

# Interstate Water Conflicts

Equitable Apportionment, the Endangered Species Act and Other Litigation: Where the battle lines are being drawn

By: Judson H. Turner

Gilbert Harrell Sumerford & Martin, P.C.





- **Endangered Species Act (ESA) Litigation** • A.
- Administrative Procedures Act (APA) Litigation Against • B. **USACE/Bureau of Reclamation**
- Interstate Compacts and Congressional Appropriation of Water Among the States
- Suits Between States Over Water Equitable Apportionment • D.
- Other

#### Endangered Species Act Litigation

- General Prohibition Under Section 9
- Federal Requirements Under Section 7
  - Consultation by US Fish and Wildlife Service and National Marine Fisheries (NMFS) of the National Oceanic and Atmospheric Administration (NOAA)
- Aransas Project
  - Aransas Project vs. Shaw, 930 F.Supp.2d 716 (S.D.Tex. 2013)
  - Aransas Project vs. Shaw, 775 F.3d 641 (5th Cir. 2014)
- Edwards Aquifer Habitat Conservation Plan (HCP)
  - Exception to Texas' Law of Capture for Groundwater

# APA Litigation Against Corps of Engineers orBureau of Reclamation

- ESA Issues and Section 7 Consultation Issues Often Embedded in APA Litigation Against Federal Agencies
  - Note on Tri-State Water Wars (FL, GA, AL) and USACE update of the Water Control Manuals for ACT and ACF Basins

- Interstate Compacts and Congressional
  - Appropriation of Water Among States
    - Interstate Compacts
    - Use of Regional Commissions to Manage Interstate Waters Subject to Interstate Compacts

#### Suits Between States Over Water

- United States Constitution: Article III, Section II
  - Original Jurisdiction vested in the US Supreme Court to try cases between two or more states
- The Federal Common Law Doctrine of Equitable Apportionment
  - Originally Articulated in Kansas v. Colorado (1907)
  - Gap Filling Where Positive Federal Statutory Law Does Not Exist

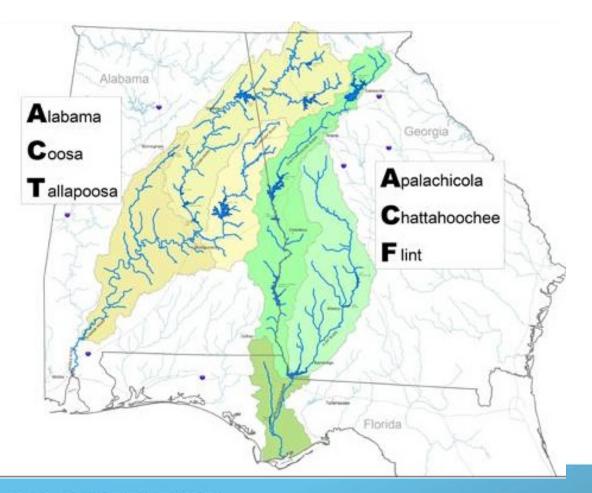
### Other Water Related Litigation

- Cases Involving Federal Rights In Water
- Interstate Water Quality Suits
  - Nutrient Issues: Chesapeake Bay TMDL; Great Lakes

### II. Equitable Apportionment

- Doctrine Developed in Disputes in the West
  - Originally around Interstate Surface Water Disputes
- Basic Elements of Equitable Apportionment Claim
  - Harm
  - Causation
  - Remedy
  - Weighing of Cost/Benefits
- Note About Burden of Proof
- Note About Underlying Common Law of States Involved
  - Riparian vs. Prior Appropriation
  - Usufructory Rights vs. Ownership
- Surface Water vs. Groundwater

# Case Study: Florida v. Georgia, Orig. Action No. 142



# III. *Florida v. Georgia*, Orig. Action No. 142 **Background**

- Apalachicola-Chattahoochee-Flint (ACF) Basin Characteristics
  - Federal Storage Reservoirs on Chattahoochee
  - Flint Basin heavy agricultural irrigation roughly 1.1 million in permitted acres, 900,000 in wetted acres in Lower Flint River Basin (LFRB)
- APA Litigation: Phases I and II Water Control Manual Update by USACE
  - Phase I Water Supply as an "authorized purpose" in the creation of Lake Lanier
  - Phase II Endangered Species Freshwater Mussels and Gulf Sturgeon
- 2009 In Re: Tri-State Water Rights Litigation "Magnuson Decision"
  - Phase I
- 2010 In Re: Tri-State Water Rights Litigation Phase II
- 2011 In Re: MDL-1824 Tri-State Water Rights Litigation, 644 F.3d 1160 (11th Cir. 2011)

