


CARTA DE TRAMITE

Para: Departamento de Educación
Dr. Eligio Hernández Pérez
Secretario de Educación

De: Nombre de la Compañía Consultora: Integra Desig Group, PSC
Dirección Postal: c Arterial B #576
Suite #2 San Juan PR 00918
Teléfono: 787-767-2111
Nombre del Representante Autorizado: *Roberto C. Rivera Del Valle*
Firma: 

Escuela:	James Garfield	Código:	40915
Municipio:	Cabo Rojo	Fecha de Inspección:	17-enero-2020

Nombre del Ingeniero que emite la recomendación: Roberto C Rivera Del Valle

Anejos:

1. Recomendación al Secretario
2. Estampilla Digital Especial emitida por el CIAPR
3. Informe de inspección Ocular

OCULAR INSPECTION CHECKLIST

Where description is indicated, attach additional pages of notes and photographs keyed to appropriate checklist item.

A. GENERAL INFORMATION

1. Street Address of the School: CARR. 103 Km 7.1 Bo. Padernalbo
 City: CAROL ROJO State: Puerto Rico Zip: 00623
2. School Name: JAMES GARFIELD (40915)
3. Date of Inspection: JAN 17, 2020
4. Inspector's Name: Roberto G. Rivera Mesallo

B. BUILDING SITE INSPECTION

5. Utility Service Safety:

IMPORTANT—Immediately following an earthquake, check the entire property, especially near appliances, for the smell of gas. If gas odor is detected, turn off the gas at the meter where it enters the building. Locate and repair leaks before turning gas back on. If the gas odor persists after the gas has been shut off, vacate the building and contact the gas utility company immediately.

IMPORTANT—Before entering a damaged, vacant building verify that gas is off. Check the gas meter for damage and position of main gas valve, either a manual valve or a seismically-activated gas shut-off valve. Do not enter the building if gas odor is detected.

- a. Odor of gas leakage? YES NO b. Downed powerlines? YES NO

6. Surrounding topography: (#check one)

- Flat
 Gently sloping (easily walkable)
 Steeply sloping (difficult or impossible to walk in some areas)

7. Building pad: (#check one)

- Flat
 Terraced or multilevel
 Gently sloping (less than 4-foot ground surface elevation difference across building)
 Steeply sloping (greater than 4-foot ground surface elevation difference across building)

8. Geotechnical Issues: (if yes, provide description and photos)

- | | YES | NO |
|---|--------------------------|-------------------------------------|
| a. New cracks in the ground? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Signs of fresh cracking in or movement of hardscape? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Signs of fresh cracking in or movement of retaining walls? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Patterns of cracking that extend through the ground surface, hardscape, and improvements? | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Evidence of sand boils or other fresh-appearing deposits of sand or mud? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. Unusual slumping, rising, or bulging of the ground surface? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g. Evidence of rock falls or slope instability above site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h. Ground movement or wet areas indicating possible broken underground utility lines? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i. Other phenomena (e.g., septic tanks surfacing, differential settlement, ground consolidation)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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B. BUILDING SITE INSPECTION (continued)

9. Evidence of earthquake-induced permanent ground deformation in the immediate vicinity of the property? YES NO

C. GENERAL BUILDING INFORMATION

10. Safety Assessment Tag: (#check one) None Green Yellow Red
 (others): Yellow Red

11. a) Year of original construction (best estimate): _____
 b) Total square footage (best estimate): _____

12. Have any repairs, modifications, or demolition been performed since the earthquake? YES NO
 If yes, describe _____

13. Building configuration:

- a. Single story
- b. Combination one and two story
- c. Full two story
- d. Three story
- e. Split level
- f. Typical
- g. Other, describe VARIABLES. Multiple Buildings.

