)

Evaluate documentation, reports, assessments, and analyses to inform the building program (A/E)

In addition to analyzing the attributes of a building, you will need to review and interpret technical documentation such as structural assessments, geotechnical reports, neighborhood and regional context, and condition assessment reports. These are used to consider the feasibility of a project and how the building program may be positively or negatively affected.

OBJECTIVE 4.3 (8-12%)

Identify and prioritize components of the building program (A/E)

As an architect, you must be able to review and understand the building program relative to the client's requirements. This includes the consideration of primary vs. subsidiary, back of house vs. front of house, occupied vs. unoccupied, as well as phasing and major circulation components. Understanding the area requirements of a building type relative to the program, including net square footage and gross square footage, is very important, as are how they relate to each other and the overall program requirements.

CONTINUED

OBJECTIVE 4.4 (8-12%)

Assess spatial and functional relationships for the building program (A/E)

Spatial organization is an important aspect of architecture, so reviewing and analyzing the building program relative to both horizontal and vertical spatial and functional relationships is an important assessment. You must consider the vertical relationships of shafts, stairs, conveying systems, atriums, and other multi-level spaces, as well as the horizontal relationships including circulation, entry, loading, assembly, MEP spaces, and other programmed spaces.

OBJECTIVE 4.5 (2-6%)

Recommend a preliminary project budget and schedule (U/A)

As an architect, you must be able to compare available project information (master plans, existing documentation, program requirements, site information, etc.) to determine a preliminary project schedule and cost. If the project budget and schedule have been defined by the client, you should be able to evaluate this information to determine the feasibility of the project and provide appropriate recommendations.

OBJECTIVE 4.6 (1-5%)

Identify alternatives for building and structural systems for given programmatic requirements, preliminary budget, and schedule (U/A)

You will need to understand various building materials as well as civil, structural, and MEP systems to determine the appropriateness of each to meet project needs, based on factors such as building type, function, program, availability, cost, and sustainability goals. Even before the selection of each system, you will need to be able to identify alternative systems that could fulfill the project requirements.

OBJECTIVE 4.7 (2-6%)

Analyze graphical representations regarding building analysis and building programming (A/E)

You will need to understand diagrammatic graphics and evaluate how they are used to communicate building relationships and other requirements. These may include diagrams that depict horizontal and vertical circulation, space adjacencies, solar path, or views.

Project Planning & Design (PPD)

This division will assess objectives related to the preliminary design of sites and buildings. The division will focus on issues related to the generation or evaluation of design alternatives that synthesize environmental, cultural, behavioral, technical and economic issues. Candidates must demonstrate an understanding of and abilities in design concepts, sustainability/environmental design, universal design, and other forms of governing codes and regulations.

Project Planning & Design

DIVISION DETAILS

TOTAL ITEMS	SCORED ITEMS	PRETEST ITEMS	NUMBER OF CASE STUDIES	NUMBER OF CASE STUDY ITEMS	TEST DURATION	OPTIONAL BREAK DURATION	TOTAL APPOINTMENT DURATION*
100	91	9	2	16-20	4 hr 5 min	45 min	5 hr

**Appointments allow for introductory screens, optional break time, and closing screens. Pretest items don't count toward or against your final score.*

This division will test a candidate's ability to protect the public's health, safety, and welfare by:

- Evaluating project design alternatives
- Determining if a design meets project parameters, including those defined by the client, the environment, and society
- Selecting the appropriate building systems and material to meet project goals and regulatory requirements
- Integrating technical knowledge and information to develop a design

The 100 items will assess you on five sections related to Project Planning & Design. The number of items from each section will vary based on the targeted percentage of items within each section.

SECTION DETAILS

SECTIONS	EXPECTED NUMBER OF ITEMS	TARGET PERCENTAGE*
SECTION 1: Environmental Conditions & Context	10-16	10-16%
SECTION 2: Codes & Regulations	16-22	16-22%
SECTION 3: Building Systems, Materials, & Assemblies	19-25	19-25%
SECTION 4: Project Integration of Program & Systems	32-38	32-38%
SECTION 5: Project Costs & Budgeting	8-14	8-14%

**The percentages shown for each section and objective represent a typical form of this division. The specific form you may experience may vary slightly as adjustments are made from form to form to balance factors such as overall form level of difficulty and average time to answer the assembled items.*

PPD SECTION 1

Environmental Conditions & Context

In this section, you'll use the site information gathered in the programming and analysis phase of a project to plan the site and environmental aspects of a project.

OBJECTIVE 1.1 (4-8%)

Determine location of building and site improvements based on site analysis (A/E)

Based on views, wind, solar path, topography, adjacencies, planning concepts, and vulnerabilities and risks associated with climate change, you will need to locate a new built project on its site. This can include the orientation of one building, the arrangement of multiple buildings, the configuration of an addition to an existing building, or the layout of site improvements.

OBJECTIVE 1.2 (2-6%)

Determine sustainable principles to apply to design (A/E)

An architect must use sun, wind, temperature, precipitation, and other climatic data to determine building orientation and shape, building envelope design, site features, and active and/or passive building systems. Sustainable principles also include considering recycled content, identifying opportunities to minimize waste when selecting building materials, and other strategies to increase the project's resilience and reduce its negative impact on the environment.

OBJECTIVE 1.3 (1-5%)

Determine impact of neighborhood context on the project design (U/A)

You will need to consider the character of a site's neighborhood, including proximity to various modes of transit, nearby amenities and public services, utilities, noise pollution, the scale of adjacent buildings, surrounding façade materials, historic precedent, and historic preservation requirements. Understanding how these impact a project is necessary as you determine an appropriate design response for a given architectural context.

PPD SECTION 2

Codes & Regulations

In this section, you'll look at the codes and regulations relevant to the planning phase of a project.

OBJECTIVE 2.1 (3-7%)

Apply zoning and environmental regulations to site and building design (U/A)

It is important to understand the regulations that govern the outside of a building, including standard and accessible parking requirements, allowable building size based on FAR, site coverage, property line setbacks, and requirements for managing stormwater runoff.

OBJECTIVE 2.2 (8-12%)

Apply building codes to building design (U/A)

It is also important to assess the building code requirements that impact a project. This includes building height and area limits, maximum occupant load, fire separation, required egress, accessibility, plumbing fixture counts, and energy usage. Architects must be able to compile this information into a code analysis and incorporate it into the design.

OBJECTIVE 2.3 (2-6%)

Integrate multiple codes to a project design (A/E)

Multiple codes may govern a project, depending on the jurisdiction, funding stream, or other factors. You will need to understand the use of related codes, like energy, mechanical, and universal design; determine how multiple codes are used together; and discern which code governs when a conflict arises.

PPD SECTION 3

Building Systems, Materials, & Assemblies

In this section, you'll focus on other disciplines with which an architect must be familiar, along with the various components that make up the building.

OBJECTIVE 3.1 (5-9%)

Determine mechanical, electrical, and plumbing systems (A/E)

You will need to evaluate mechanical, electrical, and plumbing systems, including their impact on building and site design. Based on function, cost, size, availability, programmatic needs, and energy/water usage, you will need to select the appropriate systems for a building.

OBJECTIVE 3.2 (4-8%)

Determine structural systems (A/E)

You will need to evaluate different structural systems, including their cost, availability, load capacity, and impact on building design and configuration. Based on these factors, as well as building size and function, you will need to select the appropriate structural system and layout for a building.

OBJECTIVE 3.3 (1-5%)

Determine special systems such as acoustics, communications, lighting, security, conveying, and fire suppression (A/E)

You will need to evaluate specialty systems and select the appropriate systems for a building based on the building type, function, and programmatic requirements. You will also need to assess the impact of these specialty systems on the overall design of a building.

OBJECTIVE 3.4 (4-8%)

Determine materials and assemblies to meet programmatic, budgetary, and regulatory requirements (A/E)

You will need to select a building's envelope system, interior materials, and other assemblies based on cost, availability, program requirements, environmental conditions, sustainability requirements, or other factors. You will also need to evaluate the impact of those decisions on building design.

PPD SECTION 4

Project Integration of Program & Systems

In this section, you'll pull together all the decisions from the previous three sections regarding environmental conditions, code, systems, and assemblies. This is the largest section in the Project Planning & Design division.

