PRE-EXISTING ONLINE MARKUPS

1.) ANNOTATE

1.1) Highlight Text:

Construction Phases

1. Initiation Phase

Usually, there are three different steps in this initial design stage:

- **Programming and feasibility**: The planning team outlines the objectives and goals of the project through a feasibility study or business case. Decisions made at this stage include how large the building will be, how much space will be used, and how many rooms will be needed. Once these decisions are made, a project initiation document (PID) is created.
- **Schematic design**: At this step, the team produces a sketch showing the space as well as materials, colors, and textures. This information will be used during the design development to research the equipment needed and materials to be used.
- **Contract documents**: These documents contain the final drawings and specifications. These documents are used by those placing bids to work on the project.

1.2) Underline

Sample Opacity 25%:

2. The Pre-Construction Phase

When the bidding is completed and the contractor has been chosen to do the work, the next stage of a construction project begins. Before they 'break ground,' as the industry saying goes, the project team is put together. Most commonly, the following team members are included:

- Contract administrator
- Project manager
- Superintendent
- Field engineer
- Health and safety manager

At this stage, a project team prepares the construction site before the work begins. The site must be ready for construction, which might mean dealing with environmental issues, such as soil testing. When the site examination is complete, all plans and findings will be reviewed by the city authorities.

Once the strategic plan has been created, and the budget, design, and timeline are finalized, the project team begins to gather the labor and resources required for construction

Sample Opacity 50%:

3. The Procurement Phase

During this phase, the project team orders, purchases, or rents all the materials, tools, and services necessary to complete the project.

This stage of the construction project can be more or less challenging depending on the scope of the project, the resources availability, and the start date.

Sample Opacity 100%:

4. The Construction Phase

This is the project execution phase where all the planning will pay off. Before any construction begins, the project manager, design, and engineering teams have already put a lot of effort to make a project successful. During the construction phase, the center stage belongs to the contractor and subcontractors.

As the hub of communications for the project, the construction manager and contractor will transition the project into actual construction. The architect, engineers, and project manager perform quality control inspections, respond to Requests for Information (RFIs), and review and approve technical submittals. The priority is to ensure that the project is delivered by the contractor as designed.

1.3) Strikeout

Sample Opacity 50%:

5. The Post Construction / Close Out Phase

The project closure phase of the project is the last step in the long process of designing and completing a construction project. Now that all the work on the job site has been completed~~, the project will come to a close~~.

Project close-out involves more than just completion of the punch list. The resources required for the project are demobilized, ~~equipment rentals are returned,~~ the worksite is cleaned up, and subcontractors that have completed their jobs move onto other projects.

From the ~~project management perspective~~, it's a good time to carry out a ~~post project review~~ which could help detect any tasks that weren't completed, analyze any challenges and put together a list of informative insights for the future.

Sample Opacity 100%:

ISO 19650 Revisions

Preliminary revisions of information containers should be two integers, prefixed with the letter 'P', e.g. P01.

Preliminary revisions of information containers in the 'work in progress' state should also have two integer suffix to identify the version of the preliminary revision, e.g. P02.05.

The initial revision of information containers should be P01.01.

Contractual revisions of information containers should be two integers, prefixed with the letter 'C', e.g. C01.

1.4) Squiggly

Sample 1: Opacity 50%

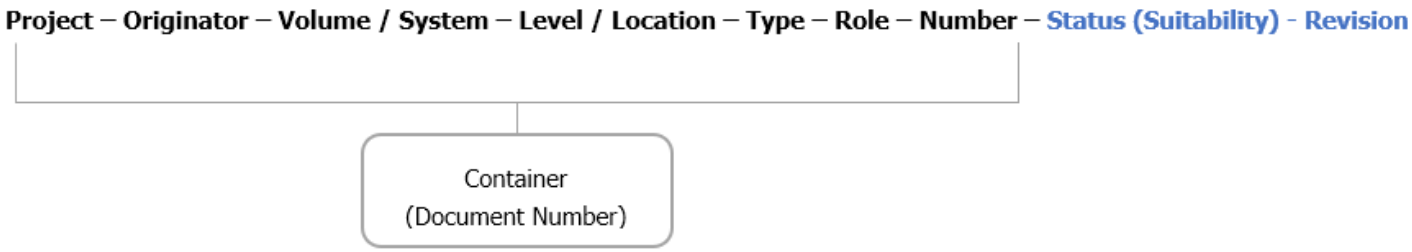
ISO19650 Definitions

Field	Scenario Mapping & Notes	ISO 1960 (referring to BS EN ISO 19650-2:2018)
Project	Project No normally alphanumeric. To be 2-6 characters (mostly 4-6 chars) eg. SC198	**NA.3.2 Project (page 38)** A single common project identified should be defined at the initiation of the project. It should be independent and recognizably distinct from any individual organization's internal job number and be fixed within the project information standard. It is recommended that the code for the project field be between two and six characters in length. NOTE 1 There are no standard codes for project field. NOTE 2 A project can be divided into sub-projects. NOTE 3 Where a project involves several elements or one element with several phases, each element or phase can be assigned an identifier.
Originator	Originator / Recipient Code (3-6 A/N)	**NA.3.3 Originator (page 38)** A unique identifier should be defined for each organization on joining the project, to identify the organization responsible for producing the information within the container, and fixed within the project information standard. It is recommended that the code for the originator field be between three to six characters in length.

Sample 2: Opacity 100%

ISO19650: File Name Format

If a Container / Document is uploaded or downloaded from the CDE, then the format of the File Name is as follows.



