2018 NCLUG Summer Conference

Day 1 - July 31 Workshops		
Session	**Title**	**Description**
W11A	Quick Start for Roadway Designer Using Microstation CONNECT Editions - Bentley	This course is for both new users and users upgrading from previous versions of PowerCivil, Power GEOPAK, MX, and Power InRoads software to use the OpenRoads Technology. You will learn to model the roadway corridor using an existing 2 lane urban typical section with curb and cutter and sidewalk, control the pavement with geometry, and review the 3D corridor model. You will also model a T intersection complete with curb returns and side slopes using a civil cell. Finally, you will place pavement markings on the model. Before completing this course we recommend you complete the QuickStart for Terrain & Geometry Using OpenRoads course.
W12A	Beyond Centerline Geometry - Bentley	Pavement Edges are particularly important: they are required in Plan Sheets and the streamline modeling corridors (a single template can follow edges wherever they meander). In this class you create smart, editable, obedient edges, turn lanes, tapers, and driveways. You will see how OpenRoads Remembers the relationships with which you built the geometry and honors it when the design changes. OpenRoads Remembers your Design Intent.
W11B	Quickstart - Laying out a Drainage Network in OpenRoads Designer - Bentley	In this course, you will learn how to lay out a simple drainage network: place an endwall, inlets, pipes, and drainage areas.
W12B	Hydraulic Analysis and Design in OpenRoads Designer - Bentley	This course teaches the basic skills to analyze and design hydraulic networks in OpenRoads Designer. Begin by learning to use the Scenario Manager to review existing Scenarios before learning how to calculate your own Analysis Scenarios and Designs. You will also learn to compare scenarios to find differences between them and how pipe sizing works.
W13B	OpenBridge Modeler - What it is and how you can use it today - Bentley	Develop intelligent, 3D, parametric bridge models for your highway projects with Bentley's OpenBridge Modeler. Easily manage changes with built-in, user-defined relationships among bridge components and reference DGN models throughout the lifecycle of the bridge. Learn how OpenBridge Modeler's integrated workflow minimizes errors and improves efficiency. OpenBridge Modeler leverages OpenRoads geometry data (terrain, alignments, profile, and superelevation) ensuring the bridge and roadway geometry are the same and transfers directly into LEAP Bridge and RM Bridge for detailed design and analysis.

Day 1 - July 31   Lectures

Session	Title	Description
L11A	ProConcrete Workflow with OpenBridge Modeler - Bentley	This lecture shows how ProStructures interacts with OpenBridge Modeler for rebar detailing and quantity calculations.
L12A	BrIM Analytics Product Update - LEAP Bridge Concrete, LEAP Bridge Steel and RM Bridge - Bentley	This session will provide a review of the updates and enhancements in the latest delivery of the CONNECT Editions of LEAP Bridge Concrete, LEAP Bridge Steel and RM Bridge.
L13A	Introducing the Microstation Connect Edition - Bentley	The MicroStation CONNECT Edition features many updates to the user interface. These updates include the introduction of a ribbon-style graphical user interface (GUI), a relocation of the "workspace" settings such as Preferences and Configuration, and more. This course contains a set of exercises that are used to become familiar with the ribbon style interface found in the MicroStation CONNECT Edition.
L14A	Migrating WorkSpaces to MicroStation CONNECT Edition Configuration - Bentley	In MicroStation V8i, the overall usage of Configuration Files and Configuration Variables were referred to as Workspaces. That overall usage is referred to as the Configuration in MicroStation CONNECT Edition. In MicroStation CONNECT Edition, there have been a number of changes to the way Configuration Files are organized and processed. In this course you will learn how to migrate your V8i workspace to a MicroStation CONNECT Edition Configuration.
L15A	Under the Surface with Subsurface Utilities - Bentley	Building a drainage model is fast and easy, but a LOT happens under the surface when you click Subsurface Utilities buttons. This presentation digs into how OpenRoads and StormCAD unite to provide a comprehensive drainage and utility solution. What happens when you click Place Node? or Place Conduit? or Compute? How do you confirm the results you got? Where did those newly designed pipe sizes come from? How do you constrain the design to your needs? Join us as we answer these questions.

