

Eric Rafael Rivera Weaver: Curriculum Vita



Mr. Weaver has extensive experience with solving problems. He has an innate ability to see broader perspectives to formulate creative solutions, often acting as an innovation catalyst. Thus, he is primarily an **Inventor**. He learns tools quickly, and applies processes in unique ways.

He easily articulates a flexible shared vision that evolves with circumstances working as a transformational educator and entrepreneurial leader. He has the unique ability to recognize intellectual needs and identify talents for engaging cross-disciplinary teams. He has excellent interpersonal skills, and a relaxed and welcoming style to inspire and energize others.

His vision of future advancements inspires the strategic process. He works to achieve goals by using systems thinking skills integrated with current science to gain team commitment. Similarly, he fosters commitments from diverse stakeholders through shared buy-in. He prefers to deal with the big picture, to hire and delegate tasks, but also knows enough about the specific software and tools necessary to be sure tasks are adequately completed.

His professional career included the StormWater Management Model (SWMM). He BETA tested the original **EPA SWMM Program** while under development at the University of Florida, and has remained involved with its continued development. He has solved a wide variety of critical flooding issues in Florida through his relentless solutions focus. Currently, Hillsborough County's **SWMM** program activities include FEMA approval for using their revised edition in Flood Plain delineation.

Education

Graduate: University of South Florida, Tampa, Florida

- **2017-Ph.D: Doctorate of Civil and Environmental Engineering** -- Focused dissertation research on the synergy between his civil engineering infrastructure experience and his passion to create an alternative: "Sustainable Development through Urban Agriculture" (dissertation certified 3/8/2017).
- **2009-MSM: Master of Science in Management: Leadership and Organizational Effectiveness** -- Explored new project development supported by the professors who encouraged him to continue in academia, where he obtained a 3.46 GPA. Accepted to multiple colleges proposing the breakdown of the silos with evolution to the sustainable 3D-Ph.D.
- **2009-MBA: Masters of Business Administration** -- Centered efforts on entrepreneurship, where the program director allowed him to audit/repeat courses to support new patent development.

Undergraduate: University of South Florida, Tampa, Florida

- **1998-BSCE: Bachelors of Science in Civil Engineering** -- Readmitted when Hillsborough County sent him back to expand his skills and abilities, while he investigated new web priorities and software techniques simultaneously tested by both institutions.
- **1988-BSE: Bachelors of Science in Engineering** -- Created his own engineering degree completing "projects-for-credit" each term finding a creative expression that could fit into the required curriculum. This was paired with his service-learning work later incorporated into STARS USA Inc.

Technical Skills

- Computers: TRS-80, SE-30 Prime, Unix, Windows PC 3.1-10, & Mac 3.0-10.
- Water Simulations: EPA SWMM Vr 3.1-5.1.011, EPA HELP, EPA WASP, THYSIS, AdICPR, MODRET, FlowMaster, TR-55, SBR Model, KPipe, & WEAP.
- Design & Graphics Systems: Prime Medusa, AutoCAD, ESRI ArcView, ArcGIS, Tampa TreeMap, USF Water Atlas, & EPA EnviroAtlas.
- Office Systems: Microsoft Suite, Word Perfect Suite, Open Office Suite, Adobe Creative Suite, Primavera, SureTrak, QuickBooks, & HTML.
- Class Systems: Canvas, Blackboard, Qualtrics, Survey Monkey, SAS, SPSS, R, People Soft, Fortran, & FAST.
- Video: Camera operations, photography, videography, lighting, editing, & assembly.
- Building & Construction: Installed tiles, wood flooring, concrete footers, electrical, phone, internet, water, & sewers.
- Hobbies: Biking (including repairs earned first \$5 fixing flat at age 5), Scouting to include: camping, hiking, & kayaking.

