

Creating and Measuring the Effectiveness of Inspection - Analytics at the Individual and Program Level





SAFETY LEADERSHIP TALKS

OSHA Reports 35 Trench Deaths in 2022

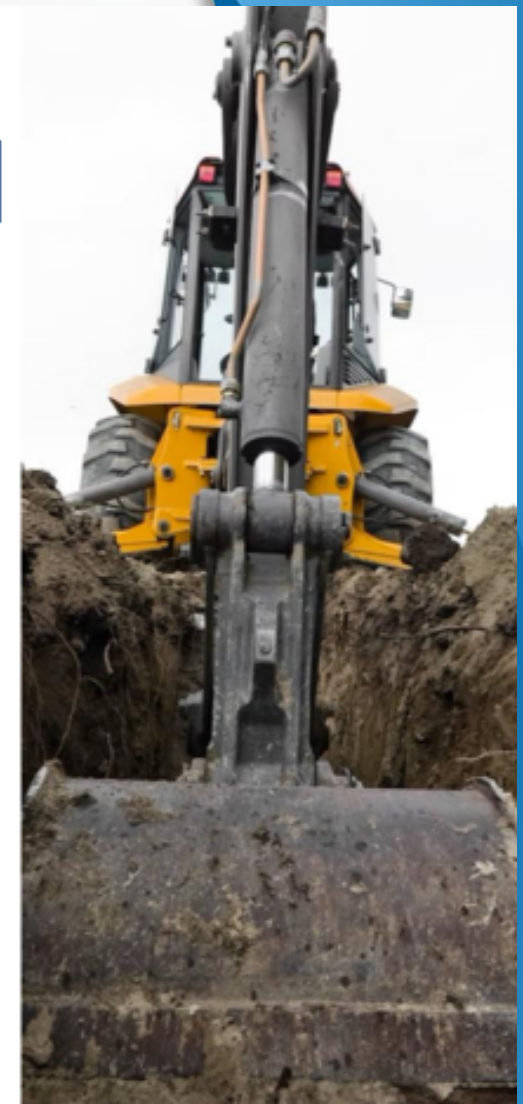
The year of 2022 may go down as one of the deadliest in over a decade for fatal trench collapses. The U.S. Occupational Safety & Health Administration reports that at the end of November, 35 workers had died in trenching and excavation work, which is more than double the number in 2021.

The following is an example of a fatal trench collapse that occurred in 2022 and the OSHA citations and fines that accompanied the incident:

On June 28, two workers installing sewer lines in a 23-foot-deep trench with standing water at the bottom, died when a large section of it collapsed, crushing the men under thousands of pounds of soil and rocks. OSHA cited the construction company with six violations:

- failure to provide adequate cave-in protection;
- failure to provide an exit point within 25 feet inside the trench;
- improper use of ladder (two extension ladders were tied together);
- failure to inspect the trench before workers entered;
- and failure to train workers in first aid.

The company faces proposed OSHA penalties of \$250,272 and has also been placed in the agency's Severe Violator Enforcement Program.



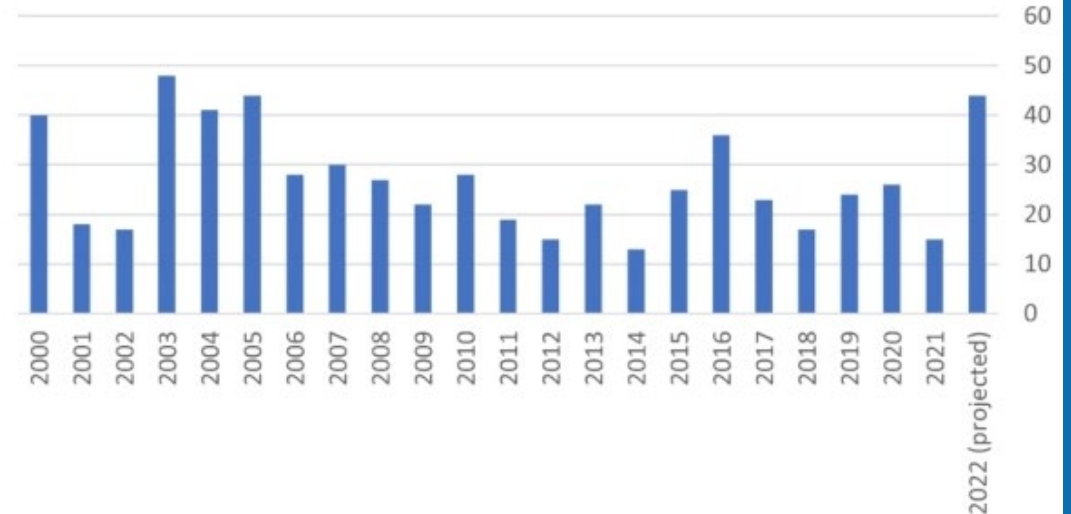
Your Reward For Working Safely Today . . . Is TOMORROW!