Container/Document Number + Subject + Status + Revision + File Extension

Example: **SC198-PBE-ZZ-ZZ-DR-C-0001**-Foundation Plan Rendition Drawing-**S3-P01**.pdf

Status (Suitability) = S3 (Suitable for review and comment)

Revision = P01 (Non Contractual Revision)

1.5) Note

Sample 1: Opacity 25% =YELLOW COLOR

Tensile Strength of Concrete

Concrete element subjected to pure tension or combined effect of compression and tension. A concrete column used to hag a floor can be considered as an example of pure tension.

A concrete beam subjected to bending action has the tensile and compressive stresses in the same section. However, consideration of the tensile strength of the concrete in flexural design is minimal as the section could crack and lose its stiffness provided by t ensile capacity of the concrete.

However, in prestress designs, tensile strength is considered for the desing. It incorporates the certain value of the tensile capacity of concrete to the design.

Table 4.1 — Design flexural tensile stresses for class 2 members: serviceability limit state: cracking

Type of prestressed member	Design stress for concrete grade			
	30 N/mm²	40 N/mm²	50 N/mm²	60 N/mm²
Pre-tensioned	—	2.9	3.2	3.5
Post-tensioned	2.1	2.3	2.6	2.8

Sample 2: Opacity 50%= RED COLOR

Slump Test of Concrete

Slump test is a laboratory or at site test used to measure the consistency of concrete. Slump test shows an indication of the uniformity of concrete in different batches. The shape of the concrete slumps shows the information on the workability and quality of concrete. The characteristics of concrete with respect to the tendency of segregation can be also judged by making a few tamping or blows by tapping rod on the base plate.

Sample 3: Opacity 100%=GREEN COLOR

Compressive Strength of Concrete Cylinders

Compressive Strength of Concrete at Various Ages
The strength of concrete increases with age. Table-1 shows the strength of concrete at different ages in comparison with the strength at 28 days after casting.

Table.1: The strength of concrete at different ages in comparison with the strength at 28 days

Age	Strength per cent
1 day	16%
3 days	40%
7 days	65%
14 days	90%
28 days	99%

1.6) Free Text

Sample 1: Test Style (Helvatica, 12pt, BOLD, Text Align Left,) Stroke(0PT) Fill (Opacity 100))

Materials management is a process for planning, executing, and controlling field and office activities in construction. The goal of materials management is to ensure that construction materials are available at their point of use when needed. The materials management system attempts to ensure that the right quality and quantity of materials are appropriately selected, purchased, delivered, and handled on site in a timely manner and at a reasonable cost. Materials management is the system for planning and controlling all the efforts necessary to ensure that the correct quality and quantity of materials are properly specified in a timely manner, are obtained at a reasonable cost and most

Sample 2: Test Style (Time New Roman,12pt, Italic, Text Align Center,) Stroke(5PT) Fill (Opacity 100))

ISO19650 - Common Data Environment (CDE) Area / State

The terminology CDE (Common Data Environment) State is also called as Approval State or some called this CDE Area which are Work In Progress (WIP), Shared, Client Shared, Published or Archived.

Note of 'Client Shared' added on the list for some practices as distinct to 'Shared'.

Common Data Environment (CDE) State or Area may not be available as a "Field" in Scenario ENTERPRISE – Shared, Published or Archived. Configuration will focus on Document Status containing these values.

Archived status counterpart in Scenario is called Superseded.

1.7) Rectangle

Sample 1: Opacity 50% and Stroke 1pt:

Construction Contract Types

Three most common types of contracts

1. Firm fixed price contract - Firm fixed price contracts are true to their name: in them, the contractor agrees to deliver a specific scope of work for a fixed price. This provides a barrier of risk for the project owner, but the contractor is usually compensated for taking on the risk. Some construction contracts are also written to provide extra incentives if you finish the project ahead of the deadline or under budget.

2. Cost plus contract - Under a cost-plus contract, the project owner agrees to pay for all the contractor's expenses, as well as a percentage of profit. This contract type can appear under several names, including cost plus a fixed percentage, cost plus fixed fee, and cost plus with a guaranteed maximum price contract.

3. Time and material contract - A time and material contract involve an hourly rate plus the actual unit price of materials. It is usually used for projects with a vague or small scope of work. The contractor bills using labor cost codes and material costs. This option poses less risk for the contractor and more risk for the project owner. To offset this, many contracts are written with a "not to exceed" clause, where the contractor has a certain number, they cannot go above without requesting approval from the owner.

Sample 2: Opacity 50% and Stroke 20pt:

BS-EN-ISO-19650

The National Annex and common data environments:

Each information container should be identified through a unique ID and National Annex Clause NA2.2 provides the structure for this ID. A structural steel specification produced by the structural engineer ABC for project NEWP (a multi-storey building) would have a unique ID of:

NEWP-ABC-XX-ZZ-SP-S-0001

The unique ID shows us that the information container is the first (0001) structural engineer's (S) specification (SP), which is relevant to all levels (ZZ). It isn't related to a specific volume or system (XX), it has been produced by ABC (the originator) and is for NEWP (the project). Reading the description back to from is helpful in understanding the contents of the information container.

The unique ID does not define the specification as a steel frame specification because this will be identified through classification metadata.

Sample 3: Opacity 100% and Stroke 1pt:

ISO19650 - NA.3.5 Level/Location

A unique identifier should be defined for each level/location and fixed within the project information standard. It is recommended that the code for level/location be two characters in length.

The following standard codes should apply.

ZZ	multiple levels/locations
XX	no level/location applicable
00	base level
01	level 01
02	level 02, etc.
M1	mezzanine above level 01
M2	mezzanine above level 02, etc.
B1	basement level 1
B2	basement level 2, etc.

NOTE 1 - This list can be expanded with project-specific codes.

NOTE 2 - The location codes for assets other than building are likely to require project-specific codes.

