Puerto Rico’s Reconstruction & Business Opportunities
Emilio Colón Zavala PE
Chairman of the Board
August 22, 2019
RAW LAND = 83.75%

DEVELOPED LAND = 16.25%
INFORMAL = 8.98% (55%)

FORMAL = 7.27% (45%)
The Affordability Problem (Prior to 2017 Hurricanes)

<table>
<thead>
<tr>
<th>Item</th>
<th>RURAL LOAN</th>
<th>FHA LOAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage Insurance / Other</td>
<td>$37.10</td>
<td>$118.42</td>
</tr>
<tr>
<td>Hazard Insurance</td>
<td>$24.67</td>
<td>$23.73</td>
</tr>
<tr>
<td>MORTGAGE PAYMENT (P&amp;I) @ 3.75%</td>
<td>$519.82</td>
<td>$500.20</td>
</tr>
<tr>
<td>Social Interest Housing @ $110,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Monthly Cost</td>
<td>$581.59</td>
<td>$642.35</td>
</tr>
<tr>
<td>EVIDENCABLE MONTHLY INCOME NEED TO QUALIFY=</td>
<td>$1,661.69</td>
<td>$1,835.29</td>
</tr>
<tr>
<td>YEARLY=</td>
<td>$19,940.23</td>
<td>$22,023.43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Funds Necessary for Down Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down Payment</td>
</tr>
<tr>
<td>Registry fees</td>
</tr>
<tr>
<td>Sellos y Comprobantes</td>
</tr>
<tr>
<td>Insurance and Title Fees</td>
</tr>
<tr>
<td>Notary Fees</td>
</tr>
<tr>
<td>Appraisal</td>
</tr>
<tr>
<td>Certificates, CRIM, Survey</td>
</tr>
<tr>
<td>Reserve and Pre-paid interests</td>
</tr>
<tr>
<td>Total Up Front Down Payment</td>
</tr>
</tbody>
</table>
Demographic Challenge

PR Population

PR Households
# Households Data

## Number of Households per Income Group

<table>
<thead>
<tr>
<th>Income</th>
<th>2015</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $10,000</td>
<td>404,713</td>
<td>32.5%</td>
</tr>
<tr>
<td>$10K - $15K</td>
<td>165,163</td>
<td>13.3%</td>
</tr>
<tr>
<td>$15K – 25K</td>
<td>257,059</td>
<td>20.7%</td>
</tr>
<tr>
<td>$25K - $35K</td>
<td>170,112</td>
<td>13.7%</td>
</tr>
<tr>
<td>$35K - $50K</td>
<td>160,738</td>
<td>12.9%</td>
</tr>
<tr>
<td>$50K - $75K</td>
<td>132,279</td>
<td>10.6%</td>
</tr>
<tr>
<td>$75K – $100K</td>
<td>50,101</td>
<td>4.0%</td>
</tr>
<tr>
<td>$100K - $150K</td>
<td>34,877</td>
<td>2.8%</td>
</tr>
<tr>
<td>$150K - $199K</td>
<td>11,240</td>
<td>0.9%</td>
</tr>
<tr>
<td>$200,000+</td>
<td>9,504</td>
<td>0.8%</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>1,395,785</td>
<td></td>
</tr>
</tbody>
</table>

## PR Households Age Group

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>52,299</td>
<td>35,142</td>
<td>33,284</td>
<td>-1,859</td>
</tr>
<tr>
<td>25-44</td>
<td>463,297</td>
<td>432,446</td>
<td>399,995</td>
<td>-32,451</td>
</tr>
<tr>
<td>45-64</td>
<td>462,152</td>
<td>547,243</td>
<td>545,811</td>
<td>-1431</td>
</tr>
<tr>
<td>65+</td>
<td>278,532</td>
<td>361,700</td>
<td>416,695</td>
<td>54,996</td>
</tr>
<tr>
<td>TOTALS:</td>
<td>1,256,280</td>
<td>1,376,531</td>
<td>1,395,785</td>
<td>19,254</td>
</tr>
</tbody>
</table>
- 430,000 households (30.8%) present burdens
- Average Family can Afford $99,000 Mortgage
The Aftermath…..