Safety Topic – Trenching/Excavation Safety

- Trenching/Excavation related fatalities are on the rise
- 2024 – 12 Deaths 19 Feb
- 2023 – 15 Deaths (OSHA Conducted over 1,000 trench inspections in 2023)
- 2022 – 39 Deaths
- 2021 – 17 Deaths

Trenching and Excavation Fatalities by Year, 2000-2022

Source: Bureau of Labor Statistics Census of Fatal Occupational Injuries



TRENCH SAFETY STAND DOWN

2024 Trench Safety Stand Down

June 17-23, 2024

JUNE 2024: [TRENCH SAFETY MONTH!](#)

Safety Topic – Trenching/Excavation Safety

- OSHA Standard: 29 CFR 1926/Subpart P
- <https://www.ecfr.gov/current/title-29/subtitle-B/chapter-XVII/part-1926/subpart-P>
- One cubic yard of soil can weight as much as a car. Up to 3,000 lbs.
- Soil inspection by competent person. Visual/manual.



Incident Scene

*Your Reward For Working Safely Today ... Is **TOMORROW!***

Safety Topic – Trenching/Excavation Safety

- Ensure safe entry and exit
- Keep materials and spoils away from the edge of the excavation
- Inspect the excavation from multiple angles for cracks and fissures
- Trenches 5 feet deep or greater require a protective system
 - Slope/Bench
 - Shore
 - Shield
- Trenches 20 feet deep or greater require a protective system designed by a registered professional engineer



Figure 1. Slope of 1½:1

Your Reward For Working Safely Today ... Is TOMORROW!

AGENDA

INTRODUCTION

LEADERSHIP

QUALITY INSPECTION

QUALITY MANAGEMENT & EVALUATION

CLOSING



PROFESSIONAL SERVICES

FIELD SERVICES

SOFTWARE

Which University of Alabama head football coach has the most national championships?



How many national championships does Saban have?

College Football Championships

Nick Saban, the head coach of the University of Alabama football team, has secured an impressive number of championship rings during his tenure with the Crimson Tide. As of my last knowledge update in September 2021, Saban has won a total of 7 college football national championships. These victories occurred in the years 2003, 2009, 2011, 2012, 2015, 2017, and 2021. Each of these championship wins contributed to the accumulation of Saban's illustrious collection of championship rings.

LEADERSHIP

All winning teams have...