Sample 4: Opacity 100% and Stroke 20pt:

ISO19650: NA.3.4 Volume/System (page 38)
A unique identifier should be defined for each volum pro information standard. s recommended that the code for the volume/system be two characters in th.

The following standard codes should apply.

Z1	Zone 1
Z2	Zone 2
Z3	Zone 3 etc.
R1	Riser 1
R2	Riser 2
R3	Riser 3 etc.
ZZ	all volumes/systems
XX	no volume/system applicable
ZZ	all volumes/systems
XX	no volume/system applicable

NOTE is list can be expanded with the project-spe codes.

1.8) Free Hand

Sample 1: Opacity 50% and Stroke 1pt:

Site Inspection definition

This site inspection checklist is geared toward the formal inspection of construction sites to provide the high standards set across the industry are being met.

You can run this site inspection checklist every time you, as an inspector, visit a construction site to assess herence to safety and operating standards.

Each task within this checklist is geared to a different segment of items to be checked. Within each task are further details to be checked and monitored.

Sample 2: Opacity 50% and Stroke 20

Monitor site control practices
Site control practices are representative of a site's overall management. These methods of reporting and tracking the overall important factors impacting on the site should be being adhered to.

Detailed records should be being kept and organization should be evident.

Sample 3: Opacity 100% and Stroke 1pt

Assess the use of safety equipment
Adherence to safety regulations and best practices should be evident from the management to the staff on the ground. A failure to transmit these priorities appropriately presents a worry for other areas of safety and adherence.

Assess all compressed air equipment
Appropriate training on equipment, appropriate storage of equipment, and appropriate maintenance of equipment are all vital elements in creating and keeping a secure and safe on-site environment.

Sample 4: Opacity 100% and Stroke 20pt:

Examine all site scaffolding
Working at heights is a dangerous part of workin the construction industry.

As an inspector, it is vital you assess the behavio pre risks to safety.

1.9) Free Hand Highlight

Sample 1 Opacity 25% and Stroke 5pt

RFI definition
The goal of the **Request For Information** (RFI) is to act as a partnering tool to olve these gaps, conflicts or subtle ambiguities during the bidding process or early in the construction process to eliminate the need for costly corrective measures.

Sample 2 Opacity 50% and Stroke 10pt

NCR / CAR definition
A nonconformity (NCR) is any **failure to meet a requirement**. A requirement can be that of a customer's, statutory or regulatory body, ISO 9001 or your organization's (i.e. Failure to follow a procedure).
A corrective action (CAR) is defined as th **ion taken to prevent recurrence** of a nonconformity.

Sample 3 Opacity 100% and Stroke 20pt

Procurement Phase - the project team orders, purchases, c tools, and services necessary to complete the project. This stage of the construction project can be challenging depending on the scope of the project, the resources availability, and the start date. Challenges in the Procurement Phase:
Miscommunication is one of the most common challenges in this phase. The client might have failed to define their expectations clearly, the contractor faced shipping delays, or the wrong product being ordered, and the construction manager gets caught in the middle. It doesn't matter if the project is r a new multi-million-dollar golf club, withou complete information, the project is in danger.

2. SHAPES

2.1) Free Hand

QUALITY CONTROL SAMPLES

Control Site Samples Control site samples are analyzed to determine background contamination level of groundwater foe comparison with other contaminated wells. Control site samples obtained from at least 1 well, which is installed upstream from the contaminated area provides baseline water quality information for the site. The well should abstract water 2 from the same aquifer that is contaminated. The control site samples should be taken in the same time as other samples.

2.2) Free Hand Highlight

QC Duplicates A second set of samples should be collected from each sampling location (well piezometer, surface water) during the same sampling event to provide confirmation of contamination levels. One set of duplicates should be collected for each set of samples, or for large sets, one each for every 20 samples. For the project purpose, it is recommended that duplicate samples will account 5% of the samples taken for trate, phosphate and pesticide residue analyses. The duplicate samples will be spiked upon return to the laboratory for later analysis.

2.3) Rectangle

Sample 1: Opacity 100% & Stroke 1pt:

Bidding documents are not legally binding, but they do give contractors a chance to assert their intentions and expectations early in the process. Expectations, conditions, and terms pre-established in the bidding documents can influence how the final construction agreement is written, how weather and environmental factors are handled during the process of construction, and how subcontractors are hired.

Sample 2: Opacity 50% & Stroke 20pt:

ISO 19650 Reference from: NA.2.2 Information Containers

BS EN ISO 19650-2:2018

In the UK, the unique ID for information containers within a common data environment should be defined using the following fields, separated by a delimiter, in accordance with the following convention.

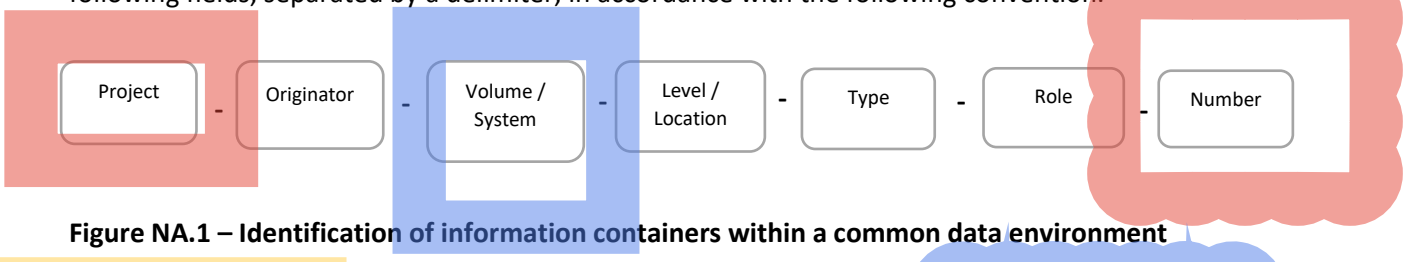


Figure NA.1 – Identification of information containers within a common data environment

NOTE If an information container is removed or exported from the common data environment, then the additional fields 'suitability' and 'revision, separate by a delimiter, should be added to its ID as suffix.