Academic Positions

- Graduate Assistant, Provost's Office, USF (since 2016). Appointed by the Vice Provost for Strategic Planning, Performance and Accountability to support newly transferred Office of Sustainability to complete the AASHE Sustainability Tracking, Assessment & Rating System (**STARS**) Report for the University of South Florida (USF) Tampa Florida campus.
- Instructor, Honors College, USF (Spring 2016). Appointed for IDH 3350, sections 003 & 004 Honors Natural Sciences courses. Created and beta-tested two merged Flipped Service-Learning pedagogy together to complete sustainability projects research into Urban Agriculture.
- Sustainability Scholar, Patel College of Global Sustainability, USF (since 2013). Appointed to support Office of Sustainability and new MA course programs, with project assignment development, Canvas editing and student assignment grading.
- Adjunct Instructor, College of Public Health (COPH), USF (Fall 2012). Appointed for HSC 4631 Critical Issues in Public Health Capstone course focused on learning to complete research suitable for academic journal publications.
- Teaching Assistant, Health Policy Management, COPH USF (2011-2012). Appointed to complete all student Blackboard development, assignment grading, including communication needs of students and websites.
- Editorial Assistant, *Organization & Environment*, USF (2006-2012). Hired to complete daily operation of peer-reviewed journal including contacts with authors, reviewers, editors, and publishers for journal, Impact Factor 2.650.
- Research Assistant, Health Policy Management, COPH USF (2008-2011). Compiled research data for ongoing faculty research, defined Geico Insurance as Red Light Camera owner.
- Research Assistant, College of Nursing, USF (2006). Compiled pilot data and updated files for RO1 NIH grant application for Mindfulness based Cancer Stress Reduction techniques.
- Project Director, **STARS USA Inc.**, (since 1984). Co-Founded public charitable corporation to facilitate service-learning projects with volunteer students. Duties included creating proposals, presentations, grants, articles of incorporation, and taxes as needed for 501(c)3 business operations. Completed multiple projects involved in the public as class credit activities for over 30 years.

Academic Experience

- IDS 6938 Water Resource Planning, Spring 17 (8 in-class, 5 online). This course provides an overview of water resources planning and introduces some of the tools that are useful for sustainable water resources management. It also discusses water quality issues and advancements in technology to improve water use efficiency in closing the water loop for sustainable water resources management. The course includes aspects of the project based learning approach where students will use tools to develop plans for sustainable water resources management. Provided the WEAP Model and the EnviroAtlas introductions lectures: [https://youtu.be/p-uizeOf-TQ](https://youtu.be/p-<u>uizeOf-TQ</u>).

- IDH 3350 Honors Natural Sciences: Agriculturally Led Sustainable Development, Spring 16 (18+19 in-class students). The major content areas within food and agriculture are introduced. These flipped courses encouraged active learning, which is often termed "service-learning," allowing greater flexibility for the students and other participants to complete tasks and assignments independently. This supported community sustainability project was introduced: <https://youtu.be/Qv-FR3HI5A0> which has been expanded into new projects: <https://youtu.be/rwPCxYZWbOo>.
- CGN 6933 Green Infrastructure for Sustainable Communities, Spring 16, (9 online students), Spring 15, (10 online students), Fall 13, (6 online students). This course discusses the characteristics of green design and green infrastructures in urban areas (i.e., water, wastewater, transportation, roads, bridges, buildings, energy, wastes, housing, etc.) in relation to sustainability scoring methods of LEED and Envisions.
- IDS 6938, IDS 6245 Sustainable Water Resource Management, Fall 15 (11 online, 13 in-class students), Spring 14, (11 online, 15 in-class students). This course introduces the challenges and strategies for sustainable water resource management based on technical, legal, and institutional frameworks.
- IDS 6235 Economics & Finance for Sustainability, Fall 15 (17 online, 34 in-class students), Fall 14 (6 online, 36 in-class students). The course provides sustainability practitioners with an overview of how economics and finance are expanded in the green economy to optimize the triple bottom line of profits, people, and the environment. Emphasis is placed on both environmental and corporate economics and finance. A real-world project offers students the opportunity to practice their knowledge.
- IDS 6234 Systems Thinking: The Key to Sustainability, Spring 15, (8 online, 35 in-Class students), Spring 14 (15 online, 26 in-class students). The course develops the critical system thinking skills to solve sustainability challenges. It covers quantitative system analysis techniques including environmental impact assessment, life-cycle assessment, cost-benefit analysis and decision analysis.
- HSC 4631 Critical Issues in Public Health, Fall 12 (29 online students). This course provides students the opportunity to learn about the multiple ways to view controversial topics in public health. The course covers current public health topics including biomedical issues, social & behavioral factors related to health, and environmental issues.
- PHC 6104 Management of Public Health Programs, Summer 12 (40 students). Application of principles and methods for organization and management of government and non-government public health programs.
- PHC 6102 Principles of Health Policy and Management, Summer 12 (32 students), Fall 11 (131 students), Spring 12 (83 students). General principles of planning, management, evaluation, and behavior of public and private health care organizations at the local, state, and national levels.
- PHC 6147 Managing Quality In Health Care, Fall 11 (56 students). Examines methods and tools for managing quality in health facilities, physician practices, managed care, and public health; including developments in quality assurance and improvement, utilization review, risk management, and patient satisfaction.
- PHC 6421 Public Health Law and Ethics, Fall 11 (61 students). This course examines major ethical and legal concepts and their impact on public health policy and practice.

