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AUGIWorld

The Official Publication of the AUGI Design Community

August 2019

Strategies for Project Management and More

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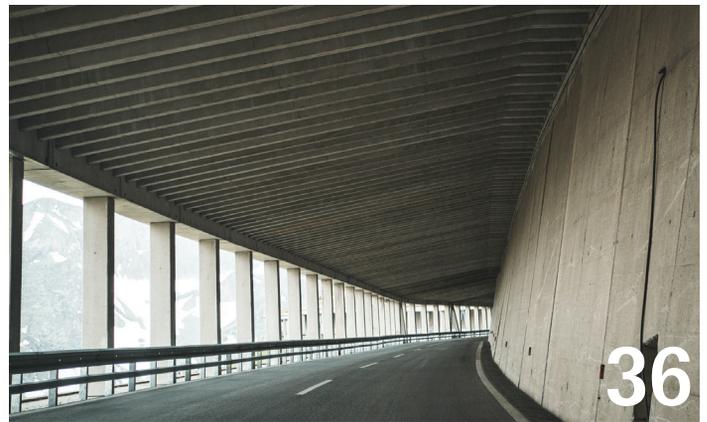
contents



- 8 **3ds Max** Managing with Shotgun
- 12 **Revit MEP** 4 Things to Know About Revit and Project Management
- 18 **Revit Structure** Virtual Design and Construction Project Management
- 22 **AutoCAD Civil 3D** Loading a Civil 3D Project to Autodesk Vault



- 26 **Revit Architecture** On Putting the 'T' Into Revit, BIM | 01: Getting Rid of "Text"
- 32 **AutoCAD Civil 3D** A Practical Grading Workflow
- 36 **Civil Management** What Is a CIM Manager?



columns

- 6 Letter from the President
- 16 CAD Manager
- 20 Inside Track
- 39 Digital Built Week Europe – Discover the Future of BIM Technology



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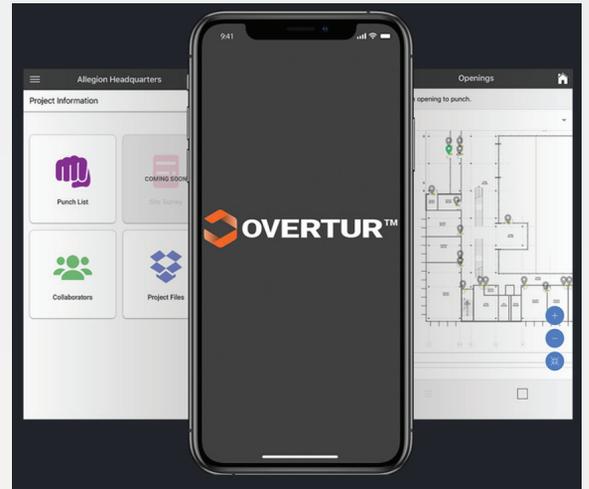
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Letter from the President



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Published by:

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AUGIWorld (San Francisco, Calif.)
ISSN 2163-7547



GREETINGS!



Today I watched as family members cut down a 70-foot-tall tree in my parents' backyard. I have fond memories of this one particular tree being a place of refuge when I was young. I could just barely reach the lowest branches and climb up (not too far, since I'm afraid of heights!). I would sit out there for hours,

either in the tree or under the tree in its shade, reading books, imagining fairy tale stories, or contemplating life. But now the tree was dying, and rather than have it fall haphazardly on its own, the decision was made to take it down.

Cutting a tree that large requires project management, especially in such tight working conditions. My parents' lot is small and narrow, less than half an acre. There is a road behind the property with houses on the other side, and this tree was less than 20 feet from the rear property line. How this tree would fall took very precise planning and calculation (and apparently some alcohol!). The safety of everyone and everything around us was top priority (other than my nephew refusing to wear eye protection. Silly boy!) Thankfully my husband and nephew have some experience cutting down trees. This project was not for the faint of heart.

I would like to say that everything went smoothly, and generally it did. Once of the first cuts was to "top" the tree, or cut off some of the larger branches, which landed on my dad's shed. Thankfully, no one was hurt, but the shed will need to be replaced. It took most of the day, with neighbors nervously watching all around, but finally my nephew started driving the wedges into the tree. With each smack of the hammer and each cut of the chainsaw, we anxiously awaited the grand finale. Finally, the tree fell with such precision that nothing else, and thankfully no one else, was harmed. The cheers coming from the neighbors were comical, to say the least! But the sighs of relief were the most audible.

This issue of *AUGIWorld* focuses on Management. Our tree-cutting project could not have been completed successfully without full cooperation of the team members, quick decision making by the leaders, and careful planning and calculation. The same can be true of any work project. Whether you are a CEO or an entry-level technician, whatever you do requires management skills. This month, our authors show us how to manage our software, processes, and techniques in order to create successful project outcomes. The best response is an audible sigh of relief when a project is completed successfully!

In the next few weeks, registration will be opening for Autodesk University in Las Vegas, to be held November 19-21, 2019. We look forward to meeting all of you there, and we will be hosting our Annual General Meeting. We have some very exciting things to share with you! More details will follow as we get closer to the event. We hope you will join us!

Cheers!
Kimberly



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Managing with

SHOTGUN

3ds Max® software's expansive cross-section of capability makes it part of the production for numerous applications, making it difficult to call out a single way in which content can be created and managed when it is involved. So for this article, I'll discuss one of the more powerful management solutions for design professionals in all industries, especially those that include work with 3ds Max.

THE CHALLENGE

Management in industries using 3ds Max face similar challenges related to many aspects of production: estimation, scope, contracts, approvals, QA/QC, execution, departments, invoices, relations, review, iterations, feedback, scheduling, bandwidth, training, assignments, implementations, budgets, specs, references, releases, dependencies, progress, planning, licensing, shareholders, stakeholders, freelancers, satellite offices, and more.

Companies (good ones anyway) generally work on or implement steps in their pipelines to help control many of these aspects of their various projects using tools such as Ajera, Excel, Smartsheet,

meeting notes, Dropbox, Google Drive, Microsoft Project, and others. Managers use Ajera to track time and budgets, Excel or Microsoft Project for schedules and planning, meeting notes to track decisions, Smartsheet to assign and track tasks/control bandwidth, Dropbox and Google drive to transfer assets, share content, etc. There are dozens more, including custom applications developed in-house to address these challenges in various ways. However, there are very few solutions to control and obtain an overview of all activities across a project. One of these options is Shotgun from Autodesk.

AUTODESK'S SHOTGUN

Autodesk's Shotgun is an all-encompassing project management solution for those in creative industries who work with teams or freelancers. It allows managers to break down, assign, and control every component in their production pipelines to optimize, expand, troubleshoot, and maximize capabilities. It gives managers the power to track every component of production and produce custom reports, visual or otherwise, to help plan and troubleshoot to maximize profit and capability. I'll discuss a few of its features.

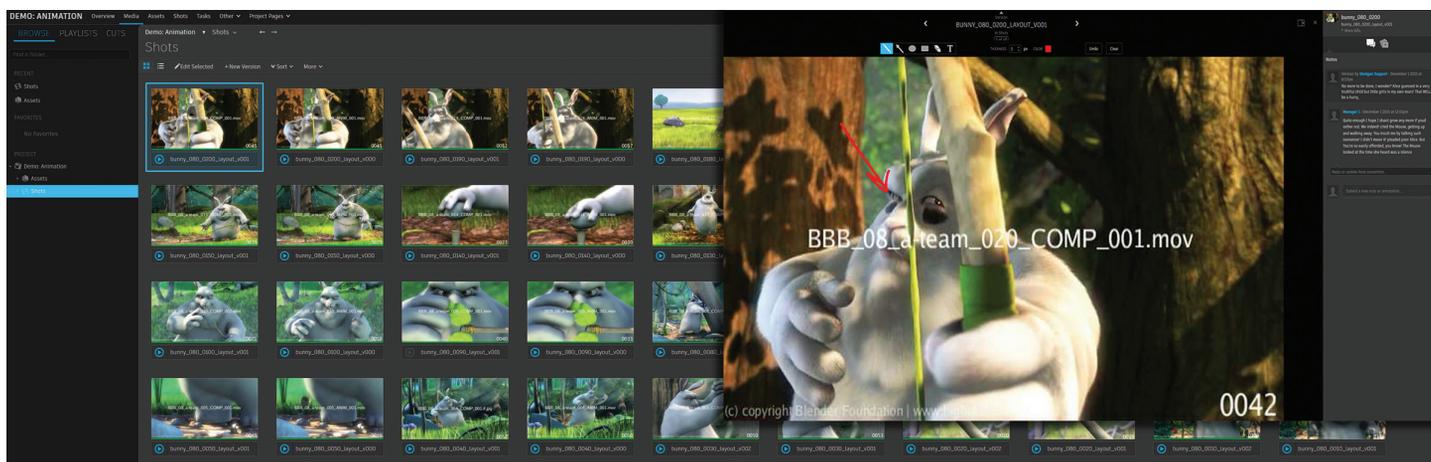


Figure 1: Media section

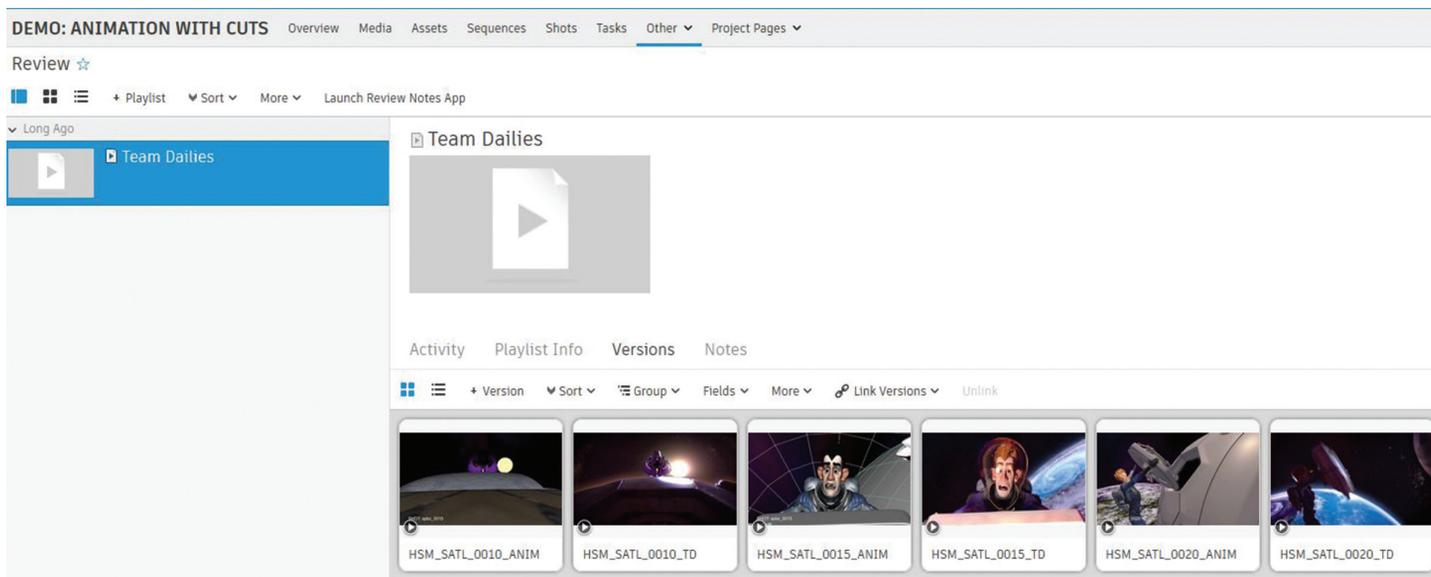


Figure 2: Example of a Playlist

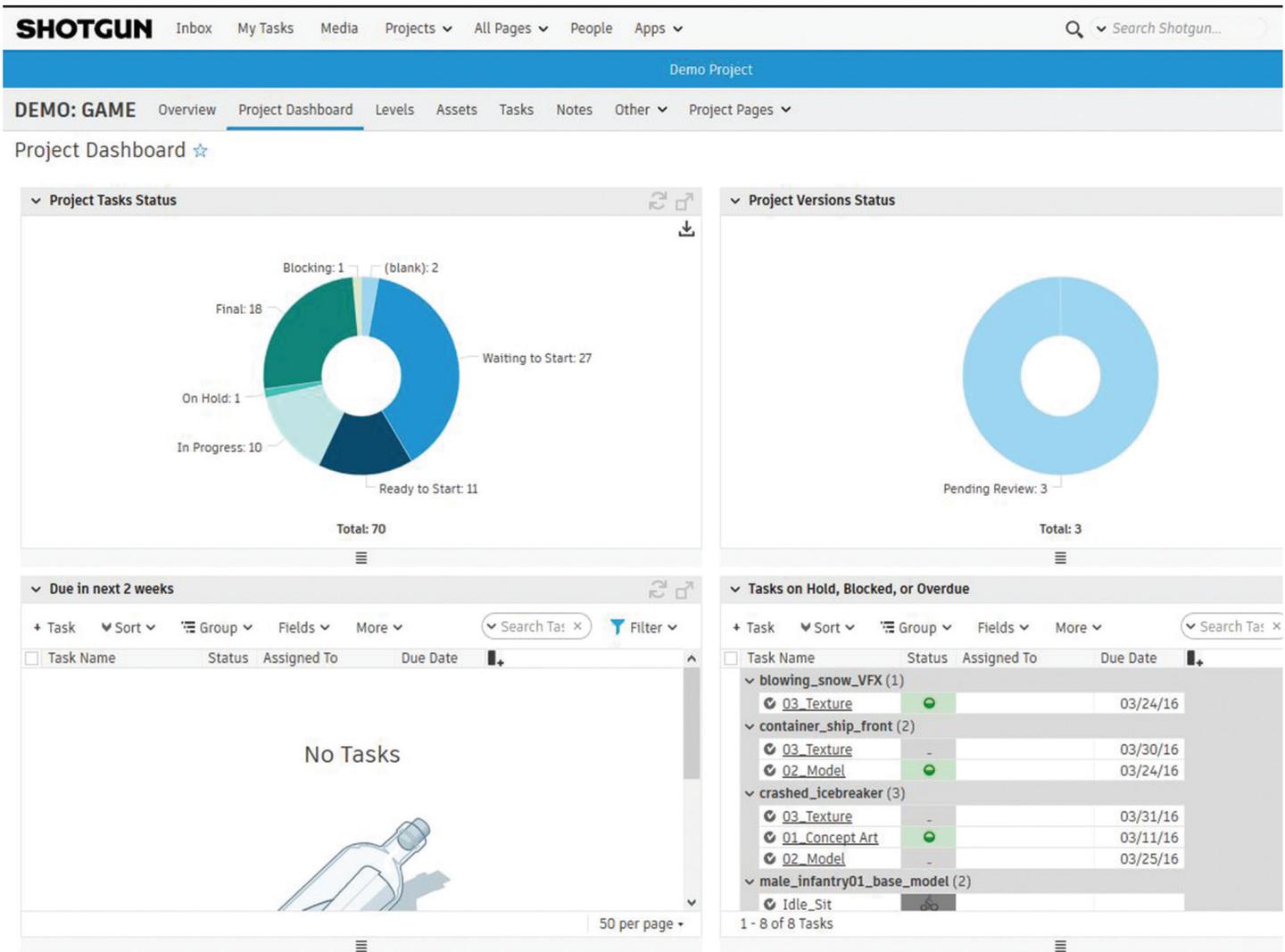


Figure 3: Dashboard

MEDIA SECTION

The Media Section allows for the upload of video (with audio/audio scrubbing capability) and assets. Users have the ability to markup and leave notes.

