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First Women on the Board of Licensure for Professional Engineers Share Stories

For **BELS**

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When a building collapses or a bridge or dam fails in America, it makes the news and there are talking heads wondering who's responsible—it's abnormal. **Good engineering is in the interest of public safety**, is deadly serious, and regulated. The career is predicated on mathematical precision to "make things work," decisive leadership . . . and high pressure. There may be no field with a more (as traditionally conceived, of course) gendered skill set, but **women are finally showing up** at the highest levels.

As of 2012, according to findings of the American Psychological Association, 20 percent of engineering school graduates were women, yet women made up only 11 percent of practicing engineers. 40 percent of women who earned engineering degrees quit the profession or never entered the field at all.

Around a quarter of those who leave do so after the age of 30 according to the Society of Women Engineers. That means a dearth of women in leadership roles. So why do they leave? Nearly half left due to working conditions: travel, lack of advancement, salary. 30 percent cite organizational climate: non-supportive supervisors or co-workers. Less than one quarter leave due to starting a family (one knee-jerk conclusion). Despite the unknown percentage nature vs. nurture in the situation, suffice to say it may not seem an appealing career path for many young women who would feel otherwise well suited for it.

Those women who have succeeded in engineering professions are hesitant to discuss life as a “woman engineer,” because in fact part of their aim has been *not* to be that. **Nonetheless, role models and exemplars of successful careers serve a valuable role for the inclusion of women in the future of engineering. So what would be a good sign for engineers who are women in Alabama? What’s the top of the heap of respectability? Think meta: The engineers who set the standards for engineering itself—The Alabama Board of Licensure for Professional Engineers and Land Surveyors (BELS).**

To be a professional engineer you receive a college degree, but then you must receive a license to practice in each state. **As per BELS’ website** “The **Alabama Board of Licensure for Professional Engineers and Land Surveyors** was established by legislative action in 1935. Its charter is to protect the public by helping to safeguard life, health, and property, and to promote the public welfare by providing for the licensing and regulation of persons in the practices of engineering and land surveying.” So, the board sets minimum qualifications for entry into the field and also defines ethical conduct and discipline for entities that violate laws and rules.

As of last year, the first two women in Alabama history are serving on the **Alabama Board of Licensure for Professional Engineers and Land Surveyors**, appointed by the governor. First appointed in 2014, Liz Hyde is now the first woman to chair the board. Helen Adams-Morales became the second woman ever to join the board in 2017. They have over 50 years of varied experience between them.

Liz Hyde graduated from UAB as an electrical engineer and moved into consulting later after stints with the DoD and Corps of Engineers. She found her greatest success in running her own engineering consulting business, Hyde Engineering since 1995. Liz manages all aspects of project management including design, cost estimation, construction administration, proposals, survey analysis and much more. During her career she has designed, managed, and/or coordinated more than 2000 projects ranging from small renovations to new multi-building complexes.

After graduating from Auburn, Helen Morales-Adams climbed every rung in a company ladder at Thompson Engineering in Mobile as a civil engineer. She earned her Alabama Professional License in 1987 and has held professional licenses throughout the southeast: Alabama, Mississippi, Georgia and Texas. She retired in 2015 from Thompson Engineering as an Executive Vice President and a member of the Board of Directors. Her history with Mobile’s Thompson Engineering spanned 34 years where she served as Vice President of Engineering, Executive Vice President, Manager of Accounting and Information Technology and Chief Operating Officer.

Whether you are looking to bud (this is an awkward word here) an engineer in your home or become one, here are some common traits and wisdom from the lives of the first two women on the **BELS board**.

Hard Working Parents Who Instilled a Work Ethic and Offered Encouragement

Liz Hyde: I grew up in Forestdale, lived in the same house from the time I was 2 until I got married. Forestdale was a close knit community—I could walk to school and church. My parents are still living and have been wonderful role models my entire life. Neither went to college and worked very hard in blue collar jobs. They certainly instilled that work ethic in us kids. I have two brothers, one older and one younger, and we all graduated college.