# III. *Florida v. Georgia,* Orig. Action No. 142 **Background cont.**

- Historic Drought Cycles in ACF Basin
  - 2007 2009; 2011-2012
- Oct. 2013 Florida files leave to file Original Action in the United States Supreme Court
- January 2015 September 2016 Discovery in Florida v. Georgia
- October 31 December 5, 2016 Trial before Special Master Ralph Lancaster in Portland, ME
- Feb. 2017 SM Lancaster issues Report
  - Recommends Florida's Requested Relief be Denied Because USACE Not a
     Party to Lawsuit and Thus Remedy Not Certain
  - Agricultural Water Use discussed in Report

# III. Florida v. Georgia, Orig. Action No. 142 Background cont.

- Jan. 2018 Oral Argument before United States Supreme Court re: exceptions filed by Florida to SM's Report
- US S.Ct. Decision due by June 2018

#### Flint Basin Attributes

- Floridan Acquifer
  - Rechargeable
  - Interactive with base-flow in streams and rivers
- Irrigation in LFRB
  - Hight level of adoption of agricultural water conservation practices
    - Flint Partnership (NRCS, Flint River Soil and Water Conservation District, and The Nature Conservancy (TNC)) estimates an adoption rate of 90% on water-saving agricultural irrigation technologies by producers covering 93% of the irrigated acreage
    - Innovations in VRI and RSMM
    - Georgia's Ag permitting Regime
      - Permits required for > 100,000 gallons per day
      - No upper limit or volumetric permit limit
- Interplay between Chattahoochee and Flint Arms of Basin



#### IV. Trends and Conflicts on the Horizon

- Increases in Agricultural Irrigation
- Surface Water Tensions During Droughts
  - Habitat Impacts on Listed Aquatic Species
  - Streamflow Impacts Neighboring States, Intra-State, Intra-County
- Irrigation from Shared Groundwater Aquifers
- Spread of Interstate Conflicts to the East
- Drought Cycles/Climate Variability
  - Deeper and Longer Droughts Coupled With Wetter Wet Months and Cycles
- Intrastate Conflicts Around Water
  - Between M&I Use and Agricultural Use
- Conflicts with Listed Species (ESA)
- Conflicts between producers in Regulated Riparian States



### Alphabet Soup— What's in Your Plan

**Brent Mecham** 

**Irrigation Association** 

### 2018 –Year of Green Building Codes

- ASHRAE 189.1-2017
- IgCC 2018
- Green Globes—GBI
- ICC 700 /NGBS
- LEED v4.1
- DOD Unified Facilities Criteria
- GSA?

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#### ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017

(Supersedes ANSI/ASHRAE/USGBC/IES Standard 189.1-2014)
Includes ANSI/ASHRAE Addenda listed in Appendix J

# Complicated Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings



The Complete Technical Content of the International Green Construction Code™

See Appendix J for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, the International Code Council, the U.S. Green Building Council, the Illuminating Engineering Society, and the American National Standards Institute.

This standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE website (www.ashrae.org), or in paper form from the ASHRAE Manager of Standards.

### Participation

- Non-voting member of the committee
- Voting member of two working groups that make recommendations
  - WG 5 Site Sustainability
  - WG 6 Water Use Efficiency
- Managing opinions and perceptions
- Sometimes recommendations go forward in spite of best efforts to change them

#### Water Use Efficiency

- 33% of improved landscape area can use potable water
- If using on-site alternate water sources = 100% of site can be irrigated
- 40% of improved landscape area any type of plant
- 60% of site = native, adapted or rainfall-ETc compatible plants
  - potable or reclaimed for establishment, no permanent irrigation system
  - only reclaimed for establishment within 200 feet of site
- Conflicting sections on use of reclaimed water

Bottom line = confusion

### Water Use Efficiency--Irrigation

- Design by accredited or certified irrigation professional
- Irrigation provisions
- Smart controllers
- Water meter on irrigated area>25,000 s.f.
- One controversial provision
  - Slopes > 1:4 PR = 0.75 in/h maximum