PLAYLISTS

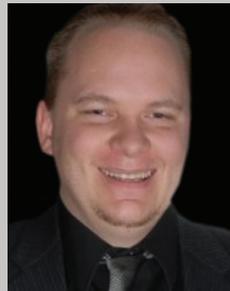
Custom Playlists allow for the organization of content for any number of reasons. For example, a Playlist might exist for daily reviews of content such as that displayed in Figure 2. Or another Playlist might be created to share specific content with clients.

DASHBOARDS

Dashboards can be created and customized to track any number of activities and presented in several ways, including graphical form.

Shotgun has an incredible number of capabilities and tools that are used by small studios and international teams alike. Small studios can use it to assign tasks to individual team players and track results, versioning control, coordination with freelancers, and

review while traveling. Directors can take a more comprehensive approach to manage the dozens of team members and activities happening each day. Even busy freelancers might consider the monthly subscription fee to take advantage of the versioning, organization, asset development, tracking, and tools for sharing, potentially even saving money by eliminating other subscription services for similar activities.



Brian Chapman is an Autodesk Authorized Developer, creator of Pro-Cad.Net and a Senior Designer for an engineering firm located in Las Vegas, Nevada. Brian can be reached at pro-cadman@pro-cad.net.

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4 Things to Know About Revit and Project Management

Project management and using Revit® effectively come down to operational efficiency—whether that’s in the form of time, reduced stress, or improved communication. In this article we’ll talk about four things you can do to help your projects run smoothly and improve with each and every project completed. Let’s dive right in.

#1 UPGRADE YOUR FAMILIES WITH EACH NEW RELEASE

Why do we want to upgrade our families with each new version of Revit? As engineers, we all relate to math. Numbers don’t lie and provide an easier way to show why it’s worth the time investment upfront (Figure 1).

Let’s say you have 30 families to update, and each takes two minutes to open the family in the newer version and save it to the folder, totaling one hour. Let’s also say the person doing this is a \$20/hour team member. Therefore, it costs \$20 to upgrade the families.

Now let’s say that you updated 10 families per project, each taking one minute. Every year you do 50 projects with an average of 10 families that you upgrade for each project. In this scenario, you are upgrading 500 families. Let’s say that across the company 3/4

Model Upgrade

Your model is being upgraded

From: Autodesk Revit 2018
To: Autodesk Revit 2019

When the upgrade is complete, save the model to avoid the need to repeat the process.

[What happens when the model is upgraded?](#)

Cancel Upgrade

Figure 1

(\$375) of the upgrades are done by a \$20/hour team member and 1/4 (125) by a \$50/hour team member.

- + 6.25 hours @ \$20/hour = \$125
- + 2.08 hours @ \$50/hour = \$104
- + Totaling \$229 versus \$20 (if the upgrades were done upfront)

While not a large savings, compounded year over year or from more families or projects, you can see how these seemingly little inefficiencies add up. Additionally, and possibly more important, this method took 500 minutes: 8 hours and 10 minutes! Imagine what you could have done with that extra seven hours of productive time.

#2 KEEP YOUR REVIT TEMPLATES UP TO DATE

Similar to the benefits of keeping families up to date, your templates should also be kept up to date. Templates should have the sheets, details, schedules, legends, and notes that are used most often in a project saved, set up and ready to use, with legends sheets that are in the most commonly used sizes: 30x42 and 24x36.

Sheets need to be populated with typically used schedules and details. These are your typical AHU schedules, lighting schedules, fan schedules, and equipment schedules. Another sheet should be set up with your 10 to 15 most commonly used details. The reason to have these populated with the most common and frequently used items on every project is that it is much easier to delete something than to add it. It's also cheaper to have something you don't need rather than forgetting to add it and having that end up costing additional dollars to the firm. In this case we are talking real dollars, not just labor hours.

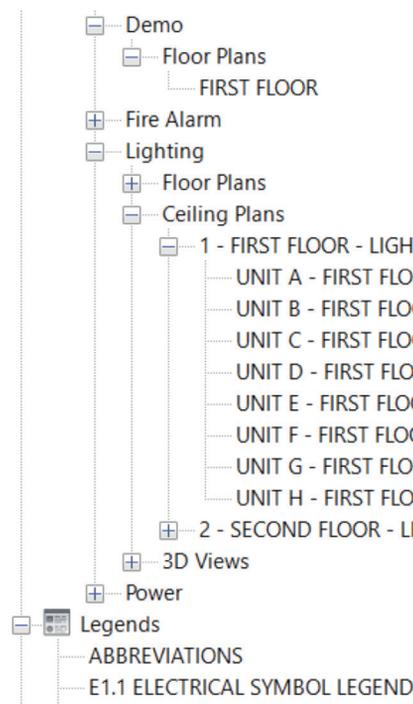


Figure 2

Another timesaver is having typical notes written and the legends created. Again, we're thinking of the things that are easier to delete than create. In Revit, using legends allows you to place these notes on multiple sheets, rather than just create them using detail views. Detail views can only be placed on one sheet at a time.

Have a few placeholder sheets created, in the right hierarchical order with legends already placed, as shown in Figure 2.

#3 RIGHT ORDER

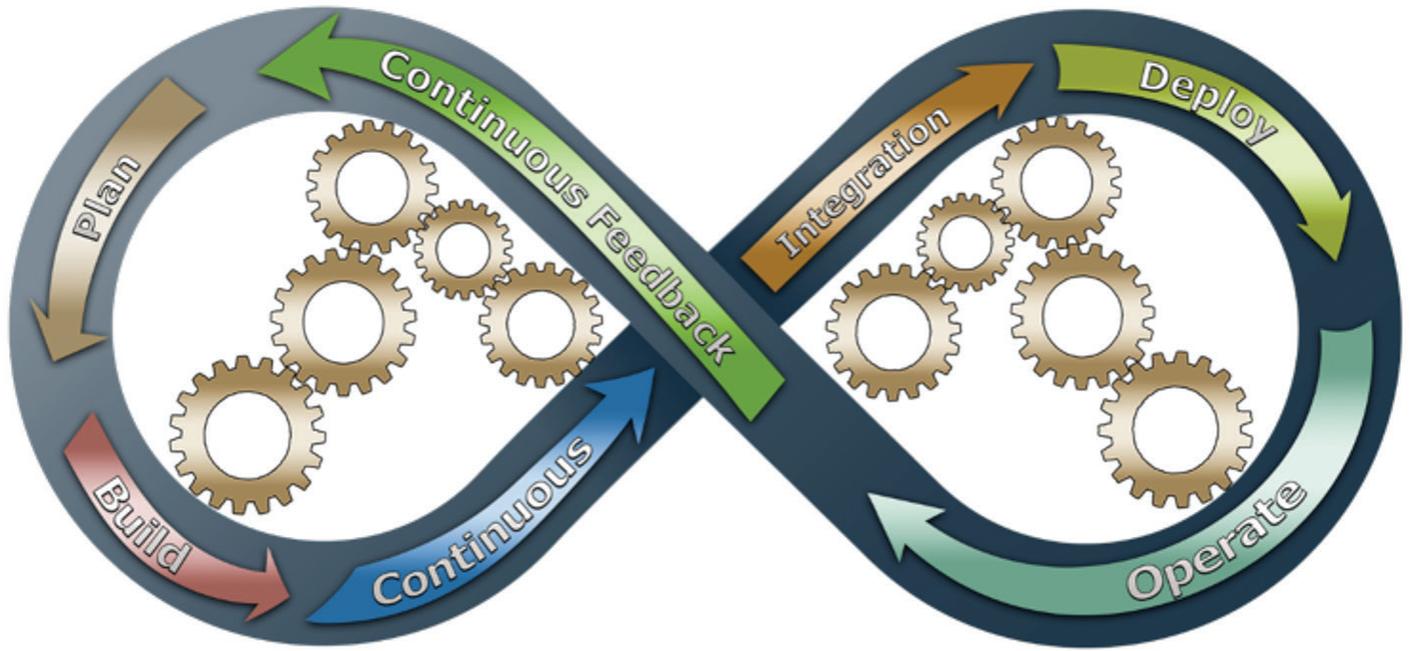
In Revit, doing things in the right order is crucial to time savings. Management isn't just about how things are set up. It's also about how you execute each project, and creating efficiency in how you are going about doing each step of the process. Here are a few examples to think about on your next project.



Example 1: Are you using the Tag All Function for each element type in your project? Are you laying out all the lights in your project, then using the tag all function and adjusting all of the tags at once by having them all selected for that entire floor? Or are you placing a room of lights, then tagging each one by hand and repeating room by room? Time efficiency is very important, especially when it comes to budget management for our projects. This also goes for things like circuiting—are you renaming that circuit while you circuit each and every room or are you waiting until all circuiting is done, then circuit by circuit going back through the panel schedules to rename each circuit? This comes down to understanding the workflows that Revit has innately provided and adapting to them, rather than “brute-forcing” your way through a project.

Another piece of management and time usage is in coordination. For each of your projects are you just forging ahead without input from the other disciplines or are you actively talking and meeting with them? And a bigger thought is for some of your smaller projects—under 100,000 square feet—are you combining MEP models to have more real-time coordination or are there too many trust issues?

Example 2: Do you know what type of heating and cooling system is going into the building to size the electrical service or how much space above the ceiling is needed for ducts or piping? These simple



items will lead to making decisions early in the process so the building doesn't need to be reworked multiple times, thus saving everyone time, effort, and energy that comes with going through the value engineering exercise.

Scrum project management is really the best methodology to use. For example, say that the team meets for 10 minutes every day as opposed to a one-hour meeting each week—automatically saving 10 minutes each week for the duration of the project. Information is now passed to ALL the team on a daily basis. Now you ask, what is in this 10-minute meeting? I'll tell you: It's the answer to three questions.

- What did you do yesterday on the project?
- What are you doing today on the project?
- What do you need?

Time cost savings: say that each team has six people. Scrum project meetings will save 10 minutes per person each week, equaling one hour per week. Fifty-two weeks in a year means saving 52 hours per year. Having 10 teams across the office is a savings of 520 hours per year. At an average employee cost of \$100 per hour including overhead, this equals \$52,000 per year.

#4 CONSTANT IMPROVEMENT

Management isn't just looking at what you are doing today, it's also figuring out what you can do better tomorrow. Are you improving your process? Are you helping to find ways of improving Revit, in meetings, in design? This could be saving time on projects, saving energy in buildings, streamlining the flow of decision making, and ensuring that decisions are made in a timely manner. Easy opportunities to tackle include the things that you keep doing repeatedly that could be templated, such as your proposal process. Do you have effective templates set up for your proposals like

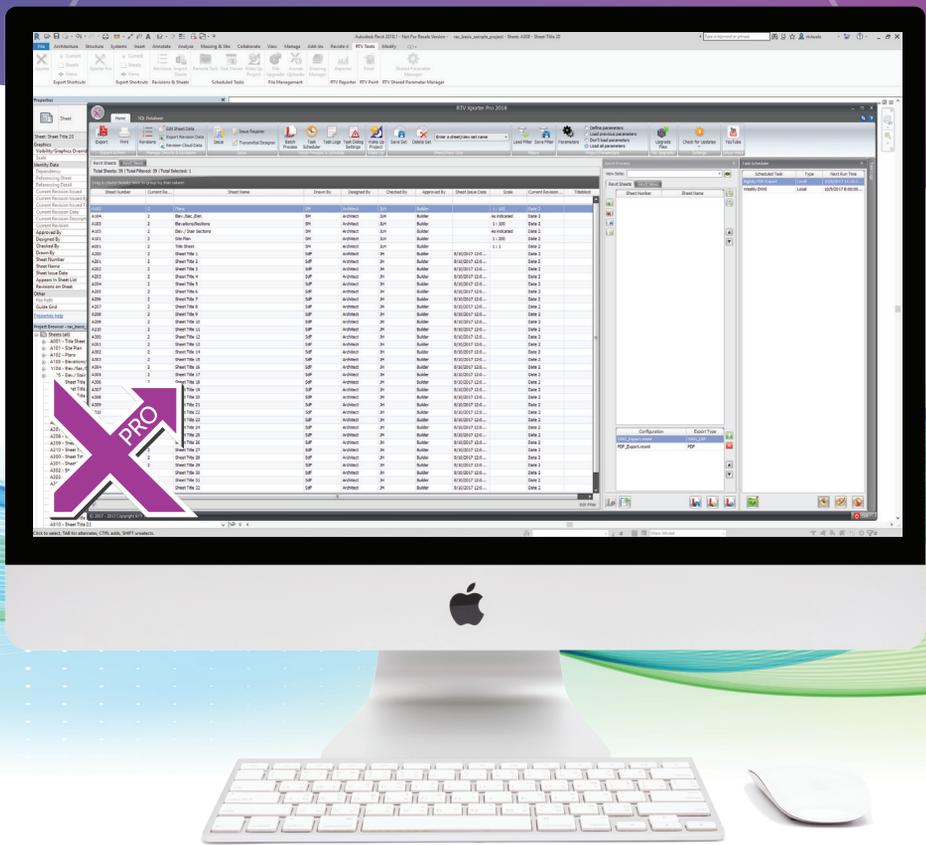
you do for Revit? Improvement doesn't end, and finding new and creative ways to improve are out there—you just need to be open to them.

Management goes well beyond who is doing what and when. When it comes to Revit, it is on each of us to help improve the process because we each have something to contribute.



Dillon Mitchell is a licensed electrical engineer and has been using Revit for years. He is passionate about optimization and workflow improvement. Dillon has managed electrical departments designing close to two million square feet of educational and commercial buildings. Having designed electrical systems for 300,000 square foot buildings, he understands that process matters. Every bit of improvement, short-cut and time saver makes a big difference when working on projects at scale. Dillon founded Kowabunga Studios to create tools for engineers to improve their efficiency on Revit projects large and small. When not optimizing Revit or electrical engineering, Dillon enjoys running long-distance races (marathons and ultra-marathons) as well Ironman Triathlons. Find him out on a trail or road testing the limits of personal endurance.

