



City of Jacksonville Beach

11 North Third Street
Jacksonville Beach, Florida

Agenda

City Council

Wednesday, February 23, 2022

6:00 PM

Council Chambers

MEMORANDUM TO:

The Honorable Mayor and
Members of the City Council
City of Jacksonville Beach, Florida

The following Agenda of Business has been prepared for consideration and action at the Regular Meeting of the City Council.

OPENING CEREMONIES: INVOCATION, FOLLOWED BY SALUTE TO THE FLAG

CALL TO ORDER

ROLL CALL

APPROVAL OF MINUTES

- A. Regular City Council Meeting held on February 7, 2022
- B. Council Briefing held on February 14, 2022

ANNOUNCEMENTS

COURTESY OF THE FLOOR TO VISITORS

MAYOR AND CITY COUNCIL

CITY CLERK

CITY MANAGER

- A. Accept/Reject the Monthly Financial Reports for the month of January 2022
- B. Authorize elected officials to attend the Leadership Academy I, March 11-12, 2022, at the Embassy Suites Orlando Lake Buena Vista South; **and**

Authorize elected officials to attend the Leadership Academy II, December 2-3, 2022, at the Embassy Suites Orlando Lake Buena Vista South; **and**

Authorize elected officials to attend the Institute for Elected Municipal Officials (IEMO) II training on April 29-30, 2022, at the Hilton Cocoa Beach or on September 16-17, 2022, at the Embassy Suites Fort Myers Estero; **and**

Authorize elected officials to attend the FLC Annual Conference, August 11-13, 2022, at the Diplomat Beach Resort Hollywood; **and**

Authorize elected officials to attend the FLC Legislative Conference, November 29 – December 2, 2022, at the Embassy Suites Orlando Lake Buena Vista South

- C. Reappoint Marvin DuPree to a new two-year term as a Council appointed member of the Police Officers' Pension Board with the term expiring March 31, 2024; **and**

Nominate Rudy Dean or D. Lance Huish to a new two-year term as Council appointed member of the Police Officers' Pension Board with the term expiring March 31, 2024

- D. Reappoint Gaylord Candler to a new two-year term as a Council appointed member of the Firefighters' Pension Board with the term expiring March 31, 2024; **and**

Nominate Rudy Dean or D. Lance Huish to a new two-year term as Council appointed member of the Firefighters' Pension Board with the term expiring March 31, 2024

- E. Approve/Disapprove a Cost Share/Allocation Agreement with Atkins Builders, Inc., for public right-of-way improvements to connect Gordon Avenue and 21st Avenue South for an amount not to exceed \$128,626
- F. Award/Reject RFP No. 04-2021 Design-Build Contract for Transmission Line Repair to Burns & McDonnell and authorize the Mayor and City Manager to execute the final contract
- G. Award/Reject RFP No. 08-2021 Installation of Underground Infrastructure to Heart Utilities of Jacksonville, Inc., and authorize the Mayor and City Manager to execute the final contract

RESOLUTIONS

- A. Adopt/Deny Resolution No. 2103-2022 extending the contract with Lewis, Longman, & Walker for Special Magistrate services

ORDINANCES

- A. Approve/Disapprove Ordinance No. 2022-8171 regarding amendments to the Charter of the City of Jacksonville Beach on the first reading and schedule a second reading for March 7, 2022
- B. Approve/Disapprove Ordinance No. 2022-8172 amending City Code of Ordinances Chapter 2, Article II, Division 3, Section 2-51 "Enacting clause" on the first reading and schedule a second reading for March 7, 2022

ADJOURNMENT

NOTICE

In accordance with Section 286.0105, Florida Statutes, if any person decides to appeal any decision made by the council with respect to any matter considered at such meeting, he or she will need a record of the proceedings. For such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

The public is encouraged to speak on issues on this Agenda that concern them. Anyone who wishes to speak should submit the request to the City Clerk or to the recording secretary prior to the beginning of the meeting. These forms are available at the entrance of the City Council Chambers for your convenience.

In accordance with the Americans with Disabilities Act and Section 286.26, Florida Statutes, persons with disabilities needing special accommodations to participate in this meeting should contact the City Clerk's Office at (904) 247-6299 no later than one business day before the meeting.

You may use this website <http://www.jacksonvillebeach.org/publichearinginfo> to find information concerning the hearing process. This information is also available in the City Hall first floor display case.

**Minutes of Regular City Council Meeting
held Monday, February 7, 2022, at 6:00 P.M.
in the Council Chambers, 11 North 3rd Street,
Jacksonville Beach, Florida**



OPENING CEREMONIES:

Council Member Janson provided the invocation, followed by the Pledge of Allegiance.

CALL TO ORDER:

Mayor Pro Tem Nichols called the meeting to order at 6:00 P.M.

ROLL CALL:

Mayor: Christine Hoffman (*absent*)

Mayor Pro Tem: Cory Nichols

Council Members: Georgette Dumont Sandy Golding Dan Janson
Fernando Meza Chet Stokes

Also present were: City Manager Mike Staffopoulos, City Attorney Sandra Robinson, Police Services Division Commander Eric Shaughnessy, Chief Financial Officer Ashlie Gossett, Director of Public Works Dennis Barron, Director of Parks and Recreation Jason Phitides, Director of Planning and Development Heather Ireland, Golf Course Superintendent Trevor Hughes, Parks and Recreation Office Administrator Molly Alleger, and City Clerk Sheri Gosselin.

APPROVAL OF MINUTES:

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, and passed unanimously to approve the following minutes:

- Regular City Council Meeting held on January 18, 2022
- Council Briefing held on January 20, 2022
- Council Briefing held on January 24, 2022

ANNOUNCEMENTS:

Council Member Golding acknowledged the successful DONNA event and thanked the Police Department. She noted the next City Council meeting was Wednesday, February 23, 2022. She shared the Urban Trails Master Planning meeting would be held on February 9, 2022. Ms. Golding said the Special Election for the Jacksonville At Large City Council seat would be held on February 22, 2022, and early voting would be held February 12-20, 2022.

Mr. Janson announced the Pension Board meeting would be held on February 8, 2022.

COURTESY OF THE FLOOR TO VISITORS:

- Jerry Holland, Property Appraiser for the City of Jacksonville, referenced the Annual Report for Duval County [on file]. He invited the Council Members to reach out with questions.

- Karen Wood, 824 Tournament Road, Ponte Vedra Beach, shared information about the inaugural Women's Wellness Fest, to be held at the Seawalk Pavilion on February 12, 2022.

MAYOR AND CITY COUNCIL: *No items*

CITY CLERK: *No items*

CITY MANAGER:

A. Approve/Disapprove the donation of the Skywatch Platform Lift to Duval County School Police

Police Services Division Commander Eric Shaughnessy stated the lift was purchased in the 2009-2010 JAG (Justice Assistance Grant) cycle. He said it was typically used for special events to monitor crowds. Commander Shaughnessy said approval had been received from the DOJ (Department of Justice), and FDLE (Florida Department of Law Enforcement) as the administrator of the Grant, for the donation.

Motion: It was moved by Ms. Golding, seconded by Ms. Dumont, to approve the donation of the Skywatch Platform Lift to Duval County School Police.

Discussion: Council Member Meza asked if the donation would impact the Police Department's ability to do its job with the camera system.

Commander Shaughnessy said no.

Roll Call Vote: Ayes – Dumont, Golding, Janson, Meza, Nichols, Stokes, Mayor Pro Tem Nichols.
The motion passed unanimously.

B. Approve/Disapprove Purchase and Installation of Proximity Card Access Control Readers at Three City Facilities by Siemens Industry, Inc., Utilizing Sourcewell Contract #030421-SIE in the amount of \$307,765

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to approve the Purchase and Installation of Proximity Card Access Control Readers at Three City Facilities by Siemens Industry, Inc., Utilizing Sourcewell Contract #030421-SIE in the amount of \$307,765.

Discussion: None.

Roll Call Vote: Ayes – Golding, Janson, Meza, Nichols, Stokes, Dumont, Mayor Pro Tem Nichols.
The motion passed unanimously.

C. Approve/Disapprove the purchase of an emergency generator for Liftstation #3 utilizing Ring Power under a Sourcewell Agreement (State Bid)

Director of Public Works Dennis Barron said they had serious issues with the generator in the past, and it had run its course. He provided an estimate of \$93,379, including contingencies, to purchase the new generator.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to approve the purchase of an emergency generator for Liftstation #3 utilizing Ring Power under a Sourcewell Agreement (State Bid).

Discussion: A discussion ensued regarding the contract language specific to Covid and the generator's performance.

Roll Call Vote: Ayes – Janson, Meza, Stokes, Dumont, Golding, Mayor Pro Tem Nichols
The motion passed unanimously.

D. Approve/Disapprove the Pre-order of Five Vehicles for Budget FY2023 Delivery for Public Works Heavy Vehicle Replacement Program

City Manager Mike Staffopoulos said they anticipated long lead times due to supply chain issues.

Mr. Barron said these vehicles were in the 22-26 CIP (Capital Improvement Plan). The vehicles would be due for replacement in FY2023 and typically have a 10 month lead time. His recommendation was to pre-order the vehicles and encumber the funds now.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to approve the Pre-order of Five Vehicles for Budget FY2023 Delivery for Public Works Heavy Vehicle Replacement Program.

Discussion: A discussion ensued about the vehicles under the Florida Sheriff's Association contract, the RFP process, and the financial impact of frontloading vehicle purchases in one fiscal year.

Roll Call Vote: Ayes – Meza, Stokes, Dumont, Golding, Janson, Mayor Pro Tem Nichols
The motion passed unanimously.

E. Approve/Disapprove the Community Development Block Grant application for the Carver Center Recreation Program for FY2022-2023

Director of Parks and Recreation Jason Phitides noted this was their annual application to fund part of the operation of the Carver Center.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to approve the Community Development Block Grant application for the Carver Center Recreation Program for FY2022-2023.

Discussion: None.

Roll Call Vote: Ayes – Stokes, Dumont, Golding, Janson, Meza, Mayor Pro Tem Nichols
The motion passed unanimously.

F. Award/Reject Bid No. 2122-03 Landscape Maintenance O&M to Brightview as the primary contractor and to Prestige Landscapes of North Florida, Inc., as the secondary contractor and authorize the Mayor and City Manager to execute the final contract

Golf Course Superintendent Trevor Hughes reviewed the facilities and different areas covered under the agreement.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to award Bid No. 2122-03 Landscape Maintenance O&M to Brightview as the primary contractor and to Prestige Landscapes of North Florida, Inc., as the secondary contractor and authorize the Mayor and City Manager to execute the final contract.

Discussion: Mr. Janson asked if the Penman Road area south of Beach Boulevard was Jacksonville or Jacksonville Beach.

Mr. Hughes clarified the area by the welcome sign through Wingate Park was Jacksonville Beach, except for a small area outside of the propane facility.

Roll Call Vote: Ayes – Stokes, Dumont, Golding, Janson, Meza, Mayor Pro Tem Nichols
The motion passed unanimously.

G. Award/Reject Bid No. 2122-04 Plumbing Services to Fair Plumbing Company and authorize the Mayor and City Manager to execute the final contract

Mr. Hughes noted this was the same company used for the previous five years, and he had been satisfied with their service.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to award Bid No. 2122-04 Plumbing Services to Fair Plumbing Company and authorize the Mayor and City Manager to execute the final contract.

Discussion: None.

Roll Call Vote: Ayes –Dumont, Golding, Janson, Meza, Stokes, Mayor Pro Tem Nichols
The motion passed unanimously.

H. Award/Reject Bid No. 2122-05 Golf Course Tree Services to Odom's Beaches Tree Service, Inc., and authorize the Mayor and City Manager to sign the final contract

Mr. Hughes noted they put out a specific bid for a contractor who had experience working on a golf course. He stated the oak trees on the golf course and 12th Street needed trimming.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to award Bid No. 2122-05 Golf Course Tree Services to Odom's Beaches Tree Service, Inc., and authorize the Mayor and City Manager to sign the final contract.

Discussion: None.

Roll Call Vote: Ayes – Golding, Janson, Meza, Stokes, Dumont, Mayor Pro Tem Nichols
The motion passed unanimously.

RESOLUTIONS

A. Adopt/Deny Resolution No. 2099-2022 approving an honorary street name designation application for Honoree Charles D. Holland

Mayor Pro Tem Nichols requested the City Clerk read Resolution No. 2099-2022 by title only, whereupon Ms. Gosselin read the following:

“A RESOLUTION OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, APPROVING APPLICATION AND HONORARY STREET NAME DESIGNATION SIGN LOCATION FOR AN HONOREE UNDER THE HONORARY STREET NAME DESIGNATION POLICY; AUTHORIZING SIGN INSTALLATION; PROVIDING FOR ADOPTION OF RECITALS, REPEAL OF PRIOR INCONSISTENT RESOLUTIONS AND COUNCIL DECISIONS, SEVERABILITY, AND AN EFFECTIVE DATE.”

Parks and Recreation Office Administrator Molly Alleger said they received an application for the Honorary Street Sign program. She described the Honoree, Charles D. Holland.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to adopt Resolution No. 2099-2022, approving an honorary street name designation application for Honoree Charles D. Holland.

Discussion: Council Member Dumont acknowledged the honoree's accomplishments and his family's contributions to the City. Ms. Golding added she met Mr. Holland and shared a conversation they had. Mr. Nichols echoed the sentiments.

Roll Call Vote: Ayes – Janson, Meza, Stokes, Dumont, Golding, Mayor Pro Tem Nichols
The motion passed unanimously.

ORDINANCES

A. Adopt/Deny Ordinance No. 2021-8168 for Outdoor Seating Amendments on the second reading

Mayor Pro Tem Nichols requested the City Clerk read Ordinance 2021-8168 by title only, whereupon Ms. Gosselin read the following:

"AN ORDINANCE OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, TO AMEND AN ORDINANCE ENACTING AND ESTABLISHING A COMPREHENSIVE LAND DEVELOPMENT REGULATION AND OFFICIAL ZONING MAP FOR THE INCORPORATED AREA OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, AS AUTHORIZED BY CHAPTER 163.3202, FLORIDA STATUTES, BY AMENDING ARTICLE IV. DEFINITIONS, ARTICLE VII. ZONING DISTRICTS, AND ARTICLE VIII, DIVISION 2. SUPPLEMENTAL STANDARDS, TO MODIFY THE LIMITATIONS AND CONDITIONS FOR OUTDOOR RESTAURANTS AND BARS; PROVIDING FOR REPEAL OF CONFLICTING ORDINANCES, SEVERABILITY, CODIFICATION, AND AN EFFECTIVE DATE."

Mayor Pro Tem Nichols read the following:

"This ordinance for the amendment of the Land Development Code is before this Council for a public hearing and consideration on its second reading. Under the laws of the State of Florida, an ordinance which changes the actual list of permitted, conditional, or prohibited uses within a zoning category, or which otherwise changes the text of the Land Development Code, is a 'quasi-legislative' proceeding. A quasi-legislative proceeding means a governing body is acting in its rule-making capacity.

It is the duty of the Council to arrive at sound decisions regarding the use of property within the City. This includes receiving citizen input regarding the proposed uses within a zoning category.

The application has been reviewed by Staff and the Planning Commission for consistency with other portions of the Land Development Code and the Comprehensive Plan. The Council may hear from all interested parties in the legislative determination of an amendment to the text of the Land Development Code.

The Council's decision on a text amendment application is based on the criteria set forth in Section 34-211 of the Land Development Code. Each member of the Council has been provided a copy of the criteria. I will now open the public hearing on Ordinance No. 2021-8168."

Public Hearing:

No one came forward to speak on the ordinance. Mayor Pro Tem Nichols closed the public hearing.

Ex-Parte Communication:

Mayor Pro Tem Nichols read the following:

"Before requesting a motion on this ordinance, beginning with myself, each of the members is requested to indicate for the record both the names of persons and the substance of any ex parte communications regarding this application. An ex parte communication refers to any meeting or discussion with a person or citizen who may have an interest in this decision, which occurred outside of the public hearing process."

Ms. Dumont disclosed she was contacted via email by David Smith with concerns about the barriers between the outdoor seating areas and residential areas, serving alcohol in outdoor areas after hours, and sound volume. All others reported no ex-parte communication.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to adopt Ordinance No. 2021-8168 for Outdoor Seating Amendments on the second reading.

Mayor Pro Tem Nichols read the following:

"Before opening the floor for discussion or questions by the Council, please be reminded that our decision will be based on the criteria set forth in the Land Development Code, Staff's report, the recommendation of the Planning Commission and the public input at all hearings."

Discussion: A discussion ensued regarding the interpretation of the six-foot fence barrier.

Director of Planning and Development Heather Ireland said the fence would be interpreted as being opaque, and she supported clarifying that in the ordinance. She also stated concerns with limiting outdoor alcohol to 10:00 P.M.

Amended Motion: It was moved by Ms. Dumont, seconded by Ms. Golding, to amend section E with buffering, and include anywhere fence is referenced, fence is preceded with "opaque."

A discussion ensued about what would be the best terminology.

Ms. Dumont wished to amend her motion.

Restated Amended Motion: It was moved by Ms. Dumont, seconded by Ms. Golding, to amend the motion to include the term "noise buffering" preceding anywhere fence is referenced in the Ordinance.

Mr. Staffopoulos suggested using the term opaque or solid.

Ms. Dumont withdrew the original amended motion.