#### 189.1 Construction & Plans for Operation

- Commissioning (Cx)
  - Buildings > 10,000 s.f.
  - Irrigation using more than 1000 gal./day
  - Follow ANSI/ASHRAE/IES Standard 202
- Functional and Performance Testing (FPT)
  - Buildings < 10,000 s.f.
  - Irrigation using more than 1000 gal./day
- Measurement & Verification (M&V)
  - Document all water use. Owner retain at least 3 years
  - Assess water use efficiency





- **Commissioning** Process: A quality focused process for enhancing the delivery of a project. The process focuses upon verifying and documenting that the facility and all of its systems and assemblies are planned designed, installed, tested, operated and maintained to meet the Owner's Project Requirements.
- ICC 1000 Standard for Commissioning
- ANSI/ASHRAE/IES Standard 202, The Commissioning Process for Buildings and Systems



### Jurisdictions Adopting the IgCC (any version or edition)

- 24 Total
- 10 Adoptions are for optional or voluntary compliance
- 2 adopted as alternates to LEED for publicly financed buildings
- 2 adopted as mandatory for only city owned or financed buildings
- 1 adopted as mandatory for zoning and planning incentives
- 8 adopted as mandatory compliance (complete code)
- 1 adoption only uses the rainwater collection and distribution provisions of Public Version 1
- Used by some number of jurisdictions use zoning incentives; additional height, area, less parking required, etc. for compliance

Greg Johnson Code Consultant: presentation to 189.1 committee



#### Significant Adoption Discontinuities

- 706 Nonpotable Water Requirements (2012)
  - 5 of 8 jurisdictions deleted the section
- 702.6 Municipal Reclaimed Water (require use of) (2012 & 2015)
  - 11 of 11 jurisdictions deleted the requirement (used T302.1)
- 707 Rainwater Collection and Distribution Systems (2012)
  - 6 of 8 jurisdictions amended or deleted the section
- 708 Gray Water Systems (2012)
  - 6 of 8 jurisdictions amended or deleted the section
- 709 Reclaimed Water Systems (2012)
  - 6 of 8 jurisdictions amended or deleted the section
- 710 Alternate onsite nonpotable water sources (2012)
  - 5 or 6 of 8 jurisdictions deleted or amended the section

Greg Johnson Code Consultant: presentation to 189.1 committee

#### Greg pres

		son Code Consulta on to 189.1 comm		Mandatory for zoning and planning incentives only Deletes T302.1	Applies to projects >25K sf Uses T302.1	Uses T302.1	Uses T802.1	Uses T302.1	Code offical empowered to exempt compliance; LEED Silver & NGBS accepted as alternates Deletes T302.1	Applies to projects > 10K sf LEED Silver & NGBS Deletes T302.1	Uses T302.1 Buildings < 5,000 sf exempt	Uses T302.1	Mandatory only for city owned or financed buildings; LEED & Green Globes accepted as alternates; Uses T302.1	Mandatory only for city owned or financed buildings Uses T302.1
	189.1 2017 Section numbers	CHAPTER 4 SITE DEVELOPMENT AND LAND USE		Scottsdale 2015	County 2015	Dallas 2015	Carbondale CO 2012	Snowmass Village CO 2012	Baltimore 2012	DC 2012	Montgomer y CO MD 2012	Rockville MD 2012	Boise ID 2012	Maplewood MN 2012
	5.3.2	Predesign Site Inventory and Assessment	401.2	amended	uses T302.1 only	deleted	adopted	adopted	adopted	amended	made PE	deleted	adopted	Uses T302.1, almost exclusively
		Protection by area	402.1	amended	adopted	amended	deleted all	deleted all	amended	deleted all	made PE	deleted all	amended	adopted
	5.3.1.2(a)	flood hazard general	402.2.1			deleted	of 402	of 402	adopted	of 402		of 402	deleted	deleted
	5.3.1.2(a)	flood hazard specific	402.2.2			deleted			adopted				adopted	deleted
	5.3.1.2(c)	surface water protection	402.3			deleted			adopted				amended	deleted
2	5.3.1.2(c)	wetland protection	402.4	deleted		deleted			adopted				amended	adopted
3	5.3.1.2(b)	conservation area	402.5			deleted			adopted				amended	deleted
1	5.3.1.1(g)	ag land	402.6 or 7	deleted		deleted			deleted				deleted	deleted
5	5.3.1.1	greenfield sites	402.7 or 8	deleted		amended			deleted				deleted	deleted
6	5.3.4	stormwater management	403			deleted all of 403	deleted all of 403	deleted all of 403	deleted all of 403	deleted ell of 403	made PE	deleted all of 403	deleted all of 403	adopted
7	5.3.4.1 &	stormwater management	403.1	amended										
8	5.3.4.3	increased runoff	403.1.1	deleted										
	5.3.4.4	adjoining lots	403.1.2	deleted										
	5.3.4.5	brownfields	403.1.3	deleted										
I	5.3.4.6	coal tar sealants	403.2	adopted	1									
		irrigation & outdoor fountains	404			deleted all of 404		adopted		all of 404 deleted	made PE	made PE	adopted	
	6.3.1.2	Landscape Irrigation	404.1	adopted			amended	adopted	adopted				adopted	
4	6.3.1.2	water for Irrigation	404.1.1	adopted			adopted	adopted	adopted				adopted	
5	6.3.1.2.1	Irrigation system design and installation	404.1.2	adopted			adopted	adopted	amended				adopted	
	6.3.5	outdoor ornamental fountains	404.2	amended			adopted	adopted	adopted				adopted	
	6.3.3(a)	treatment	404.2.1	deleted			adopted	adopted	adopted				adopted	
3	6.3.3(b)	recirculation	4041ETE	deleted			adopted	adopted	adopted				adopted	
9		sinage	404.2.3	deleted			adopted	adopted	adopted				adopted	
)		Management of Vegetation; soils, & erosion control	405			all of 403 deleted		all of 405 deleted			all of 405 made PE			
E		soil & water quality protection	405.1	adopted			adopted		deleted	amended		deleted	adopted	
5		soil & water quality protection plan	405.1.1	amended			amended		deleted	amended		deleted	amended	

