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They serve as a quality control measure, allowing architects and designers to review and make changes to construction drawings before they are used by contractors to construct a building.In this article, we will explore the importance of red line drawings, the process of picking up redlines, and how they provide a valuable learning opportunity for emerging professionals in the field.We will also discuss tips and best practices for working with red line drawings, including how to keep track of changes and how to approach the task of reviewing and making changes to these important documents.In short, a red line drawing is a type of architectural drawing that has been reviewed and marked up with errors, changes, and revisions.These markups are typically done in red ink, making them easy to find. These drawings are used as a quality control measure in the process of creating construction drawings, allowing architects and designers to review and make changes before they are used by contractors to construct the building.During the design and construction phase of a project, there are multiple instances when a member of the design team is handed over a set of drawings to be reviewed. And more often than not (especially in the early stages of a project), there will be areas that require further coordination and therefore alteration of the drawing.These alterations are usually marked with a red pen to make them more visible creating what is commonly referred to as a red line drawing. Producing precise and clear working drawings for an architectural project is not as simple as one might think. And completing a perfect drawing on the very first attempt is near to impossible.It requires the input and collective expertise of many people in order to produce a complete set of construction drawings and for newly qualified architects and students, it may take many years of experience to master.But carrying out red line amendments is an excellent way to learn and grow where it is often a right of passage before taking on your own projects.As mentioned above, creating a well-coordinated and complete set of construction drawings, especially on the first try is almost impossible. More often than not, you will need to revise these drawings and re-draft them several times over, to address both minor and major changes.There are various factors that influence the use and requirement for red line drawings such as:After drafting a design, it is advisable for the draftsmen to go over the drawing themselves before handing it over to a senior team member for examination. While going over the draft, you yourself might find a mistake that had previously been overlooked.Once detected, the mistake can be highlighted with a red line and a new draft can be created.One thing to keep in mind is that finding mistakes in your drawings is nothing to be ashamed of. When drafting a design, you may miss blatant mistakes simply because you have been looking at the same drawing for a very long time. So it is advisable to take a break and go through the drawings again after some time.Printing the draft and creating your own red line drawing can prove very efficient in this regard.As mentioned, a draftsman may make various mistakes while producing a set of drawings and often these mistakes are pointed out by a senior architect or supervisor through red lines after they assess the drawing.The red line drawings are then given back to the draftsman who redraws the drawing along with the changes. This feedback could be related to policy compliance, a design change, or simply a drawing error.Fulfilling the clients design brief and requests regarding the design is always the top priority for the design team. Even if that means adding last-minute changes. Once an architect has completed the project drafts, they discuss the design and requirements with the client. The client might then suggest additional amendments to the design which the architect will usually highlight in red pen.As architects we often face unforeseen situations on-site that might require a change to the current design. It could be anything ranging from a slight drawing error to a non-compliance with city building codes.In these situations, an architect has to revise the design and create a new drawing using a red line.Depending on where you are located, each city and area has distinct requirements for its buildings and structures, and often might ask the architect to make changes in accordance with these. This may lead to various minor alterations in the design.Red line drawings are an essential part of the design process and have various uses that are not just limited to the ongoing design process. For example, red line drawings are usefulFor anyone new in the architectural field, red lines drawings are a goldmine of knowledge. By going through the red line drawings of experienced professionals, you can learn what mistakes are commonly made, and how to catch and fix them.Architectural drawings are the foundation of a project and if any errors are left in these drawings, they can translate into the built form and cause a lot of damage during construction.red line drawings ensure that all mistakes are caught and fixed, aiming to safeguard the construction process as much as possible. It is much more feasible to make changes on paper than to make changes on-site.Red lines are essentially the layers of changes that a design goes through in order to reach its final form. Hence, going periodically through these red lines can help you keep track of exactly what changes have been made in the design since it was started. These red lines may prove to be an essential tool in understating an architects design methodology and