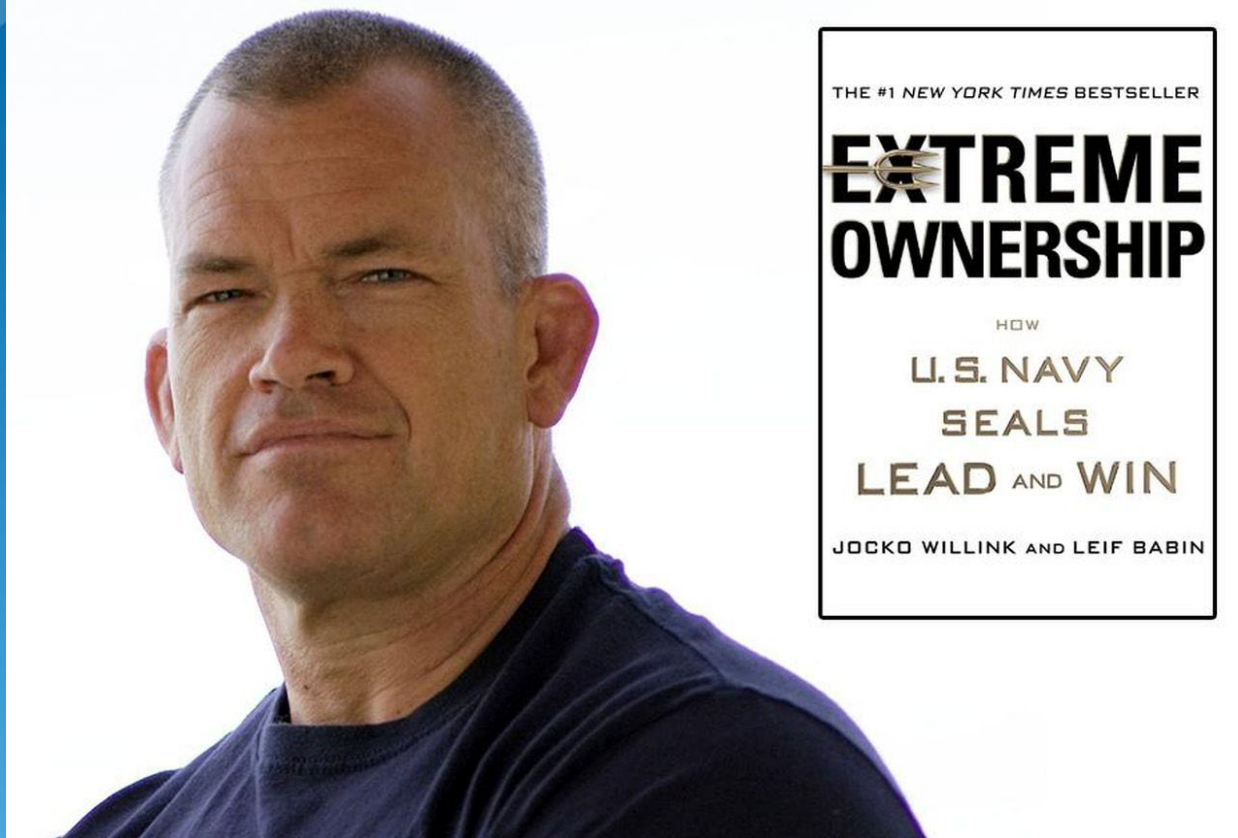
Great Coaches

Great Players

Great Playbooks



LEADERSHIP



LEADERSHIP

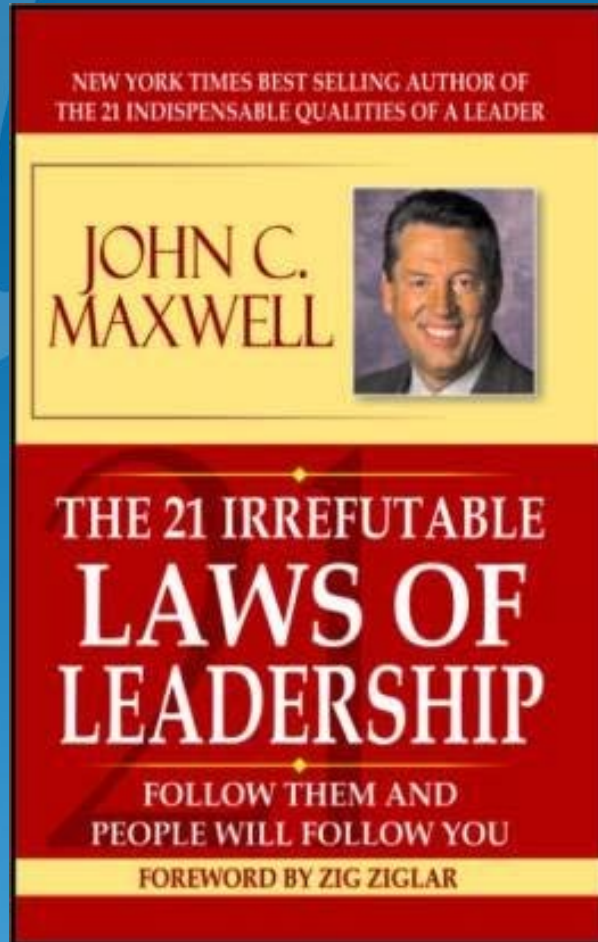
- 1.) There are no bad teams; only bad leaders.
- 2.) Everything rises and falls on leadership.



Qualities of Great Leaders:

- Humility
- Own the Outcome
- Listen
- Transparency
- Inspire
- Accountability
- Serve the Team





Which University of Auburn running back holds the record for most yards from the line of scrimmage?



Over/Under 4,000 yards?

During his time playing for the Auburn Tigers football team, he ran for 4,303 career yards, which was the fourth-best performance in Southeastern Conference (SEC) history. Jackson finished his career with an average of 6.6 yards per carry, which set the SEC record (minimum 400 rushes).

Quality Inspection 3 D's:

Discovering – Build the Bench



Quality Inspection 3 D's:

Developing Inspectors . . .

Training

Onboarding

Field Training





Inspector Training Check List

Inspector Name (Trainee): Matt Revere

Utility Inspector ☒ Welding Inspector (CWI/CPWI) ☐

(The "CWI" specific tasks can be omitted for non-CWI/CPWI Inspectors.)