Goals for the 2018-IgCC Powered by 189.1

"Our goal is to provide a single document that offers an adoptable, usable and enforceable standard for green building design and construction, leveraging the strengths of ICC and ASHRAE and coordinating with the aspirational objectives of the USGBC's LEED® rating system."

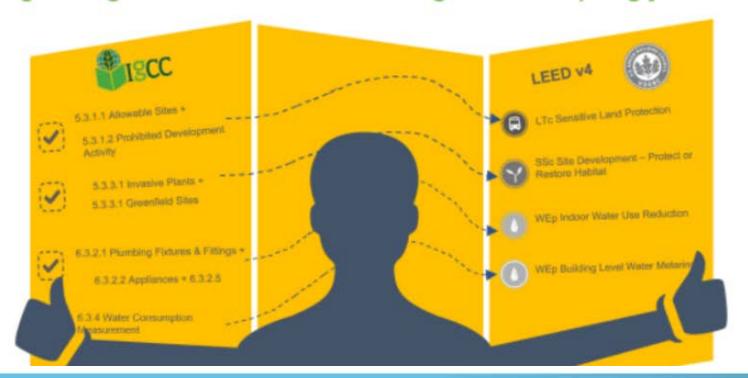
Agreed upon co-promotional messaging by AIA,
 ASHRAE, ICC, IES & USGBC, January 2018

Wes Sullens—USGBC presentation to 189.1 committee

### How is the USGBC hoping to increase adoptions of the 2018-IgCC Powered by 189.1?

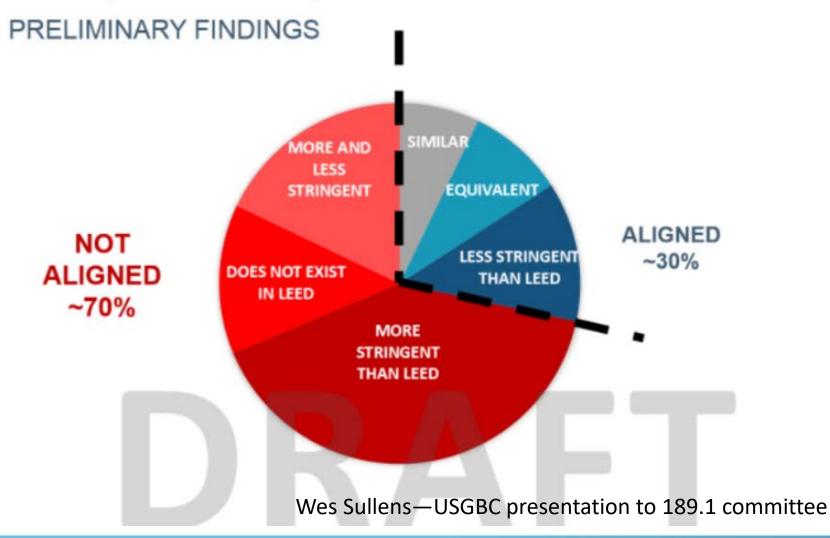
Promoting - Streamlining - Training - Credentials - Data tracking

