

The Land Development Design Initiative (LDDI) 2016 Annual Report



LAND DEVELOPMENT
DESIGN INITIATIVE

Program Coordinator's Message

Welcome to the 2016 Land Development Design Initiative Annual Report! This is the sixth such report, and like the others before it the report provides us with a great opportunity to update you and other industry partners on the exciting happenings within our unique program. Preparation of the Annual Report is also quite rewarding, as it is an opportunity to pause, take a deep breath, and reflect on our achievements over the past year. Now entering its tenth year, LDDI continues to grow and make a significant impact on the land development industry. Before going any further, I want to take this opportunity to express my personal gratitude for those individuals who work tirelessly to ensure that Virginia Tech remains the national leader in undergraduate land development design education. To our Advisory Board, I offer a sincere THANK YOU for giving so generously of your time, energy, ideas, and resources. I would like to especially recognize and welcome two new members to the Board – Andy Gorecki (Senior Associate – christopher consultants) and Meredith Jones (Vice President – Eden & Associates), both of whom joined the Board in April. I would also like to thank LDDI Assistant Coordinator Kevin Young for another year of service to the program, and also to congratulate him on receiving the College of Engineering Sporn Award earlier this year. This award is given annually to only one engineering faculty member (out of over 300 faculty members in the College) who has demonstrated excellence in undergraduate instruction. Finally, I want to thank all of the land development professionals who over the past year have given so generously of their time as mentors, guest lecturers, field trip leaders, course instructors, and in countless other ways to improve the educational experience of Virginia Tech CEE students.



Now entering its second decade of existence, LDDI continues to grow and evolve to meet the needs of a very industry. Our organic growth model has been the story of a collaborative vision to improve the land development design profession by creating a new type of young professional. In support of this vision, we've maintained two primary missions over the past ten years – dramatically improving our educational offerings in the land development arena, and involving industry professionals in the university experience of our students. Because of YOU, we have and continue to succeed in these missions. Our general membership continues to grow, and we're now sending out our newsletter and eUpdates to over 700 professionals. These professionals include consultants, developers, municipal engineers, home builders, service providers, equipment manufacturers, and other professionals with ties to the land development industry. As our membership grows, so does our ability to bring cutting edge issues and topics directly to our students, ensuring that LDDI graduates are equipped with everything they need to be successful, productive engineers from day one.

Within this report, you'll learn about LDDI events and activities over the past year. While our focus will always remain on undergraduate education, we continue to grow our research efforts, particularly in the realm of urban stormwater. These research efforts provide LDDI with visibility in the industry as well as among academic peers, and help to ensure that the technical material delivered to students in the classroom is timely and applicable in a rapidly changing industry. The past academic year saw a total of six LDDI course offerings, with a combined enrollment of nearly 300 students!

In closing, I hope you will enjoy reading this year's Annual Report and that it will motivate you to become involved with LDDI if you are not already. There are numerous ways that you can participate in the program and make a tangible impact on undergraduate education at Virginia Tech. On page 20 you will find the contact information for myself, Assistant Program Coordinator Kevin Young, and our Advisory Board Chair and Co-Chair. Please reach out to any of these individuals if you have questions about the program or have ideas for how you would like to become involved.

Best regards,

A handwritten signature in black ink that reads "Randy Zorn".

Table of Contents

Program Coordinator’s Message 1

Diamond and Platinum Corporate Sponsors 3

2014-2015 General Membership Meetings 7

LDDI Welcomes New Advisory Board Members 8

2015-2016 Financial Summary 9

Curriculum and Course Enhancement..... 9

Student Impressions of the LDDI Program 12

LDDI Assistant Coordinator Receives Award 124

Practitioner Involvement..... 15

LDDI Students Recognized..... 15

Research Committee Update 15

Outreach Committee Update 19

How to Get Involved with LDDI 20

Special Thanks 21



Diamond and Platinum Corporate Sponsors

During our 2015-16 fiscal year, Diamond and Platinum Corporate Sponsors contributed over \$82,000 to LDDI. The following section highlights each of these corporate sponsors and their involvement with LDDI.

Diamond Level:

Bohler Engineering

Bohler Engineering was founded in 1981 with a small office in New Jersey. Today, they have 22 offices and over 600 employees. Bohler offers land development consulting services including Civil Engineering, Landscape Architecture, Land Surveying, Permitting and

LEED & LID Civil Design Consulting. Bohler has been ranked as one of the best places to work by Washington Business Journal in the DC Metro Area, NJBIZ in New Jersey, and Best Companies to Work For in New York. Bohler Engineering has been a sponsor of LDDI since 2007. Ginger Greunke, Director of Talent Acquisition and Charlie Yowell, Manager of the Raleigh, NC office serve on the LDDI Advisory Board.