If there are sections not required to be performed enter non-applicable, (NA) in the trainee/trainer verification box.)

| Training Checklist | | |
|--|------------------|------------------|
| Task | Trainee Initials | Trainer Initials |
| Reading Construction Drawings | MR | SW |
| Creating As-builts | MR | SW |
| Collecting Operator Qualification (OQ) information | MR | SW |
| Requesting the Task Request Form | MR | SW |
| Setting up Unanet, (Allocations for Multiple Projects) | MR | SW |
| Setting up Field LogIQ | MR | SW |
| Pressure Testing and Proper Forms | MR | SW |
| New Valve Replacement Forms | MR | SW |
| Proper Daily Report Writing (Field LogIQ) | MR | SW |

TNG Form - FTC012021

| | | |
|---|----|-----|
| Photo Taking and Labeling (Field LogIQ) | MR | SW |
| Document Attaching (Field LogIQ) | MR | SW |
| Time Management | MR | SW |
| Approving Contractor's Billing | MR | N/A |
| Client Relations | MR | SW |
| Public Relations | MR | SW |
| Proper Trenching / Soil Classification | MR | SW |
| Backfilling / Compaction | MR | SW |
| Bell Hole Attributes (Depth, Size, Etc.) | MR | SW |
| Pigging | MR | SW |
| Boring Profiles & Forms, including Sewerage and Drain Crossing | MR | SW |
| Visual Weld Inspection and Documentation | MR | SW |
| Barricading Open Holes | MR | SW |
| Meeting with PSC | MR | SW |
| Equipment Identification | MR | SW |
| Using Gauges <ul style="list-style-type: none">• Applied Force Pressure• Air Test Pressure• Test Chart Recorder• Surface Temperature | MR | N/A |

TNG Form - FTC012021

| | | |
|---|----|-----|
| Steel Coating Specific <ul style="list-style-type: none">• Pit Gauge• PosiTector• Hygrometer• Dial Thickness | MR | N/A |
| Environmental Control Measures | MR | SW |
| Installing Anodes | MR | SW |
| Cathodic Protection / Test Station Installations | MR | N/A |
| Permits | MR | SW |
| Getting Pipe to Soil Readings | MR | SW |
| Proper Fusing Inspection (per client standards) | MR | SW |
| PPE Guidelines | MR | SW |
| Taking GPS Points / Uploading Files to Dropbox | MR | N/A |
| Inspecting Existing Buried Pipelines | MR | N/A |
| Completion Documents <ul style="list-style-type: none">• Construction Order• Bill of Materials• Test Charts• As-Builts• Client Specific | MR | N/A |
| Submitting Your Completion Binder | MR | SW |
| UT Gauges* | MR | N/A |
| Jeeping for Holidays* | MR | N/A |
| Coating* | MR | N/A |

TNG Form - FTC012021

| | | |
|--|----|-----|
| Stationing* | MR | N/A |
| Welding on Sphericals* | MR | N/A |
| X-ray Film Management* | | N/A |
| X-ray Maps* | | N/A |
| Regulator Stations and Proper Forms* | | N/A |
| Miscellaneous: ISN; Fieldlogiq documentation; Locusview documentation; Auditor checklist; checking OQs | MR | SW |

Each task listed above has been discussed during my field training. I understand each topic and have received adequate training in each category.

Trainee Signature: Matthew Revere Date: 11/22/24

Trainer Signature: Sennet Waggoner Date: 11/22/24

To be completed by Inspection Manager

All Applicable OQs and PEs have been completed: (Check one)

- ☒ Recommend promotion from Inspector Trainee to Inspector.
☐ Does Not Recommend promotion from Inspector Trainee to Inspector.

Inspection Manager Signature: JAC Date: 11/22/24

Form Distribution:

- Trainer to Inspection Manager.
- Inspection Manager to SIM and Training Manager.
- Human Resources

TNG Form - FTC012021



Quality Inspection 3 D's

Dispatching Inspectors



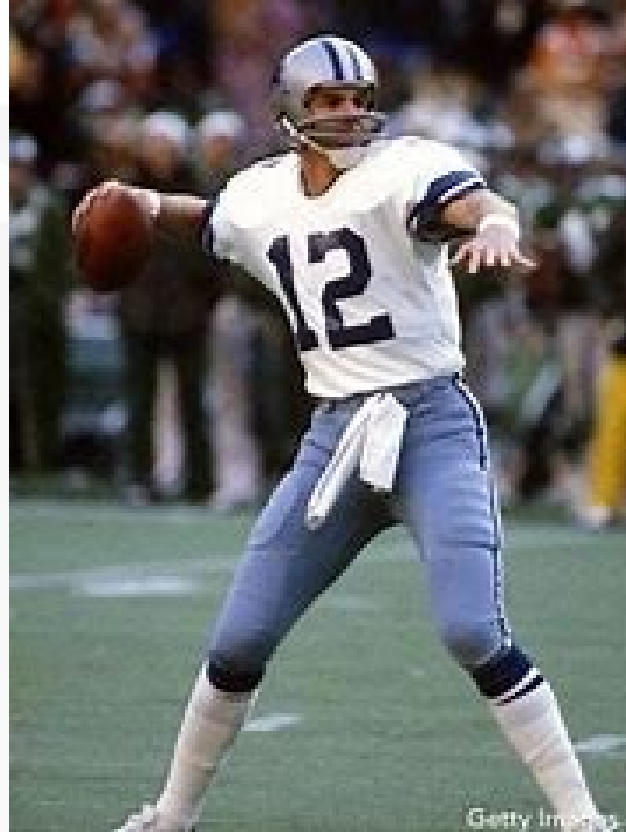
5 Things to Know

- Know the team
- Client involvement
- Communication
- Drawing Reviews
- Scope of Work



What is the desperation play called when a QB drops back and throws the football as far as he can in an attempt to score a touchdown?