Planning to align LEEDv4.1 with 2018-IgCC in adopting jurisdictions





#### 2018-IgCC 2018 alignment with LEED v4

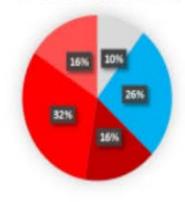




#### A comparison by section

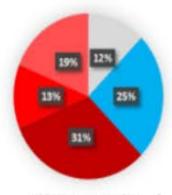
- = 189.1 section where 189.1 IS SIMILAR TO LEED
- 189.1 section where 189.1 SEEMS EQUIVALENT TO LEED
- 189.1 section where 189.1 SEEMS LESS STRINGENT THAN LEED
- 189.1 section where 189.1 SEEMS MORE STRINGENT THAN LEED
- 189.1 section where a comparable item DOES NOT EXIST IN LEED
- 189.1 sections where 189.1 IS MORE STRINGENT AND LESS STRINGENT THAN LEED

#### 5. Site Sustainability



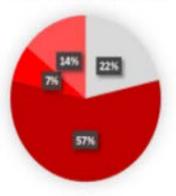
~60% not yet aligned Reviewer input in progress

#### 6. Water Use Efficiency



~60% not yet aligned Review input in progress

#### 7. Energy Efficiency

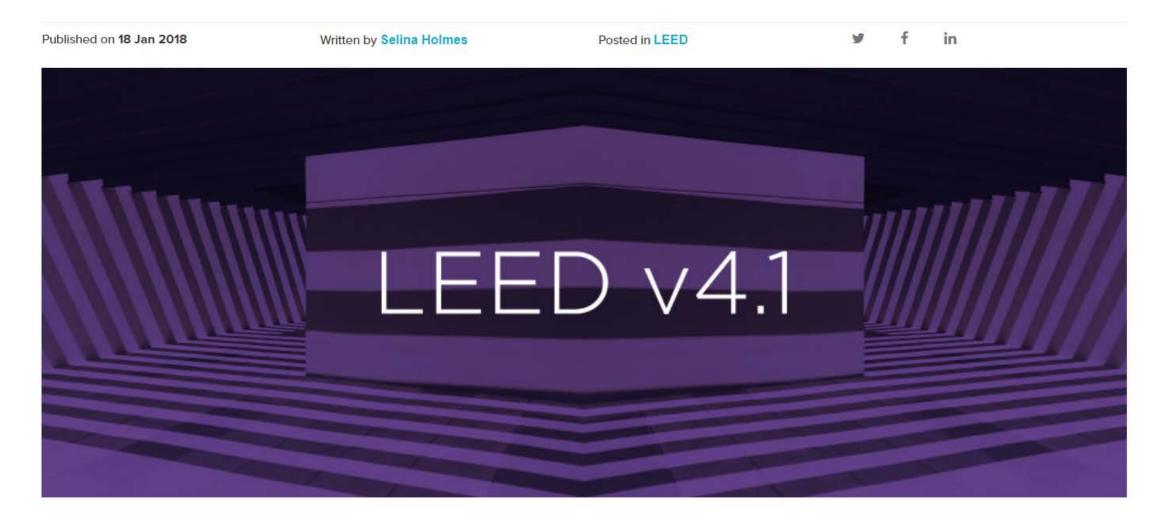


"80% not yet aligned With two reviewers' input thus far

Wes Sullens—USGBC presentation to 189.1 committee



#### What's new in LEED: LEED v4.1



### LEED v4.1

- Prerequisites streamlined
- Modifications to credits
- Includes the use of standards; i.e. 189.1
- In the first quarter of 2018, USGBC will release a draft for LEED v4.1 O+M for review.
- This will be followed by BD+C, ID+C, Residential and ND.
- SITES 2.0 requirements and LEED v4.1 could get aligned