OBJECTIVE 4.1 (8-12%)

Determine building configuration (A/E)

As an architect, you will need to resolve the building's configuration based on program and code requirements, selected MEP and structural systems, site and environmental conditions, historic precedent, sustainability requirements, and principles of design logic.

OBJECTIVE 4.2 (10-14%)

Integrate building systems in the project design (A/E)

Within this division is the beginning of systems coordination. You must consider how the selected systems fit together, both spatially and functionally, and how they are coordinated into the architectural design. You will also need to evaluate how changes in one building system impact another system as well as the overall project design.

OBJECTIVE 4.3 (6-10%)

Integrate program requirements into a project design (A/E)

Architects must be able to reconcile the relationships between various program requirements, evaluate the program's impact on cost and building systems, and assess how the program is affected by environmental factors. It's important that you are able to create a building layout that incorporates program requirements for a project.

OBJECTIVE 4.4 (3-7%)

Integrate environmental and contextual conditions in the project design (A/E)

You will need to incorporate various design strategies, including those assessed in Section 1, into the project. This may include elements like view corridors, shading elements, building materials, and landscape design.

PPD SECTION 5

Project Costs & Budgeting

In this last section, you'll consider the bottom line: how much does this project cost.

OBJECTIVE 5.1 (2-6%)

Evaluate design alternatives based on the program (A/E)

The first design is not necessarily the best, so analyzing design alternatives against the program requirements, project goals, and project budget, as well as considering the various factors that affect costs, is critical as you determine the most appropriate design option that fits within the project budget.

OBJECTIVE 5.2 (1-5%)

Perform cost evaluation (A/E)

It is important for you to evaluate various methods of estimating project costs, including those based on program type, square footage, or systems/assemblies. You must be able to create a preliminary cost estimate, adjust the estimate as the design develops, calculate the cost of design alternatives, and reconcile the estimate with the project budget.

OBJECTIVE 5.3 (2-6%)

Evaluate cost considerations during the design process (A/E)

Architects need to consider client priorities and life cycle costs when selecting materials and systems, and they must evaluate the cost effectiveness of various design decisions. As an architect, you will need to determine if a project design must be modified based on cost evaluations and budgetary needs.

Project Development & Documentation (PDD)

This division will assess objectives related to the integration and documentation of building systems, material selection, and material assemblies into a project. The division will focus on issues related to the development of design concepts, evaluation of materials and technologies, selection of appropriate construction techniques, and appropriate construction documentation. Candidates must demonstrate an understanding of and abilities in integration of civil, structural, mechanical, electrical, plumbing, and specialty systems into overall project design and documentation.

Project Development & Documentation

DIVISION DETAILS

TOTAL ITEMS	SCORED ITEMS	PRETEST ITEMS	NUMBER OF CASE STUDIES	NUMBER OF CASE STUDY ITEMS	TEST DURATION	OPTIONAL BREAK DURATION	TOTAL APPOINTMENT DURATION*
100	91	9	2	16-20	4 hr 5 min	45 min	5 hr

**Appointments allow for introductory screens, optional break time, and closing screens. Pretest items don't count toward or against your final score.*

This division will test a candidate's ability to protect the public's health, safety, and welfare by:

- Evaluating project documentation for the constructability of a building and site
- Integrating technical knowledge and information to refine a design
- Integrating materials and building systems to meet the project design requirements
- Translating design decisions into appropriate construction documentation

The 100 items will assess you on five sections related to Project Development & Documentation. The number of items from each section will vary based on the targeted percentage of items within each section.

SECTION DETAILS

SECTIONS	EXPECTED NUMBER OF ITEMS	TARGET PERCENTAGE*
SECTION 1: Integration of Building Materials & Systems	31-37	31-37%
SECTION 2: Construction Documentation	32-38	32-38%
SECTION 3: Project Manual & Specifications	12-18	12-18%
SECTION 4: Codes & Regulations	8-14	8-14%
SECTION 5: Construction Cost Estimates	2-8	2-8%

**The percentages shown for each section and objective represent a typical form of this division. The specific form you may experience may vary slightly as adjustments are made from form to form to balance factors such as overall form level of difficulty and average time to answer the assembled items.*

PDD SECTION 1

Integration of Building Materials & Systems

In this section, you'll focus on resolving and detailing architectural systems and assemblies, building materials, and engineering systems.

OBJECTIVE 1.1 (5-9%)

Analyze the integration of architectural systems and technologies to meet project goals (A/E)

As an architect you will first need to resolve and detail roof, curtain wall, cladding, window, floor, and other architectural systems, while also considering the detail requirements and capabilities of individual building materials.

OBJECTIVE 1.2 (5-9%)

Determine the size of mechanical, electrical, and plumbing systems and components to meet project goals (U/A)

You will need to identify and develop mechanical, electrical, and plumbing systems based on system type, system requirements, programmatic requirements, and other factors. This may include tasks such as calculating the size of system components, determining a lighting layout, or incorporating renewable energy systems into a design.

OBJECTIVE 1.3 (5-9%)

Determine the size of structural systems to meet project goals (U/A)

You will need to identify and develop structural systems, including detailing connections between standard horizontal and vertical structural components and calculating the size of some structural components based on the system type, system requirements, programmatic requirements, and other factors.

CONTINUED

OBJECTIVE 1.4 (1-5%)

Integrate specialty systems such as acoustics, lighting, fire suppression, conveying, security, and communications to meet project goals (U/A)

You will need to be able to identify, develop, and integrate individual specialty system components based on system type, system requirements, programmatic requirements, and other factors.

OBJECTIVE 1.5 (3-7%)

Determine how to detail the integration of multiple building systems and technologies (U/A)

You must also be able to detail and resolve the intersection of roof, curtain wall, cladding, window, floor, structural, interior, and other architectural systems as they come together within a building project.

OBJECTIVE 1.6 (3-7%)

Coordinate mechanical, electrical, plumbing, structural, and specialty systems and technologies (U/A)

You must identify and resolve conflicts between engineering systems (mechanical, electrical, plumbing, and structural) and other specialty systems as they integrate into the project. This also includes coordinating engineering systems with the architectural design to fulfill programmatic, system, and other project requirements.

PDD SECTION 2

Construction Documentation

In this section, you'll focus on project documentation necessary to assemble a set of drawings and update these drawings over the course of a project.

OBJECTIVE 2.1 (7-11%)

Determine appropriate documentation of building design (A/E)

Architects must identify a drawing and documentation approach based on project complexity, materials and assemblies, delivery method, and other project or construction related requirements. Throughout project documentation, you must know how to refine, update, and make adjustments to the drawings to align with new or changing project requirements. Documentation must also indicate final selections of building materials, assemblies, and finishes.

OBJECTIVE 2.2 (2-6%)

Determine appropriate documentation of site features (A/E)

Architects must also coordinate with civil engineers, landscape architects, and other consultants to verify the documentation of site drainage, utilities, pedestrian and vehicular circulation paths, parking, grading, and other site features and structures, including those related to environmental sustainability and resilience. It is critical to ensure site documentation is coordinated with all project disciplines.

OBJECTIVE 2.3 (8-12%)

Determine appropriate documentation of detailed building drawings within individual architectural systems (A/E)

You will need to resolve, detail, and document individual architectural systems such as partition types, expansion joints, windows, doors, louvers, stairs, and other systems based on constructability, environmental, programmatic, and other building requirements.

CONTINUED

OBJECTIVE 2.4 (5-9%)

Apply standards required to assemble a set of clear and coordinated construction documentation (U/A)

As an architect, you will also need to determine the necessary drawings required to communicate an architectural design based on the project delivery method. This requires assembling these drawings into a clear set of construction documents and ensuring the quality of the documentation meets the appropriate standard of care.

OBJECTIVE 2.5 (3-7%)

Determine impact of project changes on documentation requirements and methods to communicate those changes to owner and design team (U/A)

Architects must incorporate value engineering, changes in scope, and owner or project team comments into the drawing set, and determine the impact of these changes on the project delivery method and schedule. You will also need to recognize when changes in scope or owner/project team comments require the architect to perform additional services.

PDD SECTION 3

Project Manual & Specifications

In this section, you'll focus on the development of documentation beyond construction drawings—the project manual and specifications.