process.While several people benefit from red line drawings (for example, the client, the contractor, and the senior architects, etc.), they are primarily meant for the draftsmen. Once an error or alteration has been pointed out in the drawings, the architect then conveys them in detail to the draftsman.This helps the draftsman in creating a newly revised and improved set of drawings .While there is no dictated way to use an architectural drawing. There are a few steps to follow when you are given a red line drawing to redraft.Go over the drawing in detail and make sure that you understand every single suggestion made.In case a few things escape your understanding, ask someone more experienced to explain them to you. Once understood, you can start redrafting the drawings.While making changes it is possible that you might miss a couple of errors. In order to avoid this, make sure to cross out each section that you have amended with a black marker (or any other marker that stands out against the red highlights). By doing this you ensure that all of the suggested adjustments have been made.As-built drawings are the final set of drawings and specifications that reflect how a building was actually built. These documents are created after the construction process is completed, and they serve as a record of the actual physical layout and features of the building.They include details such as the location of electrical and plumbing systems, the size of rooms, and the types of materials used. As-builts are important because they provide a clear understanding of the buildings actual physical characteristics and can be used for future reference and maintenance purposes.They are generally provided to the building owner after the completion of the construction project.No, as-builts are not the same as redline drawings. Redline drawings as discussed above, are the original set of drawings that have been marked up to reflect changes made during the construction process. They are used to document changes that occur during the construction of a building.As-builts, on the other hand, are the final set of drawings and specifications that reflect how a building was actually built. They are created after the construction process is completed and provide a record of the actual physical layout and features of the building.It is important to understand the difference between the two, as redlines may not always reflect all changes made by different contractors, and as-builts should be used when troubleshooting projects that are still in construction.The general contractor may reconcile all redlines into a single document set, but if redlines from multiple contractors conflict, the GC may just pick one of the redlines instead of reaching out to both contractors. Its important to ensure that you are working on as-builts, not redlines, when troubleshooting projects to avoid confusion and wasted time.Red line drawings are an imperative part of the design process and help ensure the successful completion of any architectural project. If you are new in the profession, make sure to go through the annotated drawings of other architects to strengthen your own understanding. And always make your own red line drawings before handing them over to a senior.Paying attention to these drawings will not only prove advantageous for you but will also save everyone on the team a lot of time and money by avoiding last-minute changes on-site.In engineering, redlining refers to the process of marking up original drawings, plans or specifications to indicate changes or revisions that have been made during the design or construction process. This is typically done using a red pen or other red ink, which is why the process is called redlining.The redlines are used to indicate the changes made to the original document, and they help to ensure that everyone involved in the project is aware of the changes and is able to implement them correctly. Its used to help identify and track changes made during the construction process and can be used to ensure that the final product is built according to the intended design.A redline markup is a set of notations, lines, or other marks that have been added to an original drawing, plan, or specification to indicate changes or revisions that have been made during the design or construction process. These marks are typically made using a red pen or other red ink, which is why the process is called redlining.Redline markups are used to indicate the changes made to the original document, and they help to ensure that everyone involved in the project is aware of the changes and is able to implement them correctly.They are commonly used in construction and engineering projects, and they can include notations on changes to dimensions, equipment locations, materials, and other details. They can also include new or modified drawings and notes that have been added to the original document.There are several ways to redline a plan, but the most common method is to use a red pen or other red ink to make notations, lines, or other marks directly on the original document. Here are some steps that can be followed to redline a plan:Obtain a clean, clear copy of the original plan.Review the plan carefully and make note of any changes or revisions that need to be made.Use a red pen or other red ink to make notations, lines, or other marks on the plan to indicate the changes or revisions.Make sure to clearly label each notation or mark, and include any relevant information such as the date and the name of the person making the change.Double-check the redlined plan to make sure that all changes have been properly documented and that the notations are clear and easy to understand.Make additional copies of the redlined