## International Code Council (ICC) & CSA Group

# ICC 805/CSA B805-201x RAINWATER HARVESTING SYSTEMS STANDARD Public Comment Draft #3

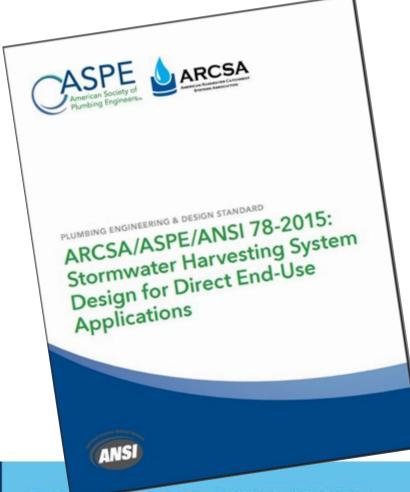
The CSA/ICC Joint Rainwater Collection Systems Design and Installation Committee (IS-RCSDI) has developed resolutions to comments received on the Second Public Comment Draft of the ICC 805/CSA B805 Rainwater Harvesting Systems Standard, dated November, 2016. Those resolutions resulted in the approved changes to the normative portions of the Second Public Comment Draft document, which are listed below.

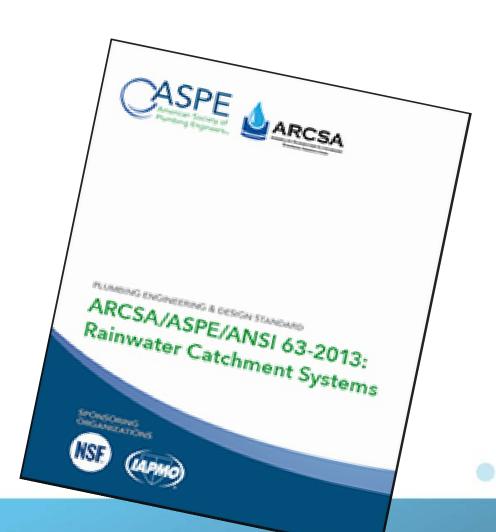
Public comments are now requested on these approved changes, which in combination with the Second Public Comment Draft, constitute the Third Public Comment Draft. Public comments may only be submitted on the portions of the draft shown in legislative (strike through/underline) format. Public comments to other portions of the standard will not be considered. Please show the proposed NEW or REVISED or DELETED TEXT in legislative format: Line through text to be deleted. Underline text to be added.

#### Rainwater Collection

- System Design & Installation
  - Collection surfaces
  - Conveyance subsystems
  - Storage tanks
  - Treatment & disinfection
  - Distribution Systems
- Water Quality
- System Tests & Inspections
- Appendices—
  - Tank requirements, sizing and capacity
  - Water safety plan

### Rainwater / Stormwater Collection





#### Cal-Green & MWELO

- CAL Green Building Code adopted revised MWELO as mandatory
  - Code cycle is every three years
  - MWELO revisited on code cycle
- Landscape Stakeholder Advisory Group (LSAG)
  - Make recommendations to Dept. Water Resources
- DWR uses recommendations to modify MWELO
- "M" is "mandatory" instead of "model"
- Public comment for proposed changes coming soon

### SWAT

- October 2017 Strategic Planning
  - No more reports
  - Influence EPA WaterSense & Others
  - Create testing protocols as draft standards
    - Flow sensors
    - Weather-based controllers (ASABE X627)
    - Soil Moisture Sensors (ASABE X633)
  - Work with SDO to create ANSI Standards
  - Promotions
    - Contractor & Consumer training and education

### EPA WaterSense NOI on new homes

- On February 15, 2018, WaterSense released a Notice of Intent (NOI) to revise the specification and certification requirements for WaterSense labeled homes. EPA is looking to: reexamine the specification and certification process to allow for more flexibility in the technical requirements; streamline the program requirements and certification process; adapt to the evolving market for home building; encourage the adoption of emerging technologies and practices; and facilitate increased use of the specification.
- Teleconference call & webinar March 14, 2018 1:00 p.m. 3:00 p.m. Eastern

# Rating Systems for Certifying Homes

- RESNET HERS<sub>H20</sub>
- WERS
- Florida Water Star
- ICC 700/NGBS
- Green Globes-GBI

## Resources:





## Irrigation Innovation Consortium (IIC)

- Consortium of universities partnering with industry to create water productivity innovation in <u>agriculture and irrigated landscape</u>
  - Develop, Educate, Demonstrate and Evaluate Irrigation Technology and Management—technology transfer and hands-on training
- Matching grants from Foundation for Food & Agricultural Research (FFAR)