Bowman Consulting

Bowman Consulting was founded in 1995 with 5 people in Fairfax, VA. Since that time, the firm has been recognized as one of the fastest-growing consulting firms with 33 offices distributed across the United States. They offer services in Civil Engineering, Planning, Landscape

Architecture, Surveying, Environmental Consulting, Transportation, and more. Bowman Consulting has been a sponsor of LDDI since 2007. Roy Waugh, Principal from the Chantilly, VA office, currently serves on the LDDI Advisory Board and served as the Board's Chair during 2014.



Platinum Level:

AES Consulting Engineers

Founded in 1980, AES Consulting Engineers (AES) provides land development engineering design services from offices in Richmond, Williamsburg, and Chesapeake, Virginia. AES provides Civil Site Design, Landscape Architecture, Surveying, Land Planning, and Municipal Utilities Design. AES has been a sponsor



of LDDI since 2007. Firm President, Arch Marston, currently serves on the LDDI Advisory Board.

christopher consultants

christopher consultants, ltd.(christopher) was founded in 1982 and is a full service civil engineering, land planning, surveying and landscape architecture firm headquartered in Fairfax, Virginia and serving the Washington DC metropolitan region. In their 34 year history, christopher has had the opportunity to work on many high-profile and award-winning projects in the region and has completed projects throughout the Mid-Atlantic, across the U.S. and around the world. christopher is a designated small business under Virginia's SWaM program. christopher consultants has been a proud sponsor of LDDI since 2007.



Clark Nexsen

At Clark Nexsen, we believe partnership – with our clients, with our colleagues, and with our communities – is fundamental to the effective pursuit of transformative design. Our engineers, planners and architects partner with our clients to shape ideas that transform our world. Our clients benefit from a process forged over more than nine decades of design practice delivering projects that solve real problems. Uncovering innovative solutions is the result of our collaborative process undertaken with our clients to discover truly exceptional ideas. Clark Nexsen has been a sponsor of LDDI since 2011. Dave Parker, Senior Civil Engineer and Associate, in the Virginia Beach, VA office, currently serves on the LDDI Advisory Board.



Dewberry

Dewberry is a leading, market-facing firm with a proven history of providing professional services to a wide variety of public- and private-sector clients. Established in 1956, Dewberry is headquartered in Fairfax, Virginia, with more than 50 locations and 2,000 professionals nationwide. Dewberry has been a sponsor of LDDI since 2007. Robert "Skip" Notte, Vice President and Business Unit Manager of the Charlotte, NC office, served as the Chair of the LDDI Advisory Board during the 2013-14 year and remains an active member of the Board.



Draper Aden Associates

Draper Aden Associates was founded in 1972 with an office in Blacksburg, Virginia and now has six offices located across Virginia and North Carolina. They are a full service consulting engineering firm offering services in site planning and engineering, sustainable design, utilities engineering, and more.

Draper Aden Associates has been a sponsor of LDDI since 2007. Firm president and CEO Jeff Lighthiser is a previous Chair of the LDDI Advisory Board and is a Life Member of the Board.



GORDON

GORDON is a Service-Disabled Veteran-Owned Small Business (SDVOSB) and is recognized as a leading provider of professional consulting services to private land developers and government agencies throughout the Mid-Atlantic region. Founded in Northern Virginia in

1976, GORDON offers a full complement of civil engineers, land planners, landscape architects, surveyors, and security professionals to provide comprehensive, multi-disciplined services that address the needs of our public and private sector clients. GORDON has been a sponsor of LDDI since 2007, and firm COO Bill Junda is an active member on the LDDI Advisory Board.”



Jansen Land Consulting, LLC

Jansen Land Consulting, LLC was founded in 2008 with an office located in McLean, Virginia. They provide development management services for land acquisition due diligence, land entitlement, land development, and bond release for communities throughout the Washington Metropolitan area.



Jansen Land Consulting has been a sponsor of LDDI since 2010. Bob Jansen, President, is a Life Member on the LDDI Advisory Board.

J2 Engineers

J2 Engineers, Inc. provides high quality professional engineering services on a wide range of design projects, with emphasis on developing creative, cost-effective and environmentally sensitive solutions. Founded in 2007, the firm has built an extraordinary track record of providing distinctive and integrated design solutions for civil engineering, transportation, site design, land planning and surveying assignments. With two offices in Northern Virginia, J2 Engineers is a Virginia Small Business and a certified business in West Virginia. The firm touts a multi-disciplinary and team-oriented approach to manage complex assignments.



J2 Engineers has been a sponsor of LDDI since 2007, and Principal Jeff Gilliland is the current Chair and Life Member of the LDDI Advisory Board.

Kimley-Horn and Associates, Inc.

Kimley-Horn and Associates, Inc. was founded in 1967 in North Carolina, and over the past 46 years has grown to include over 83 offices in 25 states. The firm has been repeatedly recognized as a top place to work over the years. They provide an array of engineering and land planning service including transportation, water resources, land development, and more. Kimley-Horn and Associates has been a sponsor of LDDI since 2007. Derrick Cave, Principal and Senior Vice President from the Vero Beach, FL office is a Life Member on the LDDI Advisory Board.