plan and distribute them to the relevant parties involved in the project.Keep an electronic copy of the redlined plan, in case it needs to be referred in the future.Its important to note that some companies and organizations use specialized software to redline documents electronically, with the advantage of being able to track changes and access the documents remotely.Its also important to keep in mind that redlining is a critical step in the construction process, as it helps to ensure that the final product is built according to the intended design, and allows the team to identify and track changes made during the construction process.Redlining a drawing in CAD (computer-aided design) is a bit different than redlining a paper drawing, as it is done electronically. Here are some steps that can be followed to redline a CAD drawing:Open the CAD drawing in the appropriate software (such as AutoCAD or Revit).Review the drawing carefully and make note of any changes or revisions that need to be made.Use the appropriate tools in the software to make notations, lines, or other marks on the drawing to indicate the changes or revisions. Some softwares have specific tools for redlining such as redline tools, comment tools or markup tools.Make sure to clearly label each notation or mark, and include any relevant information such as the date and the name of the person making the change.Double-check the redlined drawing to make sure that all changes have been properly documented and that the notations are clear and easy to understand.Save the redlined drawing with a new file name to indicate that it has been redlined.Distribute the redlined drawing to the relevant parties involved in the project.Its important to note that some CAD software also allows to track changes with a revision history and even to compare different versions of the drawing. Some software also allows to create a pdf file with the redlines, comments and markups, making it easy to share with non-CAD users.Redlining a drawing in CAD has the advantage of being able to track changes, access the documents remotely, and make changes quickly and easily.Its also important to keep in mind that redlining is a critical step in the construction process, as it helps to ensure that the final product is built according to the intended design, and allows the team to identify and track changes made during the construction process.In interior design, redlining refers to the process of marking up original floor plans, elevations, or other architectural drawings to indicate changes or revisions to the design of a space. This process is similar to the one used in construction and engineering, where redlines are used to indicate changes that have been made to the original document.Interior designers use redlines to indicate changes to the layout of a space, the location of furniture, electrical and lighting fixtures, and other elements of the design. They can also be used to indicate changes to the materials, colors, and finishes used in a space.The redlining process can be done using a red pen or other red ink to make notations, lines, or other marks directly on the original document, or with specialized software that allows designers to redline a drawing electronically, with the advantage of being able to track changes and access the documents remotely.Its important to note that redlining in interior design is a critical step in the design process, as it allows the team to identify and track changes made during the design process, and it helps to ensure that the final product is built according to the intended design. And also it allows the client to see the changes and approve them before the construction process starts. What do Redling & as-built drawings services for construction entail? Redlines refer to the original blueprints where red ink marks the changes made. Every time builders remodel or build a structure, they follow a set of drawings that an engineer or architect has prepared. As they work, they often make changes and adjustments to the project. The changes are then drawn in red ink on top of the original plan to document all the changes made. Since red ink is not generally used in blueprints, the changes are more visible and stand out. Redlining is a term that means drawing in red on top of the blueprint to show changes. Redline drawing experts draft blueprints that were drawn by hand. As-builts are new plans showing how a structure is built, and an as-built includes every change outlined on redlines. When comparing redline and as-built drawings, it is essential to understand that builders make redlines while architects or engineers draw as-builts. Once changes are made to the project and everything is outlined on redlines, the drawings will be given to the engineer or architect. They will then prepare a set of as-builts according to redlines and often based on a site inspection. As-builts are typically forwarded to the building department to get an updated permit. The building departments only accept as-builts approved and stamped by an architect or engineer and dont accept redlines. Remember that redlines are not considered an official set of plans. Instead, these drawings contain details drawn over official plans. RELATED: Drafting services rates vs. architectural development costs & differences in pricing As-built drawing services draft official plans, and architects or engineers prepare and stamp them to show how to build a structure. As-builts also show the entirety of the structure with all updates included. As-builts are essentially an updated set of blueprints reflecting the changes indicated in the redlines. Table of contents In the most basic explanation, redline drawings are the original blueprints where red ink is