OBJECTIVE 3.1 (1-5%)

Identify and prioritize components required to write, maintain, and refine project manual (U/A)

You will need to be able to determine and assemble the content of a project manual, including the general conditions; instructions for procurement, bidding, and contracting; and project specific requirements. This also requires the identification and preparation of any additional exhibits or special conditions required for project execution.

OBJECTIVE 3.2 (6-10%)

Identify and prioritize components required to write, maintain, and refine project specifications (U/A)

You will need to determine the appropriate type of specifications to be used for a project, and you will need to identify which divisions are necessary based on project requirements. You will also need to analyze, select, and specify materials within a project in order to meet project requirements, testing protocols during construction, and common industry standards for materials and methods.

OBJECTIVE 3.3 (2-6%)

Coordinate specifications with construction documentation (U/A)

You must also coordinate the specifications with information found on the architectural construction drawings and consultant documents. This includes all materials, assemblies, hardware, methods, and other identified information.

PDD SECTION 4

Codes & Regulations

Codes and regulations appear in several divisions, but in this division, you'll look at codes and regulations at a detail level and determine how they pertain to project documentation.

OBJECTIVE 4.1 (4-8%)

Determine adherence to building regulatory requirements (IBC) at detail level (U/A)

It is critical to be able to apply the International Building Code to the design and documentation of a project, including means of egress, fire and smoke protection, material and assembly requirements, and the ways in which changes to occupancy, floor size, or other details can impact code requirements.

OBJECTIVE 4.2 (3-7%)

Determine adherence with specialty regulatory requirements at the detail level (U/A)

It is also important to be able to apply specialty regulations to the design and documentation of a project. This includes accessibility requirements, energy codes, standards for historic preservation, Fair Housing, environmental regulations, and other local or site specific regulations.

PDD SECTION 5

Construction Cost Estimates

In this last section, you'll consider the construction cost of a project by analyzing an estimate. This section contains only one objective and is the smallest section in the division.

OBJECTIVE 5.1 (2-8%)

Analyze construction cost estimates to confirm alignment with project design (A/E)

As an architect, you will need to compare and modify a construction cost estimate based on the development of a project, including value engineering, substitution of materials, and alignment with the project documentation and requirements. You will need to utilize appropriate estimating techniques based on the project type, phase, delivery method, or other requirements.

Construction & Evaluation (CE)

This division will assess objectives related to construction contract administration and post-occupancy evaluation of projects. The division will focus on issues related to bidding and negotiation processes, support of the construction process, and evaluation of completed projects. Candidates must demonstrate an understanding of and abilities in construction contract execution, construction support services (including construction observation and shop drawing or submittal review), payment request processing, and project closeout. In addition, candidates must also demonstrate an understanding and abilities in project evaluation of integrated building systems and their performance.

Construction & Evaluation

DIVISION DETAILS

TOTAL ITEMS	SCORED ITEMS	PRETEST ITEMS	NUMBER OF CASE STUDIES	NUMBER OF CASE STUDY ITEMS	TEST DURATION	OPTIONAL BREAK DURATION	TOTAL APPOINTMENT DURATION*
75	68	7	2	12-16	3 hr	30 min	3 hr 40 min

**Appointments allow for introductory screens, optional break time, and closing screens. Pretest items don't count toward or against your final score.*

This division will test a candidate's ability to protect the public's health, safety, and welfare by:

- Delivering professional services during project construction
- Translating construction documents and specifications to communicate and bring clarity to design intent
- Coordinating construction activities to meet design intent
- Evaluating completed projects

The 75 items will assess you on four sections related to Construction & Evaluation. The number of items from each section will vary based on the targeted percentage of items within each section.

SECTION DETAILS

SECTIONS	EXPECTED NUMBER OF ITEMS	TARGET PERCENTAGE*
SECTION 1: Preconstruction Activities	13-17	17-23%
SECTION 2: Construction Observation	24-29	32-38%
SECTION 3: Administrative Procedures & Protocols	24-29	32-38%
SECTION 4: Project Closeout & Evaluation	5-10	7-13%

**The percentages shown for each section and objective represent a typical form of this division. The specific form you may experience may vary slightly as adjustments are made from form to form to balance factors such as overall form level of difficulty and average time to answer the assembled items.*

CE SECTION 1

Preconstruction Activities

In this section, you'll focus on the construction planning and activities that occur prior to the start of construction.

OBJECTIVE 1.1 (8-12%)

Interpret the architect's roles and responsibilities during preconstruction based on delivery method (U/A)

Understanding the key elements of bidding is an important aspect of preconstruction activities. This includes the required bidding documents, typical procedures for distributing documents and the pre-bid meeting, prequalification of bidders, selection of the contractor, and applicable standard AIA documents. The architect's responsibilities for each of these may vary depending on the project delivery type.

OBJECTIVE 1.2 (3-7%)

Analyze criteria for selecting contractors (A/E)

You will need to be able to establish the criteria for reviewing contractors' bids, including accuracy and completeness. Based on these criteria, you will then need to evaluate contractors' bids and compare contractors' qualifications to each other.

OBJECTIVE 1.3 (3-7%)

Analyze aspects of the contract or design to adjust project costs (A/E)

You must evaluate and prioritize opportunities to reduce the project cost, scope, quality, or schedule. This will include consideration of the contractual implications of the changes, sustainability and life cycle cost goals, and the impact on project design and overall budget.

CE SECTION 2

Construction Observation

This section addresses visiting the job site throughout the course of construction and the architect's roles and responsibilities.

OBJECTIVE 2.1 (13-17%)

Evaluate the architect's role during construction activities (A/E)

This objective assesses the architect's responsibilities to the owner during construction site visits and subsequent documentation, including site observations and action items for project team members. You must recognize the contractor's responsibilities to the architect, including change orders, applications for payments, shop drawings and other submittals, and the appropriate level of detail required for the schedule of values, based on project size, scope, phasing requirements, and schedule. You must also know the difference between the architect's design intent and the contractor's means and methods. Finally, you must identify the appropriate limits and extent of the architect's authority and actions during construction.

OBJECTIVE 2.2 (13-17%)

Evaluate construction conformance with contract documents, codes, regulations, and sustainability requirements (A/E)

You will need to be able to analyze the contractor's completed work against the project requirements and identify non-conforming construction on site. This may also require evaluating the impacts of unforeseen conditions and material substitutions against code, quality, and program requirements. You will need to coordinate your evaluations of construction conformance with that of your consultants and the owner's consultants.

OBJECTIVE 2.3 (3-7%)

Determine construction progress (U/A)

Construction observation also requires the review of work in place against the contractor's construction schedule and schedule of values, and understanding the impact of delays along the critical path.

CE SECTION 3

Administrative Procedures & Protocols

The previous section is about the onsite responsibilities of an architect. This section is about the documentation necessary to the construction process. Clear written communication is an essential aspect of the construction process.

OBJECTIVE 3.1 (8-12%)

Determine appropriate additional information to supplement contract documents (U/A)

As an architect, you will need to evaluate contractor requests for additional information and determine if a request, unexpected disruption, or other situation requires a change in the construction contract. You will need to determine the appropriate documents for communicating requested information and design revisions due to a scope change, schedule delay, or unforeseen condition.

OBJECTIVE 3.2 (8-12%)

Evaluate submittals including shop drawings, samples, mock-ups, product data, and test results (A/E)

Architects must assess the contractor's understanding of the project scope by reviewing the contractor's submittals against the contract documents. They also must determine appropriate responses to the contractor and evaluate requests for substitutions.

OBJECTIVE 3.3 (3-7%)

Evaluate the contractor's application for payment (A/E)

Reviewing the contractor's application for payment against the completed work is a critical component of the construction process. This is done based on observations during construction site visits and a concurrent review of the contractor's schedule of values and approved change orders. You will also need to evaluate methods of retainage and their application throughout the project.

OBJECTIVE 3.4 (8-12%)

Evaluate responses to non-conformance with contract documents (A/E)

After non-conforming work is identified during site observations, you must be able to determine the source of the non-conformance; analyze the cost, schedule, and design implications; evaluate possible resolutions of the non-conformance; and communicate the selected solution to the team. These steps will need to be taken in coordination with your consultants and the owner's consultants.

CE SECTION 4

Project Closeout & Evaluation

In this section, you'll focus on post-construction activities. This is the smallest section of the division but covers several important aspects of completing a project.