Maser Consulting

Maser Consulting P. A. is a privately owned, multi-discipline engineering firm with a unique balance of public and private sector experience. Committed to customer service and accountability, Maser Consulting's experienced staff of licensed engineers, planners, surveyors, landscape architects and environmental scientists have a proven ability to add value to the community by delivering quality services and strategies needed to meet its clients' undertakings.



Established in 1984, the firm has offices nationwide and has consistently been recognized by Engineering News Record as one of its Top 500 Design Firms, and ranks on The Zweig Group's Hot Firm List of fastest growing companies. Maser Consulting has been a proud sponsor of LDDI since 2012, and Regional Geographic Discipline Leader Jonathan Jolley is an active member of the LDDI Advisory Board.

PENNONI

Pennoni, celebrating its 50th anniversary this year, was founded in 1966 and has grown to more than 1,200 professionals in offices strategically located to best serve a growing list of clients around the world. As a multidisciplinary firm, Pennoni's breadth of services include civil/site, construction services, environmental, geotechnical, landscape architecture and planning, MEP, structural, survey and geomatics, transportation, water resources, and water/wastewater. Pennoni has been a sponsor of LDDI since 2008, and Regional Vice President Susan Wolford is an active member on the LDDI Advisory Board."



2015-2016 General Meetings

Over the past year, LDDI hosted two General meetings. These meetings provide an opportunity to bring our industry partners up to speed on the status of the LDDI program, campus activities inside and outside of the classroom, and immediate and long-term visions for the program. For a number of years, meetings have also provided attendees with continuing education credit, as the meetings featured a number of guest speakers talking about important issues in the industry. Continuing with tradition, and in a continual effort to reach out to professionals, both of this year's meetings were held off campus, one in Richmond and one in Northern Virginia.

On Friday, July 24th, 2015 LDDI hosted a meeting at the Virginia Society of Certified Public Accountants facility in Glen Allen. A diverse mix of consultants, local government officials, developers, and students were in attendance. The agenda included student presentations, an LDDI update, and the featured topic of the meeting – *Virginia Stormwater Regulations – Lessons Learned After 1 Year*. Guest speakers included Drew Hammond and Melanie Davenport (Virginia DEQ), Mike Flagg (Hanover County), Bruce McGranahan (Fairfax County), Charles Kreye (Draper Aden Associates), and Clay Hodges (Altizer, Hodges & Varney). Meeting attendees were awarded two PDH credits.



Charles Kreye and Clay Hodges present during the 2015 LDDI Summer Meeting

On the chilly morning of Friday, January 15th, 2016, LDDI hosted its annual winter meeting at the One Loudoun development located in Ashburn. CEE 4274 students began the meeting with presentations of their semester-long design projects. Following an LDDI update delivered by Dr. Randy Dymond, with help from several Advisory Board Members, a panel of guest speakers discussed mixed use development in Northern Virginia, specifically the One Loudoun Project. This panel was assembled to provide attendees with a diversity of perspectives on the subject topic, and featured Bill May (Miller & Smith), Doug Palatt (William A. Hazel), Jon Eisen (The Eisen Group), and Mike Seigfried (Loudoun County). As with the summer meeting, attendees were awarded two PDH credits.

LDDI Welcomes New Advisory Board Members

Since its inception in 2006, LDDI has embraced an organic, “grass roots” model for growth. At its core, this model relies on a steady, unrelenting expansion of our network of professionals in all corners of the land development industry. It is the ideas, unique talents and perspectives, energy, and resources of the people comprising this network that enable Virginia Tech to stake claim to the most comprehensive undergraduate land development design curriculum in the country. A key constituency of LDDI’s overall membership is its Advisory Board. The Board maintains LDDI’s strategic plan, manages its annual budget, conducts its annual sponsorship drive, steers practitioner involvement inside and outside of the classroom, and performs countless other important tasks. In April, LDDI expanded its Board membership to include several new faces. I hope you will join us in welcoming the following individuals: Andy Gorecki (Senior Associate – christopher consultants), Meredith Jones (Vice President – Eden & Associates), and Meghan Hekl (VT graduate student).

2015-2016 Financial Summary

During the 2015-2016 fiscal year, LDDI collected revenue of approximately \$152,000 through its corporate sponsorship program and individual donor campaign. This figure is greater than revenue collected during our previous fiscal year, and reflects the support of 37 corporate sponsors. These funds were used to directly support LDDI activities inside and outside of the classroom. The following describes some of LDDI's major expense categories to which this revenue was directed.

Instructor Compensation: Of the six LDDI course-sections offered each year at Virginia Tech, the University provides financial support for only two. Private donations to LDDI provide instructor compensation for the remaining four.

Endowment: In an ongoing effort to ensure the long-term sustainability the LDDI Program, the Advisory Board has ramped up efforts to endow the program, including the hiring of a consultant to help identify and approach potential donors to the LDDI endowment.