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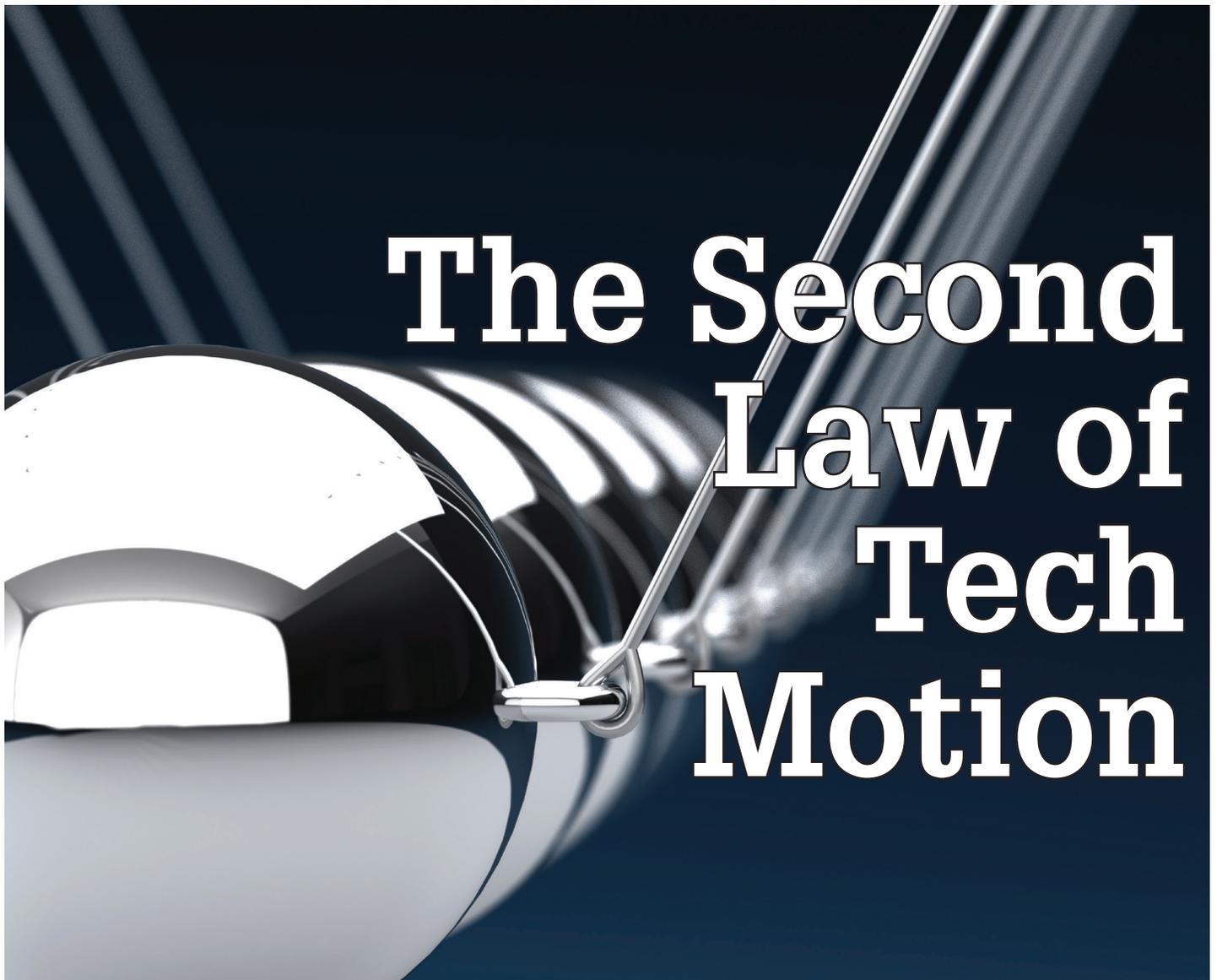
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The Second Law of Tech Motion

 **T**ech managers need to get things moving, keep things moving, and avoid negative motion. We talked last time about the First Law of Tech Motion. Go back and read that article in July *AUGIWorld* if you missed it.

Now we turn to the second of Sir Isaac Newton's Laws of Motion: "The rate of change of momentum of a body is directly proportional to the force applied, and this change in momentum takes place in the direction of the applied force." By the way, the first Law is: "A body at rest will remain at rest, and a body in motion will remain in motion unless it is acted upon by an external force." And the third: "For every action, there is an equal and opposite reaction."

Transmogrifying Newton's Laws in the Tech Laws takes a little effort, but we can make the leap. Here we go.

THE SECOND LAW OF TECH MOTION

Spinning off of Newton's Second Law I came up with two ways of saying it... "The more you push, the more things change. The

bigger the change, the more pushing it will take. Things change in the direction you push." Or maybe "Things change in the direction you push depending on the effort you put in and how big the change is. Things change faster if you push harder. Big things change slower and take more effort."

THE FORCE (PUSH)

Pushing technology advancement is your job. No one else is going to think about it more than you. You will have some "pull" from others who have great ideas about where to go and others who have some "crazy" ideas. Things need to change and you need to start the process. Start small by rocking the boat a little. Get some traction with some small items and then move to a large one.

You can push in several ways. Some not so good; others are better.

Power. You exert your power to make it happen. As tech manager, you have the power to do this (hopefully) by using your position. You can force others to use your standard or your method or to move to some new piece of software. This method may seem

more like intimidation or brute force or more subtly as coercion or hostage taking (keeping something from the user). This is not the best, but sometimes is used.

Protest. You complain about the issues to the point where people do something because you are right or because they want to shut you up. Being cranky and critical may not make others your best friends but it does sometimes make people change things. This may look like being a tattletale or a whistleblower (in the negative sense), or just a complainer. The best way to do this is to ask questions... is this really working like we hoped? Is there a better way? And to move this from bad to good, you need to have a plan for making things better.

Praise. You could talk up the glories of another way of doing things. Waft the productivity enhancements that will come as a result of your ideas. Discuss the avoidance of troubles it will allow. Pay tribute to the grand new process that is going to energize every project. You need to do some of this, but this is not all you need to do.

Pronouncement. Kind of like Power and Praise, but this just makes statement, sends memos, and makes documents that set out the target for the change. Pronouncements initiate a process change by defining the end, but sometimes not the process of getting there. They can be ineffective in establishing real long-term change. To make this better, you need to map out the road ahead and how you can reach the goals.

Persuasion. The process of convincing someone that change is needed, cannot be avoided, and must happen to create a better environment. This is done through conversation and connection to effect change. It is using argument (the positive kind) and reason to move someone along. This is the one you should be using. Telling people how the change will help and how they can participate.

Of all these—Power, Protest, Praise, Pronouncement, and Persuasion—the last one has the best chance of effecting change that will stick. I could have added others... more “P” words... Pouting or Prodding, for example. Persuasion impacts someone who does not care, cares little, or actually desires something different, and moves them to your position. Persuade someone to embrace a change and they will go with you, rather than fight against you.

THE DIRECTION

After you have your strategic plan in place, you have a good idea on where the push needs to happen. (You *have* done your plan, right? If not, go back and read my prior articles.) Your push needs to be focused on the greatest impact improvements or correctives. The plan will uncover the direction you need to head. Develop the plan and then work the plan. If you notice that there needs to be some course correction along the way, then do that also.

If you have not defined the direction you are heading, you will not see much progress. Progress may happen, but it will be in random

areas and not connected to the whole. This may mean that the progress flows at whatever rate or trajectory that might come up. Success will not be a product of planning, but a random act of luck.

Others may try to define direction for you. They will suggest tools and software that do not fit into your focus. Let them define things long enough and they will actually end up suggesting that you are just a maintainer and that you do not have a progressive embrace of technology.

Take charge of the future by defining it yourself. By doing this, you place yourself at the helm of the ship and can steer toward your goals.

THE MOMENTUM (SPEED)

If you are changing something small or inconsequential, it can happen pretty fast. One company I worked for used to change people's desk locations to increase the collaboration of the project team. As you were assigned to a new project, you moved. No one really settled into a location for extended periods of time. So when a change was needed, there was not that much that needed to be moved (since no one really unpacked everything). They just tossed things in a few boxes and moved to the next desk/floor/building and plopped into a new seat. Quick change.

Larger changes, like adopting new software, take much longer. You need to manage that change and plan for the long haul. Map out the steps it will take, establish a proof-of-concept effort, define the pilot projects, and plan the proliferation carefully. You will be working on it for a while. You will need to push the change on some and others might grab the wheel and spin it in another direction. Remember you can control speed and direction. To get a good feel for planning a large software migration, read my post (originally in *AUGI HotNews*) entitled Migration Madness. It is from the distant past, but the concepts might still be good.

Next time, the Third Law... Until then, start pushing. And say “Thank you” to someone today.



Mark Kiker has more than 25 years of hands-on experience with technology. He is fully versed in every area of management from deployment planning, installation, and configuration to training and strategic planning. As an internationally known speaker and writer, he is a returning speaker at Autodesk University since 1996. Mark is currently serving as Director of IT for SIATech, a non-profit public charter high school focused on dropout recovery. He maintains two blog sites, www.caddmanager.com and www.bimmanager.com.



Virtual Design and Construction Project Management

What does project management look like in a company that has multiple different types of projects? Do the same old ways apply, or is it a whole new world? Let's dive in and see what it looks like from a director's view.

IS THERE A NEW SCHOOL OF MANAGEMENT?

First, let's talk about how the workflow has changed in the design setting. We have seen a change in how project work is completed on a design level in recent years. At one point in time there was a distinct break between the engineer and the designer. The engineer came up with the working design for their discipline for the project, and the designer turned it in to a drawing for construction. Sometimes there was such a big disconnect that the designer didn't even know what they were drawing, but just regurgitating sketches to a drawing. We have seen a shift with the introduction of BIM, where the engineer and designer are the same person, or at very least operate together. This is driven by the content that is available with building information modeling.

Has this change also affected project management? I think the answer is a yes. For project managers there is so much more information available earlier in the project and throughout the entire workflow of a project that it helps them make better

decisions as the process is unfolding. I think the biggest impact it has on project management is who is put into those roles so they can utilize the information given to them. We no longer live in a world where the only deliverable is a 2D document.

WHO ARE THESE PROJECT MANAGERS?

The unicorn for this role is someone who loves technology, has learned the software, and has 20 years of experience in the field, all while understanding the benefit of coordination early in a 3D environment. These people exist, but seem to be pretty few and far between and there isn't enough of them to go around. It becomes even more complicated in a company that does multiple different types of projects, with different types of skill sets.

The issue in a company like ours is that no two projects ever look the same, even ones that are similar. There are always different players, different abilities, and obviously each project is unique, which is why defining the project manager roles is important.

WHAT DO THEIR ROLES LOOK LIKE?

I think the main word that describes what the project manager role looks like at our company is "flexible." Because our projects are different sizes, involve different disciplines, and require different roles, you very rarely get the opportunity to stay in a neat little box and stay comfortable. We have people with electrical backgrounds

running plumbing and general coordination jobs; we have interior designers learning to scan and post process; we have fire protection designers doing everything but fire protection, and so on.

In our company not only are the project managers running multiple projects of different types and disciplines, but we also expect them to be listening for more opportunities. We spend a lot of time at the table with other disciplines doing coordination and we can hear who has the capabilities—and more importantly—those who don't.

We recently did an exercise with our project managers called stakeholder mapping and it was eye opening for them to see all the people and companies they encounter on a regular project. The exercise is simple: start with the PM and list everyone who is involved in the project from all facets. Once those are all on a board, then draw the correlation between the PM and those players in the project and what the communication looks like. There is a lot of opportunity to showcase our company in these interactions to everyone from the general contractor down to guys in the field and everyone in between. There are multiple times when just listening on a project has led us to more work on that same project or on future projects with other companies.

I believe the last thing the project manager role encompasses is that they don't always get to just manage, and in fact, that is rarely the case. The project managers manage the junior level staff on their projects, but as stated before, our projects vary in size, disciplines, and timeframe, and often the project managers must participate in production as well.

All our project managers have a production background and are fully aware of the requirements, so not only can they guide the work of the junior level staff, but they can also participate in that work. Good project managers aren't afraid to get in and get their hands dirty. Also, while getting into the work themselves, they also build a mentoring relationship with the junior level staff, which is good for a team environment.

WHERE DO THEY MANAGE?

As the times have changed, so has the traditional office structure, which has also changed the project structure. Physical location is no longer important, which also opens you up to opportunities far outside of your reach in a local business setting. We have a distributed workforce, which simply means not everyone is in the same location. We have a home office where many employees work, but we also have remote employees all up and down the East Coast. This is still not typical in an AEC environment, but is slowly changing with the technology supporting this type of workflow. With software such as BIM 360, working in different locations is a breeze if you have Internet.

But what does project managing look like in this environment? Simple. Communication is key, and let's be honest, it really is even if you all work in the same location. Emails, messenger programs, phone calls are all very important to make sure a project stays on task. Having a good schedule to work with and good assignments,

during those times of communication, with good goals in place will make any project a success.

WHEN DOES A VDC PROJECT MANAGER START?

We try to involve our project managers as early as possible in the project. Often, they are the ones giving me the hours it will take to accomplish the project scope during the proposal phase. The only downside to involving project managers so early is these projects don't usually kick off quickly and that project manager may not be available at the time it starts. That is where the word flexible comes back into play and why being able to manage different types of projects for different disciplines is critical. Every day looks different and you need to be able to put on the right glasses to view that day's requirements and understand the needs.

HOW ARE PROJECT MANAGERS MANAGED?

What type of management do the project managers receive? When it comes to their projects, they hold the reigns and can make the day-to-day decisions that need to be made to keep the project moving forward and the client happy. I always direct them to involve me when it involves large scope creep, time, and fee. I want them to be the face of the company to the client, and not someone whose name is just on a proposal or email.

At the same time, I don't want them to deal with the bureaucracy that sometimes comes with those three things and focus on delivering the best quality project for our client. There is no greater compliment we can receive than when a client calls us because of the experience they had on the last job and wants to partner with us again. I often get emails forwarded from my project managers about these types of opportunities and take them as a sign of a job well done and a compliment.

This is just a glimpse of project management at my company, but whatever it may look like where you are, let's embrace the age of technology and utilize it to deliver the best result to our clients and win the next big deal!



Joshua Geimecke is the Director of VDC for EDGE-GTS headquartered in Rochester, New York. He leads a group that specializes in VDC, BIM, IPD, and all facets of design technology. He has been involved in the AEC industry, working in many different disciplines and sectors, for more than 19 years. Joshua can be reached for comments and questions at jgeimecke@edge-gts.com.

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Replicate Legend/View on Sheets

<https://apps.autodesk.com/RVT/en/Detail/Index?id=3448002877043197451&appLang=en&os=Win64>



Copy/paste a Viewport from one sheet to multiple other sheets. Works with Legends and any View. Your new Viewports will automatically place at the right location.

Tired of dragging and dropping the same Legend 20 times on your set of drawings? Tired of having to manually duplicate your View before placing them on your sheets? Don't you think it's a bit odd when your Viewports aren't perfectly aligned?

Because that's what I felt, and that's why I developed this tool. If you have a Legend/View that needs to appear on numerous sheets, this tool will save time.

The workflow is very simple:

- Make sure you have placed your Legend/View on at least one sheet
- Start the add-in and click on the Viewport containing your Legend/View.

- You will be asked to check all the sheets on which you want to replicate it.
- Let the magic happen, then ask yourself: "Why was it so complicated before?!"