OBJECTIVE 4.1 (3-7%)

Apply procedural concepts to complete close-out activities (U/A)

As an architect, you will need to be familiar with project close-out documents, which may include warranties, record drawings, a punch list, and a final application for payment, submitted by the contractor. You will also need to review the contractor's completed work and make determinations regarding substantial completion and final completion of a project, understanding the implications of each process.

OBJECTIVE 4.2 (3-7%)

Evaluate building design and performance (A/E)

You will need to assess a building's performance during its first year of use, with tools such as user surveys and building commissioning, which may include sustainability rating systems. It's critical that you then determine a response to identified building performance issues.

STUDY RESOURCES

NCARB offers many resources you can use to prepare for ARE 5.0. In this section, you will find links to some of those resources, as well as lists of common terms, formulas, and abbreviations found on the ARE. You will also find the ARE 5.0 Reference Matrix, which contains a list of recognized architectural references that item authors use to write the items you'll see on the exam.

ARE 5.0 Reference Matrix

The ARE 5.0 Reference Matrix lists over 40 different architectural references used to author ARE items. Next to each of these references, you will be able to see which ARE divisions contain items that commonly cite material from a given reference.

You do not need to memorize facts and figures from the references on the matrix. Instead, focus on understanding the concepts and best practices in the references. Remember, the ARE is designed to assess competence by requiring you to understand, apply, analyze, or evaluate scenarios encountered in real-world architectural practice. ARE 5.0 does not test your ability to recall memorized information.

Keep in mind, the information presented in items on the exam will often look very different from the way information is presented in the reference. In other words, simply reading the references will not guarantee you a passing score on an ARE division. However, if you're familiar with the material in the references below and understand the concepts and best practices they explore, you will have many of the tools needed to solve the real-world problems you will encounter in ARE items.

READING THE MATRIX

NCARB does not recommend you study all references listed on the ARE 5.0 Reference Matrix before each exam division. Instead, study the references that are commonly cited as a source for items on the division for which you are preparing.

You can determine if the reference is commonly cited as a source for items in a given division by looking at the rows on the matrix. The very first document in the reference matrix, for instance, is the 2010 ADA Standards for Accessible Design. The matrix indicates that this reference is commonly cited as a source for PA, PPD, PDD, and CE items, so NCARB recommends you study it before taking those divisions.

OTHER STUDY RESOURCES

The ARE 5.0 Reference Matrix is not a comprehensive list. Not all items cite the references listed below, although the majority of items do. You are strongly encouraged to consult these references when studying. You should supplement your use of the references below with the use of other NCARB-provided resources, especially the ARE 5.0 Practice Exams and the list of sections contained within the ARE 5.0 Exam Content section of this document.

ARE 5.0 Reference Matrix

The ARE 5.0 Reference Matrix provides a list of materials and publications frequently used in the development of items for each division of ARE 5.0. Pay close attention to the references marked with a star. Of all the frequently cited references in the ARE 5.0 Reference Matrix, these references are the most frequently cited.

REFERENCE	PcM	PjM	PA	PPD	PDD	CE
2010 ADA Standards for Accessible Design *U.S. Department of Justice, 2010*						
2020 Code of Ethics and Professional Conduct *AIA Office of General Counsel* *The American Institute of Architects, 2020*	★					
The Architect's Handbook of Professional Practice *The American Institute of Architects* *John Wiley & Sons, 14th edition (2008) and 15th edition (2014)*	★	★				★
The Architect's Studio Companion: Rules of Thumb for Preliminary Design *Edward Allen and Joseph Iano* *John Wiley & Sons, 6th edition, 2017*						
Architectural Graphic Standards *The American Institute of Architects* *John Wiley & Sons, 11th edition (2007) and 12th edition (2016)*			★	★	★	
Building Code Essentials (2018) *International Code Council, 2018*						
Building Codes Illustrated: A Guide to Understanding the 2018 International Building Code *Francis D.K. Ching and Steven R. Winkel, FAIA, PE, CASp* *John Wiley & Sons, 2018*						
Building Construction Illustrated *Francis D.K. Ching* *John Wiley & Sons, 6th edition, 2020*				★		

ARE 5.0 Reference Matrix

REFERENCE	PcM	PjM	PA	PPD	PDD	CE
Building Structures *James Ambrose and Patrick Tripeny* *John Wiley & Sons, 3rd edition, 2011*					★	
CSI MasterFormat *The Construction Specifications Institute* *2018 edition*						★
Dictionary of Architecture and Construction *Cyril M. Harris* *McGraw-Hill, 4th edition, 2006*						
Fundamentals of Building Construction: Materials and Methods *Edward Allen and Joseph Iano* *John Wiley & Sons, 6th edition (2013) and 7th edition (2019)*					★	
Green Building Illustrated *Francis D.K. Ching and Ian M. Shapiro Wiley, 2014*						
The Green Studio Handbook: Environmental Strategies for Schematic Design *Alison G. Kwok and Walter Grondzik* *Routledge, 3rd edition, 2018*						
Heating, Cooling, Lighting: Sustainable Design Strategies Towards Net Zero Architecture *Norbert Lechner and Patricia Andrasik* *John Wiley & Sons, 5th edition, 2021*				★		
ICC A117.1-2009 Accessible and Usable Buildings and Facilities *International Code Council, 2010*						

ARE 5.0 Reference Matrix

REFERENCE	PcM	PjM	PA	PPD	PDD	CE
International Building Code (2018) *International Code Council, 2017*			★	★	★	
International Building Code Study Companion (2018) *International Code Council, 2018*						
Law for Architects: What You Need to Know *Robert F. Herrmann and the Attorneys at Menaker & Herrmann LLP* *W. W. Norton, 2012*						
Mechanical & Electrical Equipment for Buildings *Walter T. Grondzik and Alison G. Kwok* *John Wiley & Sons, 12th edition (2014) and 13th edition (2019)*				★	★	
Model Rules of Conduct *National Council of Architectural Registration Boards 2018-2019*	★					
Olin's Construction Principles, Materials, and Methods *H. Leslie Simmons* *John Wiley & Sons, 9th edition, 2011*					★	
Problem Seeking: An Architectural Programming Primer *William M. Peña and Steven A. Parshall* *John Wiley & Sons, 5th edition, 2012*			★			
Professional Practice: A Guide to Turning Designs into Buildings *Paul Segal, FAIA* *W. W. Norton, 2006*						

ARE 5.0 Reference Matrix

REFERENCE	PcM	PjM	PA	PPD	PDD	CE
The Project Resource Manual: CSI Manual of Practice *The Construction Specifications Institute* *McGraw-Hill, 5th edition, 2005* *Or* **CSI Practice Guides (Project Delivery, Construction Contract Administration, Construction Specifications)** *The Construction Specifications Institute*		★				★
Simplified Engineering for Architects and Builders *James Ambrose and Patrick Tripeny* *John Wiley & Sons, 12th edition, 2016*						
Site Planning and Design Handbook *Thomas H. Russ* *McGraw-Hill, 2nd edition, 2009*			★			
Steel Construction Manual *American Institute of Steel Construction* *14th edition, 2011*						
Structural Design: A Practical Guide for Architects *James R. Underwood and Michele Chiuini* *John Wiley & Sons, 2nd edition, 2007*						
Structures *Daniel Schodek and Martin Bechthold* *Pearson, 7th edition, 2013*						
Sun, Wind, and Light: Architectural Design Strategies *G.Z. Brown and Mark DeKay* *John Wiley & Sons, 3rd edition, 2013*						
Sustainable Construction: Green Building Design and Delivery *Charles J. Kibert* *John Wiley & Sons, 4th edition, 2016*						
A Visual Dictionary of Architecture *Francis D.K. Ching* *John Wiley & Sons, 2nd edition, 2011*						

ARE 5.0 Reference Matrix

The following list of *AIA Contract Documents* have content covered in the various divisions of ARE 5.0. Candidates can access sample AIA Contract Documents for free through their NCARB Record.