Program Expenses: Program expenses include support for LDDI's student club, including field trips, travel to service project locations, and social gatherings. This expense category also includes event catering for LDDI general and outreach meetings, publication of the *LDDI Bridges* quarterly newsletter, and past funding of the LDDI student internship program.

Operations Expenses: Operations expenses include general overhead costs such as postage, printing and copying, website development and maintenance, telecommunications, and University Foundation fees.

Travel and Meetings: LDDI has traditionally hosted two general membership meetings each year. Outreach efforts such as these comprise a critical part of LDDI's efforts to ensure continued practitioner participation in the program.

Student Support: Though none were awarded this past academic year, to date, LDDI has administered a total of ten \$2,000 scholarships. Eligibility for these scholarships is restricted to students who have completed or are enrolled in certain LDDI courses. This expense category also includes maintenance for a total of 10 high performance "loaner" computers that are made available to student design teams in CEE 4274 – Land Development Design.

Curriculum and Course Enhancement

Prior to creation of LDDI, students at Virginia Tech had only one land development design course offering available to them (CEE 4274, Land Development Design). Today, LDDI funding supports a total of five individual courses focused on Land Development design. These five courses comprise the most comprehensive undergraduate land development design curriculum in the entire country. As a direct result of LDDI's efforts over the past ten years, the 2016 Virginia Tech CEE graduates have the best foundation for a career in land development design of any students Virginia Tech has ever produced. Of the six land development course-sections offered at Virginia Tech each year, the University provides financial support for only two. The remaining

courses are funded through LDDI's corporate sponsorship program and individual donations to the program.

LDDI courses are among the most popular in Virginia Tech's CEE curriculum, and as a result these courses often fill quickly leaving many students on a waiting list. Our Land Development Design course (CEE 4274) is limited to 40 students per semester and the prerequisite junior-level course (CEE 3274) is limited to 65 students. Last fall, 99 students requested the junior level class, meaning that 34 students were turned away. While we are currently in the process of filling a new professor of practice faculty position which will allow more sections of this course to be offered in coming academic years, it is important to note that we face similar challenges in other LDDI supported courses - Sustainable Land Development (CEE 4264) is offered once per year and always has a large waiting list, CEE4254 (Municipal Engineering) and CEE 4284 (Advanced Land Development) are offered once every other spring, but student interest suggests that we could fill these courses every year if we had the resources. Further magnifying this issue, Virginia Tech is currently in a growth mode and for the next four years enrollment in the College of Engineering is anticipated to increase by 250 students each year. We expect student interest in the LDDI class offerings will continue to grow too, further emphasizing the need for more teaching support.

We are extremely proud of the work we have done with the help of land development professionals to create a program that is vital to the land development industry, and on behalf of the students benefitting from these courses, LDDI wishes to thank all of our business partners and individual donors without whom our program and curriculum would simply not exist!

The following section briefly summarizes the courses comprising the LDDI curriculum.

Introduction to Land Development (CEE 3274)

During the 2015-16 academic year, CEE 3274 was offered during both the fall and spring semesters. In total, the two offerings saw a combined enrollment of 137 students.

The course is intended to introduce CEE students to a wide range of topics in the field of land development design. These topics include governmental roles and basic engineering principles underlying the land development process. Students get an overview of transportation, hydrology, utility design, and erosion and sediment control as it relates to a land development project. In conjunction with these topics, students are exposed to GIS and Civil 3D as tools to communicate and facilitate design. Additionally, the course covers a diversity of non-engineering topics including population growth, planning, landscapes, neighborhood dynamics, finance, and sustainability.

Land Development Design (CEE 4274)

CEE 4274 remains tremendously popular despite students being well aware of its demanding workload! Beginning in the fall 2006 semester, and facilitated through LDDI, students taking CEE 4274 have been paired with a professional engineer who serves as their mentor throughout the entirety of a semester long design project. LDDI would like to thank the following firms for their time and energy to serve as mentors to CEE 4274 students during the 2015-16 academic year:

Bohler Engineering
Burgess & Niple
Bowman Consulting
Dewberry
Draper Aden Associates
GORDON

Pennoni Associates
Rinker Design Associates
Tri-Tek Engineering
Walter L. Phillips
Youngblood, Tyler & Associates



*Ted Britt (Tri-Tek Engineering) meets with a
CEE 4274 student design team*

Municipal Engineering (CEE 4254)

CEE 4254 – Municipal Engineering is offered during the spring semester of alternating years, and was taught this spring with 48 students enrolled. The course was taught by Meredith Jones (Virginia Tech Adjunct Instructional Professor and Vice President of Eden & Associates). Meredith was assisted in course organization and design by James Patteson (Fairfax County Director of Public Works and Environmental Services) and Dr. Randy Dymond (LDDI Coordinator). The course focused on familiarizing students with the role of the municipal engineer, and the important relationship that exists between municipal engineers and the land development industry. The course included many guest speakers and 12 municipal engineering mentors who worked directly with students on projects. Municipal Engineering will next be offered in the spring of 2018.