Which NFL Quarterback threw the first Hail Mary pass?



QUALITY INSPECTION PROFESSIONAL SYSTEMS & SOPS

SECURE, CLOUD BASED DATABASE SYSTEM

EFFICIENT / INTUITIVE / ACCURATE / REAL TIME

CONSISTENCY IS A KEY COMPONENT OF
ACCURATELY MEASURING EFFECTIVENESS



QUALITY MANAGEMENT / EVALUATION

1. MEASURE TO IDENTIFY TRENDS
2. YOU CAN'T MANAGE WHAT YOU CAN'T MEASURE
3. RANDOM BULK ANALYSIS
4. MULTI-LAYER PROGRAM PRODUCES FULL-CIRCLE OF SUPPORT



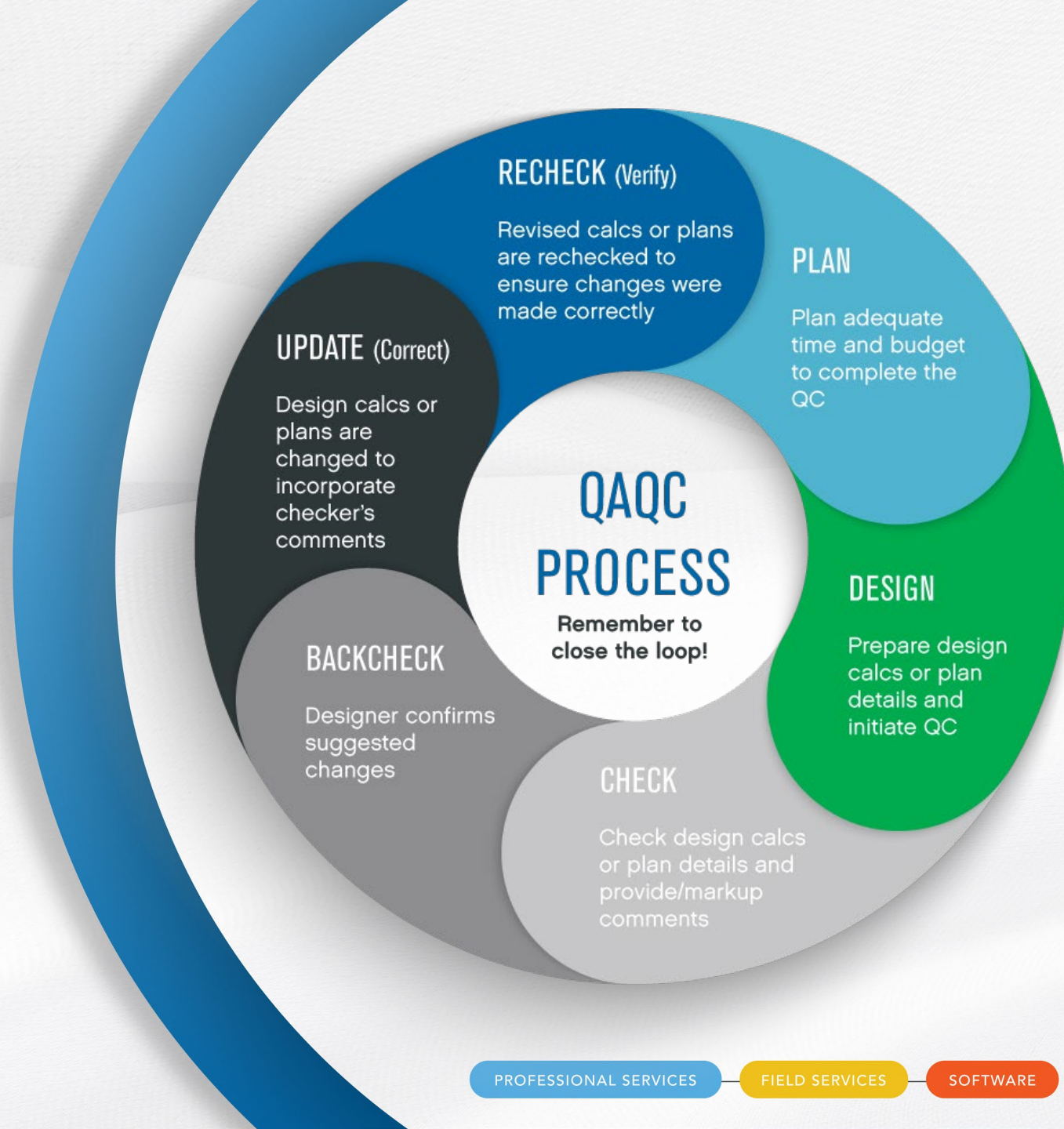
QUALITY MANAGEMENT / EVALUATION

1. ANALYSIS LEADS TO ACTION THROUGH IMPROVEMENT OPPORTUNITIES
2. KEEPS LEADERSHIP INVOLVED TO ENSURE FOLLOW-THROUGH



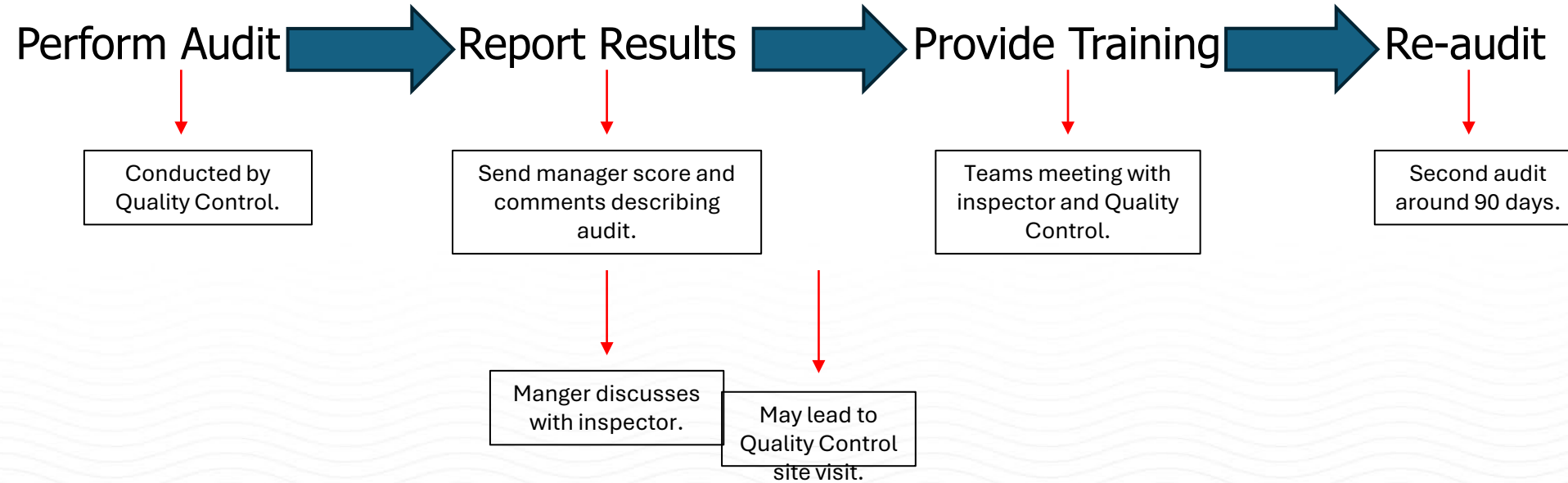
QA/QC PROGRAM

- Multi-layer QA/QC
- Quality Control (QC) Department Performs Audits on stored data to Determine Quality of Data and Documentation
 - QC Department Submits Scores and Findings to Inspection Managers for Review
 - Scores and Findings are Stored in Database So That Trends Can Be Identified and Corrected
- Inspection Manager Reviews and Audits Inspectors on a Weekly Basis
 - Inspection Manager Develops Corrective Action Plan (if needed)
- Senior Inspection Manager Reviews Audit Scores and Ensures Follow-Through of Additional Training Needed (if any)



Magnolia River Presentation on Quality Audits

Process Flow



Note: This process is only for inspectors that score below 90% on their original audit.



Example: Low Scoring Audit

No notes on the overview page. According to SOP, the notes should state the contact information for client's personnel responsible for the project. Need to attach

No information recorded on the material tab, bore tab or damage tab.