DOCUMENT	PcM	PjM	PA	PPD	PDD	CE
A101-2017, *Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum*						
A133-2019, *Standard Form of Agreement Between Owner and Construction Manager as Constructor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price*						
A141-2014, *Standard Form of Agreement Between Owner and Design-Builder*						
A195-2008, *Standard Form of Agreement Between Owner and Contractor for Integrated Project Delivery*						
A201-2017, *General Conditions of the Contract for Construction*						
A295-2008, *General Conditions of the Contract for Integrated Project Delivery*						
A701-2018, *Instructions to Bidders*						
B101-2017, *Standard Form of Agreement Between Owner and Architect*						
B143-2014, *Standard Form of Agreement Between Design-Builder and Architect*						
B195-2008, *Standard Form of Agreement Between Owner and Architect for Integrated Project Delivery*						
C401-2017, *Standard Form of Agreement Between Architect and Consultant*						
G701-2017, *Change Order*						
G702-1992, *Application and Certificate for Payment*						
G703-1992, *Continuation Sheet*						
G704-2017, *Certificate of Substantial Completion*						
G709-018, *Proposal Request*						

ARE 5.0 Practice Exams

NCARB offers simulations of full-length ARE 5.0 divisions through the ARE 5.0 Practice Exams. There are seven exams, all of which are available at no cost to licensure candidates. ARE 5.0 Practice Exams feature the same exam format and tools as an actual ARE division and were developed using the same process and guidelines.

EXAM CONTENT

The seven ARE 5.0 Practice Exams include six divisional practice exams and one multidivisional practice exam. There is one ARE 5.0 Practice Exam for each of the six ARE 5.0 divisions, assembled using the same number of items and tied to the same objectives as the actual versions of each division. You can take one of these exams to help prepare for a particular division. The ARE 5.0 Multidivisional Practice Exam is made of 75 total items across all six divisions and features two case studies. The ARE 5.0 Multidivisional Practice Exam is great for candidates who want to become familiar with the exam's delivery and understand a cross-section of the exam's content.

HOW TO ACCESS

Licensure candidates can access the practice exams in an exam administration format, which allows you to experience the exam just like the real thing. AXP supervisors/mentors and architect licensing advisors can access a PDF version of the practice exams. Please read the information below to access the practice exams.

1) **ARE candidates with active eligibilities:** ARE candidates with active exam eligibilities can access the ARE 5.0 Practice Exams through the Practice Exam Dashboard. For access to the dashboard, log into your NCARB Record, click the "Exams" tab, and navigate to the "Additional Resources" section of the page.

2) **Licensure candidates without active eligibilities:** Licensure candidates without active exam eligibilities can access the ARE 5.0 Practice Exam through their NCARB Record. Navigate to the "Overview" tab and select "Practice the ARE."

3) **AXP Supervisors and Mentors:** Supervisors and mentors can only access the PDF version of the ARE 5.0 Practice Exams. The PDFs are available on NCARB's website.

HOW TO USE

Though the ARE 5.0 Practice Exams are available in two formats—as an exam administration and as a PDF file—they were designed for ARE candidates to replicate the delivery and content of an actual ARE exam administration. **ARE candidates are strongly encouraged to take advantage of the exam administration option.**

There are two modes of administering the ARE 5.0 Practice Exams. If you want to test your grasp of ARE divisional content while replicating many of the conditions of an actual exam appointment, you can take the practice exam in test mode. If you want to linger over the exam tools and navigation and be provided with correct responses and the rationales behind them, you can take each practice exam in practice mode. Both modes provide an examination results page at the end of the exam, where you can find a record of the items you answered correctly or incorrectly, a percentage breakdown of how you fared in each section, and a list of the correct responses and rationales for every item on the exam. You can print these examination results for later study if you choose.

The PDF form of the ARE 5.0 Practice Exams is recommended for AXP supervisors and mentors working with exam candidates. The PDF will help them understand the content in an ARE division. The PDF includes every item, the correct response, and item explanations that appear on each practice exam. Please note, for case study questions in the practice exams, the case study resources are not reproduced for copyright and other reasons. Each case study question identifies which case study resources should be used to properly answer the question. Any licensure candidate can access the practice exam at no cost and show their supervisor or mentor the resources available within each case study.

Common Abbreviations

Below you will find a list of common abbreviations you may encounter while taking the ARE. Familiarize yourself with each abbreviation before testing.

PROFESSIONAL ORGANIZATIONS, SOCIETIES, AND AGENCIES	
American Concrete Institute	**ACI**
American Institute of Architects	**AIA**
American Institute of Steel Construction	**AISC**
American National Standards Institute	**ANSI**
American Society for Testing and Materials	**ASTM**
American Society of Civil Engineers	**ASCE**
American Society of Heating, Refrigerating, and Air-Conditioning Engineers	**ASHRAE**
American Society of Mechanical Engineers	**ASME**
American Society of Plumbing Engineers	**ASPE**
Architectural Woodwork Institute	**AWI**
Construction Specifications Institute	**CSI**
Department of Housing and Urban Development	**HUD**
Environmental Protection Agency	**EPA**
Federal Emergency Management Agency	**FEMA**
National Fire Protection Association	**NFPA**
Occupational Safety and Health Administration	**OSHA**
U.S. Green Building Council	**USGBC**

Common Abbreviations

AIA CONTRACT DOCUMENTS	
A101-2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum	**A101**
A133-2019, Standard Form of Agreement Between Owner and Construction Manager as Constructor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price	**A133**
A141-2014 Standard Form of Agreement Between Owner and Design-Builder	**A141**
A195-2008, Standard Form of Agreement Between Owner and Contractor for Integrated Project Delivery	**A195**
A201-2017, General Conditions of the Contract for Construction	**A201**
A295-2008, General Conditions of the Contract for Integrated Project Delivery	**A295**
A701-2018, Instructions to Bidders	**A701**
B101-2017, Standard Form of Agreement Between Owner and Architect	**B101**
B143-2014, Standard Form of Agreement Between Design-Builder and Architect	**B143**
B195-2008, Standard Form of Agreement Between Owner and Architect for Integrated Project Delivery	**B195**
C401-2017, Standard Form of Agreement Between Architect and Consultant	**C401**
G701-2017, Change Order	**G701**
G702-1992, Application and Certificate for Payment	**G702**
G703-1992, Continuation Sheet	**G703**
G704-2017, Certificate of Substantial Completion	**G704**
G709-2018, Proposal Request	**G709**

Common Abbreviations

CODES AND REGULATIONS	
ADA Standards for Accessible Design	**ADA**
International Code Council	**ICC**
International Building Code	**IBC**
International Energy Conservation Code	**IECC**
International Existing Building Code	**IEBC**
International Mechanical Code	**IMC**
International Plumbing Code	**IPC**
International Residential Code	**IRC**
Leadership in Energy and Environmental Design	**LEED**
National Electrical Code	**NEC**

Common Abbreviations

COMMONLY USED TERMS	
Above Finished Floor	**AFF**
Air Handling Unit	**AHU**
Authority Having Jurisdiction	**AHJ**
Building Information Modeling	**BIM**
Concrete Masonry Unit	**CMU**
Contract Administration	**CA**
Construction Document	**CD**
Dead Load	**DL**
Design Development	**DD**
Exterior Insulation and Finish System	**EIFS**
Furniture, Furnishings & Equipment	**FF&E**
Floor Area Ratio	**FAR**
Guaranteed Maximum Price	**GMP**
Heating, Ventilating, and Air Conditioning	**HVAC**
Insulating Glass Unit	**IGU**
Indoor Air Quality	**IAQ**
Indoor Environmental Quality	**IEQ**
Live Load	**LL**
Material Safety Data Sheets	**MSDS**
Mechanical, Electrical, and Plumbing	**MEP**
Photovoltaic	**PV**
Quality Assurance	**QA**
Quality Control	**QC**
Reflected Ceiling Plan	**RCP**
Request for Information	**RFI**
Request for Proposal	**RFP**
Roof Top Unit	**RTU**
Schematic Design	**SD**
Variable Air Volume	**VAV**
Volatile Organic Compound	**VOC**

UNITS OF MEASURE	
British Thermal Unit	**btu**
Cubic Feet per Minute	**cfm**
Cubic Feet per Second	**cfs**
Cubic Foot	**cu. ft.** **ft^3**
Cubic Inch	**cu. in.** **in^3**
Cubic Yard	**cu. yd.** **yd^3**
Decibel	**dB**
Foot	**ft**
Foot-candle	**fc**
Gross Square Feet	**gsf**
Impact Insulation Class	**IIC**
Inch	**in**
Net Square Feet	**nsf**
Noise Reduction Coefficient	**NRC**
Pound	**lb**
Pounds per Linear Foot	**plf**
Pounds per Square Foot	**psf**
Pounds per Square Inch	**psi**
Sound Transmission Class	**STC**
Square Foot	**sq. ft.** **sf** **ft^2**
Square Inch	**sq. in.** **in^2**
Square Yard	**sq. yd.** **sy** **yd^2**

Formulas Available While Testing

The following is a list of formulas you may encounter while taking the ARE. Familiarize yourself with the use of each formula before testing. If a formula is required to determine the correct response, it will be provided within the item. You will find the necessary formula after the question under the "Reference Formula" subheading. All of the formulas listed below will be provided to you during your exam administration.