Sustainable Land Development (CEE 4264)

Sustainable Land Development was first offered during the spring 2008 semester as a one credit seminar and was expanded to a three credit course shortly afterwards. The course continues to be very popular with students and Dr. Dymond had 51 students take the class during the fall 2015 semester. While enrollment in the course is restricted to only those students with senior standing, students from *any* major may enroll. This arrangement introduces various perspectives to classroom discussion and better prepares students for their careers where they will inevitably cross paths with professionals from a myriad of academic backgrounds. The Sustainable Land

Development course focuses on the developed site's long term sustainability and preservation of the pre-development quality of its environment. Specific topics include site selection and linkage; neighborhood pattern and design, development impacts on water, air, and soil; microclimate; industrial ecology and materials; energy; and incentive driven sustainability efforts. The course also introduces students to third party site evaluation methods including Leadership in Energy and Environmental Design for Neighborhood Development (LEED ND) and Earthcraft Communities. Students visit development projects employing innovative, sustainable design features and a number of outside guest speakers give interesting presentations.

Advanced Land Development Design (CEE 4284)

CEE 4284 – Advanced Land Development is offered during the spring semester of alternating years, and was last taught during the spring 2015 semester. With the development and continual improvement of CEE 3274 over the past five years, much of the fundamental material necessary for students to become successful land development engineers is now being introduced during their junior year. This has had a “ripple effect” throughout the LDDI curriculum, allowing instructors to now introduce new and more advanced subject matter in CEE 4274 and Advanced Land Development Design – CEE 4284. When the course was first developed, CEE 4284 focused on site grading and ADA requirements, storm sewer design and basin routing, and erosion and sediment control. Students are now being introduced to these subjects in CEE 3274 and again, in the context of a design project, in CEE 4274. Through the growth and evolution of the LDDI curriculum, in CEE 4284 we are now able to address the following topics:

- Stormwater quantity issues, including channel velocity/energy requirements set forth in the new Virginia DEQ regulations
- Stormwater quality treatment, including
 - Low Impact Development strategies and design of structural BMPs
 - Selection and installation of proprietary BMPs
 - Virginia's “Runoff Reduction Method”
- Site selection, due diligence and project entitlements
- The design-build process
- Infill development and development challenges in urban environments
- Security issues in certain developments

CEE 4284 is one of the most unique courses in the entire College of Engineering in that it is not only taught by adjunct instructors, but by teams of instructors from three different consulting firms. Additionally, the class meets at the non-traditional time of Friday evenings and Saturday mornings. Advanced Land Development Design will next be offered in the spring of 2017.

Student Impressions of the LDDI Program

The core mission of LDDI is to produce civil and environmental engineering graduates who are not only aware of the career opportunities in land development, but prepared to hit the ground running in this exciting field. The following are testimonials from both current and former students in the LDDI curriculum.

"I have been involved with LDDI for the past two years as a student in Intro to Land Development (CEE 3274) and Land Development Design (CEE 4274), as well as a member of the Sustainable Land Development Club. The instruction and experiences that I have received as a part of this program, especially the professional mentoring in the Land Development Design course, has given me a taste of the real-world application of land development and allowed me to take on more responsibility in my current internship. I feel that LDDI has greatly prepared me for professional experiences and has helped me make lasting connections in the land development community." - Holly Tache, CEE '17, intern with LDDI 2016 Platinum Sponsor Kimley-Horn and Associates

"Virginia Tech's LDDI Design course, CEE 4274, was the most challenging but also the most rewarding class of my college career. With the help of the assigned mentors, in my group's case Bowman Consulting, teams were required to put together submittals for a total of five modules. Having these milestones and working in a team atmosphere was the best preparation I could have gotten before beginning my career as a Project Engineer. Through this program I was able to understand the Land Development field not only from a technical aspect, by using programs such as ArcGIS and Civil 3D, but more importantly I was able to improve my interpersonal skills. In the end, I learned that land development is not something that is done with one person. It takes a team of people with varied skillsets and a shared, strong work ethic." - Ryan Roman, CEE '16, Project Engineer with Faulconer Construction Company

"Knowledge that I gained from the LDDI program has rapidly proved to be invaluable in the professional world. I entered the work force with vast knowledge from topics ranging from environmental regulations to drafting in AutoCAD Civil 3D from a variety of the LDDI courses. I am able to look at a plan set and quickly understand important factors that drove the design. The exposure to real world projects within LDDI courses is thorough and provides an impressive foundation for design in the professional world. During LDDI Design Course, our mentors were approachable and always helped us achieve the best design possible. Outside of the many technical skills that the program equipped me with, I am very comfortable corresponding with clients and agencies to discuss designs and regulations thanks to the constant communication with mentors. This is a one of a kind program lead by passionate professors who inspire future engineers." - Heather Hutton, CEE '16, Civil Analyst with LDDI 2016 Platinum Sponsor Kimley-Horn and Associates

LDDI Assistant Coordinator Receives Award

This spring, LDDI Assistant Coordinator Kevin Young was honored with the 2016 College of Engineering Sporn Award. The winner of the Sporn award is selected by the Student Engineers' Council from over 300 faculty members in the college. It is given annually to an engineering faculty member who demonstrates excellence in undergraduate instruction.