Professional Positions

- 1/99 to present -- Self-employed Sole Proprietor, independent consulting contractor, EPA Storm Water Management Model (SWMM) Expert, Tampa, FL -- Contracted out to civil engineering peers previously employed with Hillsborough County; Reynolds, Smith and Hills; Dames & Moore; Site Engineering; Dyer, Riddle, Mills & Precourt, Inc. on multiple occasions doing SWMM training, troubleshooting, optimizations, site reconnaissance with structure inspections, and complete creation of infrastructure solutions. Tasks included multiple client meetings, permit meetings, hiring sub-consultants, and most recently billion dollar projects and expert witness data preparation requiring explicit fee structure and dynamic innovation to meet demanding clients.
- 97 to 99 -- Engineer II, Fiscal & Administrative Services, Public Works Department, Hillsborough County, FL -- Reassigned after building original county website, obtaining the first county laptop, and establishing the original Windows NT Server for testing.
- 94 to 97 -- Engineer II, Engineering Section, Planning & Development Management Department, Hillsborough County, FL -- Transferred to permanent staff position which included permit policy redevelopment, department equipment budgeting, and personal consulting for new county IT department and with former associates currently employed as USF Vice President of IT regarding simultaneous web infrastructure developments at new county center and USF. Additional County support included funding BSCE degree, computer equipment, and county truck to enable increased duties for community flood inspections and analysis.

- 93 to 94 -- SWMM Contract Engineer, Stormwater Section, Planning & Development Management Department, Hillsborough County, FL -- Contracted hire to reconfigure SWMM for resolving critical flooding issue. This required Board of County Commission vote for exemption to allow initial hire at above the existing professional consulting pay scales and simultaneous new computer purchase.
- 1992 -- SWMM Model Engineer, Reynolds, Smith and Hills, Inc. 1715 N. Westshore Blvd., Suite 500, Tampa, FL -- Hired for existing SWMM project development, which included corroborating on staff turnover to add proper professional skills to facilitate model completion.
- 1991 -- Model Engineer, Dames & Moore, Inc. One N. Dale Mabry Hwy., Suite 700, Tampa, FL -- Site Team was hired to support Guam Project. Project began with directing company to purchase Sun Sparc Server and AutoCAD Civil Design Suite to allow staff training to design and permit complete site, where Army Corp of Engineers had recently stopped all excavation.
- 1990 -- Model Engineer, Site Engineering Group, Inc. 3502 Henderson Blvd., Tampa, FL -- Supported the design and permitting for commercial projects and schools, while establishing advanced AutoCAD tools and techniques.
- 1989 -- Engineer, Dyer, Riddle, Mills & Precourt, Inc. 8875 Hidden River Pkwy., Suite 200, Tampa, FL -- Hired to support development of modeling infrastructure team.
- 1988 -- CAD Engineer, Delta Corporation. 5912-A Breckenridge Pkwy., Tampa FL -- Hired as first CAD Engineer to use Prime Medusa Mainframe System to test proprietary Civil Design Suite under development, technology was later purchased by AutoCAD.
- 5/84 to Pres -- Project Director, STARS USA Inc. 2008 E Patterson St., Tampa, FL -- Co-Founded public charitable corporation to facilitate service-learning projects with volunteer students. Duties included creating proposals, presentations, grants, articles of incorporation, and taxes as needed for 501(c)3 business operations. Completed multiple projects involved in the public as class credit activities for over 30 years organizing teams, coordinating projects, and encouraging peers who developed original Community Emergency Response Team (currently Tampa CERT) and the Reg-Eze, Class-Mate, Key-Mate, and Ride-Mate software products eventually sold privately to multiple universities.