2.4) Ellipse

Sample 1: Opacity 100% & Stroke 1pt:

Architectural Drawings
It includes in all documentation the drawings associated with the project. Drawings are a visual representation of the agreed upon final design, something tangible for contractor and customer to agree upon before the project begins. Beyond keeping records of the general design of the project, you should maintain records that also describe the scope, extent, an sthetics of the project to be completed.
rt text here

Sample 2: Opacity 50% & Stroke 20pt:

Concrete Pouring works

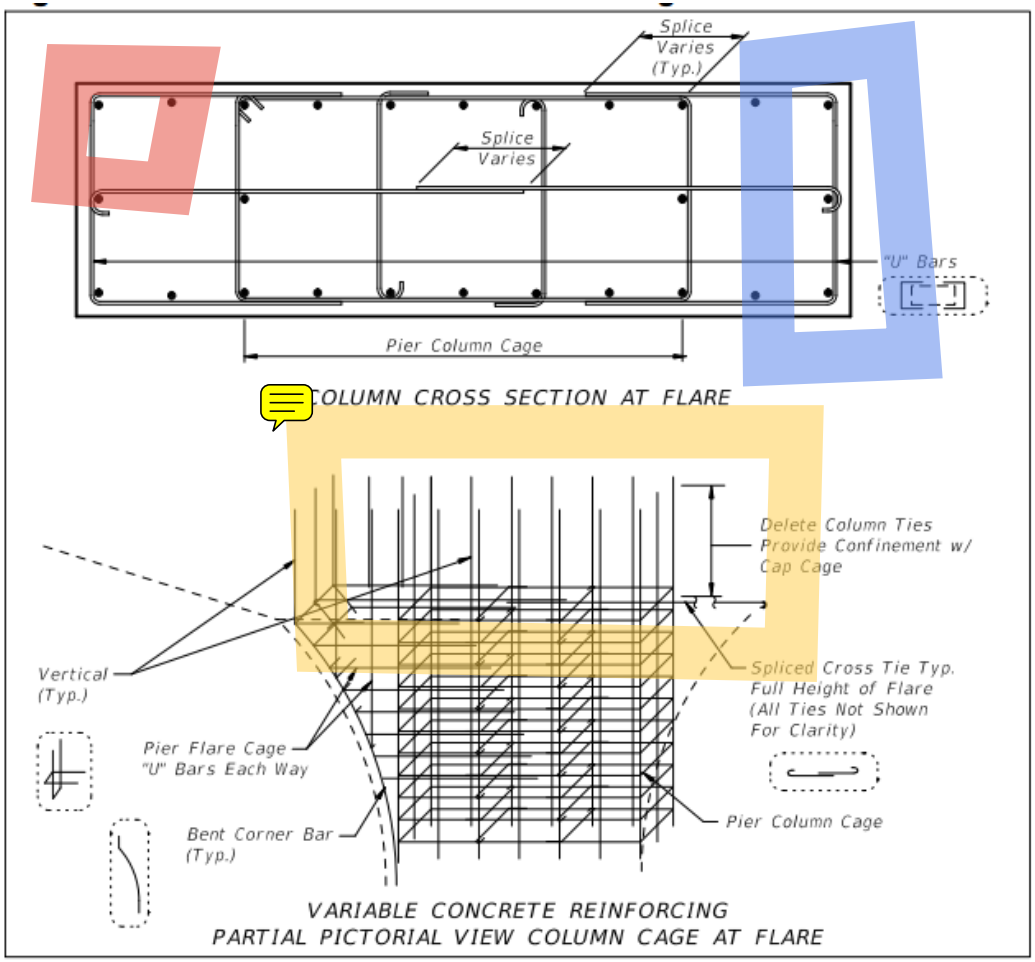
2.5) Polygon

Sample 1: Opacity 100% & Stroke 1pt:

Safety tips for working with Concrete

Protect Your Skin	Frequent exposure may be associated with irritant and/or allergic contact dermatitis. Wear water-proof gloves, a long sleeved shirt, full length pants, and proper eye protection when working with these materials. If you have to stand in wet concrete, use water-proof boots that are high enough to keep concrete from flowing into them. Wash wet concrete, mortar, cement, or cement mixtures from your skin immediately. Flush eyes with clean water immediately after contact and seek immediate medical attention. In-direct contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement, or cement mixtures from clothing. Seek immediate medical attention if you have persistent or severe discomfort.
Protect Your Head	Always wear an approved hard hat when on a construction jobsite. Be sure to take proper care of your hard hat. Do not punch holes into it and don't store or carry it on the rear window shelf of a vehicle as the sunlight and extreme heat may weaken it. Do not wear the hat backwards or when it is damaged. Don't wear a steel hard hat, which can conduct electricity.
Protect You Eyes	Wear shatterproof safety eye protection at all times to keep cement, flying particles, dust and toxic fumes out of your eyes. Don't wear contact lenses on the job. Chemicals, gases or dust may get under them and irritate or damage the eyes.
Protect Your Ears	There is no cure for noise-induced hearing loss. To avoid damage, wear self-fitting ear plugs made of waxed cotton, foam or glass fiber wool which are available in most drug stores. Preformed or molded earplugs that are fitted to your ears specifically can also be purchased from a professional. Do not use disposable ear plugs more than once.
Protect Your Feet	To protect your feet from falling objects, crushing hazards or punctures from sharp objects like rebar or tie wire, wear steel-toed safety boots. If you have to stand in wet concrete, wear waterproof rubber boots.
Protect Your Back	Back problems from overexertion are a common construction site injury. Do not lift too much! Keep your back straight, knees bent and the load close to your body when lifting to minimize strain. Lift with your legs not your back. Never twist your body when carrying a load; pivot your feet, not your spine. When a load is too heavy, ask for help. Concrete weighs between 120 and 150 pounds per cubic foot which is a lot of weight in a small volume. Use wheeled carts whenever possible and don't overload it. Make sure the path is clear of tripping, slipping or falling hazards.