#### **Irrigation Innovation Across Scales and Sectors**

**Field Scale Technologies** 



**Open Channel and Pressurized Conveyance Systems** 





**Landscape Systems** 



Technology Testing, Evaluation and Validation





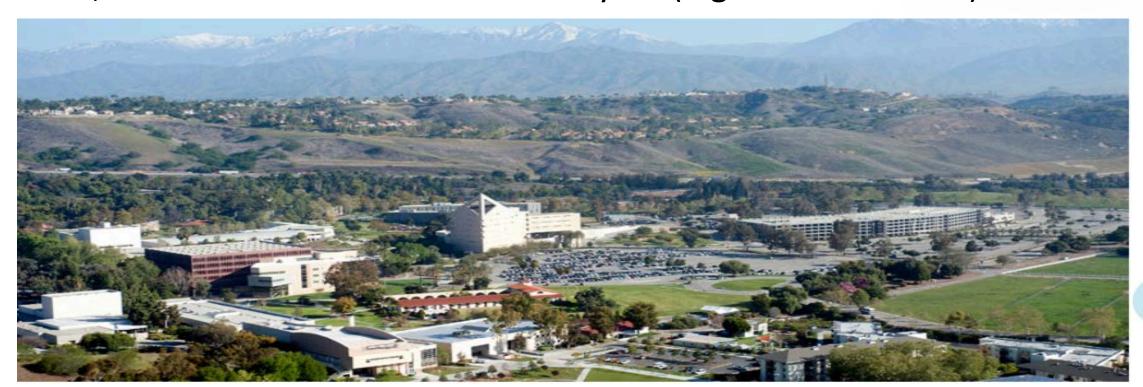
# Workforce Development

Alan Moss M.S.

## Cal Poly Pomona

"Learn By Doing"

• 25,894 enrolled 2017-18 academic year (highest enrollment)

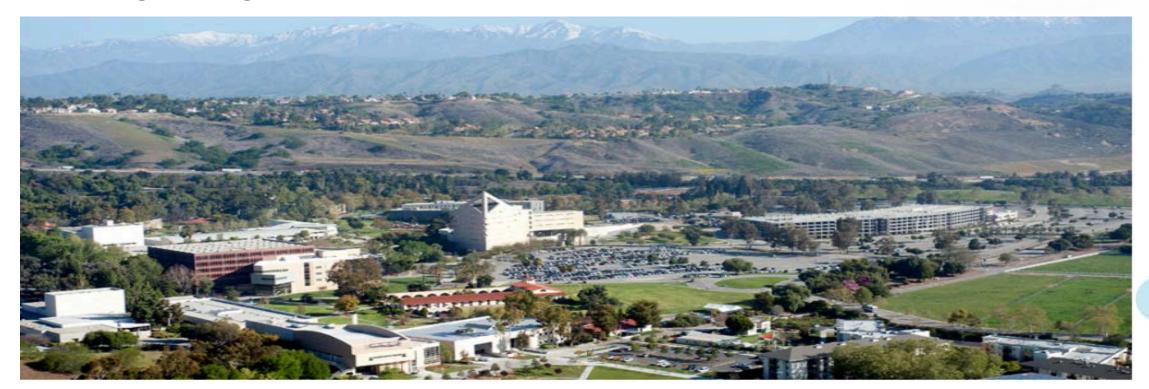




# Cal Poly Pomona

"Learn By Doing"

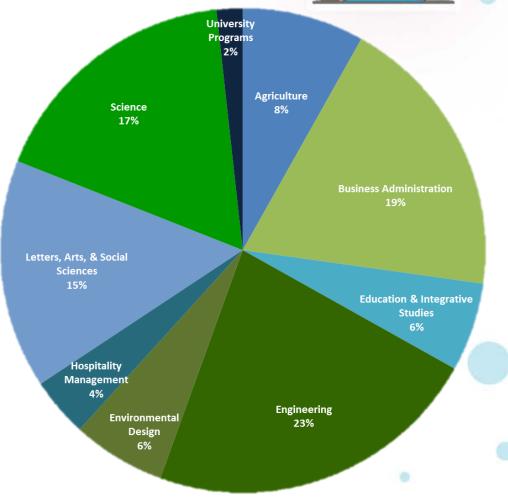
• College of Agriculture has an enrollment of 2,062





- Original College at CPP
- Areas of study:
  - Nutrition
  - Animal Science
  - Apparel Manufacturing and Management
  - Plant Science
  - Agribusiness Management
  - Agricultural Science/Ag Education





## Plant Science Majors

- About 200 students (2017 highest enrollment) in past ten years)
  - Electives can be in various areas of Plant Science-Hort, Agronomy, Turf, Irrigation, etc.
  - Also have a M.S. degree in Plant Science