Day 1 - July 31 Lectures		
Session	**Title**	**Description**
L11B	Moving to OpenRoads Designer - Where to Start - Bentley	During this session, we will consider the migration path options for moving to OpenRoads Designer from InRoads, GEOPAK, MXROAD, and PowerCivil SELECTseries 2, 3, and 4 software. Learn what can be done, the minimum that must be done, and what Bentley resources and services are available to assist you.
L12B	Moving to OpenRoads Designer - Understanding Workspace Files and Resources	Do I need Element Templates? How do I change the color of a Feature created by a template? How do I get my models to show textures and materials? If you have these or similar questions, don't miss this session! OpenRoads Designer uses on an assembly of DGNLIB files, resource files, libraries, and configuration variables that determine how the software behaves. During this session we will discuss important aspects of what is stored in these files and libraries.
L13B	Understanding the Power of the Bentley Template Library - Bentley	The template library delivered with OpenRoads Designer includes many advanced features and techniques that you can use directly in your models or that you can incorporate into your own templates and template libraries. Join a Bentley expert to learn their techniques and best practices.
L14B	NCDOT Hydro Update on SUDA	The Hydraulics Unit will give an update on SUDA development, where NCLUG is heading.
L15B	NCDOT Moving Forward with OpenRoad Designer (ORD)	The CADD Services Unit will give an update on OpenRoad development, where NCLUG is heading.

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Day 2 - Aug 1 Workshops		
Session	**Title**	**Description**
W21A	NCDOT ORD Delta Training - Civil Geometry for ex-GEOPAK Users	NCDOT will be doing the Civil Geometry training on Day 2 and an encore on Day 3. This is the same Delta training offer for in-house employees. The training will cover how to create horizontal geometry and alignment using the civil geometry tools, along with some other tools. The three prerequisites below are recommend as this is a fast past workshop (a few are being offer on Day 1 but can be done prior on Bentley LEARN Server). You can also just view the short videos in each section to become familiarized with the tools and GUI. I. QuickStart for Roadway Designers Using MicroStation CONNECT Edition II. OpenRoads Designer Learning Path III. Beyond Centerline Geometry
W21B	Creating and Manipulating the Corridor- Bentley	In this course, you will create a roadway corridor and then explore the many tools and techniques to edit and manipulate the corridor. We will take a look at how to add multiple templates drops along the corridor as you encounter intersections, driveways and turn lanes and how to edit and copy template drops in lieu of creating a new template. We will show how to make the corridor follow edge of pavement geometry using point controls and corridor references. You will learn how the secondary alignment tool aids in changing the direction of template processing as it applies to point controls and corridor reference elements. You will also learn how to use parametric constraints to override default template values for pavement depths, curb heights, shoulder slopes and ditch widths and how to use the clipping reference tool to clip out a portion of your corridor. We will take a look at how corridors interact with other corridors by learning how to use target aliasing to seek corridors. And finally we will show how to create end condition exceptions in areas that require a different type of end condition solution.
W22B	QuickStart Using OpenRoads ConceptStation - Bentley	This course is an introduction to the OpenRoads ConceptStation software. In this course you will learn how to import data for existing conditions, and how to create conceptual roadway designs that include road corridors and their interactions with intersections, bridges and ramps, including lighting, guardrail and street markings.