14. Exterior wall finish:

- a. Stucco
- b. Panel siding
- c. Metal siding
- d. Masonry veneer
- e. Other, describe CMU & PLASTER

15. Foundation configuration:

- a. Slab-on-grade
- b. Crawlspace without cripple walls
- c. Crawlspace with cripple walls
- d. Exposed piers or posts
- e. Typical
- f. Metal
- g. Other, describe _____

16. Sill bolting: N/A

- a. Structure bolted to foundation
- b. Structure not bolted to foundation
- c. Don't know

17. Roof configuration:

- a. Gable
- b. Hip
- c. Flat or very low slope
- d. Shed
- e. Other, describe _____

18. Roof covering:

- a. Asphaltic membrane
- b. Wood shingle or shake
- c. Concrete
- d. Metal
- e. Elastomeric
- f. Other, describe DANOSA

OCULAR INSPECTION CHECKLIST

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D. EXTERIOR BUILDING INSPECTION

	YES	NO	N/A
19. General: (if yes, provide description and photos)			
a. Collapse, partial collapse, or building off foundation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Obvious lean in any story?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
20. Exterior walls: (if yes, provide description and photos)			
a. Fresh cracking at corners of door and window openings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Fresh cracking at building corners?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Door or window openings racked out of square?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Broken glass in windows or doors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Wall leaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Bulging or delamination of stucco?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
g. Pattern of cracking that extends from the ground surface, through foundation, and wall?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
h. Evidence of recent relative movement at mudsill line?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
i. At locations where the exterior stucco is continuous from the framing down over the foundation, is there cracking of stucco along the mudsill level accompanied by indications of permanent displacement (sliding) of the building relative to the foundation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j. Collapse, partial collapse, or separation of masonry veneer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
k. Severe cracking, separations, or offsets at building irregularities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21. Foundation: (if yes, provide description and photos)			
a. Fresh cracking of exposed perimeter foundation? <i>Not observed.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<i>N/A</i>
b. Relative movement between slab and footing in "two-pour" slab-on-grade foundations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Ask occupant if any earthquake retrofits have been done to the building?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Y describe: _____			
d. If the answer to c is Y, were bolts added to connect the building to the foundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. If the answer to c is Y, were plywood or sheathing added to any cripple walls under the building?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

OCULAR INSPECTION CHECKLIST

Where description is indicated, attach additional pages of notes and photographs keyed to appropriate checklist item.

D. EXTERIOR BUILDING INSPECTION (continued)

22. Kitchen Hook (if yes, provide description and photos)

	YES	NO	N/A
a. Present on external wall?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Present at internal location?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Collapse or partial collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Visible damage or cracking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Visible tilting or separation from building?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Shifted or loose and displaced	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Deterioration or deformation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

23. Roof: (if yes, provide description and photos)

a. Shifted or dislodged or concrete damage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Impact damage to roof from falling object?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Displaced rooftop HVAC units?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Significantly sagging roof ridgelines?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Signs of movement between rafter tails and wall finishes at eaves?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Buckled/dislodged flashing or tearing of roof membrane, roof/wall intersections in split level buildings, additions, or other building irregularities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Tearing of roof membrane or deck waterproofing at re-entrant corners?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Toppling, shifting, or damage/leakage at refrigerant and electrical lines of rooftop mechanical equipment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Shifting of or damage to solar panels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Where description is indicated, attach additional pages of notes and photographs keyed to appropriate checklist item.

D. EXTERIOR BUILDING INSPECTION (continued)

- | | YES | NO | N/A |
|--|--------------------------|-------------------------------------|--------------------------|
| 24. Attached or abutting improvements: (if yes, provide description and photos) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| a. Collapse, partial collapse, or separation of attached porches, carports, Gazebos, or awnings? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Evidence of recent settlement or displacement of exterior steps, patios, or walkways relative to the building? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Signs of movement between building floor and/ or exterior hardscape or retaining wall along the uphill side of non steeply sloping sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. Toppling, shifting, or damage/leakage at refrigerant and electrical lines of air conditioning condenser unit(s)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 25. Independent exterior improvements: (if yes, provide description and photos) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| a. Damaged detached gazebo? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Damage to fences / privacy walls? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Damage to retaining walls? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. Damage to walkway? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. Evidence of leakage from water supply lines? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f. Toppling, shifting, or damage/leakage at fuel connection of propane tanks? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g. Others damage | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

E. INTERIOR INSPECTION

26. General information

a. If interior access not possible, identify reason

- i. Red tag
- ii. Hazardous materials
- iii. Other hazardous condition, describe _____
- iv. Other, describe _____

b. Typical wall and ceiling finish

- i. Drywall
- ii. Plaster on gypsum lath
- iii. Plaster on wood lath
- iv. Other, describe Plaster on CONCRETE
± CMU.