Many students noted Young's commitment to teaching excellence, but another common theme expressed by students was his mentoring and willingness to help them succeed both inside and outside of the classroom. 2015-16 CEE 4274 Female Student of the Year Lauren Cetin stated, "I can't think of a professor more deserving of this award than Kevin. He is extremely committed to making sure his students succeed both academically and professionally. He teaches clearly and concisely, integrating real world applications into lessons while also making students excited about the material. I believe I speak for many of my peers when I say that Kevin is one of the best professors I have had at Virginia Tech."



LDDI Assistant Coordinator Kevin Young receives the 2016 College of Engineering Sporn Award

Young is a Virginia Tech alumnus, earning his B.S. in Civil and Environmental Engineering in 2000 and an M.S. in Hydrosystems Engineering in 2006. Since 2007, he has served alongside fellow CEE faculty member Dr. Randy Dymond as the Assistant Coordinator of LDDI. Of Young's award, Dymond stated, "We're very fortunate to have Kevin associated with LDDI and I'm personally very proud of his accomplishments and very happy to have such a wonderful colleague to work with every day."

This isn't the first time that Young has received awards for his teaching excellence. In 2015, he was awarded with a College of Engineering Certificate of Teaching Excellence. In 2013, he was honored with the G.V. Loganathan Faculty Achievement Award.

The Sporn Awards are made possible by gifts from Dr. and Mrs. Philip J. Sporn and the alumni of the university.

Practitioner Involvement Committee Update

The major objective of LDDI's Practitioner Involvement Committee (PIC) is to develop a strong and sustainable relationship between all sectors of the land development profession and the students within the Via Department of Civil and Environmental Engineering. This involvement is to help students prepare for a career in the land development design profession. The following describes some of the PIC-supported activities during the 2015-16 academic year.

Student Club Activities

With the aid of faculty advisors Kevin Young and Randy Dymond, and working closely with the LDDI Advisory Board, the Sustainable Land Development Club (SLDC) brings together students with a common interest in sustainability as it relates to land development design. Graduating senior Meghan Hekl served as the club's president this year, and was joined by Estela (Beatriz) Cruz Velasquez and Dylan Hale who served as the club's Service Project Coordinators.

The 2015-16 academic year was a busy one for the SLDC. During the fall and spring semesters, LDDI and the SLDC continued their tradition of hosting a "Land Development Career Night" on the eve of the Civil & Environmental Engineering career fair. During the fall semester, the SLDC also hosted a football viewing party for its members. In March, Kevin Young led a group of SLDC students on a field trip to Northern Virginia where they toured various complex, urban development projects. The site visits were arranged by Tri-Tek Engineering and Bowman Consulting. In April, for the fourth consecutive year, SLDC members provided stakeout surveying of the track for Virginia Tech's annual Relay for Life Event – the largest collegiate Relay event in the entire world! SLDC members also competed in an LDDI-sponsored Design Charrette and Competition.

With regards to service projects, the SLDC continued its partnership with the FloydFest music festival. From relatively modest beginnings in 2002, the festival has grown considerably over the past decade. With its rapid growth, festival organizers have encountered numerous challenges, including site layout, shuttling of patrons into and out of the festival grounds, and public safety issues. In past years, SLDC members developed a series of site maps to help festival organizers address these issues. During the 2015-16 academic year, the SLDC continued working with FloydFest organizers on the FloydFest site as well as other festivals including the Vintage Virginia Wine Festival and the new Roanoke concert series in Elmwood Park.

Career Nights

This year, LDDI and the Sustainable Land Development Club (SLDC) continued their tradition of hosting a “Land Development Career Night” on the eve of the Civil & Environmental Engineering career fairs. This was the 17th and 18th consecutive semesters that a student-practitioner mixer of this type has been held by LDDI. The event was very well attended in both the fall and spring semesters with a good ratio of students to representatives from various LDDI sponsoring firms. These career nights are beneficial for both the students and practitioners for numerous reasons. It allows the students to learn more about various roles and career opportunities in the land development field. The event also provides an opportunity for students to meet and mingle with prospective employers in a relaxed atmosphere prior to the potentially stressful atmosphere of the career fair. The casual setting of the Hokie House, a local restaurant and bar in Blacksburg, provides opportunities not only for career networking, but for practitioners to reminisce on their time as a student at Virginia Tech.