Amended Motion: It was moved by Ms. Dumont, seconded by Ms. Golding, to amend the Ordinance to include “solid” preceding anywhere fence is referenced.

A discussion ensued about dogs in outdoor dining areas allowed with a permit.

Roll Call Vote: Ayes – Stokes, Dumont, Golding, Janson, Meza, Mayor Pro Tem Nichols
The amended motion passed unanimously.

Roll Call Vote: Ayes –Meza, Stokes, Dumont, Golding, Janson, Mayor Pro Tem Nichols
The original motion passed unanimously, as amended.

B. Adopt/Deny Ordinance No. 2022-8170 repealing Code of Ordinances Chapter 33, "Vehicles For Hire," on the second reading.

Mayor Pro Tem Nichols requested the City Clerk read Ordinance 2022-8170 by title only, whereupon Ms. Gosselin read the following:

"AN ORDINANCE OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, TO REPEAL CODE OF ORDINANCES CHAPTER 33, "VEHICLES FOR HIRE," IN ITS ENTIRETY; PROVIDING FOR REPEAL, SEVERABILITY, CODIFICATION, AND AN EFFECTIVE DATE.'

Mayor Pro Tem Nichols read the following:

“This ordinance is before this Council for a public hearing and consideration on its second reading. I will now open the public hearing on Ordinance No. 2022-8170.”

Public Hearing:

No one came forward to speak on the ordinance. Mayor Pro Tem Nichols closed the public hearing.

Motion: It was moved by Ms. Golding, seconded by Mr. Janson, to adopt Ordinance No. 2022-8170 repealing Code of Ordinances Chapter 33, "Vehicles For Hire," on the second reading.

Discussion: None.

Roll Call Vote: Ayes – Dumont, Golding, Janson, Meza, Stokes, Mayor Pro Tem Nichols
The motion passed unanimously.

ADJOURNMENT:

There being no further business, the meeting adjourned at 6:51 P.M.

Submitted by: Sheri Gosselin
City Clerk

Approval:

Christine H. Hoffman, MAYOR

Date: _____

DRAFT

The Council Briefing began at 5:30 P.M. The meeting was held via video conference using the Zoom platform.

The following City Council Members were in attendance:

Mayor: Christine Hoffman

Council Members:	Georgette Dumont	Sandy Golding	Dan Janson
	Fernando Meza	Cory Nichols	Chet Stokes (absent)

Also present were City Manager Mike Staffopoulos, Chief Information Officer Bill Rieger, and City Attorney Sandy Robinson.

Purpose of Briefing

The purpose of the Briefing was to update the Council members about ongoing items in the City.

City Manager

Information Systems Restructure

Chief Information Officer Bill Rieger stated he conducted a SWOT (Strength, Weakness, Opportunities, and Threats) analysis of the operations of the Information Systems (IS) Department. Mr. Rieger provided a presentation [on file] of the department and key recommendations relative to philosophy, staffing, team structure, IS support, and strategic planning. Mr. Rieger stated a restructure of the IS Department would serve internal business partners better and move to a more proactive operational model.

Strategic Plan Operation Plan

City Manager Mike Staffopoulos stated he and staff had been working to develop action items to fulfill the Priorities, Goals, and Objectives (PGOs) contained within the newly adopted Strategic Plan (Plan). Mr. Staffopoulos gave a brief overview of informative spreadsheets [on file] as a proposed starting point to implement the Plan, referred to as the Strategic Plan Operational Plan (OP).

A conversation ensued regarding proposed edits to the OP spreadsheets and the regularity of the Council being updated on the status of the projects included in the OP. Mr. Staffopoulos stated this process was a new concept to the City and many staff members. He said that timelines could be adjusted on several projects as details were looked at more closely, and he would keep the Council updated on the progress and any changes or issues.

Miscellaneous City Manager Items

Jaycees Bus Benches

Mr. Staffopoulos summarized the history of the Jaycees' bus benches and the advertising on them. Mr. Staffopoulos stated he received a call from a representative of the Jaycees regarding the bus benches on A1A [3rd Street] and was informed as of November 2021, there was an agreed-upon

resolution to remove all Jaycees' benches from the Duval County municipalities due to advertising being placed on them.

Mr. Staffopoulos stated after a meeting with Jacksonville Transit Authorities (JTA), it was agreed JTA would replace two bus stops which met JTA's criteria.

Mr. Staffopoulos provided and reviewed spreadsheets [on file] regarding Jaycees' bench locations and rider counts, City of Jacksonville Beach (COJB) stops, and amenities at each stop along A1A.

A conversation ensued regarding the intentions of COJB replacing a bus bench at every bus stop within the City or having bus benches only at bus stops meeting JTA's criteria and the cost and maintenance for each bench location.

The consensus of the Council was for staff to provide more details regarding the bench locations and rider numbers and revisit the topic for further discussion at a future briefing. It was the consensus of the Council to allow the Jaycees to start the removal of their benches. The Council considered this project to be a low priority.

Pier Management Options

Mr. Staffopoulos stated the City of Jacksonville (COJ) was preparing to send out a Request for Proposal (RFP) for the pier's management. Mr. Staffopoulos requested feedback from the Council regarding sending communication to COJ regarding the COJB taking over the pier's management.

Mr. Staffopoulos stated he spoke with Daryl Joseph, Director of Parks, Recreation and Community Services, from COJ regarding pier management, and it was suggested COJB send over a proposal for consideration.

Mr. Staffopoulos shared a summary of the Previous Scope of Services for the COJ Pier [on file] with the last lease through a third-party vendor.

A conversation ensued regarding different options for COJB to manage the pier, maintenance, and concession.

Committee Assignment Report

Council Member Janson reported this year's first quarterly Pension meeting was held on February 8, 2022. Mr. Janson gave a summary of the recent meeting.

Mr. Janson reported on the Audit Selection Committee stating after completing an RFP process, Purvis, Gray & Company was selected as the auditing company for the City.

Future Briefing Topics

None

Mayor Hoffman reminded the Council a local Girl Scout Troop would be coming in to tour the Council Chambers and learn about local government.

Ms. Hoffman reported the recent trip to Tallahassee for the lobbying events went well.

The Briefing adjourned at 7:17 P.M.

Submitted by: Jodilynn Byrd
Deputy City Clerk

Approved:

Christine H. Hoffman, MAYOR

Date: _____



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Michael J. Staffopoulos, City Manager
FROM:	Ashlie Gossett, Chief Financial Officer
DATE:	01/10/2022
SUBJECT:	Accept/Reject the Monthly Financial Reports for the month of January 2022

BACKGROUND

Attached are the monthly financial reports for January 2022 as prepared by the Finance Department. These reports represent 4 months of activity, or 33.7% of the total annual budget, and are prepared on a cash basis.

Summary Budget Reports Exhibits 1 through 6 show the cumulative actual revenues and expenditures compared to the actual amounts at the same point in time as last fiscal year. Exhibit 7 compares actual revenues and expenditures to the budget in total by fund.

FINANCIAL IMPACT

For informational purposes only.

REQUESTED ACTION

Accept/Reject the Monthly Financial Reports for the month of January 2022

ATTACHMENTS

1. 2022-1 January Financials



SUMMARY BUDGET REPORT

January 31, 2022

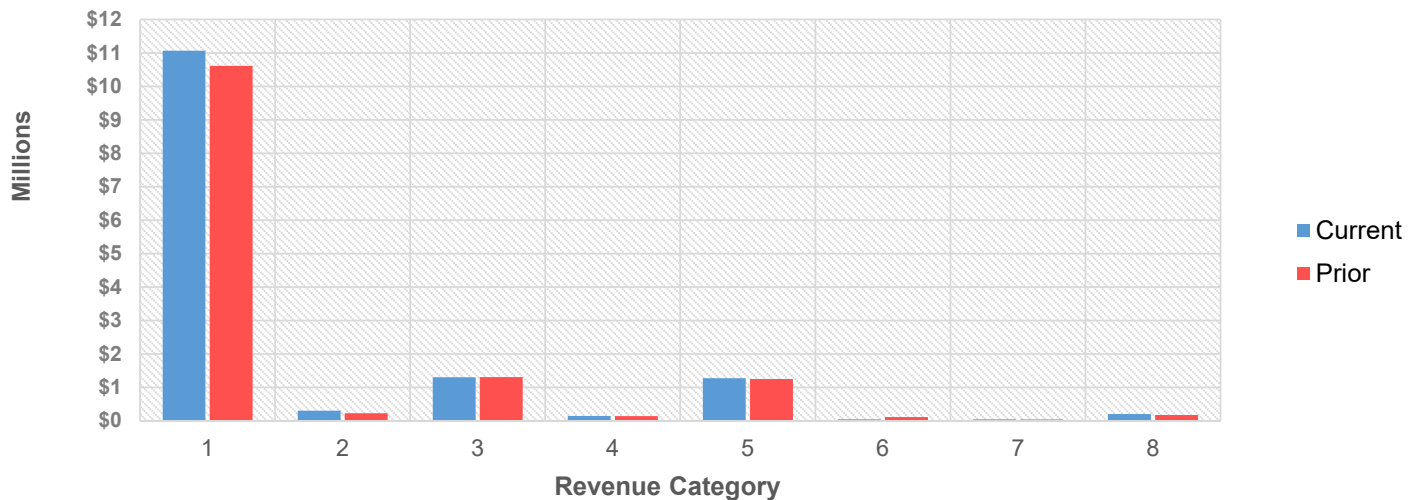
33.70% of Year Elapsed

Exhibit 1

General Fund Revenues

Revenue Category	Current Year Revenue to Date	Current Year Revenue % of Budget	Prior Year Revenue to Date	Prior Year Revenue % of Budget	% Variance (Current Year less Prior Year)	\$ Variance (Current Year less Prior Year)
1 Taxes	11,067,196	74.28%	10,610,404	74.49%	-0.20%	456,791
2 Licenses & Permits	302,228	49.97%	227,681	44.50%	5.46%	74,547
3 Intergovernmental Revenue	1,300,225	31.41%	1,305,152	33.92%	-2.51%	(4,927)
4 Charges for Services	146,876	31.28%	137,816	31.31%	-0.03%	9,060
5 Enterprise Contributions	1,271,731	33.33%	1,251,852	33.33%	0.00%	19,879
6 Miscellaneous Revenue	45,747	13.77%	112,294	34.23%	-20.46%	(66,547)
7 Fines & Forfeitures	43,581	26.90%	41,003	27.11%	-0.20%	2,579
8 Interfund Transfers	201,313	39.17%	171,455	33.36%	5.81%	29,858
Total Revenues	\$14,378,896	57.66%	\$13,857,657	58.24%	-0.58%	\$521,239

Current Year vs. Prior Year



Discussion

Total General Fund revenues are in line with the prior year at the same point in time on a percent of budget basis.

- 1 Annual ad valorem tax distributions were received in December, bringing the tax revenue-to-date to 74.28%.
- 2 Permit revenues are up because of an increase in construction activity compared to the same time in the prior year.
- 6 Miscellaneous revenue includes interest on pooled investments, auction proceeds, facility rental fees, tennis fees, and cemetery lots purchased. The decrease from the prior year is due primarily to the adjustment to market value of the City's pooled investment assets.



SUMMARY BUDGET REPORT

January 31, 2022

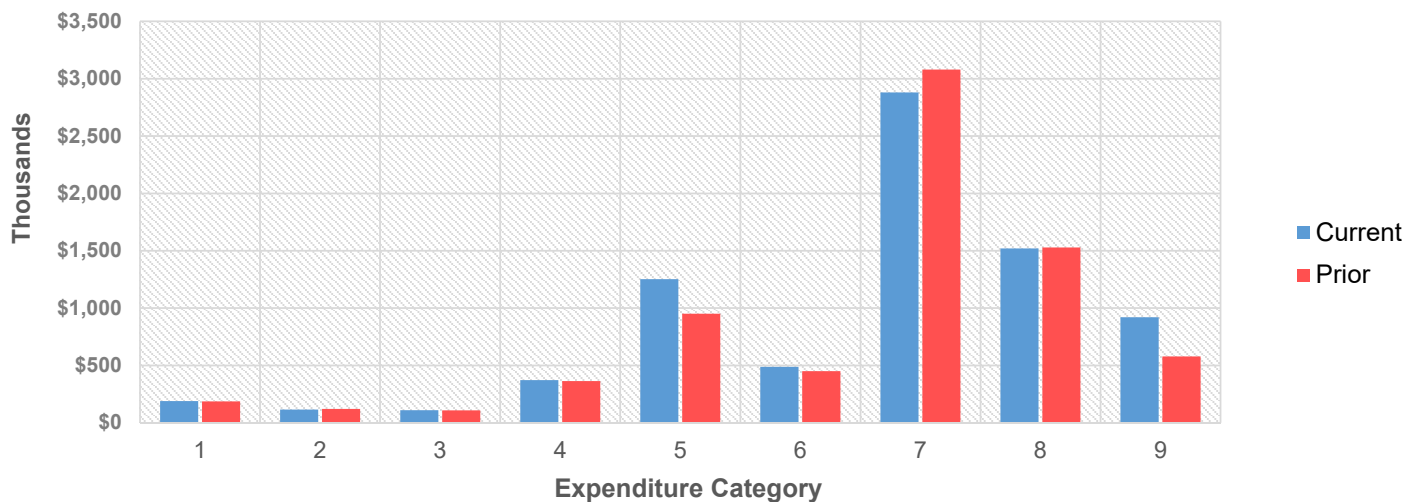
33.70% of Year Elapsed

Exhibit 2

General Fund Expenditures

Expenditure Category	Current Year Expenditures to Date	Current Year Expenditures % of Budget	Prior Year Expenditures to Date	Prior Year Expenditures % of Budget	% Variance (Current Year less Prior Year)	\$ Variance (Current Year less Prior Year)
1 City Administration	188,200	28.10%	185,746	28.47%	-0.36%	2,454
2 City Clerk	114,774	25.18%	120,510	29.06%	-3.88%	(5,736)
3 Building Maintenance	109,362	24.91%	107,941	25.42%	-0.51%	1,421
4 Planning and Development	371,897	30.77%	363,692	31.72%	-0.95%	8,205
5 Parks and Recreation	1,251,880	34.05%	950,261	25.84%	8.22%	301,619
6 Public Works	486,699	25.21%	448,946	24.20%	1.01%	37,754
7 Police	2,879,363	28.98%	3,079,736	30.08%	-1.10%	(200,372)
8 Fire Services	1,520,339	45.36%	1,527,844	46.95%	-1.60%	(7,505)
9 Non-Departmental	920,132	27.14%	577,858	25.11%	2.03%	342,273
Total Expenditures	\$7,842,647	31.30%	\$7,362,534	30.72%	0.58%	\$480,113

Current Year vs. Prior Year



Discussion

Total General Fund expenditures are in line with the prior year on a percent of budget basis and 2.4% below current year budget estimates.

- 5 Parks and Recreation expenditures increased in the current year due to the transition from volunteers to City staff for lifeguard coverage on Sundays and holidays.
- 7 The reduction in Police expenditures from the prior year is primarily attributable to the timing of police vehicle purchases. A police vehicle reserve was created in the General Capital Projects Fund for future purchases.
- 9 The increase in Non-Departmental expenditures is due to transfers to the General Capital Projects Fund for planned vehicle and heavy equipment replacements as well as City facility and infrastructure improvement projects.



SUMMARY BUDGET REPORT

January 31, 2022

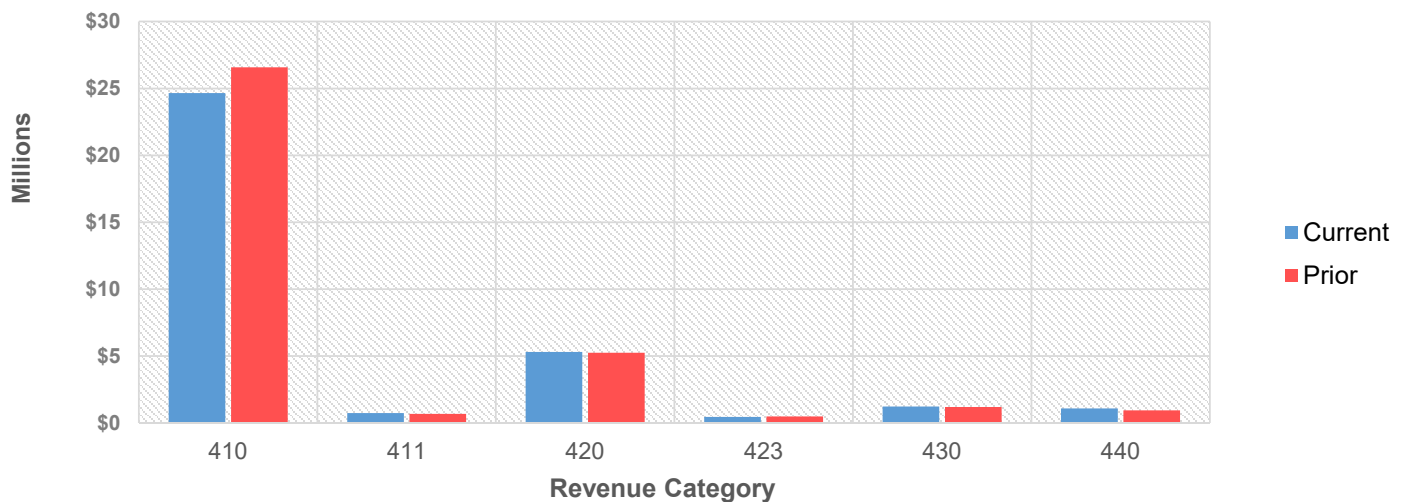
33.70% of Year Elapsed

Exhibit 3

Enterprise Fund Revenues

Revenue Category	Current Year Revenue to Date	Current Year Revenue % of Budget	Prior Year Revenue to Date	Prior Year Revenue % of Budget	% Variance (Current Year less Prior Year)	\$ Variance (Current Year less Prior Year)
410 Electric	24,648,591	29.64%	26,579,147	32.09%	-2.45%	(1,930,556)
411 Natural Gas	727,739	36.25%	668,266	29.86%	6.39%	59,474
420 Water & Sewer	5,298,618	35.05%	5,236,513	35.19%	-0.14%	62,105
423 Stormwater	449,793	30.95%	480,813	33.37%	-2.42%	(31,020)
430 Sanitation	1,228,274	34.80%	1,183,235	33.18%	1.62%	45,040
440 Golf Course	1,075,963	47.33%	932,675	42.72%	4.60%	143,288
Total Revenues	\$33,428,978	31.08%	\$35,080,649	32.75%	-1.66%	(\$1,651,670)

Current Year vs. Prior Year



Discussion

Total Enterprise Fund revenues are under budget for the current year and slightly behind the prior year at the same point in time on a percent of budget basis.