STRUCTURAL

Flexural stress at extreme fiber

$$f = \frac{Mc}{I} = \frac{M}{S}$$

Flexural stress at any fiber

$$f = \frac{My}{I}$$

where y = *distance from neutral axis to fiber*

Average vertical shear

$$v = \frac{V}{A} = \frac{V}{dt}$$

for beams and girders

Horizontal shearing stress at any section A-A

$$v = \frac{VQ}{Ib}$$

where Q = *statical moment about the neutral axis of the entire section of that portion of the cross-section lying outside of section A-A*

b = *width at section A-A*

ELECTRICAL

$$\text{Foot-candles} = \frac{\text{lumens}}{\text{area in ft}^2}$$

$$\text{Foot-candles} = \frac{\text{(lamp lumens) x (lamps per fixture) x (number of fixtures) x (CU) x (LLF)}}{\text{area in ft}^2}$$

$$\text{Number of luminaires} = \frac{\text{(foot-candles) x (floor area)}}{\text{(lumens) x (CU) x (LLF)}}$$

where CU = coefficient of utilization
LLF = Light Loss Factor

$$DF_{av} = 0.2 \times \frac{\text{window area}}{\text{floor area}}$$

for spaces with sidelighting or toplighting with vertical monitors

watt = volts x amperes x power factor

for AC circuits only

Demand charge = maximum power demand x demand tariff

PLUMBING

1 ps = 2.31 feet of water

1 cubic foot = 7.5 U.S. gallons

HVAC

$$\text{BTU/year} = \text{peak heat loss} \times \frac{\text{full-load hours}}{\text{year}}$$

$$\text{BTU/h} = (\text{cfm}) \times (1.08) \times (\Delta T)$$

$$1\ \text{kWh} = 3{,}400\ \text{BTU/h}$$

$$1\ \text{ton of air conditioning} = 12{,}000\ \text{BTU/h}$$

$$\text{BTU/h} = (U) \times (A) \times (T_d)$$

where T_d is the difference between indoor and outdoor temperatures

$$U = 1/R_t$$

$$U_o = \frac{(U_W \times A_W) + (U_{op} \times A_{op})}{A_o}$$

where o = total wall, w = window, and op = opaque wall

$$U_o = \frac{(U_R \times A_R) + (U_S \times A_S)}{A_o}$$

where o = total roof, R = roof, and S = skylight

$$R = x/k$$

where x = thickness of material in inches

$$\text{Heat required} = \frac{\text{BTU/h}}{\text{temperature differential}} \times (24\ \text{hours}) \times (\text{DD °F})$$

where DD = degree days

ACOUSTICS

$$\lambda = \frac{c}{f}$$

where λ = *wavelength of sound (ft)*
c = *velocity of sound (fps)*
f = *frequency of sound (Hz)*

$$a = SAC \times S$$

where a = *absorption of a material used in space (sabins)*
SAC = *sound Absorption Coefficient of the material*
S = *exposed surface area of the material (ft^2)*

$$A = \Sigma a$$

where A = *total sound absorption of a room (sabins)*
Σa = $(S_1 \times SAC_1) + (S_2 \times SAC_2) + \ldots$

$$T = 0.05 \times \frac{V}{A}$$

where T = *reverberation time (seconds)*
V = *volume of space (ft^3)*

NRC = average SAC for frequency bands 250, 500, 1000, and 2000 Hz

Structural Resources

Below you will find a list of structural resources and beam nomenclature you may encounter while taking the ARE. Familiarize yourself with the resources and nomenclature before testing. If a resource is required to determine a correct response, it will be provided within the item. You will find the necessary formula after the question under the "Reference Formula" subheading. The structural resources and beam nomenclature will also be provided to you during your exam administration.

Beam Diagrams and Formulas	Source	Pages
Simple Beam: Diagrams and Formulas - Conditions 1-3	*A*	*3-213*
Simple Beam: Diagrams and Formulas - Conditions 4-6	*A*	*3-214*
Simple Beam: Diagrams and Formulas - Conditions 7-9	*A*	*3-215*
Beam Fixed at Both Ends: Diagrams and Formulas - Conditions 15-17	*A*	*3-218*
Beam Overhanging One Support: Diagrams and Formulas - Conditions 24-28	*A*	*3-221 & 222*

Sources

A *United States. American Institute of Steel Construction, Inc. Steel Construction Manual; 14th edition. Chicago, Illinois, 2011.*

Structural Resources

Dimensions and Properties	Source	Pages
W Shapes 44 thru 27: Dimensions and Properties	*A*	*1-12 thru 17*
W Shapes 24 thru W14x145: Dimensions and Properties	*A*	*1-18 thru 23*
W Shapes 14x132 thru W4: Dimensions and Properties	*A*	*1-24 thru 29*
C Shapes: Dimensions and Properties	*A*	*1-36 & 37*
Angles: Properties	*A*	*1-42 thru 49*
Rectangular HSS: Dimensions and Properties	*A*	*1-74 thru 91*
Square HSS: Dimensions and Properties	*A*	*1-92 thru 95*
Round HSS: Dimensions and Properties	*A*	*1-96 thru 100*
Live Loads	**Source**	**Pages**
Table 1607.1 - Minimum Uniformly Distributed Live Loads and Minimum Concentrated Live Loads	*B*	*368-369*

Sources

A *United States. American Institute of Steel Construction, Inc. Steel Construction Manual; 14th edition. Chicago, Illinois, 2011.*

B *United States. International Code Council, Inc. 2018 International Building Code. Country Club Hills, Illinois, 2017.*

Typical Beam Nomenclature

E	*Modulus of Elasticity of steel at 29,000 ksi*
I	*Moment of Inertia of beam, in^4*
L	*Total length of beam between reaction point, ft*
M_{max}	*Maximum moment, kip-in*
M_1	*Maximum moment in left section of beam, kip-in*
M_2	*Maximum moment in right section of beam, kip-in*
M_3	*Maximum positive moment in beam with combined end moment conditions, kip-in*
M_x	*Maximum at distance x from end of beam, kip-in*
P	*Concentrated load, kips*
P_1	*Concentrated load nearest left reaction, kips*
P_2	*Concentrated load nearest right reaction and of different magnitude than P_1, kips*
R	*End beam reaction for any condition of symmetrical loading, kips*
R_1	*Left end beam reaction, kips*
R_2	*Right end or intermediate beam reaction, kips*
R_3	*Right end beam reaction, kips*
V	*Maximum vertical shear for any condition of symmetrical loading, kips*
V_1	*Maximum vertical shear in left section of beam, kips*
V_2	*Vertical shear at right reaction point, or to left of intermediate reaction of beam, kips*
V_3	*Vertical shear at right reaction point, or to right of intermediate reaction of beam, kips*
V_x	*Vertical shear at distance x from end of beam, kips*
W	*Total load on beam, kips*
a	*Measured distance along beam, in*
b	*Measured distance along beam which may be greater or less than a, in*
l	*Total length of beam between reaction points, in*
w	*Uniformly distributed load per unit of length, kips/in*
w_1	*Uniformly distributed load per unit of length nearest left reaction, kips/in*
w_2	*Uniformly distributed load per unit of length nearest right reaction and of different magnitude than w_1, kips/in*
x	*Any distance measured along beam from left reaction, in*
x_1	*Any distance measured along overhang section of beam from nearest reaction point, in*
Δ_{max}	*Maximum deflection, in*
Δ_a	*Deflection at point of load, in*
Δ_x	*Deflection at point x distance from left reaction, in*
Δ_{x1}	*Deflection of overhang section of beam at any distance from nearest reaction point, in*

Excerpted from

A United States. American Institute of Steel Construction, Inc. Steel Construction Manual; 14th edition. Chicago, Illinois, 2011.