Day 2 - Aug 1 Lectures		
Session	**Title**	**Description**
L21A	Customizing the Ribbon in the MicroStation CONNECT Edition - Bentley	When working in an application, we often find ourselves adapting our workflows to fit the application, rather than the application to our workflows. And, if the sets of tools that are required for various workflows are not properly grouped together, time is often lost remembering where to locate them and navigating between tool locations. As such, what are we to do? Learn how to begin creating a custom user experience in the MicroStation CONNECT Edition by creating custom workflows, ribbon tabs, and more.
L22A	Drawing With Microstation for Civil Designers - Bentley	In the MicroStation CONNECT Edition, there are a host of placement tools that allow you to create new drawing elements efficiently and accurately using tools such as Place SmartLine, Place Circle, Create Region, and others. AccuDraw is an intuitive drawing aid that helps you to define exact distances and angles while creating new elements or manipulating existing ones. In this course, you will utilize the Place SmartLine tool along with the aid of AccuDraw for precision placement of the lines which will make up the subdivision for your project.
L23A	Using Levels to Organize Data in Microstation CONNECT Edition - Bentley	Using Levels is essential to develop CAD standards to account for changing software, work practices, and needs of users and customers. Setting standards can be as simple as preparing a file containing the level definitions. Defining levels should be viewed as a mission-critical decision for structuring and organizing project information.
L24A	Producing a Plan Sheet in Microstation CONNECT Edition	In this course, you will learn how to create a drawing composition sheet for printing purposes. A drawing composition sheet may also referred to as a printing layout, or just simply a "sheet", and is used to define the area of the model that is to be printed. This may be the entire design or sections of it depending upon the scale(s) being used.
L25A	Changing the Display of Elements with Display Rules in Microstation CONNECT Edition	In this course, you learn how to will display existing landscape elements in a different look than how they were drawn. For example in a landscape plan, you have numerous trees and shrubs that have been installed. The cells for trees, shrubs and ground cover need to be isolated, in this case you will need to display just the shrubs and "gray scale" the trees, ground cover, and existing roadway geometry. You will create Display Rules that are applied to a Display Style. Here we have several landscape elements, ground cover, several types that we need to maintain by irrigation and watering. In the design you will need to identify them based on their Item Type Properties, including those that are less than a specific square footage. Also you have been given data that was created on the correct level and it displays correctly for the specific group that created it, however we need it to display differently in our construction plan.

Day 2 - Aug 1   Lectures

Session	Title	Description
L21B	NCDOT Share Point Update	Update on the Share Point Software by NCDOT.
L22B	Advance Your Design Work-sharing Maturity (Project Wise)	Is your organization leading or lagging in its use of design work-sharing best practices? Learn about a data analytics approach to assess and improve your design work-sharing maturity. Learn how leading firms increase margins, improve design quality, and reduce risks.
L23B	NCDOT ProjectWise Update	The CADD Services Unit will give an update on ProjectWise development, implementation and where NCLUG is heading.
L24B	Unleash the Power of Project Wise - Bentley	Are you taking advantage of all the features of ProjectWise including automation services? This session will take you on a tour from conception through to delivery of your project.
L25B	Under the Hood of Project Wise Office 365 Integration - Bentley	The new integration between ProjectWise and Office 365 will transform how your projects collaborate. Prepare yourself to guide and facilitate successful adoption by learning how to configure and use specific integrations with Microsoft Flow, SharePoint, and Teams.

2018 NCLUG Summer Conference

Day 3 - Aug 2   Workshops

Session	Title	Description
W21A	NCDOT ORD Delta Training - Civil Geometry for ex-GEOPAK Users **(Encore)**	NCDOT will be doing the Civil Geometry training on Day 2 and an **encore** on Day 3. This is the same Delta training offer for in-house employees. The training will cover how to create horizontal geometry and alignment using the civil geometry tools, along with some other tools. *The three prerequisites below are recommend as this is a fast past workshop (a few are being offer on Day 1 but can be done prior on Bentley LEARN Server). You can also just view the short videos in each section to become familiarized with the tools and GUI.* *I. QuickStart for Roadway Designers Using MicroStation CONNECT Edition* *II. OpenRoads Designer Learning Path* *III. Beyond Centerline Geometry*
W31B	Quickstart for Terrain and Geometry Using OpenRoads Technology - Bentley	This course is for both new users and users upgrading from previous versions of PowerCivil, Power GEOPAK, MX, and Power InRoads software to use the OpenRoads Technology SELECTseries 4. You will learn to use the software to setup working files, attach existing ground terrain and aerial imagery, and define horizontal and vertical geometry. After completing this course we recommend you continue your learning with the QuickStart for Roadway Modeling Using OpenRoads course where you will learn how to model a roadway corridor and intersection.
W32B	Using The Model: Preparing for Plan Production in OpenRoads - Bentley	This course is for both new users and users upgrading from previous versions of PowerCivil, Power GEOPAK, MX, and Power InRoads software to use the OpenRoads Technology. Within OpenRoads, the majority of the plan production is done using the native tools and native file formats. In order to facilitate the usefulness of these tools, this course will focus on moving the OpenRoads data and models back to the native data formats. These files can then be used to create construction drawings, including plan sheets, profiles sheets, and grading plans. Ultimately, OpenRoads will have a new set of fully-integrated plan production tools. Today, however, along with the OpenRoads tools, the native tools are also available in the SELECTseries 3 and SELECTseries 4 versions. *Before completing this course, we recommend you complete both the QuickStart for Terrain & Geometry Using OpenRoads as well as the QuickStart for Roadway Modeling Using OpenRoads courses.*