Easy Attach

https://apps.autodesk.com/ARCH/en/Detail/Index?id=5388174949558236304&appLang=en&os=Win32_64



Easy Attach helps you to attach documents directly on your blueprints. You can:

- Attach single or multiple PDF pages.
- Attach single or multiple PDF files.

Easy Attach has been built with love by FINALCAD.

Light Distribution

<https://apps.autodesk.com/RVT/en/Detail/Index?id=6201292267814405089&appLang=en&os=Win64>



Distribute Lighting fixtures and devices (including communication devices) in rooms in rows and columns and automatically align the distribution to room orientation/rotation by selecting Room/Space or by pre-inputting three consecutive Points

(three Corners of Room):

- Base-point is the first corner of Rectangular Array (Room).
- Second-Point allows you to get the x-axis and the y-axis and the distance between each item.
- Third-Point is the second corner of Rectangular Array (Room).

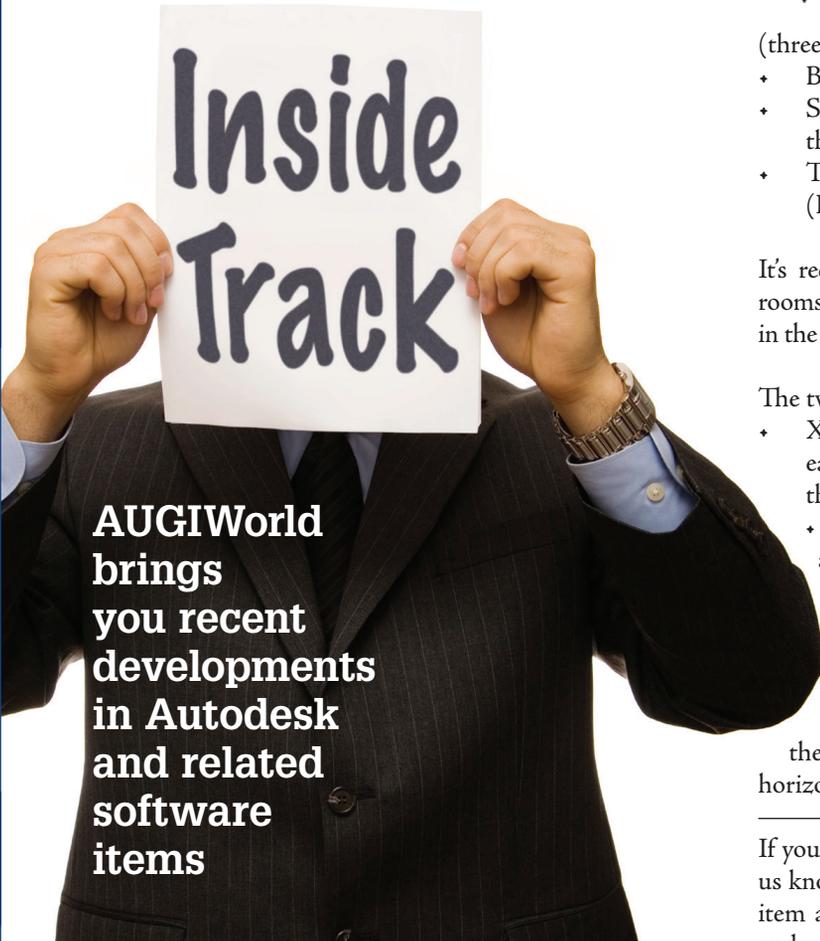
It's recommended to use the manual Three-Point Method with rooms with special shapes and geometry (circle, ellipse, etc.). Useful in the distribution of lighting, sensors, and communication devices.

The two methods of distribution are:

- X and 2 X spacing: the distance between the elements and each other is double the distance between the elements and the borders.
 - Equidistant spacing: the distance between the elements and each other is equal to the distance between the elements and the borders.

The selected element will be copied to an array; therefore, the resulting array elements will have the same Level, Host, Elevation, Offset, and other instance parameters of the original element. The add-in will copy the element in the horizontal plan only.

If you have some news to share with us for future issues, please let us know. Likewise, if you are a user of a featured product or news item and would like to write a review, we want to know: brian.andresen@augi.com



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Loading a Civil 3D Project to Autodesk Vault

 Importing an AutoCAD® Civil 3D® project to Autodesk® Vault can be a frustrating task and result in a project with poor performance if the project is not cleaned up and prepped before import. Over the past seven years implementing and administering Autodesk Vault with Civil 3D, I've developed a process for preparing a project before importing that can also be used to clean up an existing Vault project with poor performance. This process for prepping a project makes importing much smoother and ensures maximum project performance.

This article will guide you through the steps I take to prep a Civil 3D project and help you to successfully import a project without errors and performance issues.

IMPORTING DATA TO AUTODESK VAULT

There are several ways to upload data to Autodesk Vault, each with its own purpose and advantages. Non-CAD files such as PDF, Word, and Excel files can be added right through the thick client, while CAD files must be imported through a CAD application

or by using the Vault Autoloader. These processes will upload a set of folders and files to Vault and work great for AutoCAD® projects. However, Civil 3D projects, specifically those containing Data Shortcuts, must be imported through Civil 3D. This creates a Vault Civil 3D Project that recognizes existing Data Shortcuts and converts them to Vault Shortcuts and prepares the project to recognize Civil 3D objects to create additional Vault Shortcuts.

Creating a Civil 3D project in Vault sets up a purpose-made environment for Civil 3D projects, including Data Shortcuts. In the July 2014 edition of *AUGIWorld*, I wrote an article entitled “Managing Your Project Data with Autodesk Vault” that detailed the use of Civil 3D with Autodesk Vault. If you are unfamiliar with the process or need a refresher, you can find the detailed article on the AUGI website.

The most important part to understand for the sake of this article is how Data Shortcuts (Vault Shortcuts in the Vault environment) and Sheet Set Manager work in the Vault environment. A quick overview of how those both works is as follows.

Instead of .xml files created and stored in the Data Shortcuts folder, Vault recognizes Civil objects and during file check in, you can also check in those objects as Vault Shortcuts. The project has an indexed and categorized area where the shortcuts are stored by type and can be used the same was Data Shortcuts. They are stored in an auto-created folder named Civil 3D Data. Within Civil 3D in Toolspace Master View is a section called Projects that displays the projects you select from Vault when you are logged in. Within the project is the folder structure containing Vault Shortcuts. Utilizing them is the same as Data Shortcuts—right-click and choose Create Reference. This will then bring up the same Data Shortcut dialog you are accustomed to (Figure 1).

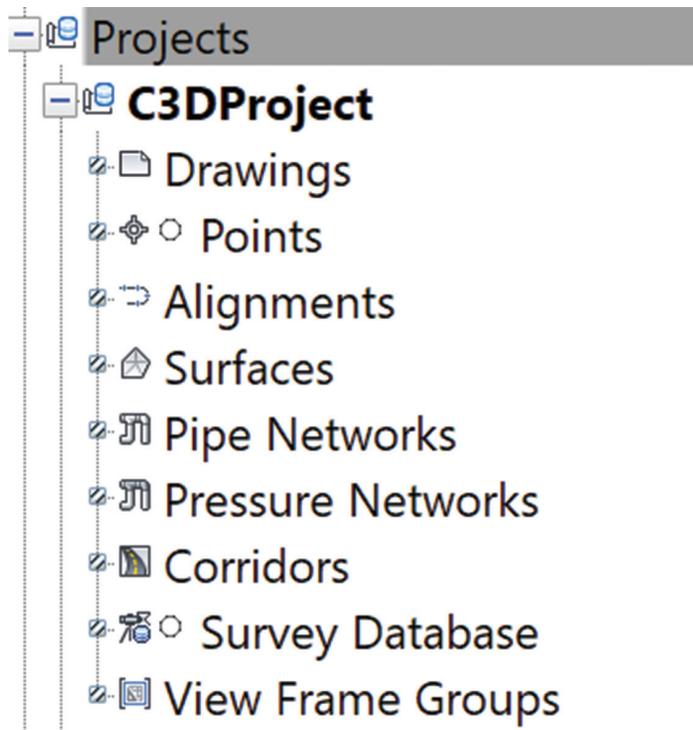


Figure 1

Sheet Set Manager also integrates by processing a .dst file during import and creating a folder set, with a .dss container file, subsets to .dsu files, and sheets to .dsh files. When opened in Sheet Set Manager, it appears the same as opening a .dst file; However, this also allows multiple people to be in the sheet at once, as well as to edit the sheet set simultaneously.

IMPORTING A CIVIL 3D PROJECT

Although there are many ways to import data into Vault, to create the Vault Civil 3D project you must import the project through Civil 3D. This is done through Toolspace in Master View. Right clicking on “Projects” in Toolspace gives you the option to Import from a .zip file or a folder. Once you select the folder or .zip file, Vault/Civil 3D will begin scanning the files to be checked in and processing the data.

This is where things can begin to go south if the project is not properly prepared. Missing references, bloated or corrupt drawing files, and missing font or shape files cause errors that cancel the import and significantly slows down the import process. This will also cause Vault interactions later on such as slow performance when opening sheet sets or when checking files in/out.

Spending some time cleaning up the project before import will give you an error-free, quick import and a high performing project.

CHECKING XREFS

The issue that will cause the most grief when importing CAD files to Vault is missing XREFs. When using the Autoloader, each file is scanned and the autoloader will not allow you to continue the import until all XREFs are resolved. The Civil 3D project import does not have the same XREF enforcement, so the project will begin to import, but either fail entirely or fail to import those files with missing XREFs.

The first thing I do when importing a project is use Reference Manager, an application for checking for missing references in CAD files. It is installed automatically with AutoCAD and Civil 3D. You can find it in the Civil 3D 20** folder on the start menu. Reference Manager scans .dwg files for missing XREFs, font files, plot styles, plot configurations, etc. Paths can be updated right from within Reference Manager. While missing .pc3, .ctb, and .stb files do not cause significant issues during import, missing XREFs and .shx files do.

I typically sort by reference type and then by status so I can see what paths are not found for each file type. Starting with XREFs, correct any missing paths either through the Reference Manager application or by opening the file in Civil 3D. Continue through the list until you have all XREFs and font files resolved (Figure 2).

PURGING FILES

Once I have all the reference issues resolved, I run a purge on all CAD files. This can be done manually by opening each drawing, but would be impractical for importing an entire project. Instead, I use a free app from the Autodesk App Store called Drawing Purge. This add-on to Civil 3D allows for batch purging of .dwg files.

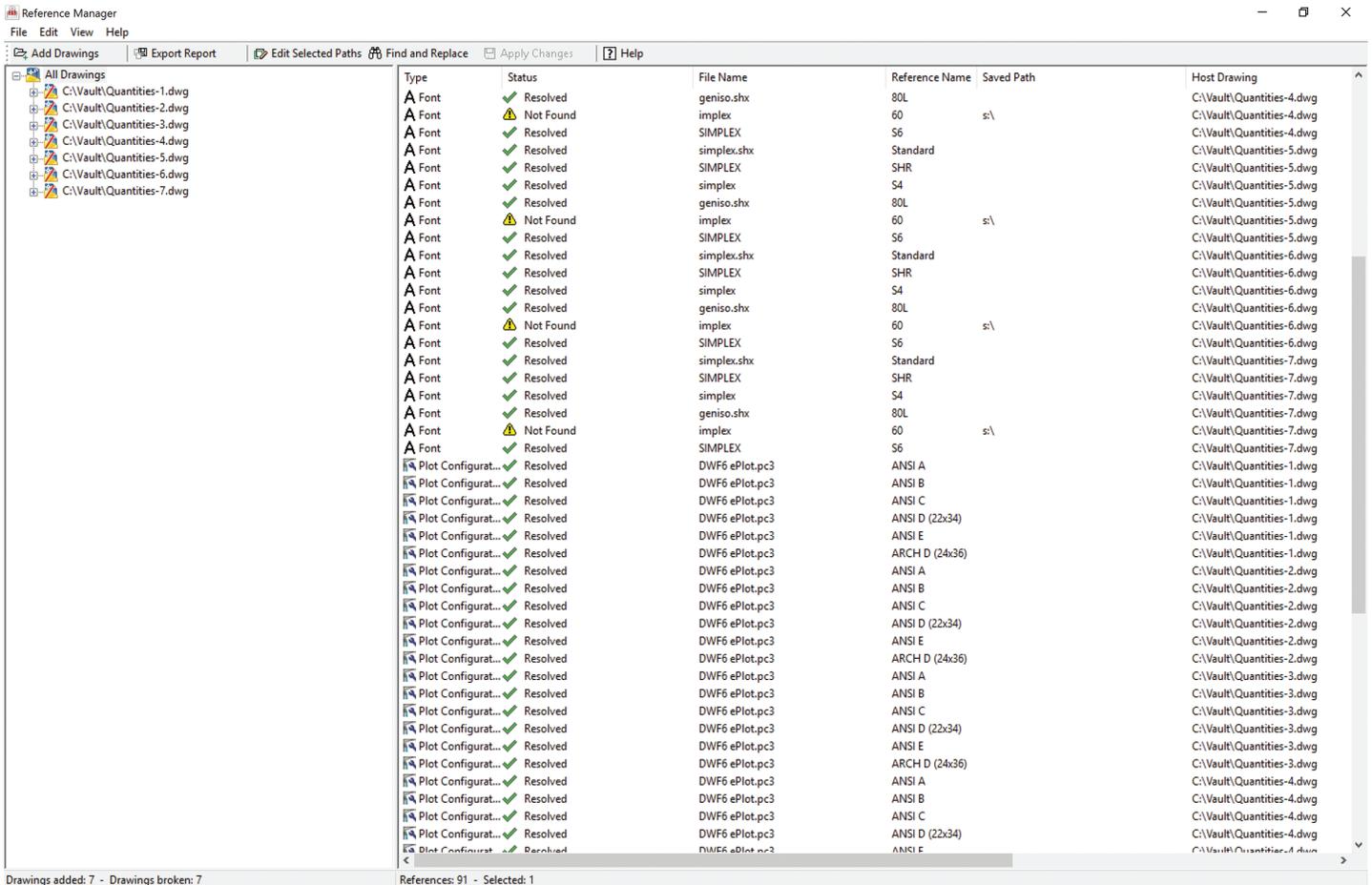


Figure 2

After installing, you can launch the batch purge with the command DWG_PURGE_BATCH.

In the window that opens, you can add files or select a folder and it will find all .dwg files within that folder and its sub-folders. Once they are all added, click Purge and it will automatically begin purging each file. The results of what was purged, and whether it was successful, are displayed for each file in a spreadsheet type format.

Once purge has finished, right-click on any file and select Remove Purged. This will leave you with a list of any files that failed. Typically, they will fail from being read only or corrupt. Once all drawings are purged successfully, move on to the import (Figure 3).

SHEET SET CREATION

When importing a project, if a .dst file is present, it will be converted to a Vaulted Sheet Set. This typically goes smoothly if you have prepped the project with the above steps. If the sheet fails to create, you can manually import it to Vault by opening the .dst file and right-clicking on the sheet set name, Vault -> 'Check In'. This will begin sheet processing into a Vaulted Sheet Set.