Jack Vega (Dewberry) and Greg Deubler (Pennoni) chat with a group of students at the spring 2016 LDDI Career Night

Football Viewing Party

During the fall 2015 semester, LDDI and the SLDC hosted its fourth annual football viewing party. Those in the the Virginia Tech community know that when fall rolls around, football takes center stage. The Hokies came through on the field versus Georgia Tech, and a good time was had by both student and practitioner attendees. The event was held at PK’s restaurant in Blacksburg and a similar event will held on Thursday, October 27th, 2016 when the Hokies travel north to play the Pitt Panthers.

Field Trip

A major challenge for many young engineers is bridging the gap between engineering plans and specifications and the final, built site. LDDI has long recognized the value of complimenting traditional classroom instruction with visits to active construction sites. In March, LDDI sponsored a field trip to Northern Virginia to provide an opportunity for students to visit complex land development projects in various stages of completion. The site tours were coordinated and led by Kevin Murray, LDDI Advisory Board member and President of Tri-Tek Engineering. After making

the drive from Blacksburg on Friday afternoon, the students got an early start Saturday morning visiting a complex 13-acre commercial development in the Sterling-Dulles area. While touring the site, Mr. Murray discussed everything from the project's early stage planning through grading, paving, and the installation of utilities. The students then traveled to Leesburg where they toured a very dense brownfield residential development hosted by Bowman Consulting. There, they observed numerous ESC practices and stormwater infrastructure, including a large manufactured treatment device. LDDI covered all of the students' travel, lodging, and meal expenses. Speaking about the field trip, Mr. Murray stated, "It was a pleasure to lead the students on a tour of some of the development projects that my firm has been involved with in the Northern Virginia region. Kevin [Young] assembled a great group of students, and I walked away from the field trip impressed with their insight and awareness of the land development process."



Kevin Murray (Tri-Tek Engineering) reviews development plans with SLDC students prior to touring the site

Design Charrette and Competition

In April, LDDI hosted its fourth annual Design Charrette and Competition. In total, seven student teams competed for the top prize of a \$100 gift card to Buffalo Wild Wings. Skip Notte (Dewberry) served as the event's organizer for the third time, and made the trip to Blacksburg from Charlotte to lead the event. Following Skip's introduction to the site and development objectives, student teams were given one hour to work on their designs. Matt James (Draper Aden Associates) and Kevin Young served as judges for the event along with Skip. The event will be held once again in the spring 2017 semester.

LDDI Students are Recognized

Those of us involved with LDDI have a hard time hiding the pride that we feel when our students succeed in the classroom (and beyond!). In April, and for the second consecutive year, the LDDI Advisory Board decided to recognize some of the truly outstanding students in the program. During the annual April meeting of LDDI's Advisory Board, Dr. Randy Dymond and Kevin Young presented the following student awards.

Hokie Stone Award: This award is given annually to the LDDI student who is as solid as its namesake – a team player whose leadership and personality elevated the performance of all those around him. Clint Martin was integral to the success of a 4274 team mentored by Youngblood, Tyler & Associates during the fall 2015 semester. Clint also performed exceptionally well in a number of other LDDI courses. Clint is now enrolled in graduate studies pursuing a Master’s Degree and working with his advisor, Dr. Dymond

Leadership in Sustainability: The Leadership in Sustainability award is given annually to recognize an LDDI student with a commitment to sustainability as it relates to land development design. For the past year, Meghan Hekl served as the President of the Sustainable Land Development Club. During her time guiding the SLDC, she worked extensively on the club’s various service projects. During the 2015-16 academic year, Meghan also served on the Drillfield Improvement Committee to investigate sustainable alternatives to the unsightly paths that now cover the Drillfield. While pursuing her B.S., Meghan also served as an intern at the Alternative Transportation Center at Virginia Tech, and with the Office of Energy and Sustainability at Virginia Tech. Meghan is now enrolled in graduate studies pursuing a Master’s Degree and working with her advisor, Dr. Dymond

CEE 4274 Female Student of the Year: This award is given annually to the exceptional female student in the fall and spring offerings of CEE 4274. This year’s CEE 4274 Female Student of the Year was chosen to be Heather Hutton. Working under the mentorship of a team of professional engineers from Tri-Tek Engineering, Heather excelled in CEE 4274. Early in the semester, Heather assumed the role of team leader, and in doing so was able to successfully elevate her entire team’s performance. Heather’s performance in CEE 4274 was so strong that she was hand picked to work on a high profile LDDI research project funded by the Virginia Department of Transportation. Having graduated, Heather is now working with Kimley-Horn & Associates in their Baltimore, MD office.

CEE 4274 Male Student of the Year: This award is given annually to the exceptional male student in the fall and spring offerings of CEE 4274. During the fall 2015 semester, John Temple was a member of a student design team mentored by Bowman Consulting. From early on in the course, the design team set the pace for the rest of the class due in no small part to the leadership and technical skills demonstrated by John. John and other members of the Bowman team were honored for their hard work with an opportunity to present at the January LDDI General Meeting. John graduated this semester, and has just begun his career with Bowman Consulting in their Chicago, IL office.