Sample 2: Opacity 50% & Stroke 20pt:
Variable- Width Pier Reinforcing Drawings



2.6) Cloud

Sample 1: Opacity 100% & Stroke 1pt:

Safety Reports

Included in this set of documentation should be a safety checklist with policies and expectations for job site safety. Checklists should be shared with every member of your team, used every day, and kept measuring trends in workplace safety, ensure compliance with certain standards, and help in the filing of accident claims should an accident or injury occur.
Sharing your safety checklist with your entire team will help remind workers of best practices and keep every member of your team safer.

SITE SAFETY SIGNS

Risk Matrix

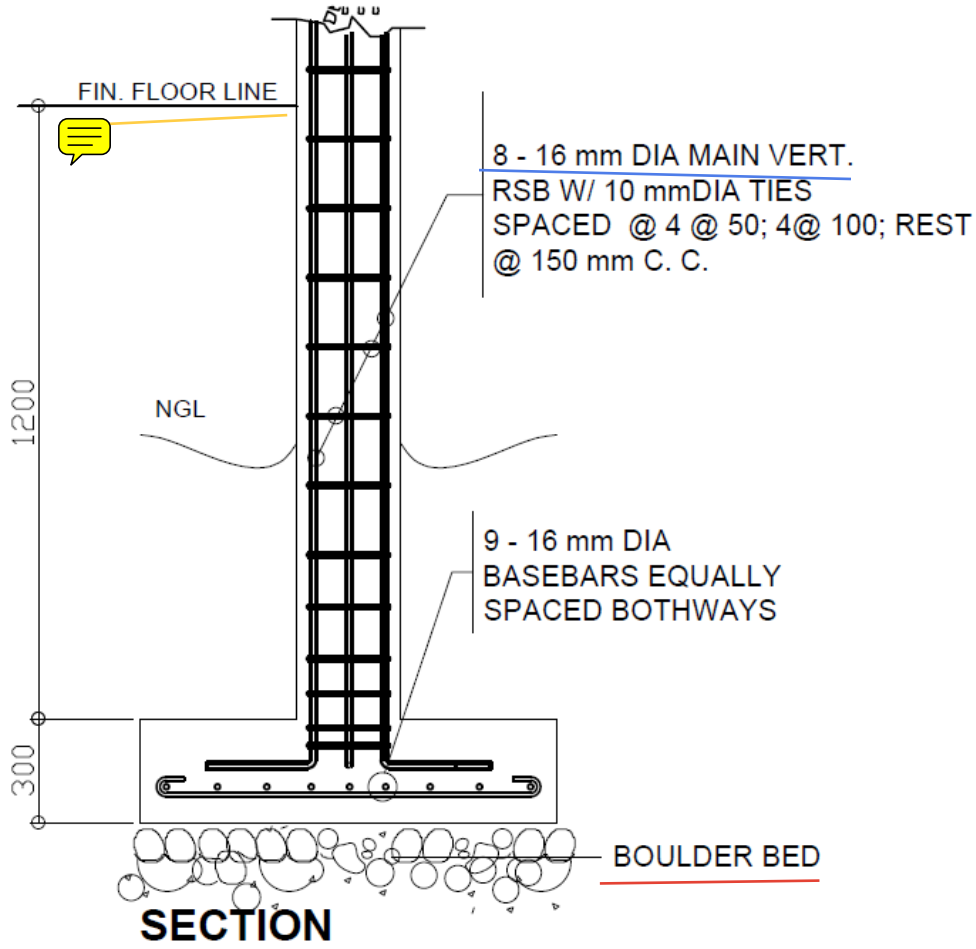
0-5 Low Risk 6-10 Moderate Risk 11-5 High Risk 16-25 Unacceptable	Minor injury, insiginficant property or equipment damage 1	Non-reportable injury, minor loss of process or slight property damage 2	Reportable injury, moderate loss of process, limited properly damage 3	Major injury, single fatality, critical process loss, critical property damage 4	Multiple fatalities, catastrophic business loss 5
5 Near certain	**5**	**10**	**15**	**20**	**25**
4 Probable	**4**	**8**	**12**	**16**	**20**
3 Possible	**3**	**6**	**9**	**12**	**15**
2 Unlikely	**2**	**4**	**6**	**8**	**10**
1 Remote	**1**	**2**	**3**	**4**	**5**