used to draw changes to the project. Blueprints show how a structure is built and detail dimensions, sizes, heights, setbacks, foundations, steel, lumber, framing, doors, windows, finishes, etc. Builders use red ink to outline every change they make to the blueprints.When builders make changes, everything should be documented so that they can show these to the engineer or architect for approval. They will then prepare the as-built plan based on the changes and a site inspection. All changes made must be drawn on the blueprints so that everyone involved in the project can see them.Aside from new layouts, redlines also include specifications. Any changes made should be detailed, no matter how small, for the design engineering company or architect to review them. Any specification or change made on the job must also be outlined on redline drawings. RELATED: What are Redline drawing costs & CAD drafting rates for construction companies? There are instances when the changes made might not be to code. In cases like this, the engineer or architect will tell the builder what must be done to bring the structure back to compliance. This is why recommended changes are limited only to minor things that will not breach a building code. For instance, moving a window or door a few inches must be shown in a redline drawing to the architect. This kind of change wont often result in violating a building code. As-builts are specifications and drawings from architectural detailing services that present how the building is built. As-built drawings are updated sets of blueprints that an engineer or architect draws. These drawings combine the original blueprint and the changes made and outlined in redline drawings. An as-built plan includes the final specifications and drawings that are then provided to the building department and the owner. Redline drawings can become as-built drawings in a few ways: Some builders require their subcontractors to issue redlines rather than as-builts. They will take all the redline drawings and develop a new plan that shows every mechanical work on a single plan. It is handy for large-scale projects involving several subcontractors because everyone will work from a single master set of blueprints. Subcontractors with these types of jobs often dont prepare their plans, making redlines work better. The builder might also require all subcontractors to develop as-builts with specifications for their part of the project. Some mechanical subcontractors make their plans so they can do some updates themselves instead of the architect. Every change made to the project is ultimately indicated on as-built drawings, and it is recommended to undergo the redline process before moving to as-builts. RELATED: What are as-built drawings costs & drafting rates at architecture companies? Based on the explanations above, redline and as-built drawings are different. 3D Modeling & drawing professionals create Redline drawings which are blueprints with changes drawn in red ink on top, while as-built drawings are official updated plans showing every single change made throughout the construction process.Redline drawings are not official plans, meaning they cannot be used to obtain updated permits. As-builts, however, are official sets of plans. If your change is substantial enough to necessitate an updated building permit, you will need a set of as-built drawings prepared and approved by the engineer or architect. Another key difference is that every subcontractor that usually has its own set of plans can make redlines. It is a common practice among mechanical contractors. However, it can result in some issues since other contractors only work based on the official blueprints and might not see the redline drawings of the subcontractors. If the subcontractors dont work off the same plans, it can lead to problems. It is why more significant projects often require as-builts. RELATED: How the construction industry benefits from architectural visualization services Redline drawings are blueprints with red ink to draw the changes on top. The builder or a subcontractor can make redlines, and all the changes made from the original blueprint must be detailed and indicated in redline drawings.As-builts are officially updated blueprints showing the original design and every change made. Redlines are not official blueprints, unlike as-builts. For instance, if a change is made and it requires the building departments approval, you will need an as-built instead of a redline drawing. Redline drawings show the changes made to the engineer or architectural drawing firm so the plans can be updated in the form of as-builts.Redlines always come first in documenting the changes made on a blueprint. As-builts follow these to outline the changes in the redline drawing as the blueprints official part. Redlines are a critical aspect of the construction process. Architects, engineers, designers, builders, and subcontractors use them to document the changes made to the designs and blueprints of the project.All deviations must be drawn in red so the project team can see the change. It helps ensure that all the designers and workers are always on the same page about what is being constructed and when.All redline drawings are ultimately given to the other designer or architect so they can proceed to prepare an as-built. Preparing accurate as-builts would be more expensive and difficult without redline drawings. RELATED: How much blueprints cost for CAD floor plans, and 2D drawings rates at drafting firms? Below are some helpful tips for preparing redline drawings: The scale of the redline must always be matched with that of the original drawing. Indicate clearly if the contractors installed any equipment not presented on