Additional Helpful Resources

NCARB has many other resources that can help you prepare for the ARE. You'll want to check the NCARB Blog and ncarb.org for the latest testing information in addition to the following resources:

ARE 5.0 COMMUNITY

The ARE 5.0 Community is an online forum where you can post your questions to get help from NCARB and third-party experts, as well as from other candidates. It's also a great place to form study groups, post comments, and engage in dialogue with other candidates who are on the path to licensure.

ARE 5.0 VIDEO SERIES

NCARB offers a collection of videos to help you prepare for ARE 5.0, including the ARE 5.0 Division Video series, which offers exclusive insight into each ARE 5.0 division with information on content, sample questions, and suggested references. Watch each one to learn more about a division.

You can explore several tips and techniques to help you navigate and take a division of ARE 5.0 in the ARE 5.0 Exam Strategies Video. This video includes pointers on item types, scoring, case study navigation, and the use of case study resources.

There's also an ARE 5.0 Exam Navigation Video where an NCARB expert will walk you through the exam's navigation tools and format. Watch to learn more about accepting the Candidate Agreement, using the tools available to you, marking and reviewing items, and exiting the exam when you're finished.

THE APPROVED TEST PREP PROVIDER PROGRAM

In 2018, NCARB launched the Approved Test Prep Provider Program to review and approve study materials from third-party test prep providers. With the recent launch of our free ARE practice exams, NCARB is refocusing our candidate support toward in-house development of resources and study materials. In order to provide proactive and effective guidance to test prep providers, the Approved Test Prep Provider Program was discontinued effective July 1, 2022.

All materials approved by NCARB while the Approved Test Prep Provider Program was in operation retain their approved status through December 31, 2022. NCARB cannot guarantee that the study materials approved through this program will ensure that you pass any ARE divisions. See a list of approved test prep providers.

APPENDICES

Appendix A

ARE CANDIDATE AGREEMENT

(Amended January 2019)

I affirm that the information given in my NCARB Record is true, correct, and complete to the best of my knowledge. By clicking "I Accept," I agree to abide by the following terms and am entering into a binding agreement ("Agreement") between me and the National Council of Architectural Registration Boards (NCARB).

- I have READ, UNDERSTAND, and AGREE to ABIDE BY the Architect Registration Examination® (ARE®) policies and regulations as set forth in the ARE Guidelines ("ARE Policies and Regulations"). Further, I ACKNOWLEDGE and AGREE that NCARB reserves the right to modify or alter at any time any rules, policies or procedures set forth in the ARE Policies and Regulations, which revisions or modifications shall be binding upon me.
- I UNDERSTAND that disciplinary action for violation of this Agreement and/or the ARE Policies and Regulations may include, without limitation, suspension of my ARE test taking privileges, cancellation of my ARE scores, and/or my potential inability to obtain future NCARB Certification or to become registered as an architect.
- I AGREE that I will always conduct myself professionally and civilly while at the testing center, I will follow instruction given by the test center staff, and I will act in an honest and reasonable manner.
- I UNDERSTAND that all content of the ARE is confidential, the property of NCARB, and protected by US copyright laws.
- I AGREE that I will not copy or attempt to reproduce ARE content for my own later use.
- I AGREE that I will not disclose to anyone by any means – electronic, written, graphic or verbal – the substance or details of any ARE content, including but not limited to exhibits, resources, graphics and/or alleged answers.
- I AGREE that I have not obtained, nor will I seek to obtain, ARE content disclosed by others.
- I AGREE to notify NCARB if I believe I have received exam content by any means of communication.
- I AGREE that I will not disclose or disseminate ARE content that others may have disclosed to me.
- I AGREE that any action to enforce this Agreement, the ARE Policies and Regulations, and/or any action for infringement of NCARB's copyright of the ARE may be commenced in or transferred to the United States District Court (or other court of competent jurisdiction) where NCARB's principal office is located, which currently is the District of Columbia, and I hereby consent to the personal jurisdiction of such court. Further, I AGREE that the validity, interpretation and performance of this Agreement shall be governed by and construed in accordance with the laws of the District of Columbia.
- I UNDERSTAND that a violation of this Agreement or the ARE Policies and Regulations may result in my civil liability to NCARB for its costs and monetary damages, which may be substantial, as well as disciplinary actions taken against me by NCARB.
- I UNDERSTAND that a violation of this Agreement or the ARE Policies and Regulations may result in notification to the registration Board responsible for my examination eligibilities, which may lead to further disciplinary action by such Board.

I HEREBY RELEASE, DISCHARGE AND HOLD HARMLESS INDIVIDUALLY AND COLLECTIVELY NCARB AND ITS OFFICERS, DIRECTORS, EMPLOYEES, MEMBERS, VOLUNTEERS, SUBSIDIARIES, AGENTS, SUCCESSORS, AND ASSIGNS, INCLUDING MEMBERS, EMPLOYEES, AND AGENTS OF NCARB, FROM ANY AND ALL CLAIMS OR LIABILITY THAT MAY ARISE, DIRECTLY OR INDIRECTLY, NOW OR IN THE FUTURE, BY REASON OF OR IN CONNECTION WITH ANY DECISION, ACTION, OR OMISSION RELATING TO NCARB'S ADMINISTRATION OF THE ARE.

Appendix B

PSI ONLINE PROCTORING CANDIDATE PRIVACY AGREEMENT

For a period of time, PSI's online proctoring platform ("Bridge") will access your computer's camera, microphone, and browser in order to collect video and audio recordings from the start of your exam check-in process until your proctoring session ends. Video recordings may include yourself, your desk, and your workspace. Recording and monitoring is necessary in order to uphold the integrity of the online proctoring process and maintain security of licensure exam content.

The information recorded will not be sold but may be made available, upon request, to NCARB authorized personnel, who may use this information to assess the integrity of the exam, including invalidating exam results or imposing other sanctions when fraud is suspected. Recordings will be retained in secure storage for a period of 30 days or longer as required by law.

To learn more about what information is collected; the purpose of data collection; disclosure, security, and retention procedures; and your legal rights, refer to the full PSI Privacy Policy, which can be found at https://www.psionline.com/legal/privacy-policy/.

In order to schedule your test, you must acknowledge, agree, and consent to all of the following:

- You will be audio and video recorded throughout your examination experience.
- You will be monitored in real-time by PSI's proctoring application and a live proctor throughout your examination experience.
- You will not have a right to privacy or a right to claim a violation of privacy throughout your examination experience.

☐ I affirm that I am at least 18 years of age, and that I am able to consent to the collection and processing of my personal data.

☐ I acknowledge, agree, and consent to all of the foregoing.

Appendix C

Policy for the ARE: Exam Candidate Conduct

*(Amended **September 2020**)*

The following policy has been established by NCARB's Board of Directors to provide procedures in the event of exam candidate misconduct while preparing for, taking or after taking the Architect Registration Examination® (ARE®). Exam candidate misconduct includes, but is not limited to, the particular violations described below; any other violation of ARE test regulations; and any other misconduct, inappropriate behavior, or breach of examination security. The Board anticipates that these procedures will be applicable to most exam candidate misconduct. Nevertheless, the Board reserves the right to impose any sanction it believes appropriate, either more or less than those noted below. Action taken by the NCARB Board of Directors is final and non-appealable. In addition, if the individual subsequently seeks NCARB certification, the matter will be considered in deciding whether to grant NCARB certification.

The ARE is copyrighted and each candidate enters into the *ARE Candidate Agreement* by requesting eligibility to test affirming, among other things, not to copy or disclose any ARE questions or their content. Copying or disclosing test questions or any other examination content is a violation of NCARB's copyright and the *ARE Candidate Agreement*. In addition to the sanctions described below, where warranted, NCARB may pursue all legal remedies available to recover monetary damages caused by such conduct and to enjoin violations of its rights with respect to the ARE.

Upon discovery of any exam candidate misconduct in any category below, NCARB shall have the authority to place a "hold" on pending scores and all open exam eligibilities to test and cancel any scheduled exam(s) pending further investigation, review by NCARB's Professional Conduct Committee (PCC), and action by NCARB's Board of Directors if applicable. If no action is taken or only a warning letter is issued, NCARB will reopen any closed eligibilities to test and assist the candidate in rescheduling the canceled exam(s) at no additional cost to the candidate.