410 The reduction in Electric revenues reflects decreased customer consumption compared to the same point in the prior year.

411 The increase in Natural Gas revenues is due to increased customer consumption compared to the same point in the prior year.

440 Golf course revenues are 4.6% ahead of the prior year on a percent of budget basis, due largely to rate adjustments adopted this month.



SUMMARY BUDGET REPORT

January 31, 2022

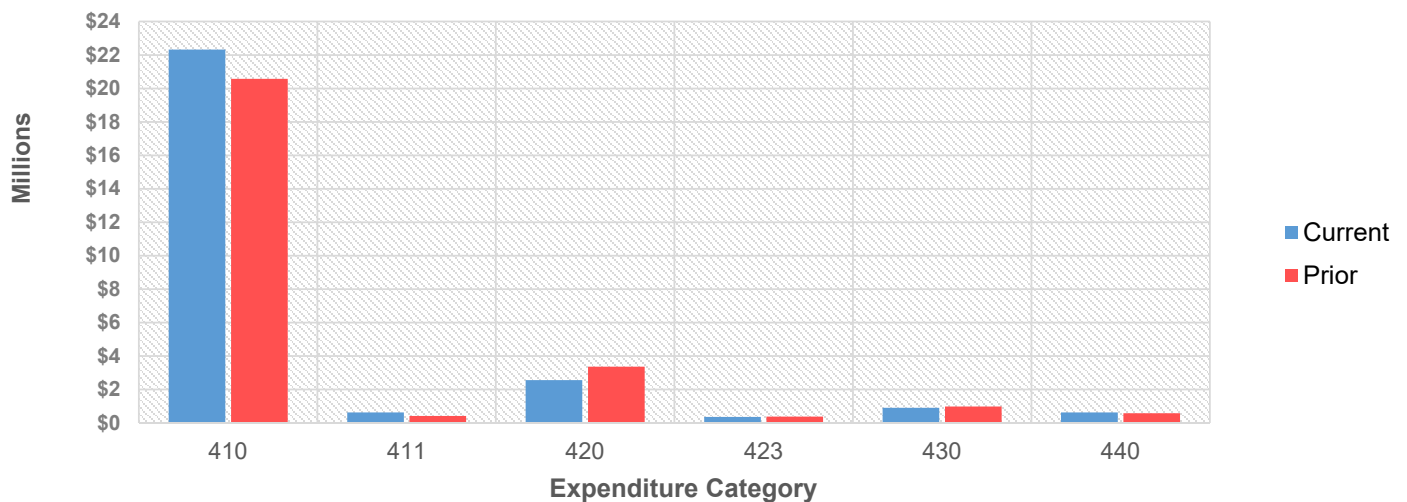
33.70% of Year Elapsed

Exhibit 4

Enterprise Fund Expenditures

Expenditure Category	Current Year Expenditures to Date	Current Year Expenditures % of Budget	Prior Year Expenditures to Date	Prior Year Expenditures % of Budget	% Variance (Current Year less Prior Year)	\$ Variance (Current Year less Prior Year)
410 Electric	22,326,455	24.63%	20,575,258	22.93%	1.70%	1,751,197
411 Natural Gas	621,994	29.43%	412,554	21.35%	8.08%	209,439
420 Water & Sewer	2,561,080	11.91%	3,361,550	19.54%	-7.63%	(800,470)
423 Stormwater	356,670	13.32%	371,938	19.00%	-5.68%	(15,268)
430 Sanitation	897,836	21.85%	976,996	24.75%	-2.90%	(79,160)
440 Golf Course	619,882	25.62%	573,989	26.40%	-0.78%	45,893
Total Expenditures	\$27,383,917	22.18%	\$26,272,285	22.46%	-0.29%	\$1,111,632

Current Year vs. Prior Year



Discussion

Total Enterprise Fund expenditures are under budget for the current year and consistent with amounts expended at the same point in the prior year.

410 The increase in Electric Fund expenditures is primarily due to the rising cost of purchased power.

411 Increased natural gas customer consumption and the rising cost of natural gas combined account for the increase in expenditures over the prior year.

420 The decrease in Water & Sewer expenditures from the prior year is largely due to savings in debt service costs now that the City is debt free.



SUMMARY BUDGET REPORT

January 31, 2022

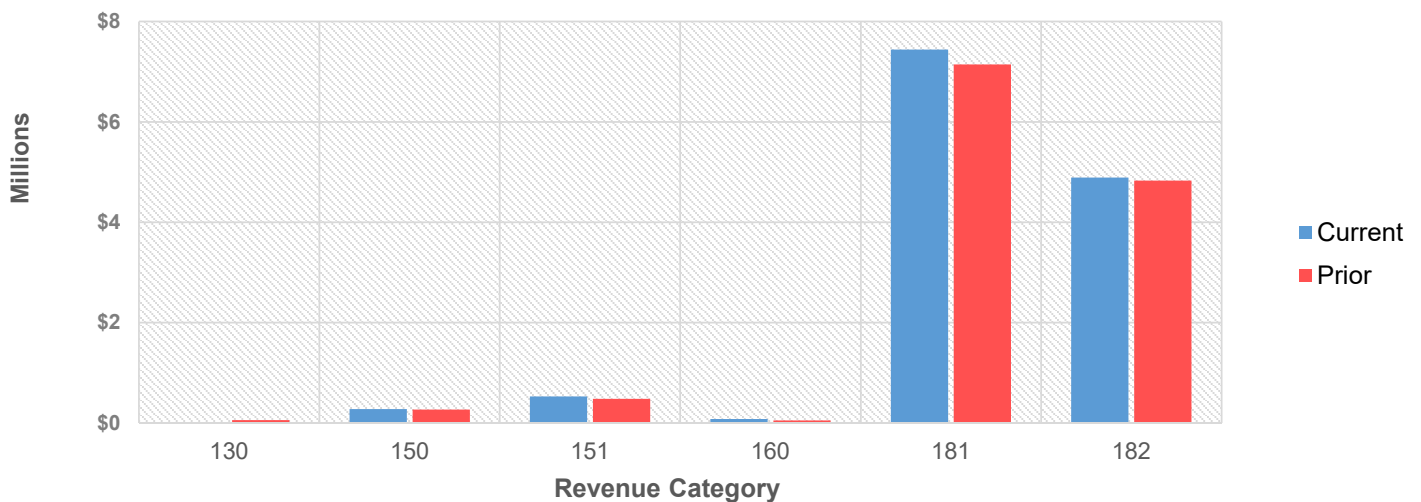
33.70% of Year Elapsed

Exhibit 5

Special Revenue Fund Revenues

Revenue Category	Current Year Revenue to Date	Current Year Revenue % of Budget	Prior Year Revenue to Date	Prior Year Revenue % of Budget	% Variance (Current Year less Prior Year)	\$ Variance (Current Year less Prior Year)
130 Convention Development	(3,148)	-0.84%	54,131	13.30%	-14.14%	(57,279)
150 Local Option Gas Tax	275,756	34.66%	265,001	32.47%	2.19%	10,755
151 Infrastructure Surtax	528,211	37.25%	478,670	34.68%	2.58%	49,541
160 Community Dev Blk Grant	77,313	54.45%	47,455	33.42%	21.03%	29,858
181 Downtown Increment Fund	7,439,637	97.24%	7,144,885	98.19%	-0.95%	294,752
182 Southend Increment Fund	4,888,025	181.49%	4,829,028	184.96%	-3.47%	58,998
Total Revenues	\$13,205,795	101.01%	\$12,819,170	101.48%	-0.47%	\$386,625

Current Year vs. Prior Year



Discussion

Total revenues in the Special Revenue Funds are in line with the prior year actuals on a percent of budget basis.

130 Convention Development funds are normally received two to three months in arrears.

160 Community Development Block Grant revenues are received on a reimbursement basis.

181/182 The annual tax increment distribution for both the Downtown and Southend districts were received in December.



SUMMARY BUDGET REPORT

January 31, 2022

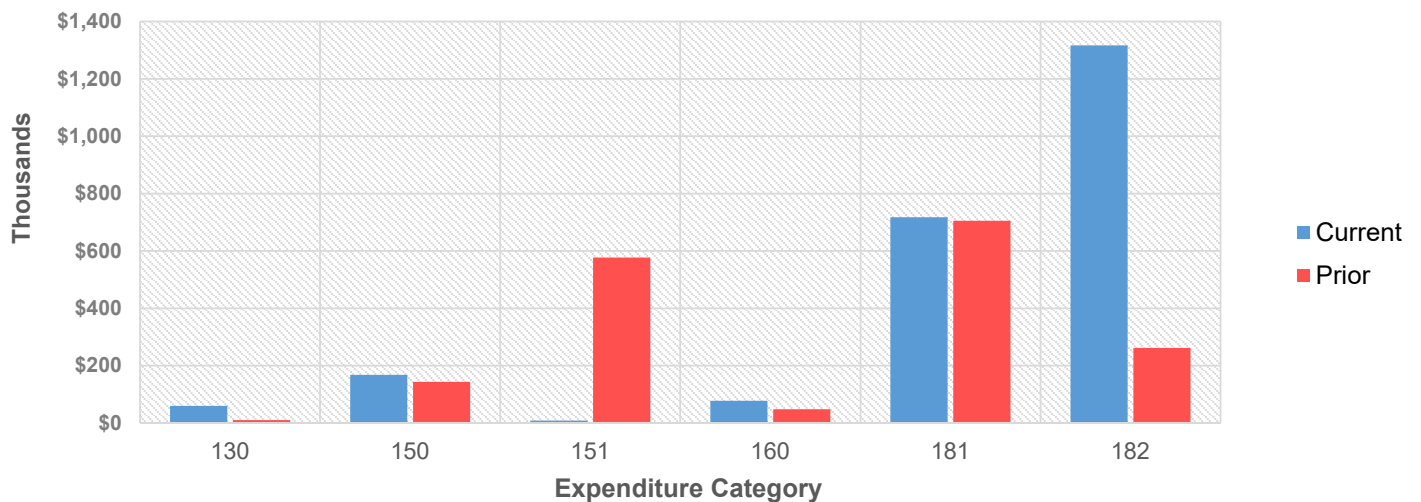
33.70% of Year Elapsed

Exhibit 6

Special Revenue Fund Expenditures

Expenditure Category	Current Year Expenditures to Date	Current Year Expenditures % of Budget	Prior Year Expenditures to Date	Prior Year Expenditures % of Budget	% Variance (Current Year less Prior Year)	\$ Variance (Current Year less Prior Year)
130 Convention Development	59,150	10.31%	9,462	4.82%	5.49%	49,688
150 Local Option Gas Tax	167,410	20.89%	143,168	18.04%	2.84%	24,242
151 Infrastructure Surtax	8,139	0.62%	576,577	63.90%	-63.28%	(568,438)
160 Community Dev Blk Grant	77,313	54.45%	47,455	33.42%	21.03%	29,858
181 Downtown Increment Fund	717,033	7.37%	705,025	17.21%	-9.84%	12,008
182 Southend Increment Fund	1,316,560	11.04%	261,459	7.63%	3.41%	1,055,101
Total Expenditures	\$2,345,606	9.58%	\$1,743,147	18.23%	-8.66%	\$602,459

Current Year vs. Prior Year



Discussion

In total, Special Revenue Fund expenditures are under budget for the current year and 8.66% lower than the prior year on a percent of budget basis.

151 The decrease in Infrastructure Surtax Fund expenditures is attributable to roadway milling, paying, and overlay projects undertaken in the prior year.

160 Community Development Block Grant Fund expenditures will be reimbursed by grant funding.

181 The increase in the Southend Increment Fund is due to the timing of capital improvement projects.



SUMMARY BUDGET REPORT

January 31, 2022

33.70% of Year Elapsed

Exhibit 7

Summary Revenues and Expenditures

Fund Name	Budgeted Annual Revenues	Budgeted Revenues To Date	Actual Revenues To Date	Variance Favorable/(Unfavorable)
001 General Fund	24,935,609	8,402,959	14,378,896	5,975,937
130 Convention Development Tax	375,179	126,430	(3,148)	(129,578)
150 Local Option Gas Tax	795,610	268,110	275,756	7,647
151 Infrastructure Surtax	1,417,833	477,790	528,211	50,420
160 Community Dev. Blk. Grant	142,000	47,852	77,313	29,461
181 Downtown Increment Fund	7,650,521	2,578,121	7,439,637	4,861,516
182 Southend Increment Fund	2,693,245	907,587	4,888,025	3,980,439
410 Electric Utility	83,159,691	28,023,677	24,648,591	(3,375,086)
411 Natural Gas Utility	2,007,643	676,548	727,739	51,191
420 Water & Sewer Utility	15,118,502	5,094,728	5,298,618	203,890
423 Storm Water Management	1,453,336	489,754	449,793	(39,961)
430 Sanitation Fund	3,529,867	1,189,517	1,228,274	38,758
440 Golf Course Fund	2,273,503	766,139	1,075,963	309,824
460 Leased Facilities Fund	762,177	256,843	248,107	(8,736)
500 Internal Service Funds	13,622,837	4,590,709	4,274,747	(315,963)
Total Revenues	\$159,937,553	\$53,896,764	\$65,536,523	\$11,639,758

Fund Name	Budgeted Annual Expenditures	Budgeted Expenditures To Date	Actual Expenditures To Date	Variance Favorable/(Unfavorable)
001 General Fund	25,057,752	8,444,119	7,842,647	601,472
130 Convention Development Tax	573,719	193,335	59,150	134,185
150 Local Option Gas Tax	801,509	270,097	167,410	102,687
151 Infrastructure Surtax	1,314,106	442,836	8,139	434,697
160 Community Dev. Blk. Grant	142,000	47,852	77,313	(29,461)
181 Downtown Increment Fund	9,732,253	3,279,636	717,033	2,562,602
182 Southend Increment Fund	11,929,514	4,020,083	1,316,560	2,703,523
410 Electric Utility	90,651,229	30,548,222	22,326,455	8,221,768
411 Natural Gas Utility	2,113,227	712,129	621,994	90,135
420 Water & Sewer Utility	21,511,570	7,249,104	2,561,080	4,688,024
423 Storm Water Management	2,677,429	902,257	356,670	545,587
430 Sanitation Fund	4,108,447	1,384,490	897,836	486,654
440 Golf Course Fund	2,419,201	815,238	619,882	195,356
460 Leased Facilities Fund	871,513	293,688	226,817	66,871
500 Internal Service Funds	13,673,250	4,607,698	4,018,016	589,682
Total Expenditures	\$187,576,717	\$63,210,784	\$41,817,003	\$21,393,781

Fund Name	Net Income/(Loss)	Net Variance Favorable/(Unfavorable)
001 General Fund	6,536,249	6,577,409
130 Convention Development Tax	(62,298)	4,607
150 Local Option Gas Tax	108,346	110,334
151 Infrastructure Surtax	520,072	485,117
160 Community Dev. Blk. Grant	-	-
181 Downtown Increment Fund	6,722,604	7,424,119
182 Southend Increment Fund	3,571,465	6,683,961
410 Electric Utility	2,322,136	4,846,681
411 Natural Gas Utility	105,745	141,326
420 Water & Sewer Utility	2,737,538	4,891,914
423 Storm Water Management	93,123	505,626
430 Sanitation Fund	330,438	525,412
440 Golf Course Fund	456,081	505,179
460 Leased Facilities Fund	21,290	58,135
500 Internal Service Funds	256,731	273,719
Total	\$23,719,520	\$33,033,540



Attorney Fees Paid During Month
January 31, 2022

NAME	DESCRIPTION	FUNDING SOURCE	CHECK DATE	CHECK AMOUNT
Roper Law, P.A.	SLG Investments vs. COJB	General Fund	1/3/2022	\$450
Lewis, Longman & Walker, P.A.	Special Magistrate	General Fund	1/20/2022	\$2,000
Roper Law, P.A.	SLG Investments vs. COJB	General Fund	1/20/2022	\$162
Shepard, Smith, Kohlmyer & Han	Charter Review	General Fund	1/20/2022	\$375
Sugarman & Susskind, P.A.	Monthly Retainer	Pension Funds	1/20/2022	\$2,550
TOTAL ATTORNEY FEES				\$5,537