PROJECT MAINTENANCE

These same steps for cleaning up a project before import can also be used to maintain an existing Vault Civil 3D project. When a project begins to slow down, the sheet set manager hangs on open, or Vault dialogs—specifically Check In/ Out dialogs—take longer to open, cleaning up the project can help speed things back up.

When this happens, I will check out all .dwg files, run the clean up steps above and check them back in. Start by clearing your local Vault working folder and ensuring all files are checked in by all team members so you can clean the entire project.

Then open the Vault thick client and open the search dialog. Set the search “Look In” to the project you are wanting to clean, and the advanced search property to “File Type - Is - dwg” and search. This will list all CAD files in the project, select them all and Get/Check Out. Your vault working folder will then contain all CAD files from the project.

You can then run the Batch Purge application to purge all drawings. For good measure I like to check the files with Reference Manager to be sure there are no missing references (there shouldn't be any). Vault prevents check in operations with missing XREFs so it should be all resolved.

Drawing Purge | Version: 8.3.0.0 | AVappstore

Batch Purge Batch Purge Settings Drawing Purge Settings List of Xrefs Additional Tools About

Select Files Select Folder C:\Vault

Drawing Name	Status	Version	Time e...	Old Size	New S...	DGN ...	DGN C...	Blocks	Registr...	Annot...	Layers	Line ty...	Dimen...	Materi...	Mline ...	Text St...	Visual ...	Mlead...	Table ...	Plot St...	Groups	Shapes	Raster ...	DWF U...	PDF U...	DGN ...
Quantities-1.dwg	Purge...	Curren...	1 sec	2.7 MB	2.7 MB	0	0	0	25	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantities-2.dwg	Purge...	Curren...	1 sec	2.7 MB	2.7 MB	0	0	0	22	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantities-3.dwg	Purge...	Curren...	1 sec	2.7 MB	2.7 MB	0	0	0	21	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantities-4.dwg	Purge...	Curren...	1 sec	2.8 MB	2.7 MB	0	0	0	21	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantities-5.dwg	Purge...	Curren...	1 sec	2.7 MB	2.7 MB	0	0	0	21	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantities-6.dwg	Purge...	Curren...	1 sec	2.8 MB	2.8 MB	0	0	0	21	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantities-7.dwg	Purge...	Curren...	1 sec	2.8 MB	2.8 MB	0	0	0	20	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Purge Completed

Total Drawings: 7 | Purged: 7 | Skipped: 0 | Failed: 0 | Replace/Overwrite drawing: v | Search Subdirectories for Drawings: v | Skip the files that already Purged: X | Purge Completed

Exit Purge

Figure 3

To check the drawing files back in, in Civil 3D click the big “A C3D” File menu button in the top left corner. Under the Vault Server section is the Check in Folder command, which allows you to select the entire parent folder and check everything back in.

If you are having issues with sheet set manager errors or slow sheet set open times, it is very easy to re-create the Vaulted Sheet Set, which can help solve those issues. To re-create the sheet set, open from Vault the sheet set you are having troubles with, hit Ok on any errors, and wait until the sheet set fully opens.

Once it has opened, right-click on the sheet set name and close it. When you close a vaulted sheet set, a .dst file is created in the same folder as the .dss file. You can then delete the sheet set folder set from the Vault thick client, open the .dst file in Civil 3D, and check it into Vault. This will re-create the vaulted sheet set folder set.

CONCLUSION

Keeping your projects clean and purging often can greatly help with project performance. I have found that significant time and frustration with re-work can be saved by ensuring you are importing a problem-free project, and re-purging often will keep the project at peak performance.



Bryson Anderson has worked in the IT industry since 2008. During this time, he has been involved in many aspects of IT including, Systems Administration, Networking, Telecom, Hardware, and IT consulting. He has helped large and small companies in a variety of industries including healthcare, software development, engineering and architecture to plan, implement, upgrade, and maintain their IT infrastructure. At ProSoft, Bryson administers all aspects of the internal IT infrastructure and oversees ProSoft’s custom workstation and server division. With his knowledge and experience in IT, he consults with companies worldwide on the planning, implementation, and training of Autodesk data management and collaboration software as well as assisting customers with the licensing, installation, and deployment of Autodesk products.

On Putting the 'I' Into Revit, BIM | 01: Getting Rid of "Text"



Short on words this month, but long on benefit!
 Many folks transition from some old drafting software, maybe even newer (not really, but let's not argue) surface or nurbs modelers and bootleg Revit® into trying to work with those prior processes, with mixed results at best.

One will, in nearly every case, find that those processes either do not work outright or require a large amount of time, thus waste (if "it" can be helped). Today's "it" is text. Or as a majority of AEC might pen: TEXT.

The more the text tool is used to call out some aspect of an object that is in the model, the more time and money is being wasted FOR NO GOOD REASON, simply by using text! STOP USING TEXT (for most things).

The following step-by-step is to create a Multi-Category Tag (which, if you don't have one, you are going to create yourself). I expect it can, will, and should reduce unmanageable, dumb TEXT by 60 percent if used only moderately!

I will show a couple of basic use-case examples, the rest are up to your creativity, dedication, and abilities. We will also assume a

basic understanding of modifying and creating Revit families and parameters (shared ones, too).

Why do we want No Text? One reason is that if the information is not embedded into a corresponding object (as long as one exists, lol) it is not BIM. That is called drafting and has no place in Revit or BIM. It is and would be like putting hay into the gas tank of a Ferrari... a little tinge of "well, we've always done it that way and it always worked fine fueling the horses" ...need I speculate as to how that Ferrari is doing?

So get ready to remove as much dumb-text as you can, fwiw, I hope this helps. Note: I am using the ADSK Sample project, no parameters were harmed (or modified) in the making of this motion picture.

- A. Create a Multi-Category Schedule as in Figure 1
 - a. This will be used later to manage the information(!)
- B. File>New>Family>Annotations>Multi Category Tag
 - a. Create a Label
 - i. Include "Comments" (this will pull any object's Instance Comments. Are you starting to see the power? Yes? No? Anyhow, there's more...
 - ii. Set it up to have a Visibility (Yes/No) Parameter

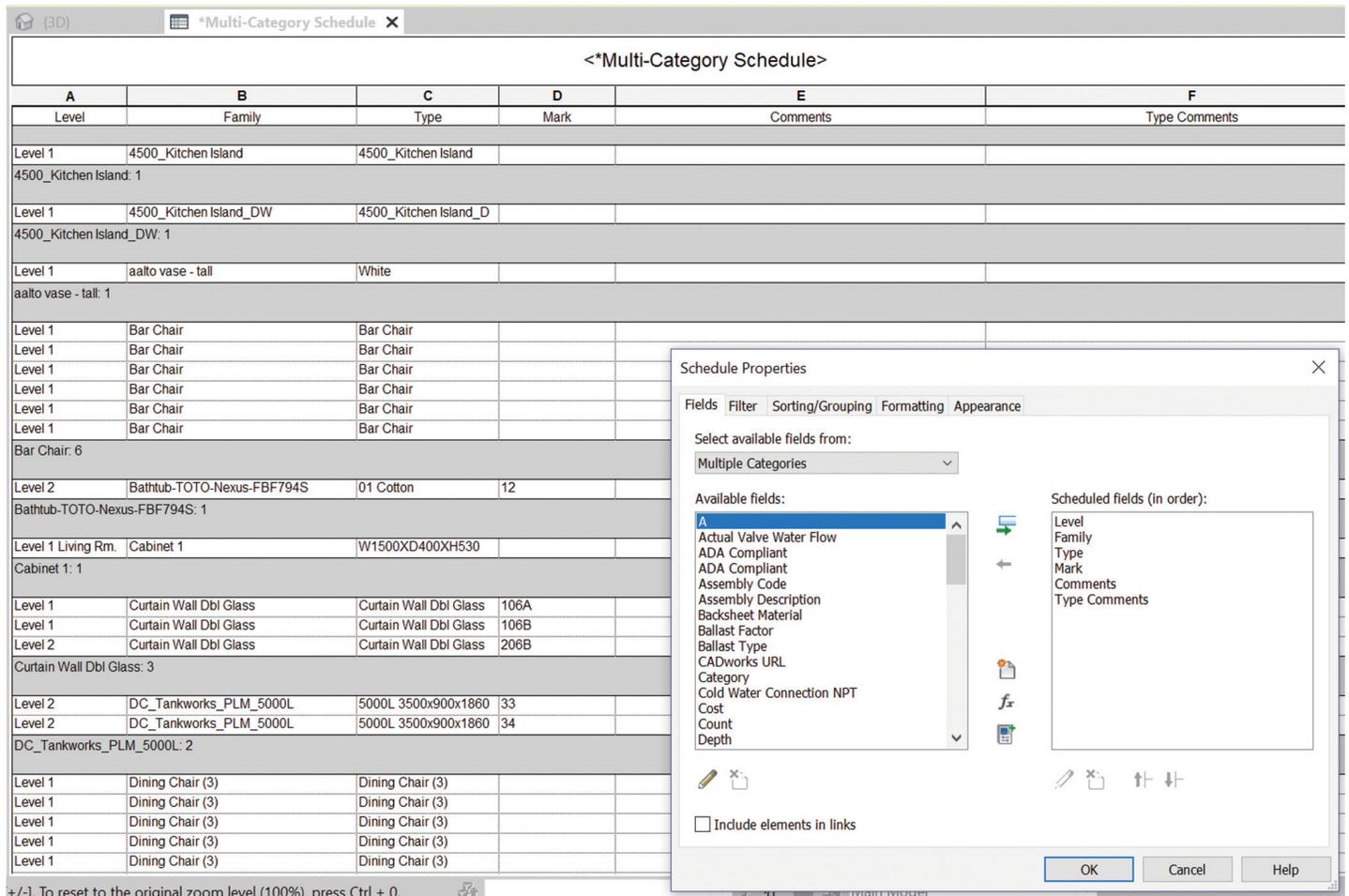


Figure 1

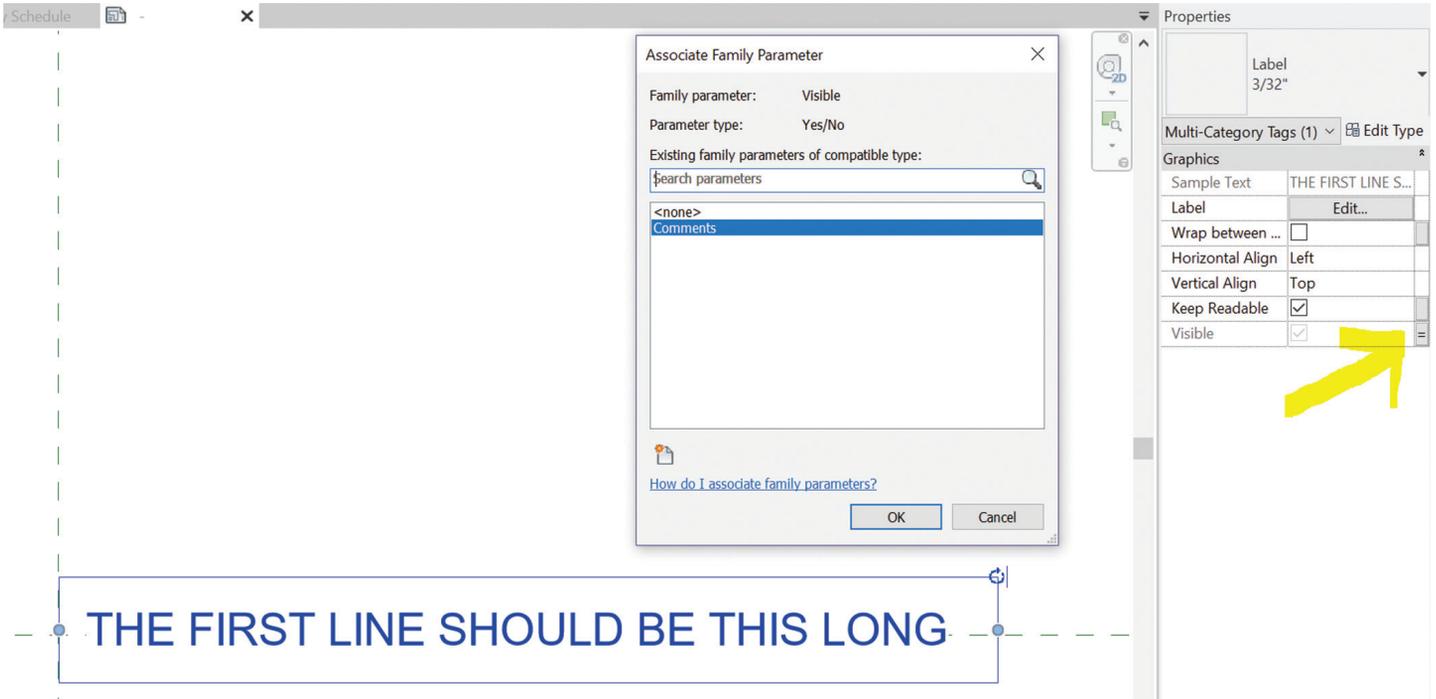


Figure 2

- as in Figure 2.
 - iii. Set the alignments for how the information should grow.
 - iv. Set the preview to however wide you want the note.
- b. Create a(nother) Label [Copy/Paste/Change parameters? Hmmm]
- i. Include (or use) “Type Comments” (this will pull any object’s Type Comments).
 - ii. Set it up to have a Visibility (Yes/No) Parameter similar to Figure 2, but this time make another new Visibility Parameter called “Type Comments” and set this new Label to that.
 - iii. Set the alignments for how the information should grow.
 - iv. Set the preview to however wide you want the note.
- c. Create two (2) types of this Tag (as in Figures 3 and 4)
- i. Set each to the proper, corresponding Visibility Parameter.
- d. Save the Tag.
- e. Load it into a project.