The main footage is not entered. No equipment listed. Need to select who performed fusion that day. Suggest attaching more pictures to the daily log. Also, explaining more in the daily note and putting estimate times.

| FieldLogiQ Audit | | |
|---|---------------------|--------------|
| Inspector Name: | | |
| Project Name: | | |
| Audit Date: | | |
| Audit Number: | 1 | |
| Audit Criteria: | | |
| OVERVIEW PAGE | Yes, No, N/A | Score |
| Project Information | Yes | 5 |
| Installed/Retired Footag | Yes | 5 |
| Task request | Yes | 5 |
| Overview notes | No | 0 |
| Overview attachments | Yes | 5 |
| Insufficient information | Yes | |
| | | 19 |
| Comments: | | |
| No notes on the over view page according to SOP the notes should state the contact | | |
| OVERVIEW TABS | Yes, No, N/A | Score |
| Material | No | 0 |
| Map | Yes | 5 |
| Bores | No | 0 |
| Services/Meters | N/A | 5 |
| Valves | N/A | 5 |
| Pressure tests | N/A | 5 |
| Welds | N/A | 5 |
| Damages | No | 0 |
| Insufficient Information | N/A | |
| | | 25 |
| Comments: | | |
| No information recorded on the material tab, bore tab or damage tab. | | |
| DAILY LOG | Yes, No, N/A | Score |
| Timesheet | N/A | 5 |
| Main/gassed footages | No | 0 |
| Weather | Yes | 5 |
| Workers | Yes | 5 |
| Equipment | No | 0 |
| Daily note | Yes | 5 |
| Daily attachments | Yes | 5 |
| Insufficient Information | Yes | |
| | | 24 |
| Comments: | | |
| The main footage is not entered. No equipment listed. Suggest attaching more pictures to the | | |
| | TOTAL SCORE | 68 |
| Overall Comments: | | |

Example: High Scoring Audit

What makes this a good audit?

- All overview tabs that pertained to the daily task were filled out properly.
- The daily log was filled out properly.
- The inspector exceeded expectation with the notes and attachments.
- Documentation is well organized within the project including attachments of all important paperwork and photos.

| FieldLogiQ Daily Audit | | |
|---|--------------|---------|
| Inspector Name: | | |
| Project Name: | | |
| Audit Date: | | |
| Audit Number: | 1 | |
| Audit Criteria: | | |
| OVERVIEW TABS | Yes, No, N/A | Score |
| Material | Yes | 6.66667 |
| Map | N/A | 6.66667 |
| Bores | Yes | 6.66667 |
| Services/Meters | N/A | 6.66667 |
| Valves | N/A | 6.66667 |
| Pressure tests | Yes | 6.66667 |
| Welds | N/A | 6.66667 |
| Damages | Yes | 6.66667 |
| Insufficient Information | N/A | |
| | | 53 |
| Comments: | | |
| | | |
| | | |
| DAILY LOG | Yes, No, N/A | Score |
| Timesheet | N/A | 6.66667 |
| Main/gassed footages | N/A | 6.66667 |
| Weather | Yes | 6.66667 |
| Workers | Yes | 6.66667 |
| Equipment | Yes | 6.66667 |
| Daily note | Yes | 6.66667 |
| Daily attachments | Yes | 6.66667 |
| Insufficient Information | N/A | |
| | | 47 |
| Comments: | | |
| Good note and attachments on the daily log. | | |
| | | |
| | | |
| | TOTAL SCORE | 100 |
| Overall Comments: | | |
| Documentation is well organized. | | |
| | | |
| | | |

Magnolia River Presentation on Quality Audits

Reporting Results

FieldLogiQ Audits

Client: One

Location: Mississippi

The chart below shows the scores for inspectors. The red line represents the goal for inspectors to score 90% or above.

Concerns from the audits:

Inspectors are not filling out all the appropriate tabs for the work being performed. Pictures need to be attached on the daily reflecting the notes, that should list all task witnessed.



FieldLogiQ Audit Results

An audit was conducted on your reporting in FieldLogiQ in accordance to Magnolia River's standard operating procedures, located in Teams:

<https://magnoliariver.sharepoint.com/:f:/s/InspectionTraining/EonMbxq4z9RBtClmeJJzSNUBypWtlstxeieugRcKpnYQeg?e=h1Q9qb>.

Please review your projects and ensure all information is documented correctly after each task is witnessed. The Inspection Management Team has set the audit score goal for inspectors to achieve a 90% score. Our mission is to assist inspectors with additional training and/or understanding the importance of quality documentation. If you have any questions or need additional training, please contact your inspection manager or training and compliance team.

Audits are conducted continuously throughout the year. Inspectors that score below 90% can expect a re-audit within 90 days.

Date of audit: 4/25/2023

Inspector:

Score: 86

Project: NATLI DR, NOLAN DR, MAJOR DR

- Below are the notes from the audit in each area of FieldLogiQ.

Overview Page:

Overview Tabs:

No material recorded or valve information.

Daily Log:

Need to select who performed fusion or welding. Need to finalize daily logs.