CASH AND INVESTMENTS BY TYPE

Fiscal Year to Date

January 31, 2022

Type of Investment	10/1/2021 Beginning Balance	Investment Earnings	Realized Gain/(Loss)	Unrealized Gain/(Loss)	Fees	Net Investment Income	Net Deposits (Withdrawals)	1/31/2022 Ending Balance	Weighted Net Return*
Sawgrass Asset Management	44,639,915	264,297	(74,579)	(794,860)	(41,367)	(646,509)	-	43,993,406	-0.26%
Galliard Capital Management	42,652,431	170,889	(30,895)	(15,898)	(8,511)	115,584	0	42,768,015	0.05%
Garcia Hamilton & Associates	42,538,492	39,936	(13,440)	7,190	(7,827)	25,859	(0)	42,564,350	0.01%
State Pooled Investment Fund	22,151,012	8,776	-	-	-	8,776	0	22,159,788	0.00%
Florida Trust	19,091,550	3,741	-	-	-	3,741	-	19,095,290	0.00%
Florida Municipal Investment Trust 0-2 Yr HQ Bond Fund	12,681,578	(18,606)	-	-	-	(18,606)	(0)	12,662,972	-0.01%
Operating Cash: Bank of America	33,974,437	26,521	-	-	(56,103)	(29,582)	24,904,242	58,849,097	-0.02%
Petty Cash	6,725	-	-	-	-	-	-	6,725	0.00%
TOTAL CITY MANAGED INVESTMENTS AND CASH	217,736,139	495,553	(118,914)	(803,568)	(113,808)	(540,738)	24,904,242	242,099,643	-0.23%
Pension: Salem Mutual Fund	66,984,250	2,222,823	536,278	(1,853,521)	-	905,580	(1,000,000)	66,889,830	0.78%
Pension: Sawgrass Asset Mgt	27,641,190	138,707	(182,076)	(483,820)	(45,136)	(572,325)	(0)	27,068,865	-0.48%
Pension: Wells Capital	18,231,624	14,588	491,940	(2,433,230)	(30,732)	(1,957,435)	-	16,274,190	-1.50%
Pension: JPMCB - Strategic Property Fund	5,782,110	-	-	455,418	-	455,418	-	6,237,528	0.42%
TOTAL PENSION INVESTMENTS	118,639,174	2,376,118	846,142	(4,315,153)	(75,868)	(1,168,762)	(1,000,000)	116,470,412	-0.99%
TOTAL CASH AND INVESTMENTS	\$336,375,312	\$2,871,670	\$727,228	(\$5,118,722)	(\$189,676)	(\$1,709,500)	\$23,904,242	\$358,570,055	



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Mayor and City Council
FROM:	Michael J. Staffopoulos, City Manager
DATE:	02/15/2022
SUBJECT:	Authorization to attend the Florida League of Cities Leadership Academy I, Leadership Academy II, Institute for Elected Municipal Officials (IEMO) II, the Annual Conference, and the Legislative Conference

BACKGROUND

The Florida League of Cities is offering upcoming training programs, the Annual Conference and the Legislative Conference. The specifics are as follows:

The Leadership Academy I will be held on March 11-12, 2022 at the Embassy Suites Orlando Lake Buena Vista South and is specifically designed for graduates of IEMO I and IEMO II and is focused entirely on leadership.

The Leadership Academy II will be held on December 2-3, 2022 at the Embassy Suites Orlando Lake Buena Vista South and continues the focus on characteristics as a leader.

The IEMO II program will be held on April 29-30, 2022 at the Hilton Cocoa Beach and again on September 16-17, 2022 at the Embassy Suites, Fort Myers Estero. This is an intensive two-day program and the course features classes and workshops focused on the numerous aspects of municipal government.

The Annual Conference will be held on August 11-13, 2022 at the Diplomat Beach Resort Hollywood and the Legislative Conference will be held on November 29 - December 2, 2022, at the Embassy Suites Orlando Lake Buena Vista South. These conferences are an opportunity for municipal officials to enhance their leadership skills, learn from municipal experts, share ideas with peers, discuss strategies for Florida's future and hear about the latest in products and services for municipal government.

FINANCIAL IMPACT

Advertised fees for the Leadership Academy I are as follows:

- Registration – \$295/person
- Hotel – \$150+/night

Advertised fees for IEMO II, the Annual Conference, the Legislative Conference, and Leadership Academy II are not available at this time.

The FY 2022 Travel and Training budget for the City Council has a balance of approximately \$11,000. Depending on the number of elected officials who want to attend the Leadership



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

Academy I, IEMO II, and the Annual Conference, a budget adjustment may be required.

The FY 2023 Travel and Training budget for the City Council will accommodate as many elected officials who want to attend the Legislative Conference and are eligible for the Leadership Academy II.

REQUESTED ACTION

Authorize elected officials to attend the Leadership Academy I, March 11-12, 2022, at the Embassy Suites Orlando Lake Buena Vista South; ***and***

Authorize elected officials to attend the Leadership Academy II, December 2-3, 2022, at the Embassy Suites Orlando Lake Buena Vista South; ***and***

Authorize elected officials to attend the Institute for Elected Municipal Officials (IEMO) II training on April 29-30, 2022, at the Hilton Cocoa Beach or on September 16-17, 2022, at the Embassy Suites Fort Myers Estero; ***and***

Authorize elected officials to attend the FLC Annual Conference, August 11-13, 2022, at the Diplomat Beach Resort Hollywood; ***and***

Authorize elected officials to attend the FLC Legislative Conference, November 29 – December 2, 2022, at the Embassy Suites Orlando Lake Buena Vista South

ATTACHMENTS



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Michael J. Staffopoulos, City Manager
FROM:	Duston Scott, Pension Plan Administrator
DATE:	02/11/2022
SUBJECT:	Police Officers' Pension Board Appointments

BACKGROUND

The Police Officers' Pension Board of Trustees consists of five members as follows:

- Two members appointed by the city council, who shall be residents of the city.
- Two police officers who shall be elected by active police officers of the city.
- A fifth member selected by the other four members and appointed, as a ministerial act, by the City Council.

The terms of current City Council appointees Marvin DuPree and John Gosztyla will expire on March 31, 2022. Members of the City Council interviewed the candidates and applicants for the Pension Boards on February 2 and 3, 2022.

Marvin DuPree was initially appointed as a Trustee on March 20, 2000, and was previously the Chairperson and Chairperson Pro-Tem to the board. Mr. DuPree is a resident of Jacksonville Beach, a CPA, and has a practicing tax firm here in Jacksonville Beach. Mr. DuPree would like to be considered for reappointment to a new two-year term, which will expire on March 31, 2024.

John Gosztyla is no longer a Jacksonville Beach resident and is not eligible for reappointment by the City Council. There were two applicants interviewed who selected the Pension Boards as their first or second choice. The applications of Rudy Dean and D. Lance Huish are attached for consideration.

FINANCIAL IMPACT

None.

REQUESTED ACTION

Reappoint Marvin DuPree to a new two-year term as a Council appointed member of the Police Officers' Pension Board with the term expiring March 31, 2024; **and**

Nominate Rudy Dean or D. Lance Huish to a new two-year term as Council appointed member of the Police Officers' Pension Board with the term expiring March 31, 2024

ATTACHMENTS

1. Marvin DuPree Application 2022



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

2. Rudy Dean Application 2022
3. Lance Huish Application 2022



Application for Appointment to City Boards

Personal Information (Please print or type)

Name: MARVIN V. DUPREE Home Phone: 904 285-4010
Home Address: 4022 DUVAL DR JACKSONVILLE BCH, FL 32250
E-Mail Address: BODUCPA@AUG.COM Cell Phone: 904-246-2001
Occupation: Certified Public Accountant Business Phone: 904-246-2001
Business Name: MARVIN V. DUPREE, CPA
Business Address: 1511-C PENMAN RD. JACKSONVILLE BCH, FL. 32250

Eligibility - Please Circle

Are you a resident of the City? Yes No If yes, length of time: 43 + YRS
Are you a registered voter? Yes No If yes, what County: DUVAL
Do you own property in the City? Yes No If yes, address: HOME + 1511-C PENMAN Rd. JAX BCH, FL
Do you hold a public office? Yes No If yes, Office name: _____
Are you employed by the City? Yes No If yes, position: _____
Are you currently serving on a Board? Yes No If yes, Board Name: POLICE OFFICERS
Have you been convicted of a felony? Yes No If yes, provide date: _____
Have your civil rights been restored? Yes No If yes, provide date: _____
Have you filed bankruptcy? Yes No If yes, provide date: _____

Potential Conflict of Interest: Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Jacksonville Beach? Yes No

If yes, please provide details:

City Boards (Please indicate your preferences by ranking - denote your Primary choice with a "1", Secondary choice with a "2".)

☐	Board of Adjustment	☐	Planning Commission
☐	Community Redevelopment Agency	☒	Pension Trustee

Please list the type of City meetings you have attended: PERIODIC CITY COUNCIL, MOST PENSION BOARD MEETINGS

Qualifications (Briefly describe specific expertise, abilities, or qualifications) currently active licensed CPA in JAX BCH FOR 38+ YRS. currently a Trustee on Jax Bch Police Pension Board

Education: BS degree - 1972 ACCOUNTING

Application for Appointment to City Boards (cont.)

State Reporting Requirements

Section 760.80, Florida Statutes, requires that the City annually submit a report to the Secretary of State disclosing race, gender, and physical disabilities of board members and elected officials. Please circle the appropriate responses.

<u>Race</u>		<u>Gender</u>	<u>Physically Disabled</u>
☐ African-American	☒ Caucasian	☐ Female	☐ Yes
☐ Asian/Pacific Islander	☐ Hispanic	☒ Male	☒ No
☐ American Indian/Alaskan	☐ Not Known		

Florida's Public Records Law, Chapter 119, Florida Statutes, states: "It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form 1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes.

I understand that if I am appointed to one of the City's boards, I will be required to file a financial disclosure form - Form 1, as described above, and I am willing to comply with this requirement.

I understand that any false, incomplete, or misleading information given by me on the application is sufficient cause for rejection of this application. I understand and agree that any such false, incomplete, or misleading information discovered on this application at any time after appointment to a Board may result in my removal.

I also understand that all board appointments are for voluntary, uncompensated services. Additionally, if appointed, I am able to attend meetings and otherwise fulfill the duties of the office.

Applications are submitted to the City Clerk and are valid for two years from the date they are submitted. All applicants are interviewed following their application submittal. When vacancies occur, the City Council considers all eligible applicants and votes to make board appointments.

By submitting this form, I declare the foregoing facts to be true, correct, and complete. Additionally I hereby authorize a criminal background check.

January 4, 2022
Date

Maurin O. DuPree
Applicant's Signature



RECEIVED

JAN 07 2022

COJB City Clerk

Application for Appointment to City Boards

Personal Information (Please print or type)

Name: N. Rudy Dean Home Phone: 843.230.4443
Home Address: 1717 2nd Street N, Unit C, Jacksonville Beach, FL 32250
E-Mail Address: ndeancpa@cs.com Cell Phone: above
Occupation: CPA, Director at PenFed Credit Union Business Phone: 904.456.4297
Business Name: Pentagon Federal Credit Union
Business Address: 7940 Jones Branch Drive, Tysons, VA 22102

Eligibility – Please Circle

Are you a resident of the City?	Yes ☒	No ☐	If yes, length of time: <u>since July, 2017</u>
Are you a registered voter?	Yes ☒	No ☐	If yes, what County: <u>Duval</u>
Do you own property in the City?	Yes ☒	No ☐	If yes, address: <u>above</u>
Do you hold a public office?	Yes ☐	No ☒	If yes, Office name: _____
Are you employed by the City?	Yes ☒	No ☐	If yes, position: <u>technically; unpaid COP volunte</u>
Are you currently serving on a Board?	Yes ☒	No ☐	If yes, Board Name: <u>JBPD CPAAA</u>
Have you been convicted of a felony?	Yes ☐	No ☒	If yes, provide date: _____
Have your civil rights been restored?	Yes ☐	No ☒	If yes, provide date: _____
Have you filed bankruptcy?	Yes ☐	No ☒	If yes, provide date: _____

Potential Conflict of Interest: Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Jacksonville Beach? Yes ☐ No ☒

If yes, please provide details: _____

City Boards (Please indicate your preferences by ranking - denote your Primary choice with a "1", Secondary choice with a "2".

3	Board of Adjustment	2	Planning Commission
4	Community Redevelopment Agency	1	Pension Trustee

Please list the type of City meetings you have attended: City Council, City Council planning/workshops

Education: BA - Business/Accounting and Political Science License - CPA in the state of SC

Qualifications (Briefly describe specific expertise, abilities, or qualifications):

~~I have served on numerous Boards for non-profits at a state and local level. I have served as Board Treasurer at the state (United Way of SC) and local level for non-profits (numerous). I have been a CPA since 1989 and served in corporate assistant controllership roles in large scale mortgage banking entities (one that went public). I have audited firms in public accounting practice. I have managed large scale operations and led enterprise risk mgt~~

Application for Appointment to City Boards (cont.)

State Reporting Requirements

Section 760.80, Florida Statutes, requires that the City annually submit a report to the Secretary of State disclosing race, gender, and physical disabilities of board members and elected officials. Please circle the appropriate responses.

Race

- ☐ African-American ☒ Caucasian
☐ Asian/Pacific Islander ☐ Hispanic
☐ American Indian/Alaskan ☐ Not Known

Gender

- ☐ Female
☒ Male

Physically Disabled

- ☐ Yes
☒ No

Florida's Public Records Law, Chapter 119, Florida Statutes, states: "It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes.

I understand that if I am appointed to one of the City's boards, I will be required to file a financial disclosure form - Form 1, as described above, and I am willing to comply with this requirement.

I understand that any false, incomplete, or misleading information given by me on the application is sufficient cause for rejection of this application. I understand and agree that any such false, incomplete, or misleading information discovered on this application at any time after appointment to a Board may result in my removal.

I also understand that all board appointments are for voluntary, uncompensated services. Additionally, if appointed, I am able to attend meetings and otherwise fulfill the duties of the office.

Applications are submitted to the City Council when vacancies occur and are effective for two years from date of completion.

By submitting this form, I declare the foregoing facts to be true, correct, and complete. Additionally I hereby authorize a criminal background check.

1/7/2021

Date

N. Rudy

N. Rudy Dean Dean
Applicant's Signature

Digitally signed by N.
Rudy Dean
Date: 2022.01.07 13:41:16
-05'00'

SUBMIT APPLICATION

Please do not write below – Staff use

Date application received: 1/7/2022

Interviewed on: _____

Eligible for appointment **Yes** **No**

If not eligible for appointment
Explanation: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____

City of Jacksonville Beach
Office of the City Clerk
11 North 3rd Street
Jacksonville Beach, Florida 32250



Phone: (904) 247-6299
FAX: (904) 247-6256
E-mail: cityclerk@jaxbchfl.net

Application for Appointment to City Boards



Personal Information (Please print or type)

Name: D. Lance Huish Home Phone: _____
Home Address: 729 13th Ave S
E-Mail Address: Chief_Huish@yahoo.com Cell Phone: (219)779-3516
Occupation: Retired LEO. Building and Constuction Assoc Business Phone: _____
Business Name: HOME DEPOT
Business Address: 3290 3RD ST S., JAX BCH, FL 32250

Eligibility – Please Circle

Are you a resident of the City?	Yes ☒	No ☐	If yes, length of time: <u>10 Yrs., 4 Mos.</u>
Are you a registered voter?	Yes ☒	No ☐	If yes, what County: <u>Duval</u>
Do you own property in the City?	Yes ☒	No ☐	If yes, address: <u>729 13th Ave S</u>
Do you hold a public office?	Yes ☐	No ☒	If yes, Office name: _____
Are you employed by the City?	Yes ☐	No ☒	If yes, position: _____
Are you currently serving on a Board?	Yes ☐	No ☒	If yes, Board Name: _____
Have you been convicted of a felony?	Yes ☐	No ☒	If yes, provide date: _____
Have your civil rights been restored?	Yes ☐	No ☒	If yes, provide date: _____
Have you filed bankruptcy?	Yes ☐	No ☒	If yes, provide date: _____

Potential Conflict of Interest: Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Jacksonville Beach? Yes ☐ No ☒

If yes, please provide details: _____

City Boards (Please indicate your preferences by ranking - denote your Primary choice with a "1", Secondary choice with a "2".)

3 Board of Adjustment	2 Planning Commission
4 Community Redevelopment Agency	1 Pension Trustee

Please list the type of City meetings you have attended: None here.

Education: Some College (Indiana University) centered around City Planning

Qualifications (Briefly describe specific expertise, abilities, or qualifications):

~~I was a 2-term Town Councilman in my home town. I served on Planning and Building, Zoning, Redevelopment, Parks and Recreation Boards as well as other boards of the Town of Merrillville.~~

Application for Appointment to City Boards (cont.)

State Reporting Requirements

Section 760.80, Florida Statutes, requires that the City annually submit a report to the Secretary of State disclosing race, gender, and physical disabilities of board members and elected officials. Please circle the appropriate responses.

Race

- ☐ African-American ☒ Caucasian
☐ Asian/Pacific Islander ☐ Hispanic
☐ American Indian/Alaskan ☐ Not Known

Gender

- ☐ Female
☒ Male

Physically Disabled

- ☐ Yes
☒ No

Florida's Public Records Law, Chapter 119, Florida Statutes, states: "It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form 1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes.