Sample 2: Opacity 50% & Stroke 20pt:
Concrete defect

2.7) Line

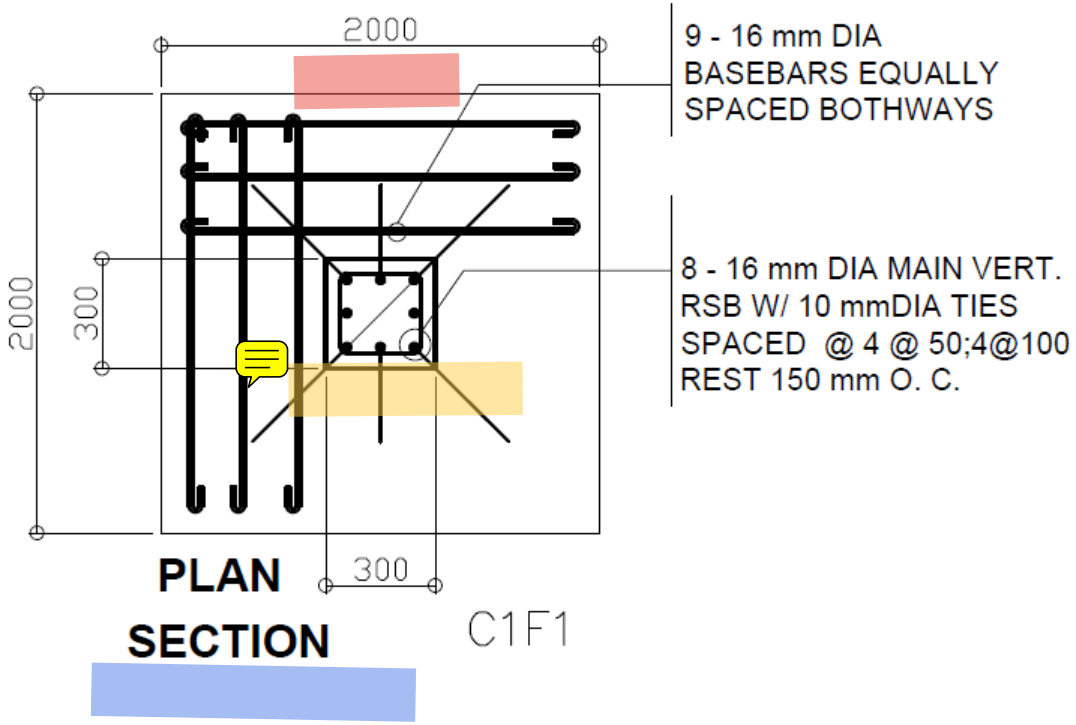
Sample 1: Opacity 100% & Stroke 1pt:

Footing and Column section



Sample 2: Opacity 50% & Stroke 20pt:

Footing Plan Section



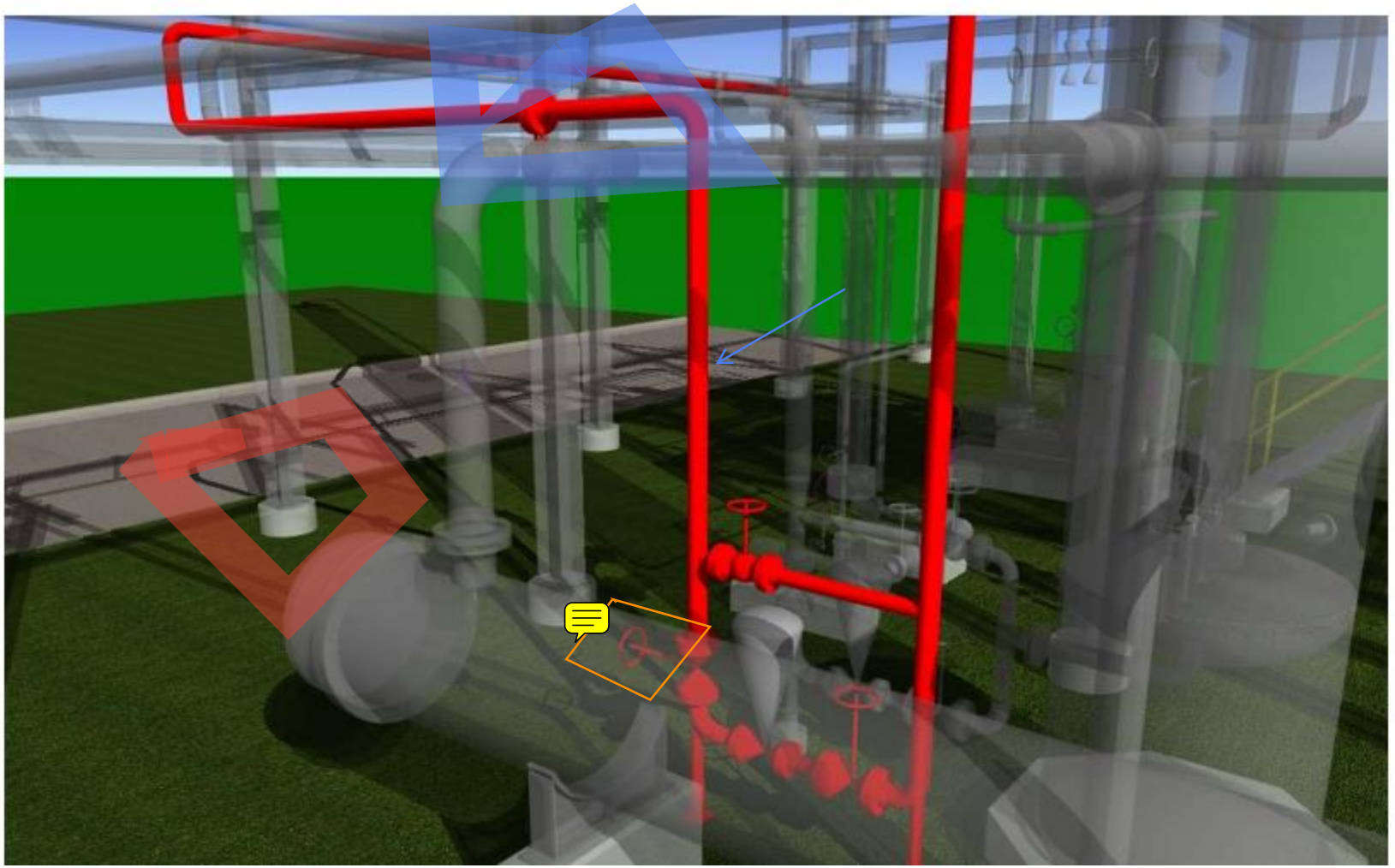
2.8) Polyline

Sample 1: Opacity 100% & Stroke 1pt:

Earthworks - Temporary Crane Excavation site photo

Sample 2: Opacity 50% & Stroke 20pt:

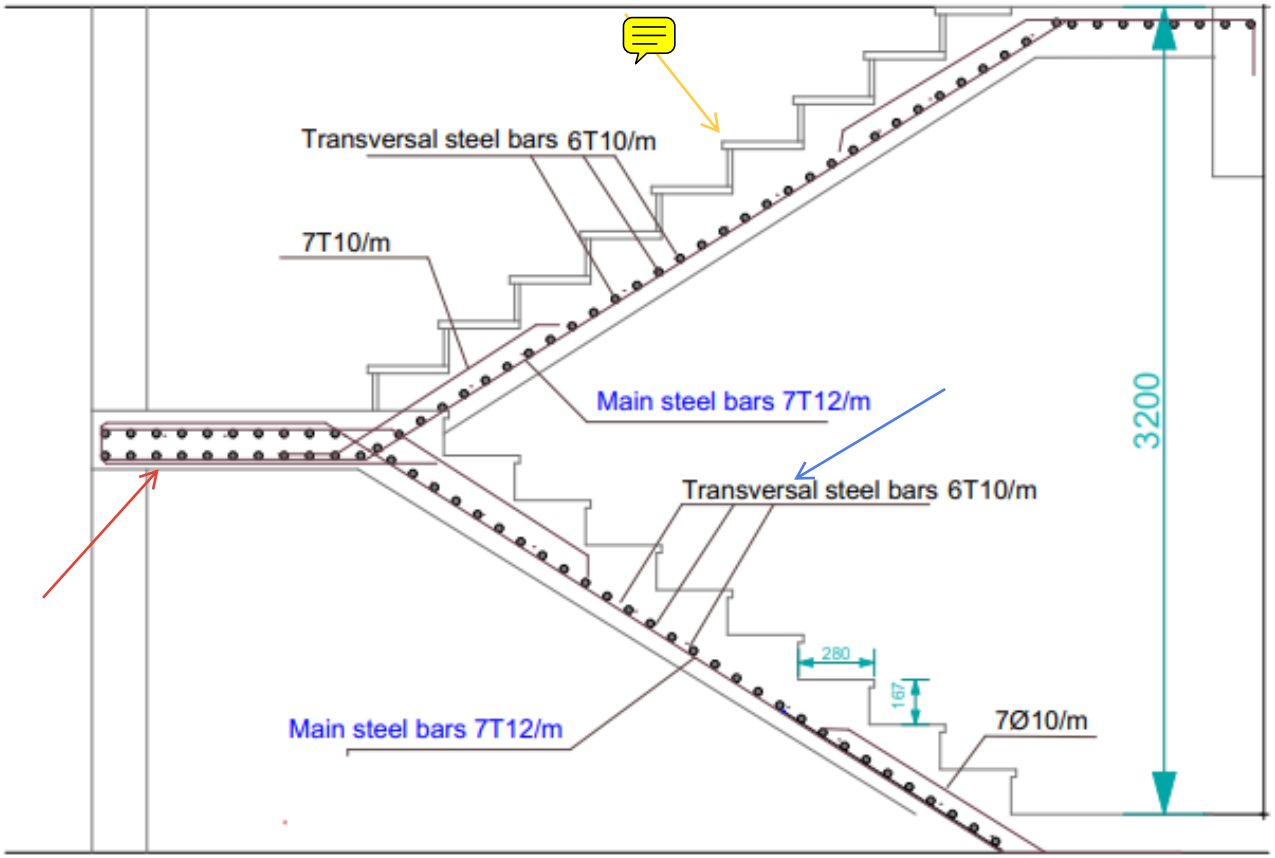
Process Piping drafters prepare drawings used in the construction of oil refineries, oil exploration and production industries, chemical plants, and process piping systems like those used in the manufacture of semiconductor devices.