the blueprints. Date when every redline is added to the plan. Document every change as precisely as possible. Include shop designs and drawings. Keep the redlines on site to allow contractors to review them. Use identical legends to those of the original. List all applicable setbacks, measurements, and dimensions. Redline the new designs for the finishes. Underground utility drawings must show ground cover, elevation, flow direction, depth, and diameter. As-built drawings are a crucial aspect of construction, outlining every change to the original blueprints. All subcontractors on the project and the structural engineer, architect, builder, and inspectors must work based on an accurate plan reflecting not just how the structure will be built but also how it will be built.Dealing with project changes is a part of being a contractor, and every change should be documented. Redline drawing is the first step, with an as-built drawing following it. RELATED: What are AutoCAD designer rates, drafting costs & services company pricing? As-built drawings help eliminate mistakes since everyone has the same accurate and updated plan. They serve as an official record for consultants, inspectors, future builders, and clients. They assist future workers in understanding mechanical systems and how they are in the structure. An as-built drawing helps with future maintenance and operation work. Accurate and updated plans offer a basis for future repairs or upgrades. Every project must have an accurate and updated plan for everyone involved to work off of that, including once the job is finished. It helps with future upgrades, additions, renovations, and repairs to the structure and its mechanical systems. At Cad Crowd, we have the privilege of working with some of the worlds best freelance as-built drawing designers. If youre looking for help with your project, get in touch with us for afree quote. This website uses cookies to improve your experience. We'll assume you're ok with this, but you can opt-out if you wish. Accept Read More Redlines vs. as builts: Two things that seem to be exactly the same but are they?What are Redlines?Redlines are, quite simply, original drawings that have been redlined to reflect the changes that have been made. As I mentioned in previous articles when a project is being installed the installation team uses a series of plans and specsto guide them in how to build the project. As you might imagine changes take place while the project is being installed. In order to capture these changes the project drawings are redlined. Redlining the drawings is when you draw on a drawing (sometimes in red) to reflect what is actually installed.Now a common misconception is that redlines are limited to drawings. That is not true!Redlines should never be limited to just drawings. It is very important, I would argue more important, that you make sure to update your specifications based on how the control sequences are actually implemented. What are As Builts?Now as-builts are drawings and specifications that implement how a building is actually built. These documents will be included in the "final set" of drawings and specifications that are provided to the owner.There are two ways in which the redlines are transformed into as builts.The first way is for the general contractor to require their subcontractors to create as builts for their portion of the drawings and specifications. This process may work for some projects but an issue arises when multiple contractors have as-builts on the same document.The other way is for all contractors to submit redlines for multi-contractor documents (like mechanical plans) to the general contractor who will then reconcile all of the redlines into a single document set. The problem with this approach is that if redlines from multiple contractors conflict the GC may just pick one of the redlines instead of reaching out to both the contractors. It really just depends on how rushed the project is and how undermanned the GC is on the project.Are they the same?So with all this talk about redlines and as builts many folks are tempted to think they are the same thing. But they aren't and it's very important that you understand this.I know it may seem like I'm being nitpicky here but the reality is that redlines and as builts can be quite different especially if you are working with plans or specifications that are impacted by multiple contractors. Imagine you are looking at redlines to a mechanical plan document from the controls contractor...Is it possible that there are changes from the mechanical contractor that are not reflected in the plans? My experience tells me that it's not just possible, it's quite likely!That's why it is so vitally important for you to ensure that you are working of as builts and not redlines when you are troubleshooting projects that are still in construction. I've seen BAS technicians get all mixed up thinking they were working on the right set of VAV boxes only to realize that the mechanical drawings had changed the names of the boxes and they were setting min and max CFM's in the wrong boxes!I've seen BAS technicians get all mixed up thinking they were working on the right set of VAV boxes only to realize that the mechanical drawings had changed the names of the boxes and they were setting min and max CFM's in the wrong boxes!This can be a huge drain on your projects. You must understand whether the set of drawings and specifications you are working with are representative of what is installed!ConclusionThere you have it folks. You now know what redlines and as builts are, why and how they are different, and some of the big gotchas you should watch out for. What other gotcha's have you experienced? What are your tricks for working