I understand that if I am appointed to one of the City's boards, I will be required to file a financial disclosure form - Form 1, as described above, and I am willing to comply with this requirement.

I understand that any false, incomplete, or misleading information given by me on the application is sufficient cause for rejection of this application. I understand and agree that any such false, incomplete, or misleading information discovered on this application at any time after appointment to a Board may result in my removal.

I also understand that all board appointments are for voluntary, uncompensated services. Additionally, if appointed, I am able to attend meetings and otherwise fulfill the duties of the office.

Applications are submitted to the City Council when vacancies occur and are effective for two years from date of completion.

By submitting this form, I declare the foregoing facts to be true, correct, and complete. Additionally I hereby authorize a criminal background check.

05/10/2021
Date

D. James Smith
Applicant's Signature

SUBMIT APPLICATION

Please do not write below - Staff use

Date application received: 05/10/2021

Interviewed on: 10/15/2021

Eligible for appointment **Yes** No

If not eligible for appointment

Explanation: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Michael J. Staffopoulos, City Manager
FROM:	Duston Scott, Pension Plan Administrator
DATE:	02/11/2022
SUBJECT:	Firefighters' Pension Board Appointments

BACKGROUND

The Firefighters' Pension Board of Trustees consists of five members as follows:

- Two members appointed by the city council, who shall be residents of the city.
- Two police officers who shall be elected by active Firefighters of the city.
- A fifth member selected by the other four members and appointed, as a ministerial act, by the City Council.

The terms of current City Council appointees Gaylord Candler and Dennis Povloski will expire on March 31, 2022. Members of the City Council interviewed the candidates and applicants for the Pension Boards on February 2 and 3, 2022.

Gaylord Candler was initially appointed as a Trustee on February 2, 2015. He is the current Chairperson and a resident of the City of Jacksonville Beach. Mr. Candler would like to be considered for reappointment to a new two-year term, which will expire on March 31, 2024. .

Dennis Povloski did not wish to be reappointed. There were two applicants interviewed who selected the Pension Boards as their first or second choice. The applications of D. Lance Huish and Rudy Dean are attached for consideration.

FINANCIAL IMPACT

None.

REQUESTED ACTION

Reappoint Gaylord Candler to a new two-year term as a Council appointed member of the Firefighters' Pension Board with the term expiring March 31, 2024; **and**

Nominate Rudy Dean or D. Lance Huish to a new two-year term as Council appointed member of the Firefighters' Pension Board with the term expiring March 31, 2024

ATTACHMENTS

1. Gaylord Candler Application 2022
2. Lance Huish Application 2022
3. Rudy Dean Application 2022



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

City of Jacksonville Beach
Office of the City Clerk
11 North 3rd Street
Jacksonville Beach, Florida 32250



Phone: (904) 247-6299
FAX: (904) 247-6256
E-mail: cityclerk@jaxbchfl.net

Application for Appointment to City Boards

Received
1/3/2022
City Clerk's office

Personal Information (Please print or type)

Name: <u>GAYLORD GEORGE CANOLER</u>	Home Phone: <u>508-631-6417</u>
Home Address: <u>507 16TH AVE. SWTH</u>	Cell Phone: <u>↓</u>
E-Mail Address: <u>G.CANOLER@UNF.EDU</u>	Business Phone: <u>904-620-1388</u>
Occupation: <u>EDUCATOR</u>	
Business Name: <u>UNF</u>	
Business Address: <u>1 UNF DRIVE, JACKSONVILLE, FL 32224-7679</u>	

Eligibility – Please Circle

Are you a resident of the City?	☒ Yes	No	If yes, length of time: <u>11 YEARS</u>
Are you a registered voter?	☒ Yes	No	If yes, what County: <u>DUAL</u>
Do you own property in the City?	☒ Yes	No	If yes, address: <u>507 16TH AVE. S</u>
Do you hold a public office?	☒ Yes	☒ No	If yes, Office name: _____
Are you employed by the City?	☒ Yes	☒ No	If yes, position: _____
Are you currently serving on a Board?	☒ Yes	No	If yes, Board Name: <u>SAME: FIREFIGHTERS PENSION</u>
Have you been convicted of a felony?	☒ Yes	☒ No	If yes, provide date: _____
Have your civil rights been restored?	☒ Yes	No	If yes, provide date: <u>N/A - NOT TAKEN AWAY</u>
Have you filed bankruptcy?	☒ Yes	☒ No	If yes, provide date: _____

Potential Conflict of Interest: Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Jacksonville Beach? Yes ☒ No

If yes, please provide details: _____

City Boards (Please indicate your preferences by ranking - denote your Primary choice with a "1", Secondary choice with a "2".)

☐ Board of Adjustment	☐ Planning Commission
☒ 2 Community Redevelopment Agency	☒ Pension Trustee

Please list the type of City meetings you have attended: CITY COUNCIL, PENSION BOARD

Qualifications (Briefly describe specific expertise, abilities, or qualifications) PHD IN PUBLIC POLICY, DIRECTOR
UNF MASTER OF PUBLIC ADMINISTRATION

Education: <u>PHD PUBLIC POLICY INDIANA UNI 1998</u>
<u>B.LIT (HONS), INTL DEVELOPMENT DEAN UNIV, 1997</u>
<u>B.A. POLITICAL SCIENCE, GRIFFITH UNIVERSITY, 1990</u>

Application for Appointment to City Boards (cont.)

State Reporting Requirements

Section 760.80, Florida Statutes, requires that the City annually submit a report to the Secretary of State disclosing race, gender, and physical disabilities of board members and elected officials. Please circle the appropriate responses.

Race

- ☐ African-American
☐ Asian/Pacific Islander
☐ American Indian/Alaskan

- ☒ Caucasian
☐ Hispanic
☐ Not Known

Gender

- ☐ Female
☒ Male

Physically Disabled

- ☐ Yes
☒ No

Florida's Public Records Law, Chapter 119, Florida Statutes, states: "It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form 1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes.

I understand that if I am appointed to one of the City's boards, I will be required to file a financial disclosure form - Form 1, as described above, and I am willing to comply with this requirement.

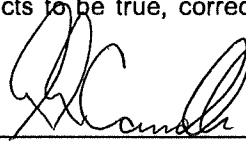
I understand that any false, incomplete, or misleading information given by me on the application is sufficient cause for rejection of this application. I understand and agree that any such false, incomplete, or misleading information discovered on this application at any time after appointment to a Board may result in my removal.

I also understand that all board appointments are for voluntary, uncompensated services. Additionally, if appointed, I am able to attend meetings and otherwise fulfill the duties of the office.

Applications are submitted to the City Clerk and are valid for two years from the date they are submitted. All applicants are interviewed following their application submittal. When vacancies occur, the City Council considers all eligible applicants and votes to make board appointments.

By submitting this form, I declare the foregoing facts to be true, correct, and complete. Additionally I hereby authorize a criminal background check.

15 DEC 2021
Date


Applicant's Signature

City of Jacksonville Beach
Office of the City Clerk
11 North 3rd Street
Jacksonville Beach, Florida 32250



Phone: (904) 247-6299
FAX: (904) 247-6256
E-mail: cityclerk@jaxbchfl.net

Application for Appointment to City Boards



Personal Information (Please print or type)

Name: D. Lance Huish Home Phone: _____
Home Address: 729 13th Ave S
E-Mail Address: Chief_Huish@yahoo.com Cell Phone: (219)779-3516
Occupation: Retired LEO. Building and Constuction Assoc Business Phone: _____
Business Name: HOME DEPOT
Business Address: 3290 3RD ST S., JAX BCH, FL 32250

Eligibility – Please Circle

Are you a resident of the City?	Yes ☒	No ☐	If yes, length of time: <u>10 Yrs., 4 Mos.</u>
Are you a registered voter?	Yes ☒	No ☐	If yes, what County: <u>Duval</u>
Do you own property in the City?	Yes ☒	No ☐	If yes, address: <u>729 13th Ave S</u>
Do you hold a public office?	Yes ☐	No ☒	If yes, Office name: _____
Are you employed by the City?	Yes ☐	No ☒	If yes, position: _____
Are you currently serving on a Board?	Yes ☐	No ☒	If yes, Board Name: _____
Have you been convicted of a felony?	Yes ☐	No ☒	If yes, provide date: _____
Have your civil rights been restored?	Yes ☐	No ☒	If yes, provide date: _____
Have you filed bankruptcy?	Yes ☐	No ☒	If yes, provide date: _____

Potential Conflict of Interest: Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Jacksonville Beach? Yes ☐ No ☒

If yes, please provide details: _____

City Boards (Please indicate your preferences by ranking - denote your Primary choice with a "1", Secondary choice with a "2".)

3 Board of Adjustment	2 Planning Commission
4 Community Redevelopment Agency	1 Pension Trustee

Please list the type of City meetings you have attended: None here.

Education: Some College (Indiana University) centered around City Planning

Qualifications (Briefly describe specific expertise, abilities, or qualifications):

~~I was a 2-term Town Councilman in my home town. I served on Planning and Building, Zoning, Redevelopment, Parks and Recreation Boards as well as other boards of the Town of Merrillville.~~

Application for Appointment to City Boards (cont.)

State Reporting Requirements

Section 760.80, Florida Statutes, requires that the City annually submit a report to the Secretary of State disclosing race, gender, and physical disabilities of board members and elected officials. Please circle the appropriate responses.

Race

- ☐ African-American ☒ Caucasian
☐ Asian/Pacific Islander ☐ Hispanic
☐ American Indian/Alaskan ☐ Not Known

Gender

- ☐ Female
☒ Male

Physically Disabled

- ☐ Yes
☒ No

Florida's Public Records Law, Chapter 119, Florida Statutes, states: "It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form 1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes.

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Applications are submitted to the City Council when vacancies occur and are effective for two years from date of completion.

By submitting this form, I declare the foregoing facts to be true, correct, and complete. Additionally I hereby authorize a criminal background check.

05/10/2021
Date

D. Daniel Smith
Applicant's Signature

SUBMIT APPLICATION

Please do not write below - Staff use

Date application received: 05/10/2021

Interviewed on: 10/15/2021

Eligible for appointment **Yes** No

If not eligible for appointment

Explanation: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____



RECEIVED

JAN 07 2022

COJB City Clerk

Application for Appointment to City Boards

Personal Information (Please print or type)

Name: N. Rudy Dean Home Phone: 843.230.4443
Home Address: 1717 2nd Street N, Unit C, Jacksonville Beach, FL 32250
E-Mail Address: ndeancpa@cs.com Cell Phone: above
Occupation: CPA, Director at PenFed Credit Union Business Phone: 904.456.4297
Business Name: Pentagon Federal Credit Union
Business Address: 7940 Jones Branch Drive, Tysons, VA 22102

Eligibility – Please Circle

Are you a resident of the City?	Yes ☒	No ☐	If yes, length of time: <u>since July, 2017</u>
Are you a registered voter?	Yes ☒	No ☐	If yes, what County: <u>Duval</u>
Do you own property in the City?	Yes ☒	No ☐	If yes, address: <u>above</u>
Do you hold a public office?	Yes ☐	No ☒	If yes, Office name: _____
Are you employed by the City?	Yes ☒	No ☐	If yes, position: <u>technically; unpaid COP volunte</u>
Are you currently serving on a Board?	Yes ☒	No ☐	If yes, Board Name: <u>JBPD CPAAA</u>
Have you been convicted of a felony?	Yes ☐	No ☒	If yes, provide date: _____
Have your civil rights been restored?	Yes ☐	No ☒	If yes, provide date: _____
Have you filed bankruptcy?	Yes ☐	No ☒	If yes, provide date: _____

Potential Conflict of Interest: Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Jacksonville Beach? Yes ☐ No ☒

If yes, please provide details: _____

City Boards (Please indicate your preferences by ranking - denote your Primary choice with a "1", Secondary choice with a "2".

3	Board of Adjustment	2	Planning Commission
4	Community Redevelopment Agency	1	Pension Trustee

Please list the type of City meetings you have attended: City Council, City Council planning/workshops

Education: BA - Business/Accounting and Political Science License - CPA in the state of SC

Qualifications (Briefly describe specific expertise, abilities, or qualifications):

~~I have served on numerous Boards for non-profits at a state and local level. I have served as Board Treasurer at the state (United Way of SC) and local level for non-profits (numerous). I have been a CPA since 1989 and served in corporate assistant controllership roles in large scale mortgage banking entities (one that went public). I have audited firms in public accounting practice. I have managed large scale operations and led enterprise risk mgt~~

Application for Appointment to City Boards (cont.)

State Reporting Requirements

Section 760.80, Florida Statutes, requires that the City annually submit a report to the Secretary of State disclosing race, gender, and physical disabilities of board members and elected officials. Please circle the appropriate responses.

Race

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☐ Asian/Pacific Islander ☐ Hispanic
☐ American Indian/Alaskan ☐ Not Known

Gender

- ☐ Female
☒ Male

Physically Disabled

- ☐ Yes
☒ No

Florida's Public Records Law, Chapter 119, Florida Statutes, states: "It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes.

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By submitting this form, I declare the foregoing facts to be true, correct, and complete. Additionally I hereby authorize a criminal background check.

1/7/2021

Date

N. Rudy

N. Rudy Dean Dean
Applicant's Signature

Digitally signed by N.
Rudy Dean
Date: 2022.01.07 13:41:16
-05'00'

SUBMIT APPLICATION

Please do not write below – Staff use

Date application received: 1/7/2022

Interviewed on: _____

Eligible for appointment **Yes** **No**

If not eligible for appointment
Explanation: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____

Appointed to: _____

Date: _____



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Michael J. Staffopoulos, City Manager
FROM:	Dennis W. Barron, Jr., Director of Public Works
DATE:	01/27/2022
SUBJECT:	Public Right-of-Way Improvements Connecting Gordon Avenue and 21st Avenue South

BACKGROUND

Mr. John Atkins, Developer, is developing four residential lots at the southeast corner of the intersection of Gordon Avenue and 21st Avenue South. In doing so, he will need to make improvements to the Gordon Avenue side of the property. The City of Jacksonville Beach Department of Public Works believes it is in the best interests of the City to have Mr. Atkins complete improvements on the 21st Avenue South side of the property as well to help facilitate public safety and transportation in the area. The existing sewer line under 21st Avenue South has several areas of concern and needs to be excavated and replaced to facilitate repairs that are needed to the existing City infrastructure. This agreement is for approved construction in the right-of-way in an amount not to exceed \$128,626. The estimated total infrastructure investment based on construction estimates at this time for this project exceeds \$410,000.

FINANCIAL IMPACT

Funding is available in the Water and Sewer Fund operating reserve. The funds will be spent from the following account: 420-07-0707-536-63-563000, and the budget will be amended as part of the mid-year budget adjustment.

REQUESTED ACTION

Approve/Disapprove a Cost Share/Allocation Agreement with Atkins Builders, Inc., for public right-of-way improvements to connect Gordon Avenue and 21st Avenue South for an amount not to exceed \$128,626

ATTACHMENTS

1. Cost Share/Allocation Agreement

**COST SHARE/ALLOCATION AGREEMENT
BETWEEN THE CITY OF JACKSONVILLE BEACH
AND
ATKINS BUILDERS, INC.**

THIS COST SHARE/ALLOCATION AGREEMENT is made as of **February 21, 2022**, by and between the **CITY OF JACKSONVILLE BEACH, FLORIDA**, a municipal corporation, whose address is 11 North Third Street, Jacksonville Beach, Florida 32250 (hereinafter referred to as the "City") and **ATKINS BUILDERS, INC.**, a Florida corporation, whose address is 1888 Foss Lane, Jacksonville Beach, Florida 32250 (hereinafter referred to as "ABI").

RECITALS

WHEREAS, pursuant to Florida Statutes §166.021, the City is authorized to enter into this Agreement; and

WHEREAS, ABI develops and constructs residential properties in the City; and

WHEREAS, ABI owns two parcels of land located in the City bounded by Gordon Avenue, 21st Avenue South, and Gail Avenue, and more particularly described on Exhibit "A" which is incorporated herein by reference (collectively referred to hereafter as the "PROPERTY"), which ABI desires to develop and construct four townhouses thereupon; and

WHEREAS, the development of the PROPERTY as contemplated by ABI would inhibit the City's ability to provide, or otherwise timely deliver, certain governmental functions, including fire suppression services to the vicinity; and

WHEREAS, the City has determined that the installation of a street connecting Gordon Avenue to 21st Avenue South, as well as other ancillary improvement such as, but not limited to, curbing, sidewalks, and drainage (hereafter referred to as "IMPROVEMENTS") in the vicinity of the PROPERTY would operate to remove barriers to the City's ability to provide, or otherwise deliver, certain governmental functions (including fire suppression), notwithstanding the construction of four townhouses on the PROPERTY; and

WHEREAS, ABI recognized that it is in the best interest of its development plan to combine its resources with those of the City; and the City recognized that it was in the best interest of public to leverage private dollars to aid in the delivery of certain governmental services when such are rendered insufficient due to private actions, including residential development and construction; and

WHEREAS, the share of costs estimated and allocated herein is intended to equal the share of anticipated benefits of the IMPROVEMENTS, though nothing contained herein shall vest ABI with any ownership rights and interests in the IMPROVEMENTS; moreover, nothing contained herein shall constitute or be treated as a partnership between the City and ABI;

WHEREAS, ABI acknowledges the direct benefit to the PROPERTY of these IMPROVEMENTS.