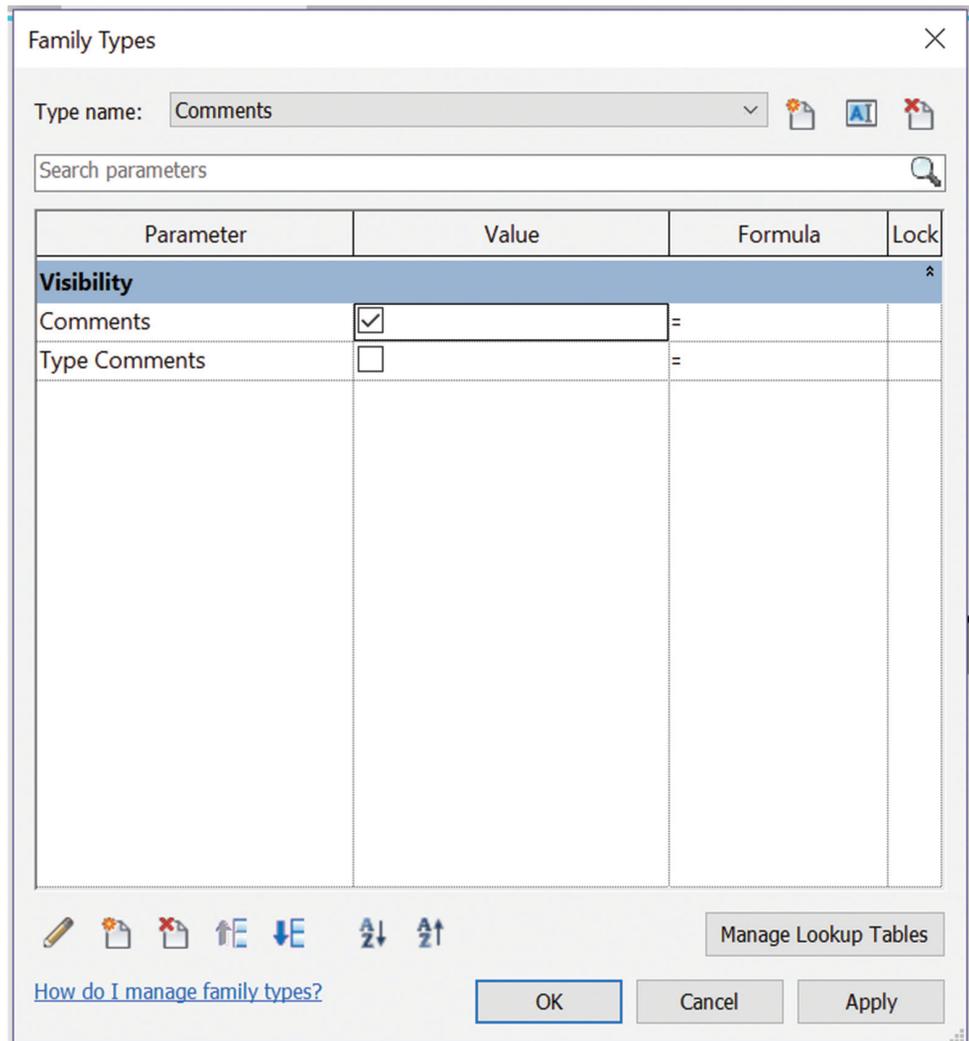
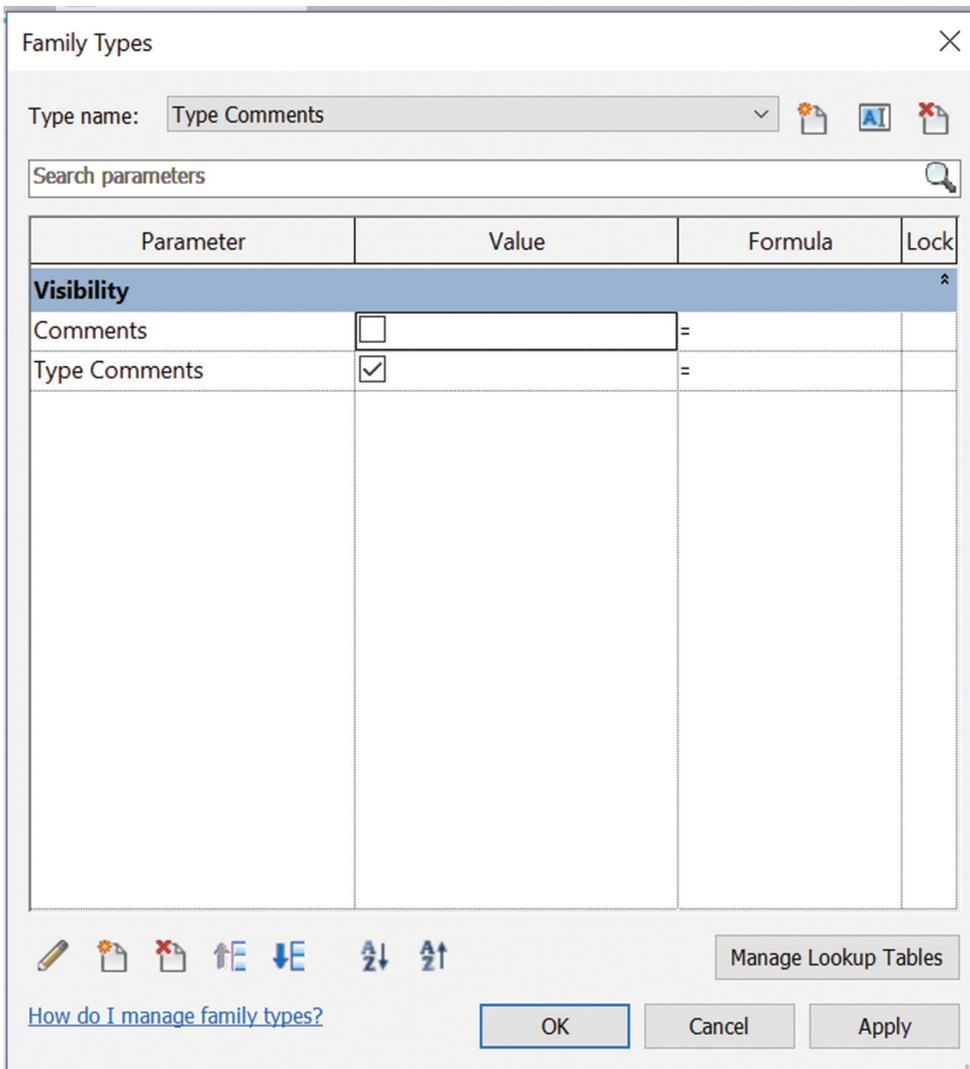


Figure 3



Now in the project here are a couple of uses: 1) Open To Above; and 2) an example prescriptive note.

Once we leverage such tools, we find most “text” goes away now and we are immediately more constructive, efficient, and correct(er) and, although we didn’t revisit the schedule, you in your project will and then you can manage a great deal more object info from one location.

Instance Comments (Figure 5)—notice the information now lives in that one instance of the ceiling.

Oh, and yeah, that ceiling is called out in Plan! No magic (and certainly no wasteful, dumb lines either)—just using a temporary underlay and the Linework Override tool to get the “hole” in the ceiling above to show.

Figure 4

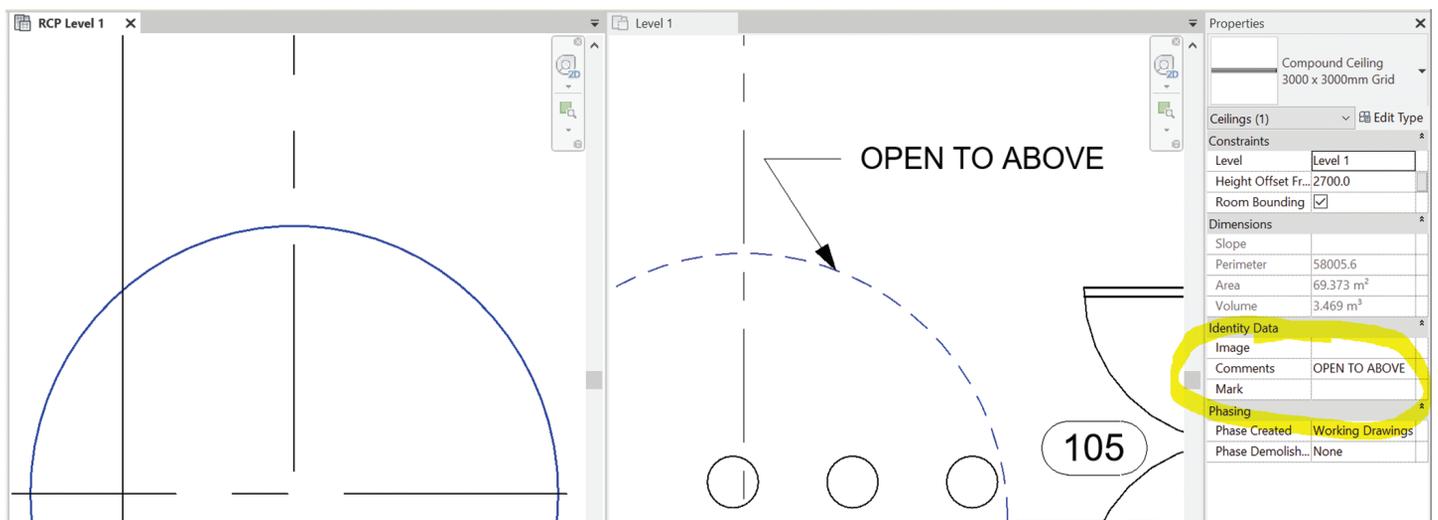


Figure 5

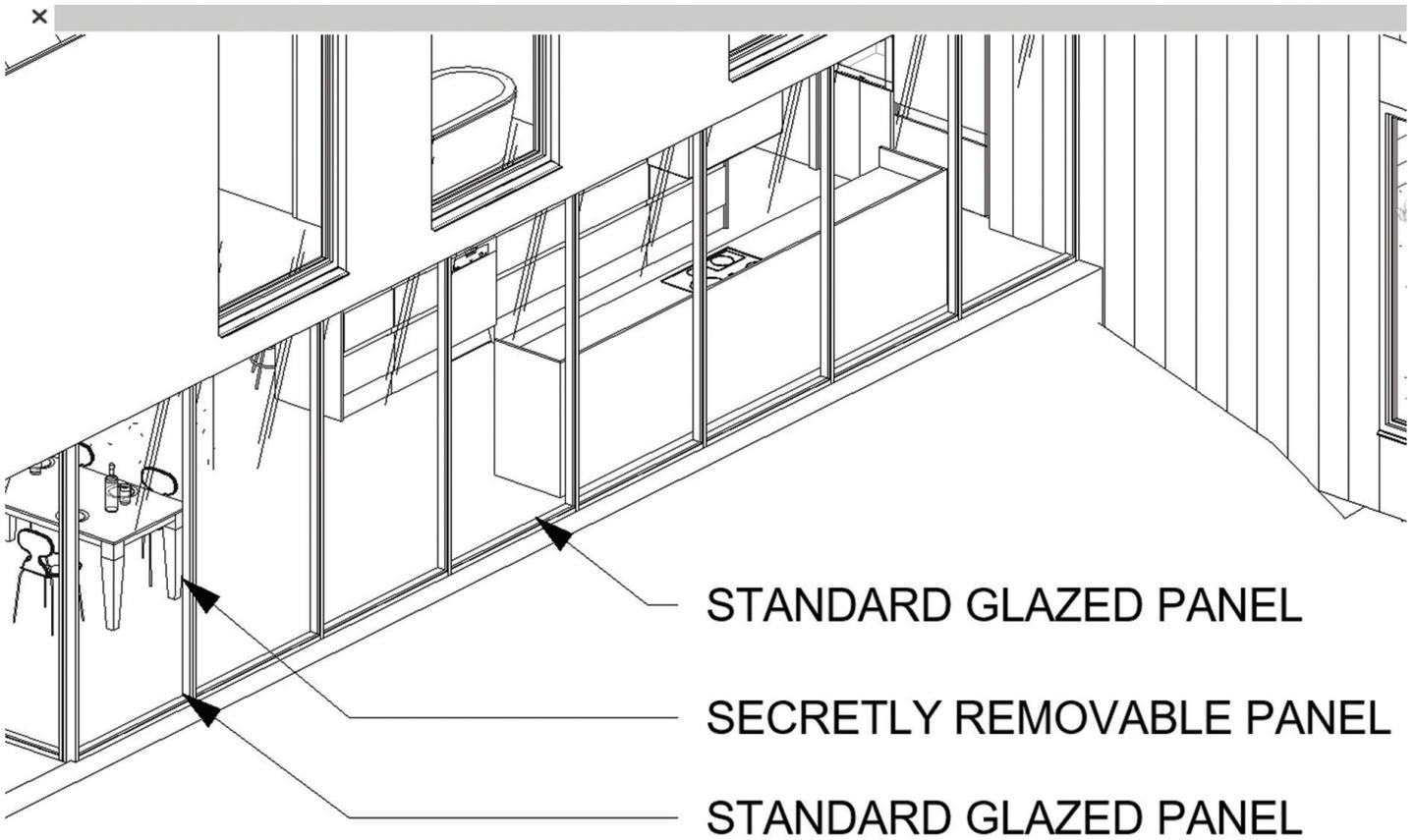


Figure 6

Type Comments (Figure 6). This illustrates two of the Type Comment Tags placed and one showing the one panel's Instance Comments Value. To me, this is power over information, to a degree ;)

Finally, the Tag simply reports the parameter's value(s). It can push the data into the object as well, but once there the data only "lives" in the object.

As a challenge, make one of these that shows three types: Comments, Type Comments, and Both (this will be for extra credit ;)

Cheers!



Jay B Zallan | Virtual Design & Construction Technology Conductor (& Fine Artist)

Mr. Zallan brings wide-ranging Design, Delivery, Management, Mentoring and Teaching experiences to the readily changing AECO industries, founded on an expansive 35 plus year career.

Jay has focused on VDC planning, production, process development and research & development; to help enable efficiency-generative creative project execution, delivery and success throughout the AECO landscape.

This JayZ is an educator, author and industry lecturer throughout the BIM world; Jz strives to inspire current and future generations to achieve and exceed beyond even their own expectations.

Being a Fine Artist (large format oil & mixed media canvases), J adds unique and collaborative insights and perspectives to every team he is part of.