#### Minors

- Agronomy
- Soil Science
- Pest Management
- Ornamental Horticulture
- Turf and Irrigation Science
- New minor: Urban Agriculture



## Irrigation Courses

- Courses Offered in the new semester schedule
  - Basic Irrigation Science
  - Computer Aided Design
  - Sprinkler/Drip Irrigation
  - Advanced Irrigation and Runoff Management



- Hort Club: Los Robles-oldest club on campus
- Ag Biology Club
- Turf Club
  - GIS Turf Bowl 2018 San Antonio, TX: Team A: 7th place, Team B: 17<sup>th</sup> place
- 2017 National Collegiate Landscape Competition
  - 8<sup>th</sup> place



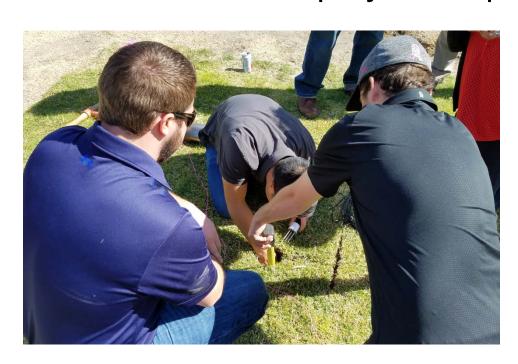


- Cal Poly Farm
- Greenhouse
- Manage CTILT (Center for Turf and Irrigation Landscape Technology)
  - Most students do not come from ag backgrounds and need work experience!
  - Students are paid to gain experience



## Research Opportunities

- Undergrad and grad research opportunities
- Other student projects depending on student areas of interest









- Things that incentivize students to join our program
  - We recruit from within and out of the college
  - We also help lighten their burden of school by offering scholarship opportunities, work experience on and off campus to help pay for their schooling
  - Plant Science department gives about 100k annually in scholarships
  - Many students feel like they are just at school to get a degree the college of ag shows them what they can do when they get out of school
  - Networking college of ag career day
  - Job prospects on average our graduating seniors have 3 job offers at graduation



- Incentivize students to join the industry
  - "What are you going to do with your degree"? Help them answer this question
  - Turn their degree into a career
    - Ex. Golf: assistant in training, assistant superintendent, superintendent
    - How can we show students their future career path in the irrigation industry?
  - Off-set the financial burden
    - Paid internships
  - Passing on knowledge and goals to the next generation is crucial to the future of the industry you have all work so hard to develop
    - Giving students the opportunity to visit and networking with the industry





- Organization and job market
- Benefits of ASIC membership
- Invite students to participate and present in local chapters
- Sponsor students to participate in these local events so they can meet people in the industry

#### Local companies

- Guest lecture
- Internships test drive the latest model



















#### Workforce Generations

- Within your generations you have things that are relatable amongst your peers
  - Music
  - Culture
  - Fashion
- You will also have something tragic that defines your generation as well
  - War
  - Financial instability
- Every generation will have things that will help define who they are



#### Workforce Generations



• Born: 1977-1994

Coming of Age: 1998-2006

Age in 2018: 24 to 36

• Gen Y are known to be technologically wise, one of the first generations to have access to internet most of their lives







• Born: 1995-2012

Coming of Age: 2013-2020

Age in 2018: 14-23

 Gen Z grew up with a highly sophisticated media and computer environment and are more Internet savvy and expert than their Gen Y forerunners



#### Attract and Retain

- **Encourage Their Entrepreneurial Spirit**
- 2. Focus On Technology That Improves Efficiency
- 3. Align Their Personal Purpose With The Company Mission
- Appeal To Their Bite-Sized, Fast-Paced Media Habits
- 5. Embrace Their Differences
- 6. Show Them You Care About Well-Being At A Higher Level



#### Attract and Retain

- 7. Create Engaging Events
- 8. Continue The Millennial Momentum Of Work-Life **Integration And Career Development**
- 9. Appreciate Them As People
- 10. Get Curious And Ask Them Questions
- 11. Develop Leadership Agility
- 12. Help Millennials Lead Gen Z





- Irrigation Foundation
  - https://jobs.irrigation.org/
- Landscape Industry Careers
  - https://jobs.landscapeindustrycareers.org/
- Irrigation Jobs
  - https://irrigationjobs.com/
- Monster
- Indeed



#### Conclusion

 "If we want to change the situation, we first have to change ourselves. And to change ourselves effectively we first have to change our perceptions."

Seven habits of highly effective people