Comments:

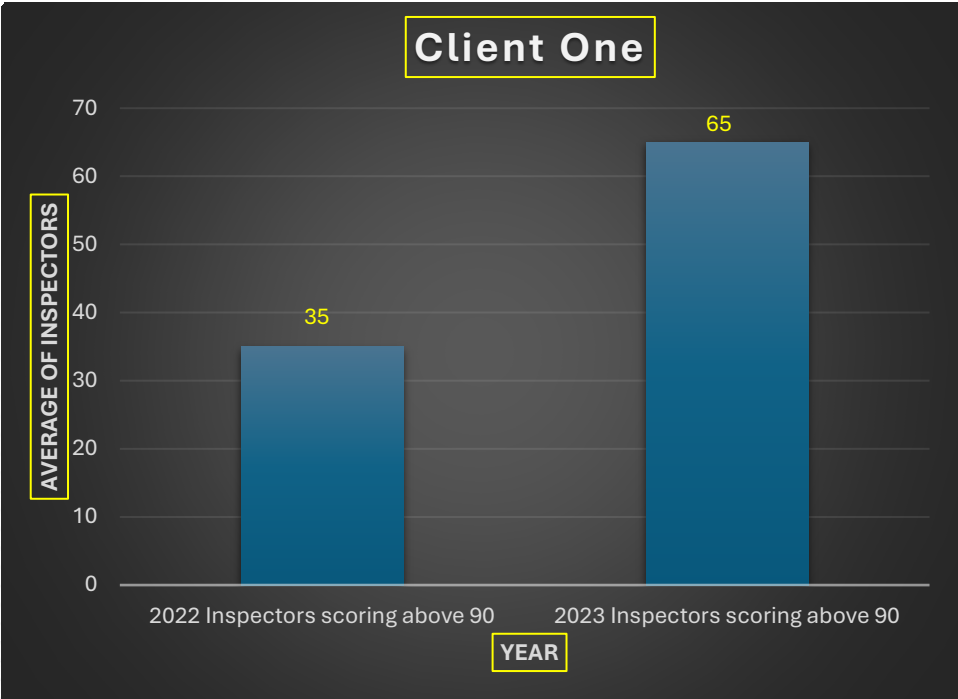
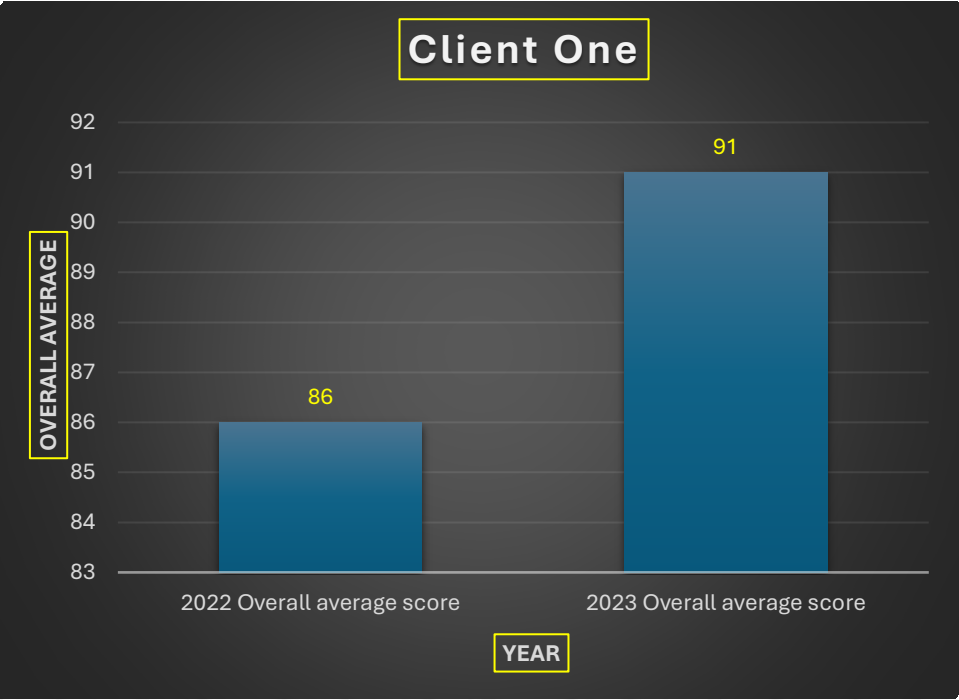
Inspector needs to fill out the daily note on the same day it is created not days later. Also, the daily log needs to be finalized each day or at least before starting the work for the next day.



NOTHING RUNS DEEPER

Magnolia River Presentation on Quality Audits

Measuring Improvement



Magnolia River Presentation on Quality Audits

Summary

Audits may lead to corrective action process.

- Root Cause
 - Inspector didn't understand documentation requirements.
- Solution
 - Training in accordance with standard operating procedure.
- Effectiveness
 - Performing a second audit for verification.
- Quality Improvement
 - Able to be obtained and measured.





CLOSING