with redlines and as builts? Share your thoughts in the comments below!Redline drawings are architectural drawings that have been printed, reviewed, and marked up with errors, changes, and revisions. The markups are typically done in red ink to make them easier to find, hence the name Redline Drawings.As a set of construction drawings moves from a schematic design into the creation of construction drawings that a builder will use, printing out the drawings at 50% (usually on 11 x 17 sheets of paper) and full size (24 x 36 sheets or larger) is necessary to ensure quality control.When drawing in CAD, the line weights (thicknesses of the line), shading, patterns, and other elements are usually color-coded. The thickness of a line shown on a computer is often very different from that of the reality of a printed line. There is also a level of translation between each printer. The gray shading on one printer will usually be very different than the gray shading on another printer. So, frequently printing PDF files on paper to do quality control makes excellent sense.I personally print out as much as I need to, and sometimes thats a lot. By printing so much, it actually allows me to work faster and be much more thorough, ensuring that a potential error is not made. The cost of the paper is always much cheaper and significantly more sustainable than dealing with a mistake on a construction site.Everyone has different preferences, but when I work on a set of construction drawings, I love to mark up my own work on printed-out sets. Its nice to back away from the computer screen and see the work on paper as it starts to move closer to what the contractor will need to build it. Some people use various kinds of software and draw all over PDF files in red. No matter how you do it, youre still arriving at a drawing with markups in red.Picking Up RedlinesIs a term used when someone marks up a set of drawings with all the errors, changes, and revisions in red ink. Then they explain all the changes that need to be made on the drawings to another person (who typically has a lower pay rate, lets be honest), and that person will go into the drafting software to make all the changes.Fixing redline drawings is a fantastic way for an architectural emerging professional to really tap into the knowledge, experience, and expertise of more senior-level members in the firm. Honestly, being the drafter for another, more experienced Architect was one of the most important parts of my education. A ton of learning takes place around design, how to put a building together.Creating Construction Drawings Is An Art!Putting together a clear, concise, and thorough set of construction documents for a contractor to build from is a skill and an art form. Anyone who does this work has their own systems, theories, and philosophies about how to put together a set of drawings.The real power of working on fixing redline drawings is doing this job with many different people and tapping into the collective knowledge of the office. Everyone at the office has a different experience and a different area of expertise. A good attitude to have as an emerging professional is: Know there is valuable knowledge you can learn from every single person at the office and being open to learning something from everyone.Dont Get Lost!While working on redline drawings, its really easy to forget the changes you have made as you move through the markups, especially if you do not complete all the redlines in one sitting. The best way to keep track of the work done is to use a highlighter and mark off each redline mark that has been picked up or completed.Redline Your Own Drawings Before Asking Someone ElseThere are two important concepts you need to understand if you are spending many hours drafting:The drawings will never be perfect.There will always be more you can add.When you are working on a drawing and putting a lot of thought and energy into it, you can become very blind to a blatantly obvious error. You just dont see it because you have been staring at the same drawing for too long.When I first started working in offices, I used to work really hard on drawings, print them, and then hand them right to my supervisor without reviewing them first. He would find the most obvious errors that I couldnt see on the screen, but it was blatant once it was printed. For a long time, I felt really sheepish because my drawings had sloppy errors.At some point, I got sick of this stupid concept being a distraction and making me repeatedly look like a fool.So, I started to get very obsessive about making it a habit to always check my own drawings before I handed them to my boss for review. Doing this showed that I took the time to review my own work and felt better about catching that spelling mistake before the boss did.Every Boss will be appreciative of seeing your layer of redlines before they add theirs.If you enjoyed this blog post check out:When an architect, designer, or engineer makes changes to a design document or blueprint, it is imperative that any revisions or amendments be properly documented to prevent costly rework and delays to their project timeline. Redline drawing provides an easy and intuitive method to clearly mark revisions on documents for better clarity among all stakeholders involved in their development.Redline drawings play an invaluable role in construction industry documentation and are vital tools for future maintenance and inspection needs. Furthermore, redline drawings often form the basis of as-built documents created after construction is complete and provide visual depictions of building specs and features.Redline refers to architects' practice of using red ink on blueprints to mark any changes made to designs or plans by