35,000 Homes Completely Destroyed

180,000 Homes Partially Destroyed

80% of Crops Destroyed

NEXRAD Doppler Radar Lost

100% of Clients Lost Electrical Power

95% of Clients Lost Water & Sewer Service

95% of Clients Lost Cellphone Service

85% of Clients Lost Landline Telecomm.
98% of formally built homes sustained little to no damage

The need for remediation of Puerto Rico’s infrastructure is clearly evident.
ALLOCATIONS ($82 BN)

- FEMA - PA ($48bn)
- CDBG-DR ($19.9bn)
- FEMA Individual ($3.2bn)
- Private Insurance ($8bn)
- USACE ($2.5bn)
- Other ($2.5bn)
## Top Priorities of Rebuilding Plan

<table>
<thead>
<tr>
<th>Category</th>
<th>Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing</strong></td>
<td>• 87.5% of estimated damages</td>
</tr>
<tr>
<td><strong>Infrastructure (transport, ports, social infrastructure, others)</strong></td>
<td>• transport, ports, social infrastructure, others</td>
</tr>
<tr>
<td><strong>Utilities (energy, water, telecommunications)</strong></td>
<td>• energy, water, telecommunications</td>
</tr>
<tr>
<td><strong>Health (hospitals, primary care, wellness)</strong></td>
<td>• hospitals, primary care, wellness</td>
</tr>
</tbody>
</table>
| **Economic Development (DMO, InvestPR, DDEC)** | • tourism                                                            
|                                               | • knowledge Economy                                                        |
|                                               | • agro-industries                                                         |
|                                               | • manufacture                                                             |
Federal Reconstruction Program

- Housing
  - Repair / Reconstruction Program
  - Safe Home Voucher (Relocation)
  - Leverage CDBG-DR for LIHTC
  - Resiliency Measures
  - Mortgage Catch Up

- Infrastructure
  - Flood Control Projects
  - Roads, Bridges Reconstruction
  - Electrical Grid Reconstruction

- Economic Development
  - DMO / Invest PR
  - Small Business Loans
Tourism Opportunities

- Need to Triple of Offering from 15,100 Rooms
- $1.9bn Hospitality Development Pipeline
  - Aloft San Juan
  - Aloft Ponce
  - Four Seasons Cayo Largo
  - JW Marriott
  - Among Others
- 25% Increase in Hotel Rooms
- Pipeline would Create 4,000 New Jobs
Stafford Act Section 428

- Alternative Procedures for PA
  - 42 USC 5189f
- 44 CFR 206
- FEMA 4339-DR-PR Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work
- LS Compensation Based on FCE
- Mitigation (Sec 406)
- Codes & Standards
- BBA
Project Formulation Process

Quality Assurance:
Continuous improvement recommendations, including PR appropriate means, methods, materials and pricing through FEMA/Commonwealth leadership

Damage Descriptions and Dimensions (DDD)
Goal: Reach agreement on the PA eligible, disaster related damages
COA: Collaborative approach using FEMA – PA TAC* and Commonwealth – A & E Resources (funded by DAC)

Scope of Work (SOW)
Goal: Reach agreement on the PA eligible scope of work (including codes and standards, etc.) to address agreed eligible damages
COA: Collaborative approach using FEMA – PA TAC* and Commonwealth – A & E Resources (funded by DAC)

Cost Estimate (CE)
Goal: Agree on forward priced estimate of reasonable cost to complete the eligible scope of work
COA: Develop fair, impartial and transparent estimate using FEMA PA TAC*

Independent Third Party Expert Panel
Validation of cost estimates
Include PR based A&E firms selected with input from the Commonwealth

$5M + including Subrecipient and Sector-based reviews
Who’s Eligible Under CDBG-DR?

CDBG-DR Program Income Limits for All Areas in Puerto Rico

<table>
<thead>
<tr>
<th>2018 Adjusted Income Limits</th>
<th>1-Person</th>
<th>2-Person</th>
<th>3-Person</th>
<th>4-Person</th>
<th>5-Person</th>
<th>6-Person</th>
<th>7-Person</th>
<th>8-Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Low Income</td>
<td>$10,600</td>
<td>$12,100</td>
<td>$13,600</td>
<td>$15,100</td>
<td>$16,350</td>
<td>$17,550</td>
<td>$18,750</td>
<td>$19,950</td>
</tr>
<tr>
<td>Low Income</td>
<td>$17,600</td>
<td>$20,100</td>
<td>$22,600</td>
<td>$25,100</td>
<td>$27,150</td>
<td>$29,150</td>
<td>$31,150</td>
<td>$33,150</td>
</tr>
<tr>
<td>Moderate Income</td>
<td>$28,150</td>
<td>$32,200</td>
<td>$36,200</td>
<td>$40,200</td>
<td>$43,450</td>
<td>$46,650</td>
<td>$49,850</td>
<td>$53,100</td>
</tr>
<tr>
<td>Median Income</td>
<td>$35,150</td>
<td>$40,200</td>
<td>$45,200</td>
<td>$50,200</td>
<td>$54,250</td>
<td>$58,250</td>
<td>$62,250</td>
<td>$66,300</td>
</tr>
<tr>
<td>120% Income</td>
<td>$42,200</td>
<td>$48,200</td>
<td>$54,250</td>
<td>$60,250</td>
<td>$65,100</td>
<td>$69,900</td>
<td>$74,750</td>
<td>$79,550</td>
</tr>
</tbody>
</table>

Note: The rounded 4-person income limit is adjusted for person sizes and then rounded up $50.

