Risk-Based Screening Assessment Form

24 Sep 2025 / Mike Rodriguez

Complete

Score	0 / 0 (0%)	Flagged items	0	Actions	2

Filled-out on	24.09.2025 15:00 PST
Prepared by	Mike Rodriguez
Location	Charlotte, North Carolina, USA

Actions

2 actions

RBI Screening Assessment Form / Consequence Evaluation / Safety

Evaluation Rating

High

To do | Assignee: SafetyCulture Staff | Priority: High | Due: 02.10.2025 08:46 PST | Created by: SafetyCulture Staff

Install complete edge protection and enforce 100% fall arrest use for all elevated work.

RBI Screening Assessment Form / Probability Evaluation / Internal

Model (s)

Failure Mode & Effects Analysis (FMEA) — likelihood of trench wall collapse due to weak soil classification.

To do | Assignee: SafetyCulture Staff | Priority: Low | Due: 02.10.2025 08:48 PST | Created by: SafetyCulture Staff

Track incidents/near misses to verify whether controls are reducing risk.

RBI Screening Assessment Form	2 actions
Type of Installation	Multi-Story Residential Construction Project
System No.	007
Rev	1.0
Description	
Reinforced concrete foundation system including excavation, shoring, and slab placement	
Function & Boundaries	Supports structural load of the building; boundary includes all excavation pits, footings, and slab reinforcement works
Dependent Systems	
Crane lifting operations, electrical temporary power systems, water drainage/pumping system	
Process & Materials Information	
Material	
Material 1	
Type of Material	Reinforced concrete
Product Service Code	5630
Op. Temperature (in Celsius)	20
Op. Press Barg	Atmospheric
Chemical Information/Comment/Reference	Portland cement with fly ash, aggregates, admixtures. Alkaline; wet concrete can cause chemical burns.
Material 2	
Type of Material	Steel Reinforcement
Product Service Code	9515
Op. Temperature (in Celsius)	20
Op. Press Barg	N/A

Chemical Information/Comment/Reference	Alloy steel, primarily Fe with C, Mn. Corrosion risk if exposed
Material 3	
Type of Material	Shoring materials (timber/steel)
Product Service Code	5510
Op. Temperature (in Celsius)	20
Op. Press Barg	N/A
Chemical Information/Comment/Reference	Timber: potential for fungal/mold if moisture >20%. Steel: may oxidize; treated with protective coatings.
Consequence Evaluation	1 action
Safety	1 action
Evaluation Rating	High

To do | Assignee: SafetyCulture Staff | Priority: High | Due: 02.10.2025 08:46 PST | Created by: SafetyCulture Staff

Install complete edge protection and enforce 100% fall arrest use for all elevated work.

Justification/Reasoning/Reference

Potential trench collapse or fall from height could cause multiple fatalities or serious injuries. Referenced OSHA 29 CFR 1926 Subpart P (Excavations) and Subpart M (Fall Protection).

Economic	
Evaluation Rating	Medium

Justification/Reasoning/Reference

Delay from collapse or rework of foundation would cost >$250,000 in direct and indirect losses. Industry benchmark: AACE Cost Impact Analysis for U.S. construction.

Environmental	
Evaluation Rating	Medium

Justification/Reasoning/Reference

Soil erosion and runoff with cement washout could impact nearby stormwater drains; moderate environmental cleanup costs. Reference: EPA Stormwater Construction General Permit.

Probability Evaluation 1 action

Internal 1 action

Evaluation Rating Medium

Model (s)

Failure Mode & Effects Analysis (FMEA) — likelihood of trench wall collapse due to weak soil classification.

To do | Assignee: SafetyCulture Staff | Priority: Low | Due: 02.10.2025 08:48 PST | Created by: SafetyCulture Staff

Track incidents/near misses to verify whether controls are reducing risk.

Justification/Reasoning/Reference

Past incident logs at similar projects (OSHA incident database, 2021–2024) indicate a medium probability of collapse in similar soil conditions.

External

Evaluation Rating Low

Model (s)

Event Tree Analysis (external events: flooding, adjacent construction vibration).

Justification/Reasoning/Reference

External weather/flooding events could accelerate soil instability, but seasonal forecast indicates low probability.

Fatigue

Evaluation Rating Low

Model (s)

Structural Fatigue Model (S–N curve applied to rebar in early stages).

Justification/Reasoning/Reference

Foundation steel is new and not subject to long-term cyclic loads yet. Fatigue probability low in initial construction phase.

Results

Notes/Comments

- The assessment identified fall-from-height and excavation collapse as the two most critical hazards, consistent with OSHA fatality data for U.S. construction (Falls = #1 cause, Excavation collapses = high-fatality but low-frequency).
- Safety documentation (permits-to-work, soil classification logs) was incomplete in multiple areas.

Actions To Be Taken

Weekly reassessment of risk ratings to measure progress.

Agreement to Evaluation

Team Representative

Mike Rodriguez
25.09.2025 08:51 PST

Date

24.09.2025 16:30 PST