Professional Experience

- AASHE STARS Report -- Compiled the Sustainability Tracking, Assessment & Rating System (STARS) report for the University of South Florida a large, public 4-year university with an annual budget of \$1.6 billion that is ranked 41st in the nation for research expenditures among all public or private universities. This required working directly with the Assistant Vice Provost for Strategic Initiatives at meetings with multiple department directors and the review and analysis of data provided to expand and update the sustainability report for the Tampa Campus. Current work includes establishing the Sustainability Task Force and exploring a new campus Green Team for an innovation ecosystem.
- Stonelake Ranch -- Recompiled EPA Storm Water Management Model (SWMM) to include current basin storages over a seven square mile area. Hillsborough County recently updated the FEMA Maps in this area, which included removing the flood stage storage that was undefined. This GIS analysis used current contour maps to update the complete system storage in the models. Additionally, model problems required a site reconnaissance to measure bridges and related structure inspections to correct existing model parameter errors. This new data analysis and corrections brought the existing site 100yr flood stage down ~3 feet, which significantly increased the buildable area in this multimillion dollar residential development, while simultaneously reducing flood insurance costs.
- Anclote River -- Recompiled SWMM Model to include new SouthWest Florida Water Management District GIS data, the old CDM Anclote SWMM Study, Hillsborough County's Rocky Creek & Brooker Creek SWMM Studies to complete data analysis of entire riverine systems. The existing systems had been completed in separate models with overflow values transferred manually from one model to the next. The LeDantec MPUD Master Planned Unit Development in the headwaters of these creeks required accurate flows and flood elevations to meet permit requirements. All systems were compiled to create a comprehensive model simulation.
- Cypress Creek Mall & Northwoods Projects -- Expanded and updated Cypress Creek SWMM model to analyze the area for the new construction plans. At this site, creeks were moved for roadway designs and to accommodate increased contiguous development areas critical for economic success.
- East Lake -- Analyzed final drainage improvement study for Orient Road outfall construction plans. The final plans required more accurate flow and elevation data to insure proper sizing and design of proposed structures.

- **Hillsborough River** -- Developed proposed conditions of SWMM basin study for Central River Systems. Existing model simulations had been completed by Ayres Associates under contract with Hillsborough County. The proposed designs for the Central River Systems were developed as the final stage for this project.
- **Alafia River** -- Created SWMM existing conditions basin study for North Prong, South Prong, and English Creek. Final reports and models were completed with extensive site reconnaissance, data collection from existing permitted projects, and supplemental surveys completed by others.
- **Cone Ranch Creek** -- Modeled hydrodynamic backwater study for groundwater recharge and water conservation system. Original location for water storage reservoir later relocated after constructed reservoir walls proved to be unstable.
- **Delaney Creek** -- Updated County SWMM Program to develop interconnected pond system and creek realignment for roadway improvements and major commercial developments including Brandon Mall and Selmon Crosstown Expressway as well as others.
- **Ybor City** -- Reconfigured Stormwater Basin Study into XP-SWMM for flood abatement.
- **Anclote River** -- Modeled for FEMA floodway no rise certificate through Hec2 analysis.
- **Automation Plan 95-97** -- Developed and revised Hillsborough County's Planning, Development Management Department's plan to increase equipment budgets by over 41%. This included systems to directly transfer digital data to the County GIS, modelling and inventory systems. Technology and procedures were developed for CAD disk submittal for review and permitting of construction in 1072 square mile county jurisdiction.
- **Carrollwood Village Watershed Management Plan** -- Developed SWMM Storm Water Management Model to reduce golf course flood stage requiring the installation of a 48" RCP down Dale Mabry Highway to Sweetwater Creek.
- **County Violation/Enforcement** - Rewrote procedures for Natural Resource Regulations to support better enforcement.
- **Hillsborough County Stormwater Management Manual** -- Recompiled manual with new requirements developed from Florida State guidelines, other local cities, and negotiations with other stakeholders developing in the region.
- **Allen's Creek Watershed Management Plan** -- Created and linked complete EPA Storm Water Management Model (SWMM) and Water Quality Analysis Program (WASP4) for the first Florida watershed/waterbody Model using an ArcInfo GIS database. Project involved monthly meeting with City, County, and Community Stakeholders resulting in a \$200 million proposal to completely restore the creek system.
- **Mannengon Hills** - Analyzed the complete system for a resort community in the Territory of Guam -- \$1.5 billion 1300-acre residential hillside development, which included 10 million cy earthwork, 100 retaining walls, 35 bridges, 15 miles of roadway, and 45 holes of golf designed by Arnold Palmer & Jack Nicklaus. Directly modelled all stormwater infrastructure including all roadways, golf course ponds, and other water features.
- **Lake Seminole Water Quality Study** -- Calibrated final EPA SWMM for proposed site restorations.
- **Gardinier Phosphate Plant** -- Developed complete EPA SWMM simulation for new site stormwater infrastructure after the major phosphoric acid spill into the Alafia River. Final designs included 6 multi-acre ponds linked by nearly a mile of double 48" HDPE pipes, which beta-tested the SWMM program under development at University of Florida.