Helen Adams-Morales: I was born in a small town in south AL I have one older sister. My parents were extremely hard workers. My Dad owned a garage. My Mom worked at the garage part time. Neither parents attended college, but it was understood that my sister and I would. I was coached on a career decision very early. I knew I wanted to be an engineer by the time I was in the 7th grade.

Gravitating Toward Math and Working with Hands Early in Life

Both of these women had hobbies that took them outside and out of the norm and early mathematical aptitudes.

Adams-Morales listed tennis, “motorcycles,” horseback riding, and fishing among hobbies.” I worked with my father on projects at the farm and at our lake house,” she said, which was a complement to being part of an advanced math program at school.

Hyde said “I was always a bit of nerd and excelled in school. I loved music and was active in choir and drama in high school; but I also loved to be outside. My brothers and I would build elaborate towns in the backyard with streets and buildings. I loved the building part.” She noted being inspired by the strong female characters in books by Laura Ingalls Wilder.

Although there was not a particular role model for becoming an engineer, both women emerged from childhood confident about their futures.

Assertiveness, Will to Overcome Obstacles

“As I left for college, I didn’t know any women engineers, so I felt like a bit of an outsider; but I’m hard headed so not much could deter me. Hyde only recalls one moment of doubt during a difficult semester. She had an epiphany walking to class one day: “Before I made it to my destination, I realized there was nothing else I wanted to do so my only option was to put my head down and do it.”

Adams Morales only recalls one professor who slighted women in the surveying field. For her, the path felt clear, but the specifics had to be worked out: “I changed my discipline choice from mechanical to civil during my first year at Auburn. I did so because I liked working outside. At one point, I thought about changing to the architectural school but decided to stay in engineering.”

Of Course, as they progressed through their careers, both women found ways to make sense of their work cultures. Adams-Morales said “I understood that I was working in a field dominated by males and I respected that— I understood I would need to work harder at fitting in.” Her husband actually helped coach her in assertive workplace communication.

Hyde reflected, “By and large, I get a lot of support and it has changed a lot in the last 20 years. I have been called “pretty good for woman engineer”, seen mouths agape when I am introduced as the electrical engineer, and flat out disregarded because I am a woman. But that’s okay. It has made me stronger, tougher, and more resolved.”

The masculine environment, for both women is sometimes a hurdle, sometimes a distraction from the important thing—**quality work that they care about.**

Meaningful Work

Hyde weaved her way through varied work at an Alabama Power, for the DoD, and then the Corps of Engineers before ending up at a consulting firm. “I found I loved the smaller office and project oriented work at the consulting firm: I enjoy working through a project and seeing it through from start to finish.”

Adams-Morales always wanted to work for a consulting firm, or in her words “I preferred a small company environment where you could wear many hats” “I loved the varied experience of field and office work,” she said, “ Even as I entered management roles, I always stayed involved with clients and mentoring team members. I always enjoyed putting on boots and heading to the field.”

As for the stressors of the career, Adams-Morales said, “It is extremely important to have a supportive partner if you plan on having a family. . . Traditional roles may need modification.” Hyde noted “I suspect everyone who has a job struggles with balance. I made it work. I know it was not always perfect but I never felt it was a ‘tradeoff.’” (Hyde’s daughter is now a young engineer herself).

Their advice for budding, especially female, engineers: get started early and find a mentor. They, ironically, both look forward for a day when being a woman will not make an engineer notable.

"I have always fought to be considered an engineer, not a *woman* engineer so I am not sure I want to use that as a reason for my success. I do believe some of my experiences helped shape me as a person. I am much more resilient and confident," said Hyde.

Adams-Morales echoed that sentiment, saying, "The worth of an individual should not be determined by their gender but rather by the value in **the service they deliver.**"

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