At this year’s award ceremony, we also recognized Amanda Dritschel, who over the past two years has served as a GTA in multiple LDDI courses, as well as serving as the student representative to the LDDI Advisory Board. This spring, Amanda successfully defended her Master’s thesis, and is all ready to begin her career once her fiancé completes his Navy flight training and is assigned to a location.

Research Committee Update

While undergraduate education will always remain the priority of the LDDI program, over the past three years, LDDI as an organization has become increasingly involved in research activities. LDDI's research efforts help to provide exposure to the program as a whole, provide funding for master's and Ph.D. students, and help to advance our undergraduate education mission by keeping our finger on the pulse of a very dynamic industry. LDDI Advisory Board Members James Patteson (Fairfax County) and Clay Hodges (Altizer, Hodges, Varney, Inc.) provide steering for the Research and Development Committee, and drafted its mission statement during the summer of 2013.

Thus far, a majority of LDDI's research activities have been in the realm of urban stormwater. With Virginia adopting new stormwater management regulations in July 2014 – regulations that greatly impact the land development industry - this research focus compliments LDDI's overriding goal of improving land development education. Currently, LDDI, through the Via Department of Civil & Environmental Engineering, holds funded research contracts with the Town of Blacksburg, the City of Roanoke, and the Virginia Department of Transportation (VDOT). Ongoing work with the Town of Blacksburg and the City of Roanoke involves developing innovative technologies and strategies to assist the localities in better managing their assets, complying with Municipal Separate Storm Sewer System (MS4) and other legislative requirements, and developing watershed master plans. Previous and ongoing efforts with VDOT involved developing a BMP Manual of Practice tailored specifically to linear projects, accompanied by BMP selection software. Through both alpha and beta testing phases, the BMP selection software has been extremely well received by VDOT and industry consultants.

Outreach Committee Update

The major objectives of LDDI's Outreach Committee are: 1) to promote the field of land development engineering to students and encourage their participation and support; and 2) to promote the Land Development Design Initiative to land development professionals and encourage their participation and support of the program. The committee has been active this year serving as the primary organizer for general meetings and the annual spring sponsorship drive. The Outreach Committee also maintains LDDI's online presence, one of which is the LDDI website. The website serves as a portal for students to easily find information about LDDI courses, upcoming events, career opportunities, and interesting land development projects. Diamond, Platinum, and Gold level sponsors of LDDI may access a student resume bank on the new website, as well as showcase projects that their firms have worked on. We hope you'll visit the LDDI website at <http://www.lddi.cee.vt.edu>. The committee also maintains several social media sites such as Facebook, LinkedIn, and Twitter. "Liking" LDDI on Facebook, joining our group on LinkedIn, and following our Twitter account are all great ways to stay up to speed on recent happenings and upcoming events.



Search “Virginia Tech Land Development Design Initiative (LDDI)”



Search “LDDI-Virginia Tech CEE Land Development Students and Alumni”



Search “LDDI” or “@VTLDDI”

How to Get Involved with LDDI

To continue the success and sustainability of the Land Development Design Initiative, both time and money is needed from the industry. You and your company can get involved by becoming a sponsor, becoming a general member, or donating your time by serving on a committee or helping with course offerings.

Corporate Sponsorship and Individual Giving

LDDI currently has 37 corporate sponsors and an additional 40 individual donors. There are four levels of annual corporate sponsorship which afford varying levels of student/corporate interaction and exposure. For more information, please contact Kevin Young or Randy Dymond.

General Membership

Since its earliest beginnings LDDI has depended heavily on the volunteer efforts of its general membership to achieve program goals. The past ten years have seen LDDI grow to become a nationally recognized leader in undergraduate land development design education. Despite the program’s rapid growth, LDDI continues to embrace an organic, grass roots operational model. This model relies on the participation of industry professionals who sincerely believe in LDDI’s mission. There are currently more than 700 general members of LDDI, many of whom attend semi-annual meetings, both on-campus and at locations across the state. During these meetings, these general members contribute ideas for practitioner involvement, courses, and other aspects of the program.

For more information on how to get involved with LDDI, please contact:

Dr. Randy Dymond, PE
VT LDDI Coordinator
(540) 231-9023
dymond@vt.edu

Jeff Gilliland, PE
LDDI Advisory Board Chair
(703) 361-1550
jgilliland@j2engineers.com

Kevin Young, PE
VT LDDI Assistant Coordinator
(540) 231-2474
keyoung@vt.edu

Bill Junda, PE
LDDI Advisory Board Vice Chair
(703) 889-2341
bjunda@gordon.us.com

Special Thanks

The sponsorships of our business partners and individual donors are an essential component to the success of LDDI. We thank the following Firms and individuals for their generous support during our 2015-16 fiscal year:

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