In consideration of the mutual covenants of the parties set forth herein, the City and ABI agree as follows:

1. Incorporation of Recitals. The Parties agree that the RECITALS above are true and correct, and are incorporated as terms into this Agreement.

2. Terms. The Agreement shall be effective from the date above-written and shall continue until 12 months after the City Council accepts the IMPROVEMENTS for ownership and maintenance.

3. Costs. The total cost of the IMPROVEMENTS is estimated to exceed \$410,000.00, which shall be the projected value of this Agreement.

a. ABI shall construct the IMPROVEMENTS to City standards and in a good and professional manner; specifically, the milling and paving the full traveled-way width street pavement from the north end of Gordon Avenue to and connecting the west end of 21st Avenue South, to include the correction of all final punch list items. The parties incorporate and agree the Sitework Proposal (created by Inline Development) attached hereto as Exhibit "B" shall, by way of illustration and without limitation, constitute the minimum work that is necessary for ABI to fully perform under this Agreement. At all times hereunder, whenever any work is being done contrary to this Agreement, the City shall retain the right to order the work stopped until such time as the work (and the results thereof) is performed in conformance with the standards herein required.

b. ABI shall pay the cost of all the IMPROVEMENTS as agreed between the parties.

c. ABI shall dedicate in writing the IMPROVEMENTS to the City upon completion of construction.

d. Upon the City's acceptance of the IMPROVEMENTS, the City shall reimburse ABI a portion of its actual costs up to \$128,625.18 of the agreed costs that ABI has paid, as documented by paid receipt or other writing, the sufficiency of which shall be in the sole discretion of the City. (ABI agrees that, in the event that costs are in excess of the amount to which the City agreed, ABI shall be solely responsible for the excess costs or costs overrun, without any demand or expectation of contribution from the City.)

e. ABI is to provide a one-year warranty bond for the IMPROVEMENTS starting from the date of acceptance by the City Council.

4. Insurance. At all times relevant hereto, ABI shall exercise caution for the protection of all persons and property, and shall comply with all laws, regulations, and ordinances related to safety and health. ABI agrees to make special efforts to detect hazardous conditions, and to take prompt action where and when such loss control and safety measures should be reasonably expected. These efforts, notwithstanding, ABI agrees that it shall procure and maintain Commercial General Liability insurance coverage, naming the City as an additional insured, which includes Bodily Injury and Property Damage coverage for claims arising from operations, as well as coverage for explosion, collapse, or underground exposures, or as otherwise deemed acceptable to the City. The minimum amount of coverages shall be \$1,000,000/occurrence. ABI shall provide the City with a copy of the certificate of insurance or

other proof deemed acceptable to the City prior to the commencement of any work under this Agreement.

5. Default. In the event that either party shall fail to observe, keep, or perform any of its obligation, covenants, or agreements contained herein for a period of 30 days after written notice by the non-defaulting party, the non-defaulting party may exercise any and all remedies permitted in law or at equity including without limitation the right to specifically enforce the defaulting party's obligations hereunder.

6. Notices. All notices, demands or other communications given hereunder shall be in writing and shall be deemed to have been duly given: (i) upon delivery or refusal to accept when sent by recognized courier service that obtains a signed receipt upon delivery; or (ii) upon delivery or refusal to accept when sent by registered or certified U.S. Mail return receipt requested, postage prepaid; or (iii) by facsimile with confirmed receipt.

If to ABI:

Atkins Builders, Inc.
Attn: John Atkins
1888 Foss Lane
Jacksonville Beach, Florida 32250

If to the City:

City of Jacksonville Beach, Florida
Public Works Department
Attn: Dennis Barron
1460A Shetter Avenue
Jacksonville Beach, Florida 32250

or such other address as either party may specify in writing to the other party by notice in accordance with this paragraph.

7. Miscellaneous.

a. Entire Agreement. This Agreement contains the entire agreement between the parties hereto and may not be altered, changed, or amended except by written instrument signed by both parties hereto.

b. No Waiver. No provision of this Agreement shall be deemed to be waived unless such waiver is in writing signed by the party against whom the waiver is charged.

c. Partial Invalidity. If any term of this Agreement, or the application of the term of any person or circumstance is, to any extent, legally determined to be invalid or unenforceable, the remainder of this Agreement, or the application of the term to persons or circumstances other than those as to which the term is held invalid or unenforceable, will not be affected by the application, and each term of this Agreement will be valid and will be enforced to the fullest extent permitted by law.

d. Governing Law. This Agreement shall be construed pursuant to the laws of the State of Florida; venue shall be in Duval County, Florida.

e. Time of Essence. Time is of the essence with respect to each party's performance of its obligations under this Agreement.

f. No Third Party Beneficiaries. Nothing in this Agreement, whether express or implied, is intended to or shall confer any rights or remedies on any persons or entities other than the parties hereto.

g. Assignment. Neither party shall assign the any of its rights or obligations under this Agreement without the prior written consent of the other party. The City Manager of the City shall be authorized to give or withhold the City's consent hereunder should it be determined, in his or her sole discretion, that it is in the best interest of the City to do so.

h. Successors in Interest. All terms and conditions set forth herein shall apply to and bind any successor in interest of the parties.

i. Hold Harmless. ABI agrees to hold the City harmless, and to indemnify, protect, defend and save the City, its officials, officers, employees, and agents harmless from any all claims or causes of action arising out of and/or during the performance of this Agreement, including, but not limited to, due to the misconduct, negligence or omission of ABI, its officers, employees, contractors, and agents.

IN WITNESS WHEREOF, the City and ABI have executed this Agreement as of the date and year first above written.

[SIGNATURE PAGE(S) FOLLOW]

CITY OF JACKSONVILLE BEACH

ATTEST:

Sign: _____
Print: Sheri Gosselin
Title: City Clerk
Date: _____

Sign: _____
Print: Christine Hoffman
Title: Mayor
Date: _____

Sign: _____
Print: Michael J. Staffopoulos
Title: City Manager
Date: _____

Approved as to form and legal sufficiency:

Sandra R. Robinson, City Attorney

ATKINS BUILDERS, INC.

Sign: _____

Print: _____

Title: _____

Date: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization on this _____ day of _____, 20__ by _____ (name of person acknowledging), who is ☐ personally known to me or ☐ has produced _____ (type of identification) as identification.

Notary Public, State of Florida
Print: _____
My commission expires: _____

EXHIBIT "A"

Lots 10, 11, and 12, Block R, Permenter's Replat of South Pablo or Atlantic Camp Grounds, a subdivision according to the plat thereof recorded in Plat Book 9, page 44, of the Public Records of Dual County, Florida.

Real Estate Nos.: 0179409-0000 and 017410-0000

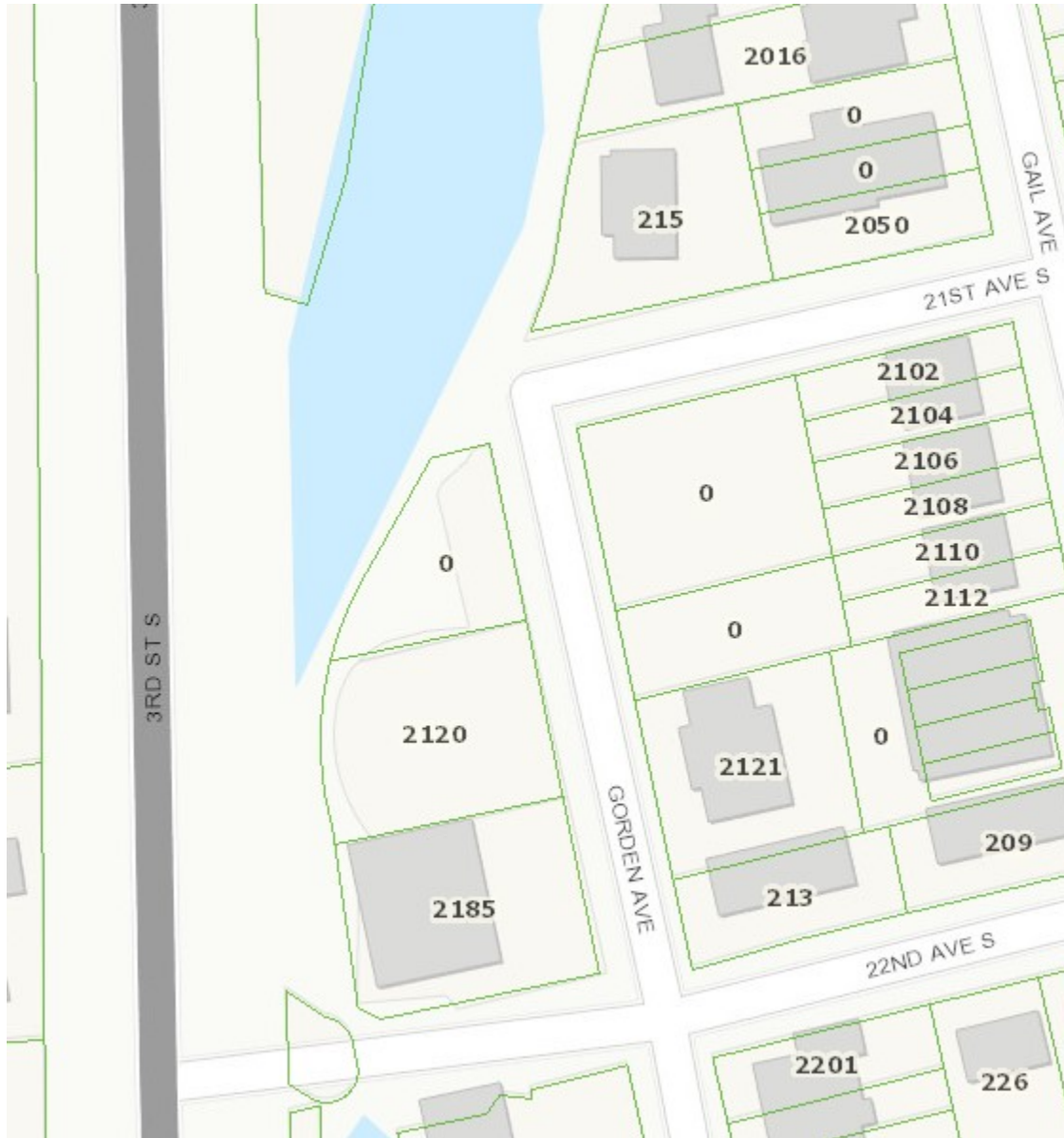


EXHIBIT "B"

Inline Development

310 Mealy Drive
Atlantic Beach, FL 32233
(908) 812-9178

Sitework Proposal

Date: February 1, 2022

To: Atkins Builders
Attention: John Atkins

Project: Campbell Cove

Scope of Work: Site Development - City Portion

General Conditions	Mobilization, survey, asbuilts, MOT \$ 17,394.48
Erosion Control	Silt fence, stabilization, inlet protection \$ -
Earthwork	Extend pond bank west to allow for proposed roadway & prep for roadway construction \$ 24,955.78
Storm Drainage	18" RCP, 2 MES \$ 9,963.46
Sanitary Sewer	Remove and replace +/- 223' of clay sewer pipe with PVC sewer pipe including roadway repairs \$ 60,280.29
Roadway	Stabilized subgrade, 6" limerock, 1" asphalt & prime \$ 16,031.18

Total Bid: \$ 128,625.18

Prices are firm for thirty (30) days

- Notes:**
- 1) Bid per sheet 5 of plans by Robert Phillips, PE dated 1/2022
 - 2) No walls are included at the corner of Gordon St and 21st if needed
 - 3) No E&S controls or stabilization are included
 - 4) Prices are for work done currently with building the remainder of Gordon Ave
 - 5) Deduct \$7,203 if rip rap is supplied by others

Exclusions : NPDES Permit or inspections
Usage, connection, frontage or meter permits and associated fees
Undercut and replacement of unsuitable soil
Landscape & Irrigation

Sign Acceptance: _____

Date: _____



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Michael J. Staffopoulos, City Manager
FROM:	Allen Putnam, Director of Beaches Energy
DATE:	01/14/2022
SUBJECT:	RFP No. 04-2021 Design Build Contract for Transmission Line Repair

BACKGROUND

RFP No. 04-2021 Design-Build Contract for Transmission Line Repair was published from May 26, 2021 through June 23, 2021. The purpose of RFP No. 04-2021 is to seek experienced and qualified design and construction teams to perform maintenance and repairs on the 138kV transmission lines for Beaches Energy Services (BES). The successful respondent will be responsible for the development of engineering plans for the maintenance and repairs associated with the transmission lines, including procurement of all specified equipment and materials, permitting, and construction.

Only one response to this RFP was received and evaluated by a Selection Committee. As such, the Selection Committee recommends the award of RFP No. 04-2021 to Burns & McDonnell. Burns & McDonnell has previously performed contract services for BES to the satisfaction of the City.

At this time, Burns & McDonnell is requesting approval of the 30% Engineering Package proposal. This 30% design will be used to request bids from subcontractors and material vendors to perform the project.

To review RFP No. 04-2021, click [here](#).

FINANCIAL IMPACT

Engineering services are included in the FY2022 Capital Improvement Plan budget for Transmission Line Hardware Renewal and Replacement. The cost of the proposal is \$108,886 and the funds will be spent from the following account: 410-12-1229-531-63-563000.

REQUESTED ACTION

Award/Reject RFP No. 04-2021 Design-Build Contract for Transmission Line Repair to Burns & McDonnell and authorize the Mayor and City Manager to execute the final contract

ATTACHMENTS

1. Burns McDonnell Engineering Scope for RFP No. 04-2021
2. Burns McDonnell Response to RFP No. 04-2021
3. RFP No. 04-2021 Notice of Intent to Submit RFP for Approval and Award by City Council



January 11, 2022

Mr. Don Cuevas
Beaches Energy Services
1460 Shetter Avenue
Jacksonville Beach, FL 32250

Re: Transmission Line Repair – EPC

Mr. Cuevas,

Thank you for the opportunity to provide Beaches Energy Services with our Time and Material proposal for the 30% Engineering Package related to the Design-Build Contract for Transmission Line Repair Project (RFP#04-2021). This 30% design will be used to request a bid from our subcontractor and material vendors to perform the project. We are submitting this proposal electronically for your review and approval.

Burns & McDonnell has assembled a very experienced team to execute this project. As you know, we are eager to maintain our long-lasting partnership with Beaches Energy Services, and we believe this project presents a great opportunity to continue that partnership.

Please feel free to contact me at (321) 587-4486 or via email at emartinez@burnsmcd.com if you have any questions about our proposal. We appreciate your consideration and look forward to working with you on this project.

Sincerely,

Esteban Martinez
Senior Project Manager
Transmission & Distribution Services

Cc: Rich Mahaley, Vice-President / Orlando Office Manager
Stacy Price, CDB Regional Global Manager
Matthew Kapusta, TND Regional Global Manager

Transmission Line Repair Project

REVISION 0

Engineering Scope

Burns & McDonnell (BMcD) is presenting this quote to provide a 30% Engineering Package to be used to go out for bid to the Construction Subcontractor and Materials Vendor for Sampson Substation.

The project scope consists of performing maintenance and repairs to the 138kV Transmission Lines for Beaches Energy Services (BES). There are 19 structures that have been identified as needing a variety of maintenance work as described in the table below:

Structure Table

Pole #	Circuit	Latitude	Longitude	Structure Type	Insulator Type	Insulator Material	Work Needed	Details of Work Needed
8	804 - Sampson - Ft. Diego	30.05780	-81.51688	Suspension	Horizontal Post	Ceramic	Pole Replacement	Replace concrete pole and hardware
37	804 - Sampson - Ft. Diego	30.06013	-81.48696	Suspension	Horizontal Post	Ceramic, P	Seal and patch pole top; clean insulator bells	Seal exposed reinforcement with 2-part epoxy; use mortar mix to patch pole; clean insulators
131	803 - Ft. Diego - Butler	30.20081	-81.40373	Suspension	Horizontal Post	Polymer	Replace missing insulator bell. Patch concrete.	Replace broken insulator bell with new glass bell, 40kip min. Patch hole in concrete on both side of pole near ground as well as top of pole.
140	803 - Ft. Diego - Butler	30.21095	-81.40624	Suspension	Horizontal Post	Polymer	Pole Replacement	Replace concrete pole and hardware
161	804 - Sampson - Ft. Diego	30.07658	-81.44998	Suspension	Horizontal Post	Ceramic	Replace guy wire and anchor	Add guy guard to new guy
198	850E - Sampson - Guana	30.10373	-81.43667	Suspension	Braced Post	Polymer	Replace post of braced post insulator	Install new braced post insulator to replace incorrectly installed one.
280	850E - Sampson - Guana	30.18274	-81.43533	Suspension	Horizontal Post	Ceramic	Splice in new section of wire to replace burned area	Splice in new wire of the same type as existing with full tension splices
301	805E - Sampson - Guana & 805W - Ft. Diego - Guana	30.19137	-81.40133	Suspension	Horizontal Post	Polymer	Patch and seal pole top (or add cone); replace grounding connection to SW	Seal exposed reinforcement with 2-part epoxy; use mortar mix to patch pole; replace grounding to SW
346	803 - Ft. Diego - Butler	30.22704	-81.39367	Dead End	Strain	Ceramic	Replace guy wire and anchor that was damaged by fallen tree	Remove vegetation from guys. Replace damaged guy wire and add guy guard to new guy.
376	802 - Butler - Jax Beach	30.25499	-81.39428	Suspension	Horizontal Post	Polymer	Replace SW clamp	Replace SW clamp with similar to existing
381	802 - Butler - Jax Beach	30.25908	-81.39441	Suspension	Horizontal Post	Polymer	Replace SW clamp	Replace SW clamp with similar to existing
387	802 - Butler - Jax Beach	30.26529	-81.39458	Suspension	Horizontal Post	Polymer	Cut back encroaching vegetation	Remove vegetation approaching live lines
388	802 - Butler - Jax Beach	30.26632	-81.39460	Turning Angle	Horizontal Post	Polymer	Cut back encroaching vegetation	Remove vegetation approaching live lines
391	802 - Butler - Jax Beach	30.26938	-81.39473	Suspension	Horizontal Post	Polymer	Replace SW clamp and replace corroded SW section with splice	Replace SW clamp with similar to existing; splice in new SW with full tension splices
409	801 - Jax Beach - Penman	30.28321	-81.40081	Suspension	Strain	Ceramic	Replace SW hardware including jumper and SW guy wire and anchor	Replace all SW hardware at pole with similar to existing; replace SW guy and anchor.
427	800 - Penman - Neptune	30.30792	-81.41612	Suspension	Horizontal Post	Polymer	Replace damaged bottom post insulator	Replace bottom insulator with similar to existing.
443	800 - Penman - Neptune	30.31632	-81.42030	Dead End	Strain	Ceramic	Sand rust and replace all members that have thinned more than 1/8" in thickness or strengthen with additional members.	Replace or strengthen rusted/damaged members.
87-88	804 - Sampson - Ft. Diego	30.19354	-81.42167	Suspension	Suspension	Ceramic, G	Replace insulator string including clamp to vang	Replace insulator string with similar to sizing.
91-92	804 - Sampson - Ft. Diego	30.19361	-81.41702	Suspension	Suspension	Ceramic, G	Replace insulator string including clamp to vang and replace Y-clevis.	Replace insulator string with similar to sizing. Replace Y-clevis.