Access was granted to all areas.

OCULAR INSPECTION CHECKLIST

Where description is indicated, attach additional pages of notes and photographs keyed to appropriate checklist item.

E. INTERIOR INSPECTION (continued)

	YES	NO	N/A
27. Walls: (if yes, provide description and photos)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Fresh cracking, buckling, spalling, or detachment of interior wall finish at corners of door and window openings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Fresh cracking of wall finishes at wall corners or wall/ceiling intersections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Door or window openings racked out of square?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Wall leaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Pattern of cracking that extends from the floor slab through the wall?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Movement or sliding of walls relative to the floor?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Severe cracking, separations, or offsets at building irregularities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Doors damaged, difficult to operate, or inoperable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Windows damaged, difficult to operate, or inoperable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
28. Ceilings: (if yes, provide description and photos)			
a. Collapse of ceiling finish?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Fresh cracking of ceiling finishes, especially at re-entrant corners; cracks along corner bead at stairwell openings; cracking or tearing of finishes at ceiling/wall juncture; or multiple "nail pops"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Damage to ceiling finishes in vicinity of corridors or commons places?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Separations or cracks in ceiling finishes at split-levels, re-entrant corners, additions, appendages, or other building discontinuities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Water damage or evidence of recent leakage from plumbing lines or roofing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

OCULAR INSPECTION CHECKLIST

Where description is indicated, attach additional pages of notes and photographs keyed to appropriate checklist item.

E. INTERIOR INSPECTION (continued)

	YES	NO	N/A
29. Floors: (if yes, provide description and photos)			
a. Evidence of recent sloping, sagging, settlement or displacement of floors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. In slab-on-grade locations, fresh cracking of floor slab or floor finishes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Significant sagging or unusual bounciness of floors frames?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Separations or cracks in floor finishes at split-levels, re-entrant corners, additions, appendages, or other building discontinuities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Signs of movement between floor and exterior hardscape or retaining wall along the uphill side of buildings on steeply sloping sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. A pattern of fresh cracks, gaps, or joint separations in floor finishes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Impact damage to floor finishes from falling contents?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
30. Mechanical systems: (if yes, provide description and photos)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Displaced connection of appliance flues connected to chimneys?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Toppling, shifting, leakage from tank, leakage from water connections displaced flue connection or damage/leakage at gas line or electrical connection of water heater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Shifting, damage/leakage at gas line, flue connection, electrical connection, refrigerant line, and condensate drain connection of furnace or air conditioning fan-coil unit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Damage to gas line of gas stoves or gas fueled clothes dryers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Damage to toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Decreased or restricted water pressure at appliances, faucets, or toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Toppling or shifting of free-standing wood stove and/or flue?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Toppling, shifting, damage/leakage at fuel connection of fuel oil tank?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Other Damage in the dining room	* <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Damage near the gas tank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

* No damage was noted on dining room, however, the exhaust hood is not properly restrained.

OCULAR INSPECTION CHECKLIST

Where description is indicated, attach additional pages of notes and photographs keyed to appropriate checklist item.