design teams, making sure all modifications can be clearly noted so builders understand exactly what has been requested or modified on each document.Redline drawings can also benefit facilities teams, who can review them to ensure that their facility complies with current standards and requirements. This can save both time and frustration for facilities teams as well as money and headaches for building owners - creating and maintaining redline drawings throughout construction is one way to prevent costly errors down the line.Other Great Resources: Construction Terminology Cheat Sheet 2008 APWA GSPs You had probably seen all the above terms in contract agreements between constructor and designer or constructor and client. In general, redline drawings, as-built drawings and Record drawings all generated after the work is completed, but when each of the above mention records will be generated? And who will do it? This article aims to clarify the difference, frequency, responsible parties, and timing of issuing each of the above-mentioned drawings. Once the work completed as per the time limit set in contract agreement with Sub-contractors, they have to provide a marked-up and annotated drawing that reflects all changes on the original Issued For Construction drawings (IFC). The mark up shall be in red and refer to any Engineer notes, Request for Information (RFI), and/or deficiency or nonconformance report (NCR). Other actions may required such as to attach CAD files and survey reports as a supporting document set (if required), cross or cover the Engineer seal, write the title of "Red Line Drawing" on the drawing and remove Issued For Construction term, add the name of the Subcontractor's reviewer/draftsman signature and the date, then submit to Constructor for review. Constructor will review and submit to Engineer of Record* (EoR) or Architect of Record (AoR), note that any given IFC drawing sheet may receive more than one set of Redline Drawings from various subcontractors. This condition arises when a drawing sheet or group of documents define the scope of work for a variety of subcontractors. In next step, we can call it As-built once we receive approval from Engineer of Record over that specific redline drawing set. In job sites as-built also referred to survey data or survey report or specifically to a CAD file that has all this information but contractually, this supporting document cannot be considered as an official as-built before we get reviewed and approved by EoR or AoR. What that means, as per project agreement (Mostly commissioning requirement) we may need to provide a set of as-built drawing to third party stakeholders such as Cities and Utility providers (Hydro companies, communication parties, gas companies,) once we handover any element to them and until we provide a copy of final record drawings, they need to have this set of drawing for any further maintenance or service in case of any incident. Finally, we need to have a clean sheet of drawings with no mark up to deliver as part of the final project completion records, this set of drawing called Record Drawing which is the final set of drawings that reflects all redline notes, RFIs, and design changes in BLACK color. A Record Drawing is like IFC and is stamped and sealed by the EoR or AoR and come along with Construction Certificate for each design package. * Engineer of Record (EoR) the Engineer licensed by Professional Engineers to practice in the Province that project is building, who defines the initial or preliminary design, who retains responsibility for designs that proceed from that design (produced either by his/her own team or via a supplier) and who certifies the final product as suitable for purpose within the Project) As-built drawings are required in almost every project and it is a common practice for future reference. Recording as-built and taking care of red-line drawings during construction can be a hurdle to clear before getting the final payment or releasing the retainage.This article presents some of the best practices recommended by general contractors and builders that will facilitate the as-built process for your company and crews in the field.Whos Responsible for As-Built Drawings?Recording as-built drawings is a responsibility of the general contractor during the construction process. Field crews will collect data and information as job progresses capturing all changes and modifications during construction. Very important to set some money from your budget to finalize the process but following these tips can save you money and wild increase your project efficiency.But before we get started, it is important to clarify a couple of things:Ask for the level of accuracy during contract of negotiationsVerify that format required for the as-builtEnsure the proper statement are added to the drawings25 Tips for As-Built DrawingsThe following recommendations are suggested for better managing as-built drawings:Dont expect that the architect or designer will stamp and sign the drawings. They are not ultimately responsible for changes during the installation process or field directives. They were not paid to do that.Avoid using words like similar, equivalent and replace them with the right and detailed information that is part of the equipment installed in the project.If you need to draw and add detailed design information, it is recommended to use the same scale in the as-built as the original design drawing scale.Do not delete or remove original dimensions and measurements. As-built drawings must include revised dimensions by crossing out or using an X to write over the original dimension. Then write down the new value and encompass it with a cloud to demonstrate the change.If the contract