Publications

- Eric R. R. Weaver. (2017). Viewpoint: Urban agriculture defined for sustainable develop *Land Use Policy*: (currently under review).
- Eric R. R. Weaver, Mahmood H. Nachabe. (2017). **Parameters sensitivities for sustainable urban infrastructure?** *Municipal Engineer*: Available at: <http://dx.doi.org/10.1680/jmuen.16.00021>.
- Eric R. R. Weaver. (2015). **Sustainable development for people or profit?** *Suburban Sustainability*: Vol. 3: Iss. 1, Article 2. Available at: <http://scholarcommons.usf.edu/subsust/vol3/iss1/2>.
- Eric R. R. Weaver, et al. (2014). **Sustainability Tracking, Assessment & Rating System**. Report for the University of South Florida (USF) Tampa Florida campus. Association for the Advancement of Sustainability in Higher Education.
- Eric R. R. Weaver, et al. (2006). **Sustainability Analysis of USF: Advocating The Creation of a USF Office of Sustainability**. GEB 6930 Societal Law & Issue In Sustainable Enterprises MBA Course.
- Eric R. R. Weaver, et al. (2006). **GreenHorn Recycling: a Non-Profit Sustainability Company**. GEB 6115 Entrepreneur Business Plan Developed in cooperation with GEB 6930 MBA Course.

- Anclote River South Prong. (2003). Flood Plain Engineering Analysis and Site Data Report. Completed under contract with Burcaw & Associates Inc. for Hillsborough County.
- Hillsborough River Central River Systems. (2001). Flood Plain Engineering Analysis and Site Data Report. Completed under contract with Ayers & Associates Inc. for Hillsborough County.
- Alafia River - North Prong, South Prong and English Creek. (2000). Flood Plain Engineering Analysis and Site Data Report. Completed under contract with Florida Engineering and Environmental Services Inc. for Hillsborough County.
- Automation Plan 95-97. (1997). Completed the Hillsborough County Planning & Growth Management Department's plan to increase computer equipment budget by over 41%. This included systems to directly transfer digital data to the County GIS, modeling and inventory systems. Technology and regulatory procedures were developed for digital CAD submittals from the construction industries for permitting.
- Hillsborough County Stormwater Management Manual (1997). Established new construction permit requirements using Florida State guidelines, other local cities publications and negotiations with other stakeholders in the region.
- Hillsborough County Violation/Enforcement (1996). Rewrote procedures for Natural Resource Regulations to support better enforcement.
- Allen's Creek Watershed Management Plan. (1992). Flood Plain Engineering Analysis and Site Data Report. Completed while employed with Reynolds, Smith and Hills, Inc. for Pinellas County.