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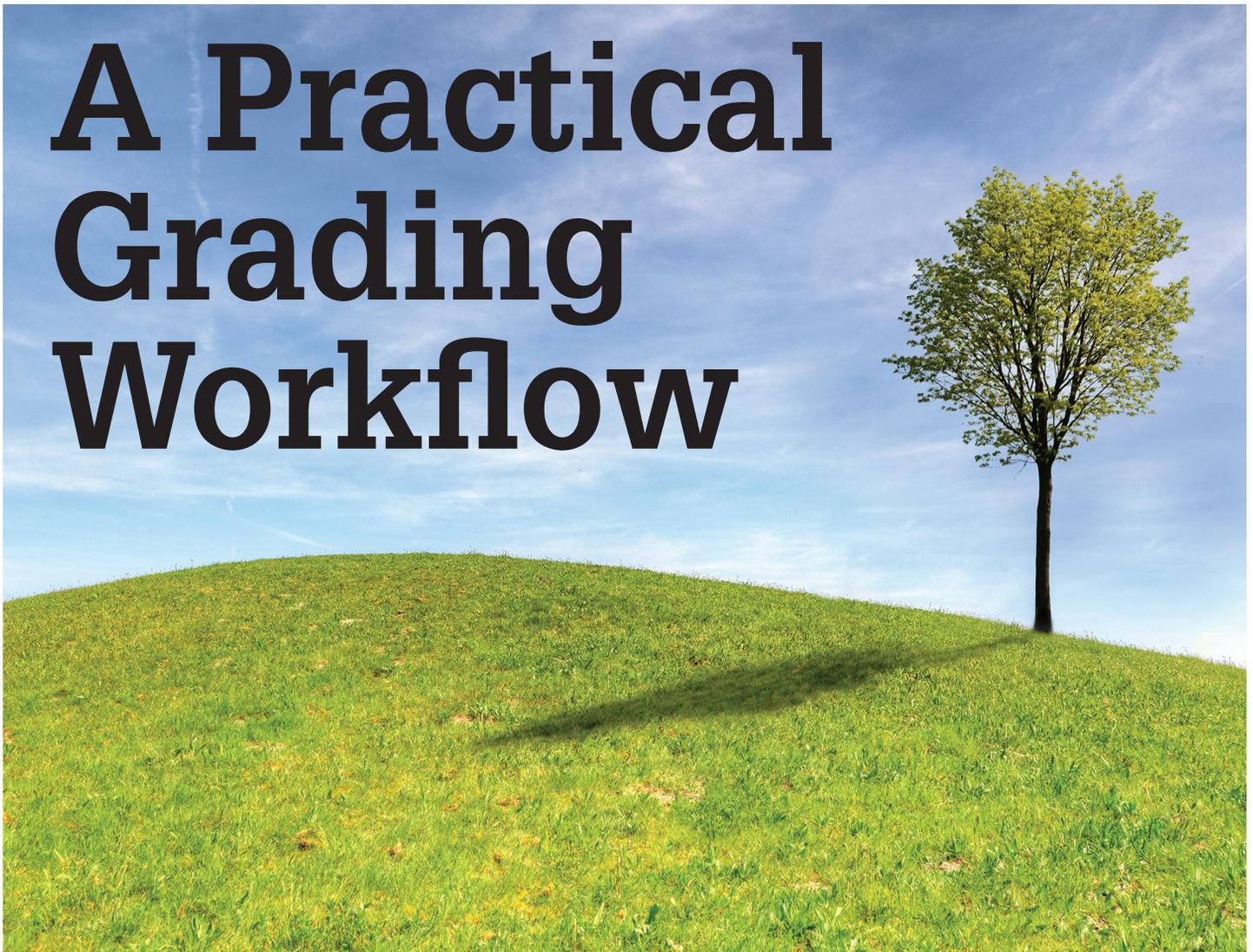
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A Practical Grading Workflow



I have been reflecting on grading complexity and how my workflows have changed over the years. I remember in the beginning of my career utilizing a digitizer to reproduce contours developed by hand. Then with Land Development Desktop I was able to produce contours by setting parameters and having the software return me contours. Now with the dynamic capabilities of AutoCAD® Civil 3D®, I can quickly test grading alternatives.

After watching “Advanced grading solutions using Civil 3D corridors” by David Zavislan, PE, around 2014, I have wanted to incorporate site grading with corridors into my workflow and expand my understanding of conditional sub-assemblies.

As we all know, trying something new and keeping the lights on are often at odds. My growth had been slow at best. Then comes along “Site Grading with Corridors in AutoCAD Civil 3D 2018: Everything has changed!” by Brian Levendowski, PE, in 2017. This video and the workflow he laid out has been the metric to which I have been evaluating my own work. This is not to say that there are not other great videos worth viewing or blogs to read on the topic. I would suggest viewing the 2018 AU class “Caffeinated Grading” by David Garrigues, Tim Yarris, John Armendariz.

There are plenty of videos and articles that discuss the tools used to model surfaces with corridors, but few that lay out a practical process or workflow. I do not utilize a single corridor model to create an entire site as discussed in Mr. Levendowski’s video or fully capitalize on conditional sub-assemblies as discussed in Mr. Zavislan’s video. I currently do not have a need for material depths or find myself needing complex assemblies. I do, however, use corridors to replace some of the grading objects that would break in the past, and I have tried to implement some of the key concepts that I took away from Mr. Levendowski’s videos and those of others.

TAKE THE TIME TO PLAN

I think maybe one of the most important and overlooked aspects of grading in any software is planning. Depending on your experience and/or company structure, you may not be involved in design or placement of BMPs, drainage structures, or road alignments. In any case your project manager should have a project kickoff meeting to discuss project scope, budget, schedule, team roles, and so on. It is imperative that you take the time to review the project with the person tasked with this design. Identify your POIs, discuss concept stormwater management, discuss how to balance the site or if balancing should even be a constraint, identify

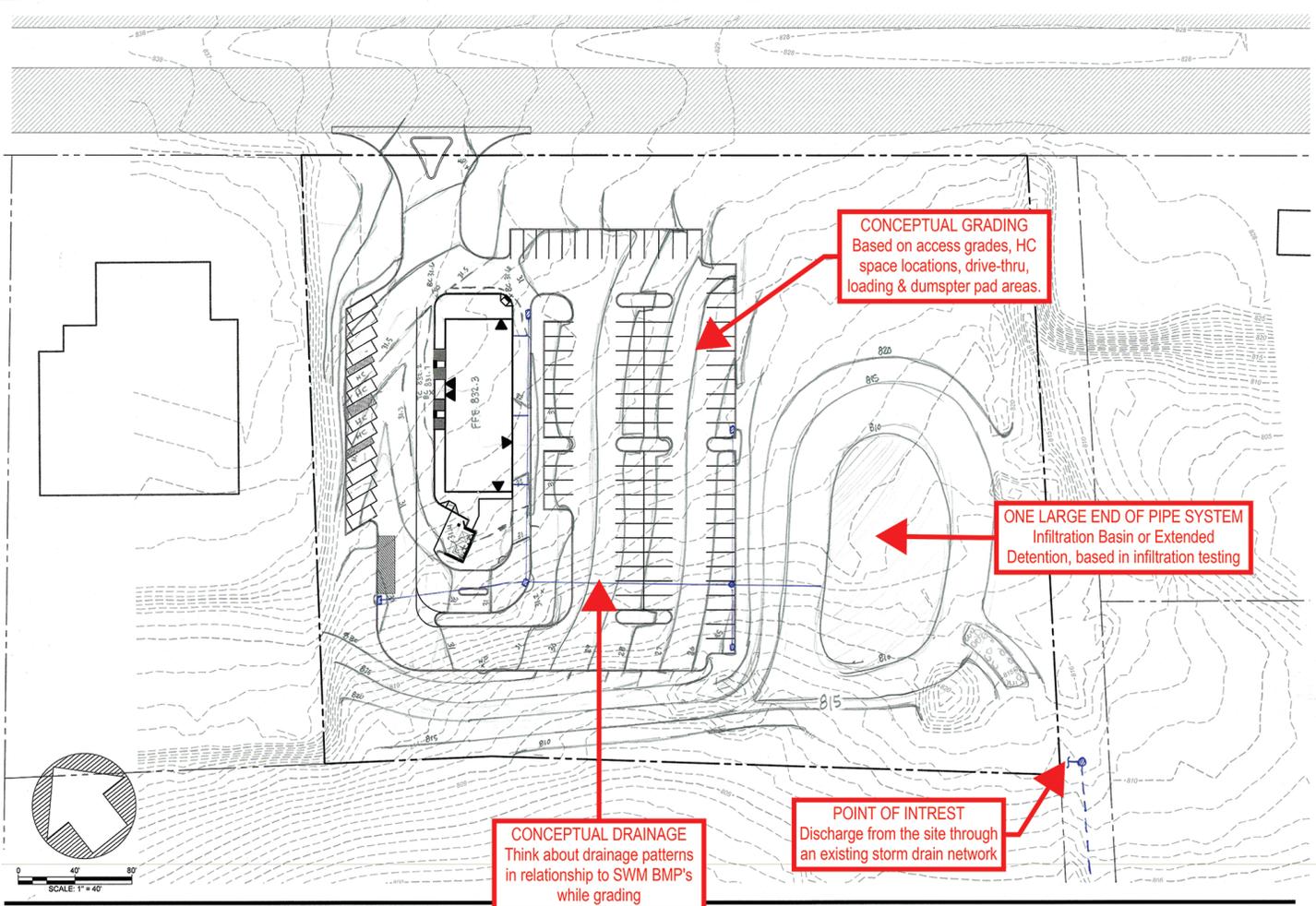


Figure 1: Conceptual sketch

site constraints (handicap spaces, environmentally sensitive areas, access grades, etc), and don't be afraid to quickly sketch (by hand) some grading alternatives if needed.

The point is to visualize the site and identify the components needed to construct this final surface before beginning to model in Civil 3D. Know where you want to end before you begin and try to build the surface in a way that will allow you to pivot during design.

BUILD IN LAYERS

My final surface will always be a composite of subcomponents. I work in land development and as such, through client review, regulatory review, public comment, and all other stakeholder input, sites will go through change during the permitting process and even into construction.

Because of this I have begun building my finished surface as a container surface and pasting subcomponent surfaces into it by layering smaller grading components on top of each other, which allows for a more plug-and-play concept of surface creation.

For example, an extended detention basin would be composed of an overall basin surface, emergency spillway surface, stilling basin surface, outlet structure surface, basin inlet surfaces, possibly a

permanent pool surface, and any other subcomponent required by the design. I will build the overall basin shape as one surface and the subcomponents as another, and by building each component separately I am able to quickly add, remove, and adjust as needed. Since design is an iterative process, the more agile we can make our surfaces, the better. Additionally, this allows me to data reference just the overall shape to my erosion and sediment control working file to use as my sediment basin or be able to build phase surfaces quickly.



Figure 2: Surface paste structure

BUILD FROM THE BASE

Drainage, planar, base, or mass surface. Call it what you will, this is the surface on which all others are built. I personally like to call this my mass grading surface because thinking of this as mass grading helps to remind me that this surface is the most simplistic representation of the site (what is needed to bring this site to pad elevation and general slopes to low points).

- Grading objects – Extended Detention Basin #; Inlet Structures (color: cyan)
- Surface Name – Extended Detention Basin #; Inlet Structures
- Featurelines – Extended Detention Basin #; Outlet Structure (color: magenta)
- Grading objects – Extended Detention Basin #; Outlet Structure (color: magenta)
- Surface Name – Extended Detention Basin #; Outlet Structure

In the end I could create a surface named Extended Detention Basin #, which would be a composite of and pasted in the order of Extended Detention Basin #; Basin, then Stilling Basin, Emergency Spillway, Inlet Structures, and then finally Outlet Structure. You should tailor this breakdown to the complexity of your project.

PITFALLS AND HOW TO AVOID THEM

- Boundaries
- Targeting/circular reference
- Hierarchy and keeping it straight
- Auto rebuild

If you have pasted surfaces together in the paste, you have run into this error message “ERROR PERFORMING EDIT.” A quick Google search will land you on an Autodesk Knowledge Network article describing the issue and possible solutions. In this context the main cause is that the boundary of the pasting surface conflicts with the destination surface control break lines. Key to avoiding this issue is simple—be mindful of your boundaries to not let them overlap.

Targeting can become an issue with this workflow regarding circular references. For example, you target a surface or paste a surface into another that is dependent on the subcomponent you are building from. Generally, this can be avoided through planning your surface structure as mentioned earlier in this article. I also often build targeting surfaces with the same naming convention as the layer control, as follows:

- Surface Name; Target Surface
This will be a composite of the Existing Conditions surface with the Proposed Mass Grading Surface (SubLevel1 components target this)
- Surface Name; Target Surface SubLevel1
This will be a composite of the Existing Conditions surface with the Proposed Mass Grading Surface and Subcomponents Level1 (SubLevel2 components target this)
- This naming convention can continue on as needed for the complexity of your project

Surface hierarchy is self-explanatory and the key to solving this issue is simply planning. If you plan your surface construction ahead of time and keep your naming convention simple and consistent, you should not find yourself with an issue. Also worth noting, I have yet to find a limitation on the number of surfaces you can paste together, so don't be afraid to break a surface down

into as many subcomponents as necessary to keep your grading design agile.

Again, a quick Google search will land you on forums demonstrating the issues with composite surfaces and subcomponents set to rebuild automatically. I keep all my surfaces set to rebuild manually. I find that the software performs better and I like the level of control it offers.

FINAL THOUGHTS

Instead of summarizing this article here, I want to invite everyone to download a training paper I prepared with accompanying drawing files. The documents can be found at:

<https://drive.google.com/open?id=1MpARk39yUkyiGkZiFSgDuIx5vDREXM6X>

Work through the exercise and email me if you wish to discuss further at augiarticle@gmail.com.

I like watching videos like the ones mentioned in the beginning of this article, but I often find myself questioning if it is practical. Do I really need to build a corridor model as opposed to using feature lines with or without grading objects? How agile do I need my model to be? I am interested to know if this workflow works for others. Is the process too cumbersome to manage efficiently? What improvements can be made or how can it be expanded? I look forward to hearing from you.

Throughout his 17-year career, Brian Johnson has held roles as an instrument man on a survey crew, CADD Technician, Senior Site Designer and in many aspects of project management, building a diverse work experience that gives him a unique perspective to problem solving. Brian began his career with a land surveying/planning firm located in Westminster, Maryland, building experience associating grading plans and construction documents with real world environments and experiencing many aspects of land development including environmental assessments, surveying, landscaping, civil engineering and project management. He enjoys researching property titles to prepare deed or easement composites, utilizing BMPs or researching alternative BMPs to meet regulatory requirements, interpreting ordinances, and preparing plan sets and exhibit documents that convey information needed to justify the appropriateness and constructability of the design.



What Is a CIM Manager?

Conceptually, BIM (Building Information Modeling), goes back to the early days of computing. But it wasn't until 1992 that the term Building Information Model was an official term.

THE CIM MANAGER DEFINED

The term CIM, or Construction/Civil Information Modeling, has not been around as long as BIM. While BIM focuses mainly on buildings and architecture, CIM was birthed out of civil engineers reshaping the concept of BIM and focusing the subject more on horizontal projects opposed to the vertical projects of BIM.

Most people today know what a BIM Manager is and does. So, what exactly is a CIM Manager?