Session	Title	Description
	Day 3 - Aug 2 Lectures	
L31A	NCDOT L&S - RW and C series	The Location & Survey Unit will give an update on the development of RW sheets, tables, signing & sealing those RW sheets for a LET set of plans.
L32A	Unmanned Aircraft System (Drones) in NC	Come here Alabama's DOT, JD D'Arville speak about UAS Case Studies and how his state is using drones in construction along with Bentley's Context Capture software.
L33A	UAS Case Studies (Drones)	The Division of Aviation's goal is to make sure that UAS/drone operations in North Carolina are safe and responsible. The Federal Aviation Administration (FAA) has exclusive authority over the use of airspace in the United States, including the airspace used by UAS/drones. NCDOT has authority to implement and manage regulations that pertain to state laws concerning UAS operations within North Carolina. With Session Law 2014-100, the North Carolina General Assembly granted the Division of Aviation the responsibility to implement testing and permitting systems for UAS operation in North Carolina. The Division of Aviation encourages individuals and organizations to take time to make sure they understand and comply with all UAS/drone regulations
L34A	OpenRoads Designer Survey Update	A discussion on OpenRoads Designer survey functionality.
L35A	NCDOT L&S Update	This session will quickly show the use of OpenRoads Survey in the NCDOT environment. We currently have created preliminary Element Template and Feature dgnlibs which will provide that imported survey information.

Session	Title	Description
	Day 3 - Aug 2 Lectures	
L31B	TBD	
L32B	TBD	
L33B	Mixed Reality (Augmented, Mixed, and Virtual	Technological advances are improving our ability to design, construct and operate infrastructure with enhanced precision, greater efficiency and improved collaboration. What once seemed only possible in sci-fi movies can now be applied to greatly enhance large infrastructure projects: helping communities and businesses overcome their water, environment, transportation, energy and facility challenges. Join us for a presentation from **Scott Aldridge** with **CDM Smith** on how harnessing the power of Microsoft's HoloLens, a mixed reality technology, to help clients design, build and operate their infrastructure assets faster and more efficiently.
L34B	Drawing with Microstation for Civil Designers - Bentley	In the MicroStation CONNECT Edition, there are a host of placement tools that allow you to create new drawing elements efficiently and accurately using tools such as Place SmartLine, Place Circle, Create Region, and others. AccuDraw is an intuitive drawing aid that helps you to define exact distances and angles while creating new elements or manipulating existing ones. In this course, you will utilize the Place SmartLine tool along with the aid of AccuDraw for precision placement of the lines which will make up the subdivision for your project.
L35B	Printing and Publishing for Civil Designers - Bentley	The final phase in completing a design project is producing the construction document set. It can be as simple as fencing an area in a design model and printing what is seen within the view window using the default settings or may include the use of sheet models, pen tables and print styles. Drawing sheets may be printed individually or in a "batch" mode using Print Organizer. This workbook contains exercises intended to familiarize a new MicroStation user with the basic printing capabilities found in the MicroStation CONNECT Edition.