The complete Scope of Work is to replace two (2) concrete transmission line structures including their hardware, concrete patching (or completely replace) two (2) additional transmission line structures, insulator replacement on five (5) structures, shield wire hardware on four (4) structures, splicing in the new wire in two locations, cutting back vegetation in 2 locations, guy and anchor replacement in 2 locations, and replacing members of a substation structure.

The project is a full EPC (turnkey) project. The intent of this proposal is to develop a 30% Engineering



Package for BMcD to request a proposal from our Construction Subcontractor and Material Vendor. The 30% Engineering Package proposal will be handled as a Time and Material (T&M) project based on our existing Master Service Agreement (RFQ No. 08-1415 Engineering Services for Beaches Energy Services). After the 30% Engineering Package is reviewed by Beaches Energy Services (BES) and the bids are obtained, BMcD will then provide a Lump Sum Proposal to continue with the design and provide all EPC services. At this time, the project will then be converted to a closed-book EPC format.

The 30% Engineering Design Package includes the following:

- Develop PLS Criteria File, PLS-POLE file, PLS-CADD lite model and foundation analysis
- Overall Project Bill of Materials to include poles, wire, splices, guy wires, etc.
- Perform Geotech Investigation as needed (all locations where poles are being replaced)
- Perform a Site Visit to all locations with BES
- Review all available existing design drawings
- Kick-off meeting and bi-weekly project meetings

Assumptions

This proposal is based on the following assumptions:

- BES will be providing all existing line drawings
- BES will provide all applicable standards
- Review time for the package is 5 working days
- Access can be provided for the Geotech investigation and will be coordinated with BES
- Preliminary EMF Study is included, assumption is T-line will meet FDEP EMF requirements

Deliverables

The engineering for this portion of the project will be in accordance with applicable Beaches Energy practices, industry standards and codes, and federal, state or local requirements. It will consist of the following deliverables:

Deliverables
<u>Electrical Package:</u> • 30% Design Package • Construction Specifications
<u>Civil/Structural Package</u> • 30% Design Package • Construction Specifications

Geotech Investigation:

- Geotech Investigation

Proposed Schedule (subject to change)

- Notice to Proceed – Mid February 2022
- Purchase Order Received – 5 days after NTP
- Geotech Investigation – 6 weeks after start
- 30% Engineering Design Package – 8 weeks after Geotech Investigation

Hours Breakdown

Position Classification	Classification Level	Man-hours
Technician	6	
Assistant	7	
	8	
	9	
Staff	10	203
	11	
Senior	12	24
	13	158
Associate	14	
	15	40
	16	
	17	
Total:		425

Pricing

- a. Engineering services fee:
1. Labor: \$93,592
 2. Expenses (Site Visits): \$2,794.00
 3. Geotech Consultant: \$12,500.00

Proposal Total: \$108,886

This proposal includes a Kick-off Meeting, an Engineering Site Visit Meeting, a 5-day week to do drawing verification with BES, and our Geotech Consultant.

PROPOSAL

DESIGN BUILD CONTRACT FOR TRANSMISSION LINE REPAIR BEACHES ENERGY SERVICES

SUBMITTED TO
CITY OF JACKSONVILLE BEACH

RFP # 04-2021
JUNE 23, 2021

June 23, 2021

Ms. Tiana Sepulveda, Procurement Associate
Property and Procurement Department
City of Jacksonville Beach
1460A Shetter Avenue
Jacksonville Beach, Florida 32250

Re: Proposal for Design-Build Contract for Transmission Line Repair
RFP Number: 04-2021

Dear Ms. Sepulveda:

The City of Jacksonville Beach and Beaches Energy Services require an experienced engineering, procurement and construction (EPC) team with an extensive project execution history to effectively implement the details required for the 138kV Transmission Line Repair project. Burns & McDonnell is the team to design and build this repair project safely, on time, and on budget. Since 1898, we have successfully designed and executed transmission and distribution projects of all shapes and sizes including numerous projects similar to the Transmission Line Repair project. Burns & McDonnell brings the following advantages to the City of Jacksonville Beach and Beaches Energy Services:

Experienced EPC Approach. We are an integrated EPC firm, offering you a single source of responsibility. We are design-builders, providing complete design and construction services, and we have executed similar projects to prove it.



*Aging autotransformer (foreground);
new autotransformer (middle ground)*

Take for instance, **Beaches Energy Services' Sampson Substation Autotransformer #2 Replacement EPC Project** located in St. Johns, Florida. Due to the catastrophic failure of the load changer, Burns & McDonnell replaced an existing 30-year-old autotransformer with a 150/200/250 MVA one, which allows more loading capacity of the substation.

Led by our **Senior Project Manager, Esteban Martinez, who worked closely with Beaches' representatives**, the team was able to engineer, procure and construct this project within the required amount of time and within the requested client budget – affording little to no interruption to the 35,000 customers in this service area during project execution.

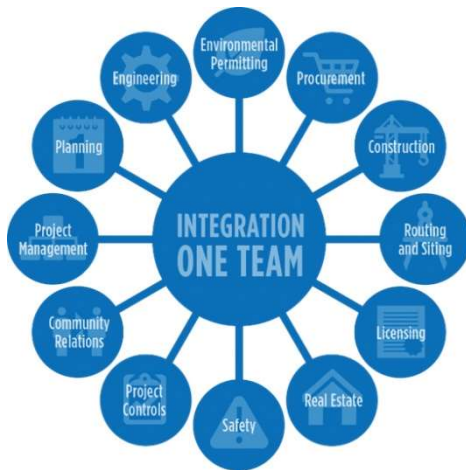
"The quality of both the engineering and construction aspects of the project were outstanding. I would not hesitate to do any size job utilizing the EPC methodology along with Burns & McDonnell in the future. The job was completed with the utmost professionalism..."

- Allen Putnam, Director of Beaches Energy Services

Terrebonne to Bayou Vista 230kV EPC Transmission Line Project located in the Louisiana wetlands required definitive planning, management and care from Burns & McDonnell as the team faced immediate challenges building in fragile ecosystems. **Managed by our EPC Director, Stacy Price, who has over 30 years of experience** building in these conditions, this 36-mile Entergy project included testing and commissioning prior to replacing the aging power infrastructure with new hardened facilities that withstands extreme weather events.



Sky crane transporting transmission poles into the Louisiana wetlands



These complex projects are only two examples of how Burns & McDonnell takes on engineering, procurement and construction endeavors.

Our proven approach, processes, and reporting provides our clients with the assurance that their EPC projects will be executed efficiently with little to no issues. Our integrated approach starts with a thorough quality control program and project execution plan that is customized and focused on Beaches' needs and vision, supported by a diverse, professional team of engineers and construction specialists who are prolific in all phases of project development and execution. We are confident that we are the right team to handle the demands of the Transmission Line Repair project.

We know how to execute, and we know how to execute for Beaches Energy Services.

Dedicated Local Team. With our strong company presence in the Southeast region including our Orlando office, we will deliver a consistent partnership bringing decades of lessons learned, ideas and tools for your success. This added bonus will result in minimal impacts to your resources. Knowing that we will not be successful until you are, we will work efficiently and creatively to successfully design your project.



Safety Record. Just like you, we measure ourselves against the strictest standards and integrate safety into our culture. **In the last five years, we have completed more than 19 million man-hours on all projects with a total recordable incident rate of 0.15.**

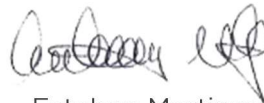
Commitment to Quality. You can be confident quality is being measured throughout all phases of the project. Your job is to deliver power and ours is to give you a better way to get it there. Our quality program starts in the office during design and continues to the field, where we are continuously on-site with our subcontractors, monitoring quality of construction throughout the duration of the project.

With the strength and depth of our multi-discipline design and construction team, we are the best team equipped to successfully complete the 138kV Transmission Line Repair Project, and we look forward to furthering our working relationship with the City of Jacksonville Beach and Beaches Energy Services. If you have any questions regarding our submittal, please do not hesitate to contact Esteban Martinez at 321-587-4486.

Sincerely,



Richard Mahaley
Vice President / Executive Sponsor



Esteban Martinez
Senior Project Manager

2301 Maitland Center Parkway, Suite 400
Maitland, Florida 32751
www.burnsmcd.com

Table of Contents

Company Overview	1
Quality	2
Key Personnel	5
Material Management	6
Safety	8
Execution Plan	11
Relevant Experience	17
Subcontractor Utilization Plan	17
Proximity	27
Assumptions, Exceptions & Clarifications	28
Appendices	
• Appendix A: Resumes	
• Appendix B: OSHA Logs	
• Appendix C: Safety Program	
• Appendix D: Subcontractor Information	
• Appendix E: Relevant Experience	
• Appendix F: Required Forms	

Company Overview

At Burns & McDonnell, our engineers, architects, construction professionals, scientists and consultants do more than simply plan, design and construct. With a mission unchanged since 1898 — make our clients successful — our professionals partner with you to solve your toughest challenges efficiently and safely. We bring an ownership mentality and work as an extension of your staff because we are not successful unless and until you are.

Our more than 7,000 professionals around the world bring extensive experience in a wide range of scientific, architectural and engineering disciplines. We have people with the knowledge and background to complete virtually any project and address any challenges — whether known or unforeseen — in a timely, integrated and efficient manner. This translates to project consistency, lower costs and the ability to maintain your project schedule.

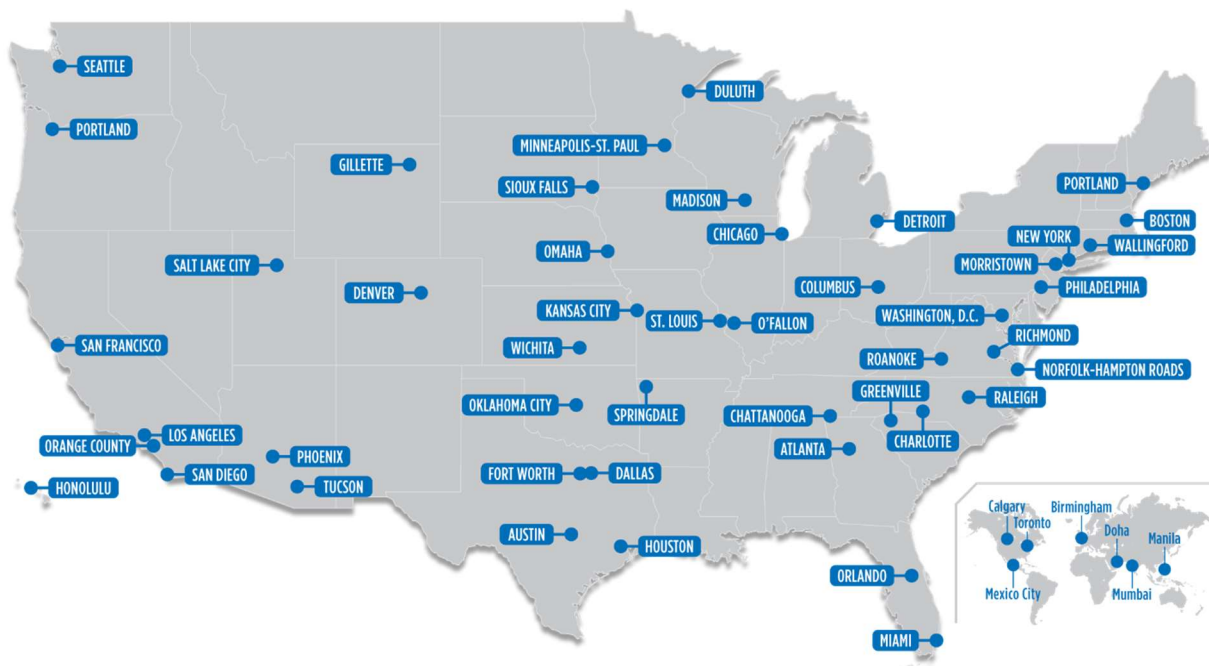
Being 100 percent employee-owned means we each have a stake in superior performance and a commitment to excellence that translates into successful clients. Because of this, we are regularly recognized by numerous professional organizations and publications throughout the country for our technical knowledge, superior client service and as a top place to work, including consistently ranking as one of *Fortune* magazine's 100 Best Companies to Work For. In 2015, Burns & McDonnell opened an office in Maitland, Florida and have since grown to about 50 employee-owners. Since opening, Burns & McDonnell has been ranked as a "Best Place to Work" by the Orlando Business Journal every year.

7,000
PROFESSIONALS

100%
EMPLOYEE-OWNED

FOUNDED IN
1898

MORE THAN 50
OFFICES



Quality

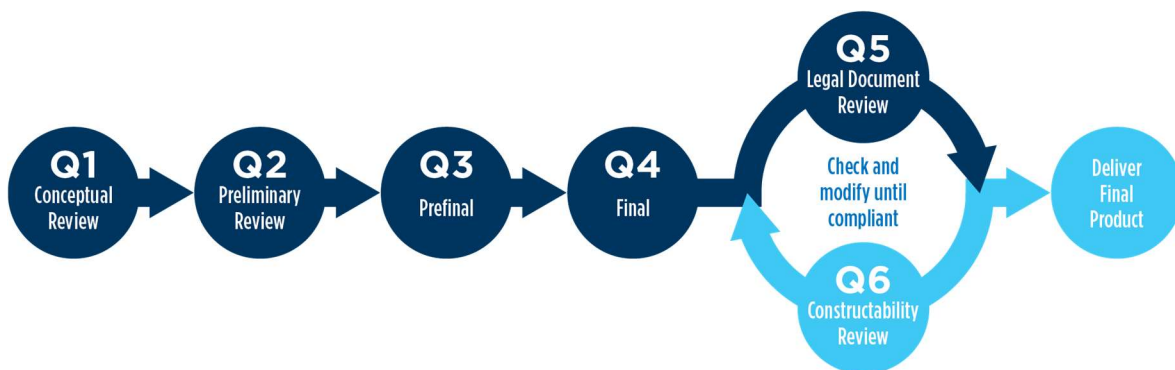
Quality Control Approach

The quality control procedures used at Burns & McDonnell were developed from the guidelines published by the Professional Engineers in Private Practice (PEPP) section of the National Society of Professional Engineers. Both CNA Insurance Company and Victor O. Schinnerer Company, Inc. assisted PEPP in preparing these documents. The published guidelines have been endorsed by the American Institute of Architects and the American Consulting Engineers.

The objectives of the Burns & McDonnell design quality control plan, as applied to the project, are to:

- Satisfy our client's desires and requirements for the project, consistent with imposed time and budget constraints and technical practicalities
- Verify that the project complies with applicable codes, standards, laws, and regulations
- Comply with company standards unless otherwise directed by our client and provided that the substituted standards are in accordance with good engineering practice
- Select cost-effective concepts and systems
- Minimize design, specification, and drafting errors
- Produce contract documents within budgets and schedules
- Reduce liability to the client and the company.

Our program is highly effective and provides for interdisciplinary reviews by an independent team of professional engineers, architects, and support personnel at various milestones throughout execution of the project design. Specific quality control tasks are included in the budget for each project and are monitored by dedicated accounting systems for timekeeping and staff planning. Quality control tasks are separately scheduled, identified, and monitored within the accounting system. The six distinct quality control review subtasks, which are scheduled and monitored for all projects, include the following:



Q1 – Conceptual Review

Verifies that the owner's requirements for the contemplated project are sufficiently defined, and that the owner and project team clearly understand the scope and limitation of the services to be provided/performed.