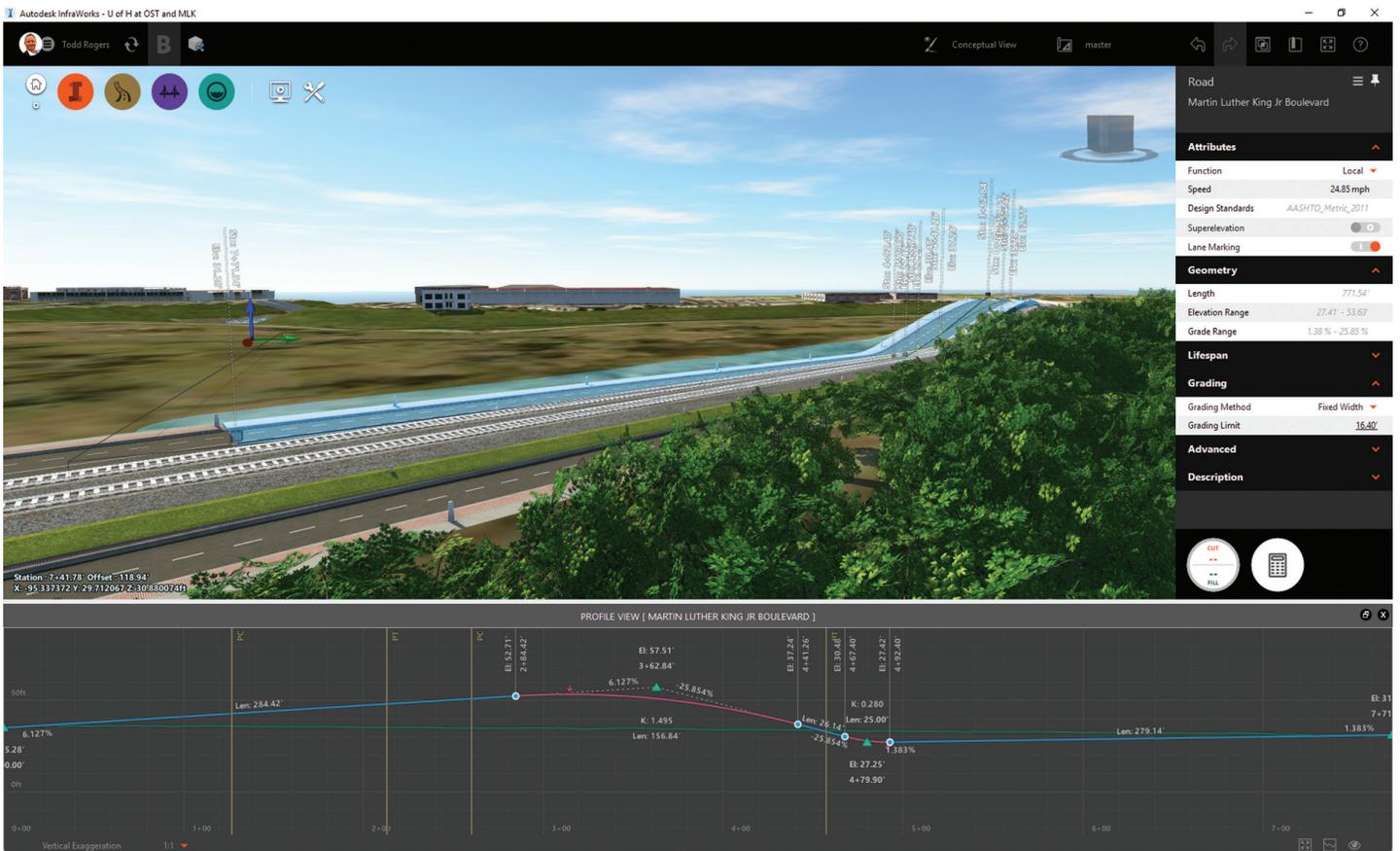


Figure 1



Figure 2

A CIM Manager is responsible for providing and coordinating data such as LiDAR, point clouds, corridor models, surface models, and more. And in some cases, the CIM Manager would be responsible for providing the data for machine control to aid in grading a site or road.

A CIM Manager is closely related to a VDC (Visual Design and Construction) Manager. Now with software such as Autodesk's Infracore®, CIM Managers have the capability of designing within a 3D environment. This 3D environment can be used to produce a "life-like" model to present to other disciplines for utility and design coordination. This model can then be exported to more complex civil engineering software such as AutoCAD® Civil 3D® or Bentley's OpenRoads.

construction documentation and design are linked, evaluating for more alternatives, producing documentation and responding to design changes are reduced significantly. Not only this, but analysis, visualization, and simulation are now part of this overall process.

Contractors also benefit from this process as well. They take the same model used by the engineers and architects to better conduct project and management efforts. This in turn furnishes more accurate quantity assessments and speeds up the process for change orders. The contractor can then share the model with suppliers such as precast manhole manufacturers. Remember this is the same model that has been used all the way down the line.

CIVIL INFORMATION MODELING

Just like its predecessor BIM, CIM is not an operation, but a process. CIM starts at the planning of a project and carries on through construction, operation, and maintenance. This involves the project as a whole.

With this process, engineers and architects can now collaborate better together by working on a set of 3D models. Now you have an interactive project with real-time collaboration.

BENEFITS OF CIM

Increased efficiency and productivity are immediate benefits of CIM. Because

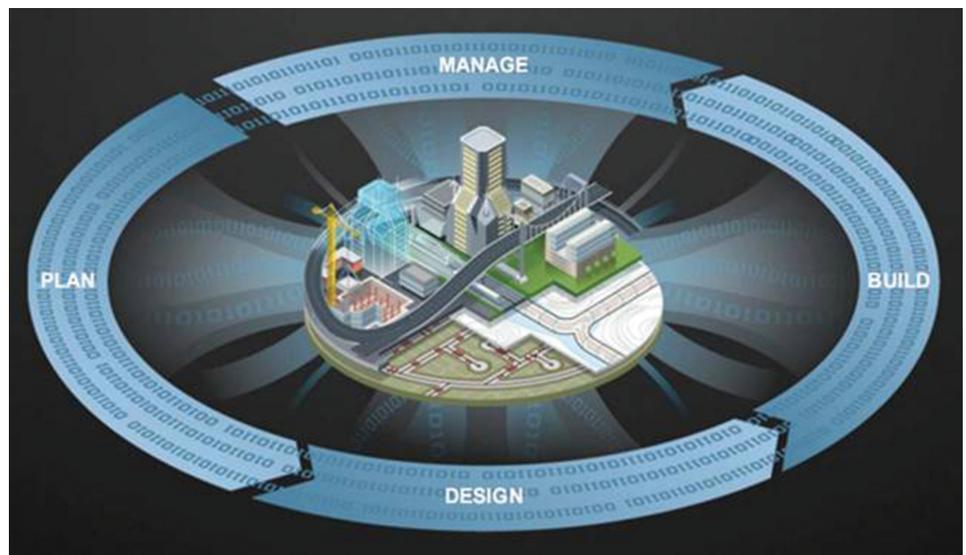


Figure 3

Civil Management

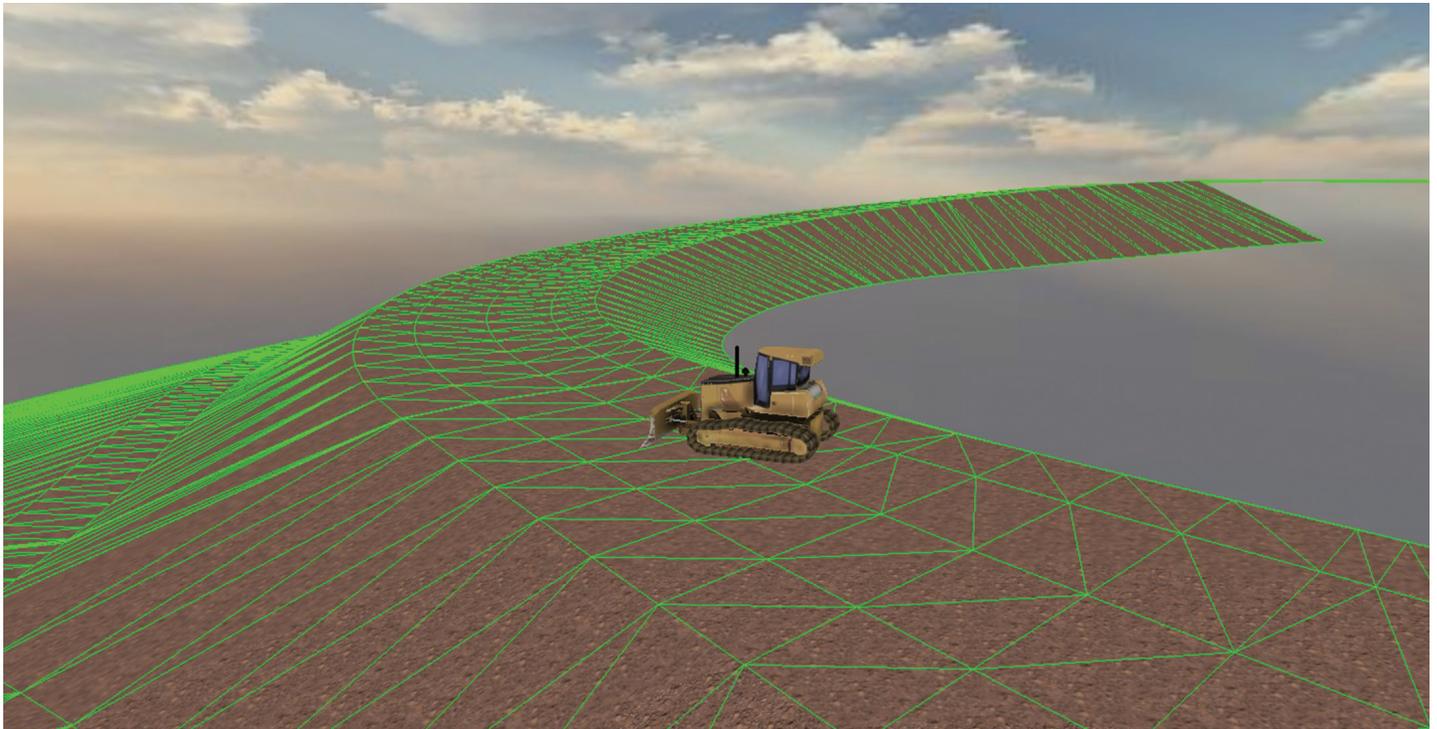


Figure 4

Errors are reduced and efficiency gained in a timely manner. This is all coordinated by the CIM Manager.

Owners and stakeholders realize the cost and scheduling advantages when visualizing the project in a 3D environment, which this same model can be used as the basis of its operations and facilities management system.

CIM can lead to better estimating, early identification of design flaws and conflicts, safer traffic management, better communication to the public, and enhanced collaboration with the construction team.

THE FUTURE FOR CIM AND CIM MANAGERS

CIM is not going anywhere. As a matter of fact, there are more and more firms adopting the CIM Manager position. This is a very important position and a lot rides on the back of the CIM Manager.

Many incumbents have been struggling to adopt and benefit from CIM. However, this is all changing as companies begin to have successful implementations. If a company wants to be successful and on the cutting edge of technology, it must develop new business models and processes. If a firm is not willing to adopt CIM, it is going to lose out and get left behind. Hiring a CIM manager will help to increase the implementation of CIM and get the ball rolling in the right direction for future projects.

CONCLUSION

Many firms have the opportunity to bring value-added services to the table, and also new services as projects are becoming more

connected. Hiring a CIM Manager to help with educating, training, and implementing these processes will aid in establishing new processes, educating clients, and managing new risks and liabilities much more efficiently. CIM has definitely found its niche in the digital pathway. Firms that continue to ignore this will be left behind and struggle to survive. Take the time NOW to seize this ever-growing opportunity.



Todd Rogers is a certified Partner Service Expert (P.S.E.) and certified Autodesk instructor with more than 25 years of experience in teaching, managing, and providing hardware and software solutions for hundreds of engineering firms throughout the greater Houston, Texas area. He is a valued member of Walter P Moore, where he works as a BIM Manager. Todd also holds the “Autodesk Expert Elite” status, a program to recognize individual community members who have made extraordinary contributions with helping customers by sharing knowledge, providing community leadership, and exemplifying an engaging style of collaboration that drives a healthy and valuable Autodesk customer community. Todd is an active blogger. Through his personal blog website (civil3dj.wordpress.com), Todd shares tips and solutions for Autodesk software issues.

Digital Built Week Europe – Discover the Future of BIM Technology

For anyone working in design or construction or as asset owners and managers, we can no longer ignore the fact that technology is a key part of designing and constructing buildings and infrastructure – and the pace of change and new technological advances are only getting faster. Whatever your role, you need to have some understanding of what technologies are available and what they can do – even if you are not ‘hands-on’ with all the tools. Technology no longer encompasses just CAD or even just BIM, but includes tools for virtual reality, smart buildings, asset management tools and apps as well as project information management.

If you’re in Europe and looking to take your BIM or technology practice to the next level, we are now counting down the weeks to Digital Built Week Europe, encompassing the infamous BILT Europe, Building Content Summit, BILT Academy as well as a new event to Europe, the DBEI Hackathon. All these events will this year be taking place in the picturesque Scottish city of Edinburgh between 7-12 October.

If you have been to one these events before you know what all the fuss is about – although as always, we are continually improving and offering new and exciting initiatives to the event. The goal with these events is not only to provide knowledge and training around technology and best industry practices, but to build a community dedicated to increasing efficiency in the built environment. We are all about sharing knowledge, working smarter and more collaboratively in order to increase effectiveness in our industry together. As a not-for-profit organisation, our events align with other similar communities and industry associations but give attendees a unique experience with many coming away inspired having learnt tips and tricks from the best in the business.

“The BILT conference series is the premiere education conference for the AEC Industry, and is focused on changing the industry by educating our community on the value of collaboration and teamwork for the built environment. No other conference provides you with access to the quality of speakers and educational material available at BILT. The conference is also small enough to allow amazing networking potential with people who do the same things that you do everyday.”

For those of you who haven’t been to these events, In Europe they consist of:

- The DBEI Hackathon (DTS), a 2-day design sprint-like event where teams of usually between 3-6 people work together based on a specific theme, with the goal to create usable software or hardware as a functioning prototype or product by the end of the event.
- BILT Academy, a one-day summit aimed at students and educators including labs with exciting industry experts as speakers to provide the opportunity to discover the current state of the art practices and workflows in a multiple platform environment.

- Building Content Summit (BCS), which allows content users to learn and connect with manufacturers and providers to improve the quality and processes involved in the development of BIM content.
- BILT Europe, our flagship event, which is designed to cater to the needs of those who design, build, operate and maintain our built environment. As a community of professionals, it is dedicated to improving the way industry works together.

Each event is run “by users, for users” and is the best place to get unbiased, first hand advice from industry experts who implement best of breed solutions that drive their business forward. As a result, the events create a stronger community, smarter industry and more sustainable environment.

With over 90 training sessions spread over three days you can find numerous classes to attend with topics on Business Strategy and Leadership, Computational Design, Open BIM and Interoperability, BIM Management, Project Management, Sustainability, Industry case studies and more. Digital Built Week brings together leading international and local speakers to provide a truly outstanding conference program which gives you the opportunity to

build your skills across both technical and leadership spheres.

“BILT is the must attend event for understanding BIM capabilities and receiving the technical information to stay competitive in your field.”

This year some of the program highlights include speakers from WSP, Laing O’Rourke, AECOM, Aurecon, Sweco, WAVIN, HDR, Tesla, Autodesk, Bentley, BuroHappold Engineering, Modelical, Heatherwick Studio, Stantec, plus more. Keep an eye on our news site for announcements of our keynote speakers still yet to come.

Alongside our world recognised conference program, the event allows un-paralleled opportunities for networking. With around 400 of the industry’s leading technology professionals attending, you will be sure to find more value out of our evening events, which are included as part of your delegate registration.

“BILT is, without question, the best AEC industry conference I have ever attended. From challenging classes that delve into obscure functions of familiar programs to exploring the city with hundreds of giddy colleagues (and an open bar!) BILT epitomizes the “work hard/play hard” philosophy I try to follow in my own life. My primary goal for the next year is to return to speak at BILT and continue contributing my knowledge.”

We look forward to joining with our European community and immersing ourselves in the world of design and construction technology from 7-12 October at the Edinburgh International Conference Centre. To register visit:

https://www.dbeinstitute.org/event_week/digital-built-week-europe-2019/



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