Selected Presentations

- Urban Agriculture as One Sustainable Solution by Eric Weaver, Mahmood Nachabe, John Jermier, Kalanithy Vairavamoorthy, and Michael Fountain. Poster Presentations to The Research That Matters: Sustainable Food Conference on January 30, 2015.
- Rainwater Capture Greenhouse Food Production System by Eric Weaver, Ryder Wooten, Chelsea Wright, Brian Zygmunt, and Justin Nussbaum. Poster presentation during the 5th Annual College of Engineering Research Day on October 10, 2012.

Awards

- Outstanding Graduate Fellow, College of Public Health (\$1,500, Summer 2012).
- Outstanding Graduate Fellow, College of Public Health (\$3,500, Spring 2012).
- Outstanding Graduate Fellow, College of Public Health (\$3,500, Fall 2011).
- KINS Tampa Bay: Flow Funding, Rainwater Capture Greenhouse (\$300).
- Reviewer's choice grant, Community Research Alliance (\$165).
- "Hawaiian Dream." Walt Disney's Dreamers and Doers Award.

Continuing Education Certificates

- Building Sustainable Enterprise, USF.
- Engineer Intern 1089ET254.
- Entrepreneurship, USF.
- Management, USF.

U.S. Patents

- Rainwater Capture Greenhouse - USPTO Application No. 61/304,679.
- Method for Converting Internet Messages For Pub - US Patent No. 7,421,476.
- Continuously moving sidewalk transport system - US Patent No. 6,758,318.
- Bicycle rack mounted to a vehicle trailer hitch sleeve - US Patent No. 6,460,745.

Websites

- Teaching Assistant, <http://eweaver.myweb.usf.edu/>
- Adjunct Instructor, <http://eweaver.myweb.usf.edu/old.htm>
- Project Director 501c3 Corporation, <http://www.starsusa.org>
- Editorial Assistant, <http://www.patelcenter.usf.edu/oe/journal.htm>
- Team Co-Organizer, <https://communiplexity.wikispaces.com/>
- Patent FL S-Corp, <http://www.starsusa.org/resume/patents.html>
- SWMM Expert, <http://www.starsusa.org/resume/>
- Earth Charter Summits, <http://earthcharterus.org/>
- Original Anchin Research Center, <http://www.starsusa.org/homestead/files/anchin/Default.htm>

Videos

- Manatee County Community RESTORE Grant application, from clam nursery to Beach House Restaurant supporting farm-to-table Urban Agriculture: <https://youtu.be/4ayJpD-wsRs>
- Dr. Culhane presenting installation details for food waste biodigester creating fertilizers for Faith Lutheran Church urban agriculture systems: <https://youtu.be/kA8GsqBWlcw>
- Keir Hamilton completing tree mapping demonstration at USF Marshall Student Center, Tampa Florida: <https://youtu.be/doYsuPMk-b0>
- Pastor Meyers at Faith Lutheran Church of Tampa introducing urban agriculture project for IDH 3350 Honors Natural Sciences: Agriculturally Led Sustainable Development: <https://youtu.be/Qv-FR3HISA0>
- Sarah Combs from University Area Community Development Center presenting Harvest Hope Community Garden Projects for IDH 3350 Honors Natural Sciences: Agriculturally Led Sustainable Development: <https://youtu.be/25RG596Z96M>
- 22nd Annual Social Marketing Conference, June 13-16, 2015 Creating new Social marketing for Happiness Days: <https://youtu.be/ZV6bumRZVM4>
- "KINS Tampa Bay: Flow Funding," Community Stepping Stones.
- "EPA WARE P3 Class Lessons," USF, under production.
- "Mercury Lab Operations," USF, under production.
- "The Glenn Boyles Home Improvement Show," David Hurd Prod's.
- "Albertsons Commercial," David Hurd Prod's.
- "Sustainability Symposium 2006," under production.
- "Co-dependence to Interdependence," David Hurd Prod's & STARS.
- "The Little Soul and the Sun," Harmony Center.
- "Day out of Time," Emissaries of Light, Ashland, OR.
- "Video Productions," Journey Class, Williams IB Middle School.
- "The American Machine Over Africa," STARS.
- "Necessity the Mother of Invention," Greco Teach-in, under production.
- "ARCE Talent Search," STARS, Jones InterCable Public Access.
- "Dance Today," STARS, Jones InterCable Public Access.
- "USF NEWS," STARS, Jones InterCable Public Access.

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