Appendix C

Procedures for Exam Candidate Misconduct

Category 1: Seeking or Failing to Report Disclosed ARE Content

Simply put: A candidate may not attempt to gain access to ARE content disclosed by others. If a candidate is unwillingly exposed to exam content by others, the candidate shall report the incident to NCARB.

A candidate may not willfully obtain or seek to obtain ARE test questions, ARE exhibits, or ARE resources disclosed by others. If a candidate unwillingly receives or discovers exam content disclosed by others, the candidate must report the disclosed content to NCARB.

The consequences may be any or all the following:

Initial NCARB Action:

- Issue warning letter to candidate and send copy to candidate's board, and/or
- Forward to PCC for review.
  - Send candidate notification of PCC review and permit 30 days for response by candidate.
  - Send copy of PCC notification to candidate's board.

NCARB PCC Action:

- Following review, recommend any or all the following:
  - Issue warning letter to candidate and send copy to candidate's board.
  - Recommend action to NCARB's Board of Directors including any or all the following:
    - Cancellation of score(s) for the division(s) which content was sought or obtained for and any subsequent division(s) taken.
    - Suspension of test authorization for all divisions for up to **5 years** from date attempting to gain ARE content, or date of receipt of ARE content, or **such longer period as may be warranted**.
    - Prohibit granting of an NCARB Certificate for up to **3 years** from date of initial registration, or **such longer period as may be warranted.**
    - Any other sanction permitted under the **PCC Rules of Procedure**.

NCARB Board of Directors Action:

- Review and act upon final decision.
- Notification of action taken will be forwarded to the candidate and the candidate's board.

Appendix C

Category 2: Inappropriate Conduct

Simply put: Candidates are always required to conduct themselves professionally and civilly throughout the examination process.

Candidates shall not engage in any behavior, written, verbal or physical, that may be considered inappropriate, abusive, disruptive, threatening, discriminatory, prejudicial or harassing in nature. Candidates must conduct themselves professionally and civilly during any test appointment, while engaging with NCARB, any NCARB member jurisdiction, and/or any vendor working on behalf of NCARB. Candidates are required to follow instruction given by test administration staff.

The consequences may be any or all the following:

Test Administrator Action:

- Immediate dismissal from the test appointment.
- Banning the candidate from use of that test center or online proctoring for any and all future examination appointments.

Initial NCARB Action:

- Issue warning letter to candidate and send copy to candidate's board, and/or
- Forward to PCC for review.
    - Send candidate notification of PCC review and permit 30 days for response by candidate.
    - Send copy of PCC notification to candidate's board.

NCARB PCC Action:

- Following review, PCC may recommend any or all the following:
    - Issue warning letter to candidate and send copy to candidate's board.
    - Recommend action to NCARB's Board of Directors including any or all the following:
        - Cancellation of score for the division.
        - Suspension of test taking authorization for all divisions for up to **5 years** from date of inappropriate conduct or **such longer period as may be warranted.**
        - Any other sanction permitted under the **PCC Rules of Procedure**.

NCARB Board of Directors Action:

- Review and act upon final decision.
- Notification of action taken will be forwarded to the candidate and the candidate's board.

Appendix C

Category 3: Unauthorized Access to Devices or Materials in the Testing Room.
Simply put: Only authorized electronic devices and other approved materials are allowed in the testing room at any time during the administration.

Unapproved electronic devices or any other unapproved materials may not be accessed in the testing room at any time during the exam administration. Access to approved accommodated testing devices is allowed. Candidates must allow the proctor to inspect accommodated testing devices.

The consequences may be any or all the following:

Test Administrator Action:

- Inspect and/or confiscate inappropriate materials and /or devices accessed.
- Immediate dismissal from the test appointment.
- Confiscation of unauthorized devices or materials by the test center staff.

Initial NCARB Action:

- Issue warning letter to candidate and send copy to candidate's board, and/or
- Forward to PCC for review.
  - Send candidate notification of PCC review and permit 30 days for response by candidate.
  - Send copy of PCC notification to candidate's board.

NCARB PCC Action:

- Following review, PCC may recommend any or all the following:
  - Issue warning letter to candidate and send copy to candidate's board.
  - Recommend action to NCARB's Board of Directors including any or all the following:
    - Cancellation of score for the division.
    - Suspension of test taking authorization for all divisions for up to **5 years** from date of test administration.
    - Any other sanction permitted under the **PCC Rules of Procedure**.

NCARB Board of Directors Action:

- Review and act upon final decision.
- Notification of action taken will be forwarded to the candidate and the candidate's board.

Appendix C

Category 4: Copying, Recording or Disseminating ARE Content

Simply put: Candidates may not attempt to reproduce, record or share the content of any ARE question, ARE exhibit, or ARE resource viewed during their exam appointment, whether through electronic or other means. If someone else discloses what they saw on the ARE, candidates may not forward, re-post, or otherwise disclose that information.

It is prohibited to record or transcribe ARE content, either from memory, electronic or other means, regardless of whether such ARE content is subsequently disclosed. It is further prohibited to forward, re-post, or otherwise disclose any ARE Content that others may have disclosed. It is also prohibited for test-takers to attempt to remove ARE content from the testing room, whether by notes in any form from the testing room, or by use of devices (including without limitation cameras, audio recorders, or scanning or digital storage devices) to record or transmit test content at or from the testing room, or by any other means of data recording or information transmission.

The consequences may be any or all the following:

Test Administrator Action:

- Inspect and/or confiscate inappropriate materials and/or devices accessed.
- Immediate dismissal from the test appointment.

Initial NCARB Action:

- Issue warning letter to candidate and send copy to candidate's board, and/or
- Forward to PCC for review.
  - Send candidate notification of PCC review and permit 30 days for response by candidate.
  - Send copy of PCC notification to candidate's board.

NCARB PCC Action:

- Following review, recommend any or all the following:
  - Issue warning letter to candidate and send copy to candidate's board.
  - Recommend action to NCARB's Board of Directors including any or all the following:
    - Cancellation of score(s) for the division(s) from which content was copied or disseminated and any subsequent division(s) taken.
    - Suspension of test authorization for all divisions for a minimum of **3 years** and up to **5 years** from date of test administration, or **such longer period as may be warranted**.
    - Prohibit granting of an NCARB Certificate for a minimum of **1 year** and up to **3 years** from date of initial registration, or **such longer period as may be warranted.**
    - Any other sanction permitted under the **PCC Rules of Procedure**.

NCARB Board of Directors Action:

- Review and act upon final decision.
- Notification of action taken will be forwarded to the candidate and the candidate's board.

Appendix C

Category 5: Attempting to Disrupt or Gain Unauthorized Access to the ARE

Simply put: Candidates may not attempt to disrupt the delivery of or illegally access an administration of the ARE, ARE content, or ARE results using electronic means of any sort.

It is prohibited to attempt to obtain ARE information from a computer through unauthorized access; trafficking in a computer password that can be used to access a computer; transmitting spam; and/or damaging computer data by any means, including a candidate's own ARE administration or the ARE administration of any other candidate, whether the exam was administered at a test center or through online proctoring. It is prohibited to attempt to intentionally disrupt any administration of the ARE, the processing of examination scoring, or the delivery of examination results in any way.

The consequences may be any or all the following:

Test Administrator Action:

- Inspect and/or confiscate inappropriate materials and/or devices accessed.
- Immediate dismissal from the test appointment.

Initial NCARB Action:

- Issue warning letter to candidate and send copy to candidate's board, and/or
- Forward to PCC for review.
  - Send candidate notification of PCC review and permit 30 days for response by candidate.
  - Send copy of PCC notification to candidate's board.

NCARB PCC Action:

- Following review, recommend any or all the following:
  - Issue warning letter to candidate and send copy to candidate's board.
  - Recommend action to NCARB's Board of Directors including any or all the following:
    - Cancellation of score(s) for the impacted division(s) and any subsequent division(s) taken.
    - Suspension of test authorization for all divisions **indefinitely.**
    - Prohibit granting of an NCARB Certificate **indefinitely**.
    - Any other sanction permitted under the **PCC Rules of Procedure**.

NCARB Board of Directors Action:

- Review and act upon final decision.
- Notification of action taken will be forwarded to the candidate and the candidate's board.

NCARB

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