HUD Section 3

- Help foster:
  - Economic Development
  - Neighborhood Improvement
  - Individual Self-Sufficiency

- Eligibility
  - Low and Very Low Income Families

- Section 3 Business Concern
  - 51% Ownership by Section 3 Residents
  - 30% of Permanent Staff are Section 3 Residents

- Opportunities
  - Job Training
  - Employment
  - Contracts

- Yearly Reports (HUD Form 60002)
- 25% Subcontracting
PRBC 2018
(CDBG-DR + FEMA Projects)

- Adopted in November 15 2018
  - IBC
  - IRC
  - IMC
  - IPC
  - IFC
  - IFGC
  - IECC
  - IEBC
  - IPSDC
  - ISPSC
- Administrative
  - Registered Design Professional in Charge
Only about 0.5% homes built from March 2012 to Dec 2017 (less than 6,400 units!!)

98% of formally built homes sustained little to no damage
Building Code Considerations

PRBC 2018 Adopted in November 2018
• Exemption of Automatic Fire Sprinklers
• 1 Exit for R-2 Occupancies
• Tropical Considerations for Residential Buildings
• ASHRAE 90.1 for Non-Residential
Lateral Loads

- **ASCE 7-2016**
  - Increased Wind Speeds (160-180mph)
  - Load Combination Factors Decreased
  - Components & Claddings
- **Micro Zoning**
  - Developed for Puerto Rico
  - Web Based Maps
  - Accounts for Elevation, Topographic, Importance Risks
- **Earthquake Loads**
  - 0% to 30% Increase
- **Tsunami Loads**
  - As per ASCE 7-2016
  - No maps for PR included
Existing Homes’ Requirements

PRBC 2018 Adopted in November 2018

• Risks Certified by Engineer
• Roof Insulation
• Solar Water Heater
• Renewable Energy Facilities

Green Building

• Green Building Retrofit Checklist & Guidance
Meet the Green Building Standard (CDBG-DR)

- Certification Required – New Construction
  - Accredited Standards or
  - Equivalent Acceptable to HUD

- Ongoing Projects
  - Apply standards to extent feasible
Flood Zone

- No reconstruction in floodplain (Action Plan)
- Complying with Planning Regulation 13 should suffice.
Construction Workforce in PR
Industry Workforce Development Initiatives

• Vision
  • Adequate training & certification of needed workforce through an industry delivered solution.

• Guiding Principles
  • Train & Certify
  • Code Compliance
  • Safety
  • Trades Needed by Industry

• Actions
  • Deployment Through Public Schools System
2019 PROGRAM OBJECTIVES

1. Curriculum based on local construction industry needs
2. Available in all Department of Education regions in Puerto Rico
3. Trainers Recruitment
4. Teachers are trained professionally and certified
4. Initial curriculum with Core Skills + Carpentry Training

Job placement with top companies in the construction field
Increased capacity in the local construction sector
Monthly Status Update

Revised Timeline

2019

February
March
April
May
June
July
July
August

PHASE 1

TEACHER'S RECRUITMENT AND TRAINING
February 2019 - April 2019

Task 1
Select Teachers
March 2019 - April 2019

Task 2
Curriculum Readiness
February 2019 - March 2019

Task 3
Teachers' Core/Carpentry Certification
April 8 - May 1 2019

PHASE 2

STUDENTS' TRAINING
May 2019

Task 1
Students' Core Certification
May 6 - June 3 2019

PHASE 3

PLACEMENT ACTIVITIES Start
June 11 2019 - June 21 2019

PHASE 4

CARPENTRY TRADE
June 6 - July 27 2019

Task 1
Teacher's Carpentry Certification
June 10 - July 10, 2019

Task 2
Students Carpentry Certification
July 11 - August 9, 2019
Students Get…

• High School Diploma
• Nationally Recognized Construction Training Certification
• OSHA 10hr Construction Certification
• Compliant Course with EO 2018-033
Industry Professionalization

• Industry-Wide / Academia Partnering
• Partner with Public Sector
• Train & Certify
• Delivery Method
• Phased Approach
• Benefits
  • Focus on Worker
  • Nationally Recognized
  • Attend Industry Needs
“WE CANNOT SOLVE OUR PROBLEMS WITH THE SAME THINKING WE USED WHEN WE CREATED THEM.”
- Albert Einstein-
Thank you!