allows, add fabrication, erection, installation, and shop drawing information to the as-built.All new equipment and material used, must contain location specification, sizing, material type and other pertinent details.If speciality equipment is installed by other contractors, clearly identify that information as part of the as-built drawings.Underground utilities shall have elevation, material type, ground cover, depth, diameter, and flow direction if needed.Provide photos and information from all obstructions in the area.Every note and document must have stamped time and date identifying when the note was added to the drawing.Make sure that all drawings are dated after the red-lines are complete. Be consistent on the date location to make sure everyone is aware of the revision date.Some drawing and design details must be stamped and sealed by whoever did the external design.Add all notes within a specific sheet in one single drawing. This will facilitate the as-built completion and will reduce mistakes.Sometimes it will be necessary to add sheets to the drawings. If thats the case, you can ask the AEC of record to provide you with a sequential number according to the drawing set and use the same scale and legend as the one used in thru original design.As-built drawings are to be kept on site at all times during the construction process.As-built drawings are to be under the control of one single person managing the access to the drawings.Use coloured pencils form the following: Red indicates deleted items; green colour reflects project additions or new equipment; while blue indicates specific info or details are provided.Explain changes if necessary and use clear lettering. Notes and corrections are recommended.Use the same legend as the original drawings.Shop drawings and other submittal information can be added as appendixes and add a note to the appropriate section of the drawing.If no changes are needed to a specific drawing, state so and mark them as, as-built.Add an index sheet if necessary to the final as-built package.Add contractors name, date and clearly identify drawings as red-line drawings for as-built preparation purposes only.Scan and get the drawings into the cloud for future reference.Document project completion and submission date.How do you store and record your As-Built and Red-line Drawings for a project? Do you have tips to add? Leave a comment below. Juan Rodriguez Juan Rodriguez is a Project Management Professional (PMP) and a registered Professional Engineer in Illinois, New York and Puerto Rico with over 21 years of experience managing large civil works, power generation and renewable energy projects. He has international experience working in US, Canada and the Caribbean. Mr. Rodriguez also offers his services as a consultant to builders, contractors and construction related professionals. Juan is an excellent speaker and a true leader that knows how to combine plain old school with new technology, maximizing results for your organization. Juan will contribute with his thorough understanding of corporate and industry practices, applicable laws, processes, standards, and will provide evaluation of project activities. He has demonstrated excellent communication and interpersonal skills, magnificent contract and business acumen. Engineering and architectural drawings often require changes, and drawings that show these changes are known as red line markup drawings (or redline markups). Why do drawings need to be changed? Sometimes, perhaps during an on-site surveys or simply when proofing a drawing, the architect, engineer or builder notices errors in the current version of a drawing. He or she usually annotates the paper drawing using a red pen. A red-line drawing shows corrections or changes to a previous version. The term red line literally comes from the (typically) red pen used to make hand-written changes to a paper drawing. Today, architects and engineers use digital pens to make changes to digital drawings, but the color used is still usually red. The projects document manager will typically take responsibility for reviewing the annotations (i.e. the red line markups) and incorporating the required changes in the CAD drawings.Design Presentation can assist you with making redline changes. Submit your redline markup drawings by scanning them (or taking a picture of them) and sending them along with the CAD file that you want us to change. During the drafting process, we will incorporate the markups (e.g. PDF, TIF or JPG format) into the CAD (e.g. DWG, DGN) file.Need help?Provide us with your existing AutoCAD DWG, Microstation DGN, or Revit RVT files and along with the redline markup sheets (which could be in any format, such as PDF, TIF, JPG, etc.). Our CAD operators will update the existing CAD files to reflect your markups.When preparing your redline markup drawings it is important to write neatly and clearly so that we can interpret the changes. Redline markups can also be prepared using Adobe Acrobat and the various comments tools available electronically.Use standard colors so that we understand what you want us to do: RED = Changes to be incorporated into CAD fiesBLUE = Comments to our CAD operators only We can help you even if you dont have a CAD file, but just a scan of the marked up drawing:Markups without CAD file: We will redraw from scratch with redline markup drawings incorporatedMarkups with CAD file: We will update your existing CAD files (DWG, DGN, Revit) with the required changes Our skilled team can incorporate red-line markup changes to any type of standard drawing format (e.g. DWG or DGN). Contact us today for a free trial.

What is a redline drawing. What does redline mean in art. What does it mean to redline someone. Red line sketch.