E. INTERIOR INSPECTION (continued)

	YES	NO	N/A
31. Architectural woodwork and special finishes: (if yes, provide description and photos)			
a. Shifting of or damage to kitchen or bathroom cabinetry?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Impact damage to countertops from falling objects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Cracking of ceramic tile in showers or tub/shower enclosures consistent with earthquake damage to adjacent wall finishes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

F. CONTINGENT INSPECTIONS

	YES	NO	N/A
32. Retaining Tank Wall damage?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
33. Water tank or other field subterranean structure	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

OCULAR INSPECTION CHECKLIST

G. RECOMENDACIÓN AL SECRETARIO

Departamento de Educación
Dr. Eligio Hernández Pérez
Secretario de Educación

Hora de Entrada
a Inspección: 12:30 PM

Hora de Salida de
Inspección: 3:00 PM

Escuela: JAMES GARFIELD

Código: 40915

Municipio: Cabo Rojo

Fecha de Inspección: JAN 17, 2020

Abrir Escuela (Verde)

Abrir Parcialmente la Escuela (Amarillo)

No Abrir la Escuela (Rojo)

Comentarios:

SEE COMMENTS ON SEPARATE PAGE ATTACHED.

Se debe entender que este informe está basado solamente en una inspección ocular de las facilidades con el propósito de observar en las escuelas la presencia de daños significativos causados por los eventos sísmicos registrados hasta la fecha de este informe. La determinación de la adecuación estructural de las escuelas y su cumplimiento con los códigos aplicables de diseño o construcción, al igual que el desarrollo de recomendaciones para la rehabilitación de las facilidades, requerirá una evaluación detallada.

Roberto C. Rivera Delvalle
Nombre (Letra de Molde)

[Signature]
Firma

27373
Licencia



James Garfield School is composed of four (4) main classroom building which are made of reinforced concrete. Lateral force resisting system (LFRS) are identified in all buildings to be single bay frames infilled with partition CMU walls. The LFRS was observed to be on the transverse direction of such building only. Typically, no stiff elements capable of resist lateral loads are provided on the longitudinal direction. Also, confined column (short columns) deficiency is persistent around the perimeter of all observed buildings. Also, because of the year of construction, must likely no proper confinement nor geometric detailing was provided.

This school doesn't show noticeable signs of damages caused by the lastest ground motion events prior to the date of our site visit, however, multiple deficiencies and defects were observed not attributed to these events. Comments are as follow:

- Patterns of cracking, not attributed to the seismic events, were noted on ground surface.



- Cracks on window and door openings were noted in the library and autism classrooms but these defects are not attributed to the ground motion events prior to our site visit. In an interview with the school director and personnell, they confirmed that these cracks were present prior to the ground motion events.



- Evidence of water infiltration from roofing was persistent in every building but not attributed to the ground motion events. Due to this defects, some spalling and delimitation of concrete was observed on interior ceiling. This might represent a falling object hazard and it is recommended to be repaired.



- The exhaust hood on the dining room is not properly restrained and this might represent a hazard during a strong ground motion event. It is recommended to be restrained.



- All condensers and equipment externally attached are recommended to be properly restrained.



- A further seismic evaluation and retrofit is recommended for the aforementioned deficiencies and vulnerabilities and for code compliance.

James Garfield School is in fair conditions as before the ground motion event registered prior to our site visit. No damages caused by these seismic events that represent a hazard to the students under service loads. Some vulnerabilities were identified and a further seismic evaluation and retrofit in accordance with ASCE 41 standard is recommended.

Based on our findings and comments provided above, our recommendation is that James Garfield school can open for classes.



COLEGIO DE INGENIEROS Y AGRIMENSORES
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ESTAMPILLA DIGITAL ESPECIAL (EDE)

Ing. Carlos I. Baez Dotel, PE



Práctica de: Ingeniería
Licencia: 17371
Renglón: Documento
Descripción del Trabajo: Inspección y Verificación de Instalaciones
Fecha de Emisión: 2020-01-20
Monto Emitido: \$5
Número de Serie: 7808-9361-2135-4066
Número de Caso: 40915
Proyecto / Unidad: Esc. James Garfield
Rol del Profesional: Consultor



Certificación:

El profesional certifica con la emisión de la estampilla digital especial del Colegio de Ingenieros y Agrimensores de Puerto Rico el haber cumplido con las disposiciones de la Sección 11 de la Ley 319 del 15 de mayo de 1938, según enmendada.

La colocación del sello profesional constituye la cancelación de la estampilla digital especial