2.9) Arrow

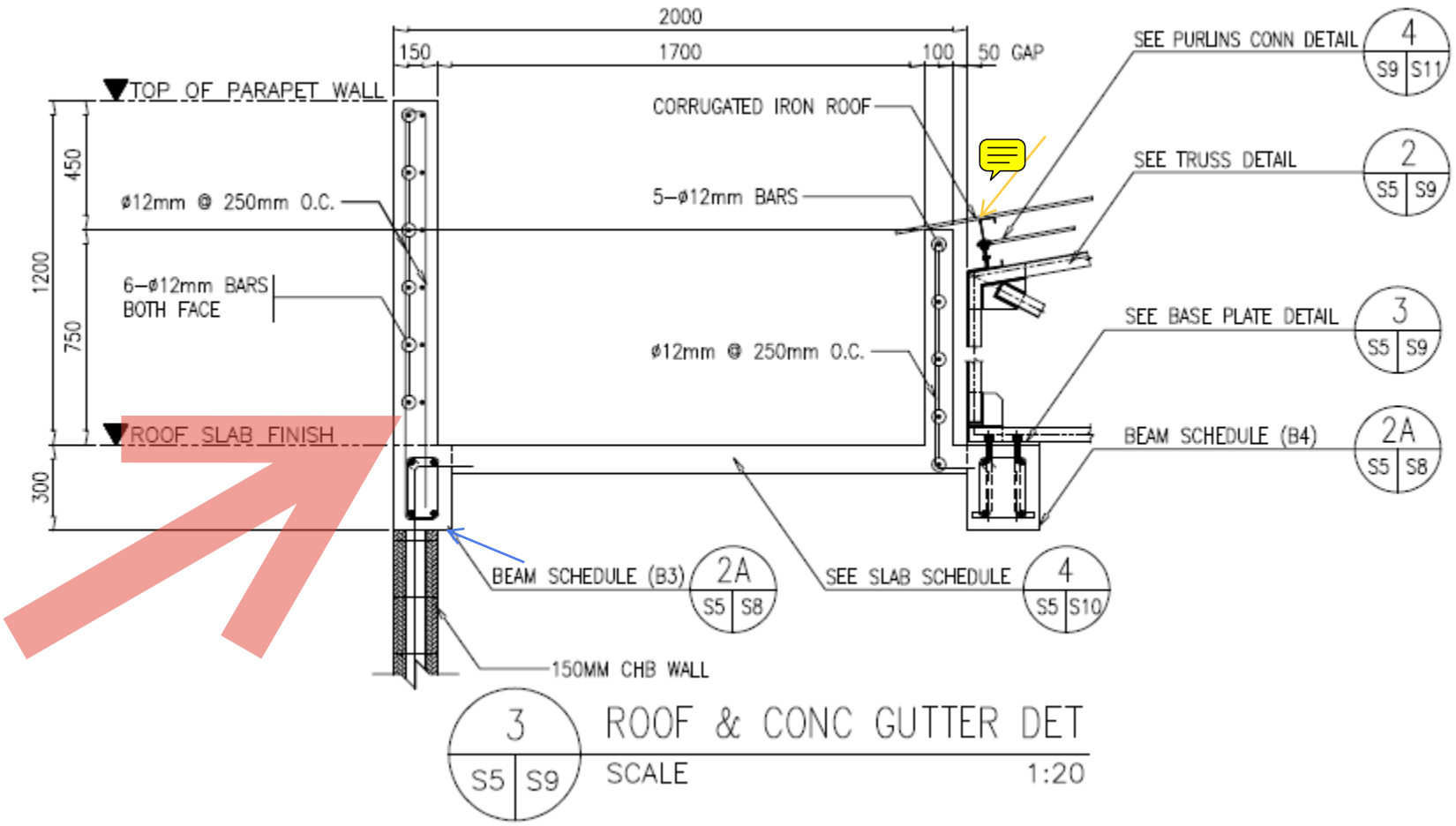
Sample 1: Opacity 100% & Stroke 1pt:

Rebar Bending for the Staircase

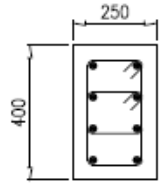
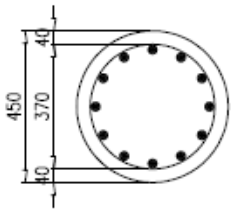
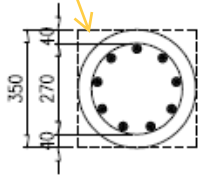
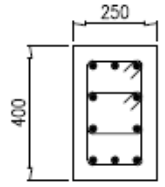
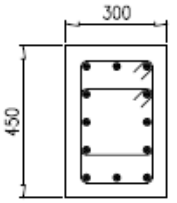
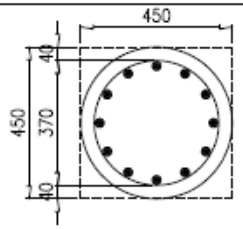
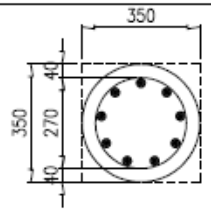
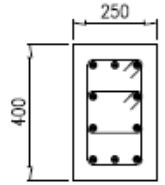
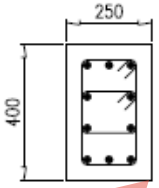
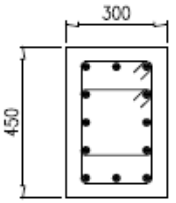


Sample 2: Opacity 50% & Stroke 20pt:

ROOF & CONCRETE GUTTER DETAILS



COLUMN SCHEDULE
SCALE: 1:15

FLOOR	C1	C2	C3	C4	C5
ROOF LEVEL–PARAPET			 MAIN BARS: 8–ø20mm STIR: 2–SETS		
			STIR: ø12mm BARS, 1@50, 7@60 7@100 & 1@50 mm		
SECOND FLOOR–ROOF	 MAIN BARS: 12–ø20mm	 MAIN BARS: 9–ø20mm	 MAIN BARS: 10–ø20mm STIR: 2–SETS		 MAIN BARS: 12–ø20mm STIR: 2–SETS
	STIR: ø12mm @ 50mm PITCH	STIR: ø12mm @ 50mm PITCH	STIR: ø12mm BARS, 1@50, 8@60 5@100 REST @ 150mm O.C.		STIR: ø10mm BARS, 1@50, 10@75 5@100 REST @ 150mm O.C.
GROUND–SECOND FLOOR	 MAIN BARS: 12–ø20mm	 MAIN BARS: 9–ø20mm	 MAIN BARS: 10–ø20mm STIR: 2–SETS	 MAIN BARS: 10–ø20mm STIR: 2–SETS	 MAIN BARS: 12–ø20mm STIR: 2–SETS
	STIR: ø12mm @ 50mm PITCH	STIR: ø12mm @ 50mm PITCH	STIR: ø12mm BARS, 1@50, 12@60 5@100 REST @ 150mm O.C.	STIR: ø10mm BARS, 1@50, 10@75 5@100 REST @ 150mm O.C.	STIR: ø10mm BARS, 1@50, 10@75 5@100 REST @ 150mm O.C.

2 COLUMN SCHEDULE
S9 S9 SCALE 1:15