Q2 – Preliminary Review

Evaluates, as well as determines the appropriateness and compatibility of the technical systems developed by all disciplines to meet the owner's requirements. Additionally, the Q2 Review ascertains each element of the design is represented by sufficient technical concepts, criteria, and detail, allowing final documents to be developed from the preliminary design with minimum deviation.

Q3 – Prefinal

A review of drawings and overlays by the project manager, team leaders, and the design team at various milestones throughout the design.

Q4 – Final

A final design review by the sealing professional or an independent project quality control review team made up of senior engineers.

Q5 – Legal Document Review

A review of front-end documents to be included in contracts for equipment, materials, and/or construction services. This review is typically performed by the Project Manager.



Q6 – Constructability Review

The final review of contract packages for completeness, including the coordination between individual documents within the package.

The management of the company is committed to producing quality deliverables and quality is the responsibility of every officer and employee. Accuracy and thoroughness in executing each assigned task is of primary importance.

The project manager is responsible for the scheduling and implementation of reviews and addressing any findings of the reviews for the project. Reports resulting from independent quality reviews are submitted to the project manager in a standard format, as required by the project plan, and are available for Beaches Energy to review upon request or as required under the contract.

Managing Design Quality Control, Tracking Design Evolution and Changes During the Design

We are dedicated to providing complete, consistent, and high-quality services to Beaches Energy. Our project team will accomplish this by following our Quality Assurance/Quality Check (QA/QC) Program and because they will be led by experienced, skilled leaders. Providing instructions as well as checks and balances, our QA/QC program is based on lessons learned from more than 100 years of successful projects and elements of industry-recognized quality assurance standards and best practices.

Furthermore, our project team and the functional leads will be responsible for identifying, tracking, and facilitating resolution of issues and action items. As issues and action items are identified, they will be added to an issues/action items log and tracked until resolved or completed.

We will build our six-step internal quality reviews into the schedule, which will involve regular coordination meetings and evaluations by experienced professionals at strategic milestones throughout the design and construction processes.

For the 138kV Transmission Line Repair Project, we will contract externally for suppliers of materials and equipment and construction services. We will take the following quality control measures for these subcontractors:

- Prequalify potential suppliers before bid and award
- Review shop drawings and other submittal documents
- Prequalify potential suppliers for major equipment and shop inspections
- Conduct a three-phase method of construction quality control
- Review and verify testing records and other records of fabrication and construction

In addition, we will perform visual inspections of in-bound and out-bound material and report/resolve issues per established protocols. We will also support other quality measures such as material quality spot audits, maintenance reporting logs, vendor material quality tracking, and periodic quality meetings with construction contractors.

Internal and External Requests for Information

From internal communications among team members, to a specific outline of the external communications tactics for a project, an effective communication plan is a vital element to every successful project. Project communication management efforts will focus on:

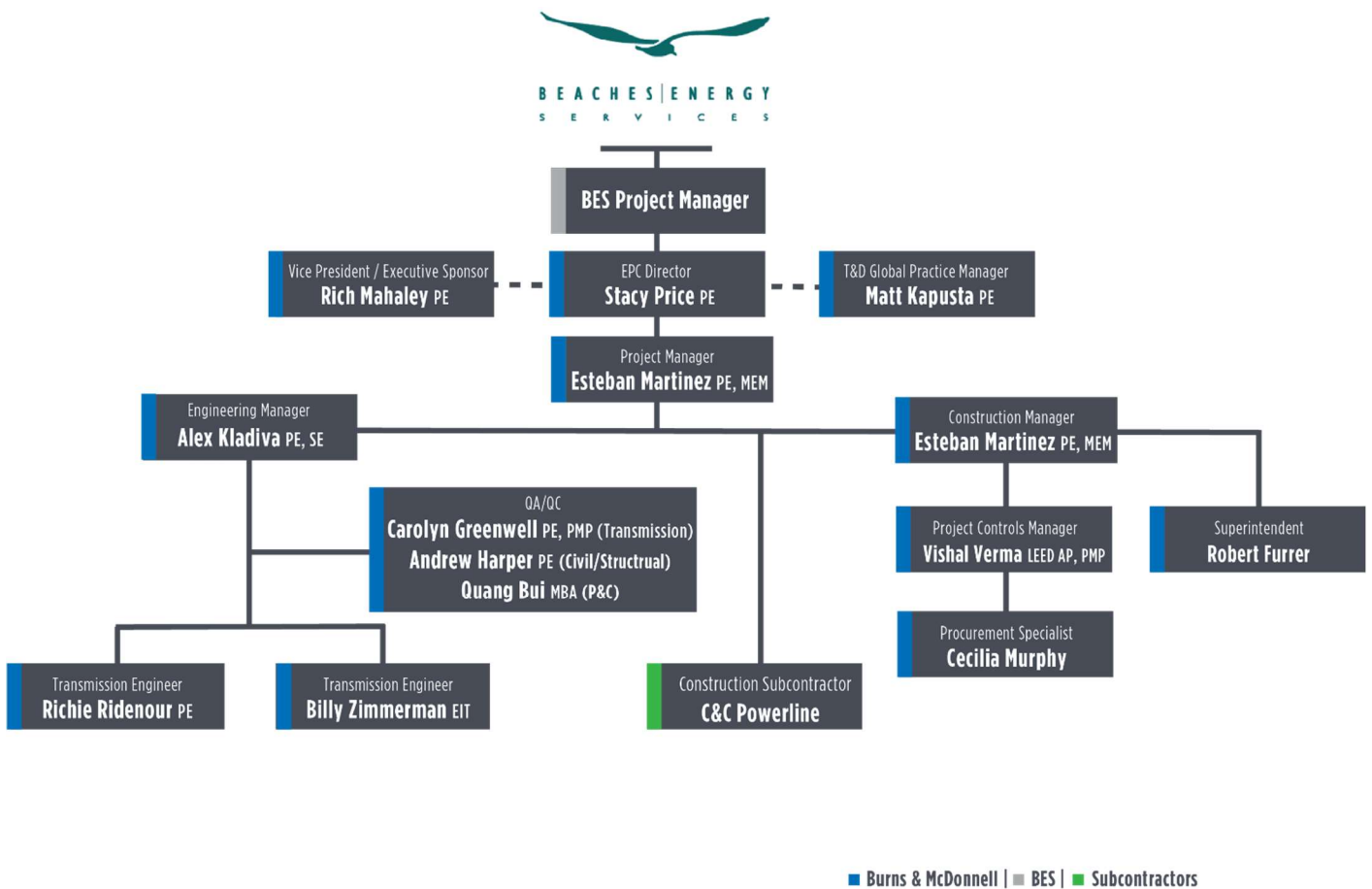
- Specific groups and individuals that need to be involved (key stakeholder component)
- Specific platforms for communicating project information
- Information tracking and management

The project management team will regularly outline project statuses to team members through monthly reports. These reports will include an overview of the status of construction, three weeks look ahead, schedule updates, material status reports and accrual updates. These will be used to track the overall percentage completion of the project.

Key Personnel

Organization Chart

Resumes



Please see *Appendix A* for Burns & McDonnell key personnel's experience and qualifications.

Material Management

Equipment and Material Planning



Early identification of long-lead equipment is crucial to executing the Beaches Energy Services 138kV Transmission Line Repair Project successfully and on time; therefore, our procurement team will be responsible for this during the planning phase. This team will provide purchasing, expediting, supplier quality support, logistics, material control, change management, invoice verification and accounting closeout support. During this time our procurement team will work with our engineering and planning teams to draft a procurement project execution plan (see procurement section), prepare all necessary documents and begin soliciting bids for equipment and materials. We will award bid packages based on vendors' overall cost, schedule compliance and commercial and technical capabilities. We will also take into consideration small and diverse businesses as well as vendors on Beaches preferred vendors list. Because Burns & McDonnell has well-established, long-standing relationships, we are not only confident we can procure material and get it delivered by the required in-service dates, but we know that fixing any challenges that might arise is just a quick, friendly phone call away.

Based on the lead-time information from our engineering and procurement teams, our planning team will begin developing our project schedule and construction execution plan. We will create a detailed project schedule using a combination of manual and computer reports that cover various levels of activities and degrees of complexity. Because we build our schedules using the Critical Path Method, we have a logically tied schedule, can identify and avoid relationships that are not finish-to-start, and can determine which activities have the least amount of float time.

Expediting

The project expeditor is responsible for producing a material expediting plan and execution strategy to monitor and measure supplier's progress. Material expediting efforts commence upon issuance of a Purchase Order to a supplier. Material expediting activities are executed via phone calls, shop visits, and document reviews to confirm and verify various aspects and progress of the order. Phone expediting is performed for every order. Expediting visits are made to selected suppliers to physically verify actual progress. The need for and/or extent of shop visits is determined based on the criticality of on-time delivery to the construction schedule, potential or likelihood of delay, complexity of equipment and/or materials of construction, and prior history of supplier performance.

Shipping Authorization and Materials Receipt and Management

The project procurement specialist will include information in the bid documents regarding requirements of suppliers to adhere to release of shipment notices and site receiving hours and any

deliveries, etc.). Expediting will provide formal shipment release and authorization for material release and shipment to all suppliers. Expediting will coordinate deliveries with the site supervisor to verify proper off-loading equipment and personnel are available for safe offloading and adequate laydown space for placement of goods. Timely communications amongst the procurement specialist and site supervisor are essential to the success of the project. The procurement specialist is responsible for weekly updates and management of the procurement status report. All expediting reports will be current, accurate, and issued weekly to ensure proper alignment amongst the construction team are met. Shipping documents originate from suppliers, carriers and freight forwarders. Typical shipping documents include load/ship date, carrier name, packing list and applicable freight bill (if available and applicable) or bill of lading numbers and estimated dates of arrival at site.

Equipment Material Receiving

Receiving procedures for equipment and materials will be implemented for coordinating and controlling the delivery, preventive maintenance, storage and payment for equipment and materials received at the site. Issues related to the steps and responsibilities in the equipment and materials receiving process will be addressed by the construction management team.

The following types of logs and forms will be utilized in the process of receiving equipment and materials:

- Equipment/Material Receipt Log/Form: documents data concerning the receipt of equipment and material on the project site.
- Over/Shortage/Damage (OSD) Log/Form: documents data concerning receipt of equipment and/or material in an unsatisfactory condition for future reference for filing claims or establishing possible back-charges.



Construction subcontractors will be required to use the same equipment/materials receiving process and forms to document receipt of equipment/materials furnished under their subcontract. A copy of each Subcontractor's completed receipt form, with attachments, will be required to be submitted to the Burns & McDonnell field office and home office Procurement Specialist.

Safety

Company's Relevant Safety Policies and Metrics

At Burns & McDonnell, safeguarding the safety and health of our employees, subcontractors and related personnel is of the utmost importance. Safety is a core value of our culture, and we are dedicated to protecting the safety and health of all those associated with our company, those on our jobsites, and the community.

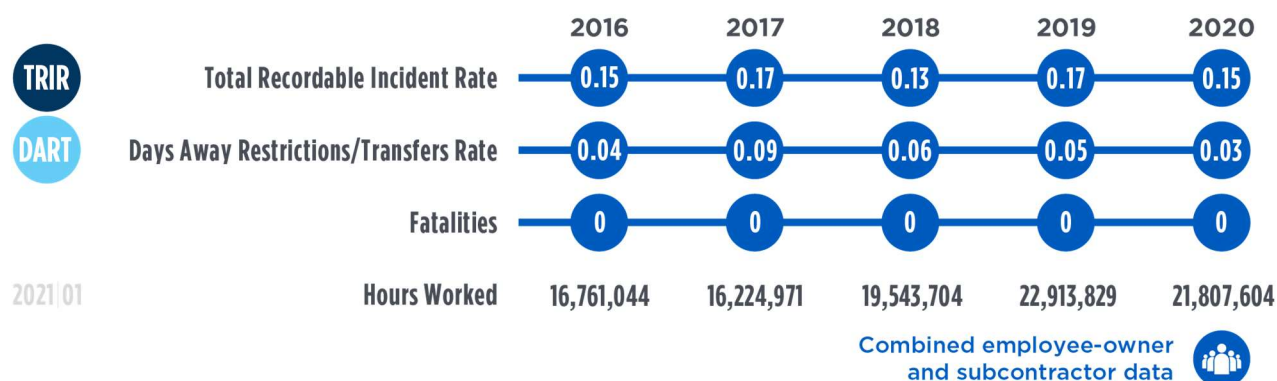
At Burns & McDonnell, safety is the highest priority. For us, safety is not a slogan. It is a value ingrained in our corporate culture. Our Corporate Safety & Health Program is integrated with our project process and requires pre-planning work activities to support implementation of safe work measures.

We have integrated the Safety & Health Department as a function of the safety process and recognize it as a key factor in completing jobs on time and within budget. The Safety & Health Department conducts Occupational Safety & Health Administration (OSHA), 10-Hour Construction/General Industry Safety Training, 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training, first aid/CPR, as well as other hazard-specific safety training courses.

Every project at Burns & McDonnell operates with the safety philosophy that zero recordable incidents can be accomplished with proper planning, resources and follow-through. Our project safety records demonstrate the success of this approach. Burns & McDonnell's Days Away, Restricted or Transferred (DART) and Total Recordable Injury Rate (TRIR) safety statistics are considerably better than industry standards set by the Construction Industry Institute and the Bureau of Labor Statistics. Although it is not an OSHA requirement, Burns & McDonnell is one of the few firms to include subcontractors in our safety statistics. We choose to do this because our safety commitment goes beyond reporting the numbers. It is our intrinsic expectation that everyone working on a project goes home safely to their families every night — our people as well as those who work with our partners.

Burns & McDonnell's safety record puts us in the top 5% of all contractors nationwide.

However, we are determined not to rest upon past successes, but to use those successes as a foundation for continual improvement in making our clients and our projects successful.



Burns & McDonnell and Subcontractors TRIR and OSHA Logs

Burns & McDonnell TRIR

- 2020: 0.15
- 2019: 0.17
- 2018: 0.13

Burns & McDonnell OSHA Logs

Please see *Appendix C* for a copy of Burns & McDonnell's OSHA logs for the past three years.

C&C Powerline TRIR

- 2020: 1.46
- 2019: 0.74
- 2018: 0.80

C&C Powerline OSHA Logs

Please see *Appendix D* for a copy of C&C Powerline's OSHA logs.

Full-Time Corporate Health, Safety and Environment Executives

- Jamie Butler (Kansas City, MO)
- William Hughart (Kansas City, MO)
- Scott Fondaw (Kansas City, MO)
- Robert Bush (Houston, TX)
- Holly Shores (Brea, California)
- Lucas Thomas (New England Office)
- Carlos Norrick (Chicago, IL)
- Todd Soileau (Denver, CO)
- Chance Duensing (Kansas City, MO)
- Travis Fuller (Kansas City, MO)
- Michael Korte (Kansas City, MO)
- Michael Silvey (Kansas City, MO)
- Michael Munsell (Kansas City, MO)
- Logan Graybill (Kansas City, MO)
- Ella Jewett (Kansas City, MO)
- Roni Polly (Kansas City, MO)
- Eric Wenger (Kansas City, MO)
- Nicholas Turnbeaugh (Kansas City, MO)
- Madison Winters (Kansas City, MO)
- Randy Meggs (Kansas City, MO)

Health, Safety and Environmental Trainings

Corporate Safety & Health as well as regional safety managers provide Safety & Health Training. The audience is all employee-owners and contingent workers. We offer most classes monthly with occasional pop-up courses, the others are bi-monthly.

Example on Conducting Formal Health, Safety, & Environment Inspections

Please see Weekly Work Area Assessment and Task Safety Observations (TSO) found in *Appendix C of our response*.

OSHA/EPA Civil or Criminal Citations

Burns & McDonnell has not received any OSHA citations in the last five years.

Safety Objectives Defined in Job Descriptions and Periodic Reviews

Per 2.3 Key Personnel and Responsibility Roles (*Appendix C*). Please see below for an example:

Site Manager (Project Superintendent)

The site manager is the on-site coordinator and overseer of operations. It is the duty of the site manager to see to the maintenance of site security, the coordination of activities by the subcontractors, and to verify that all activities are performed in a safe manner. The site manager is responsible for the safety & health practices and conditions on site. Any Safety & Health professionals or supervisors provided by subcontractors shall be utilized as a resource by the site manager to optimize performance on site with regard to safety & health. the site manager's responsibilities shall also include the following:

- The site manager shall verify all personnel of subcontractors to Burns & McDonnell are in compliance with safe work practices and attend all required safety & health training.
- Give on-going input into necessary changes to this Project Safety & Health Program
- Hold subcontractors responsible and accountable for compliance with the Burns & McDonnell Project Safety & Health Program as well as their own Project Specific Safety & Health Program
- Attend and provide input into the pre-construction safety planning meeting
- Schedule and attend weekly Safety & Health meetings presented by the Safety & Health Professional
- Require submittal of a written plan from all subcontractors regarding how work processes will be safely performed, such as temporary bracing, (activity hazard analysis)
- Obtain a master copy of the Burns & McDonnell material safety data sheets (SDS) compilation and start job specific files for SDS' for the project as submitted by subcontractors
- The site manager shall make prompt action up to and including termination of the Subcontractor from the project site to correct unsatisfactory conditions and work practices personally observed or brought to your attention which involve our Subcontractors or employee owners. Whenever a violation of the safety program occurs and requires correction, document the demand for correction utilizing the Burns & McDonnell Safety Form B-1 "Violation Notice" to the subcontractor and project manager. Unsafe situations which involve subcontractors not under Burns & McDonnell control should be brought to the attention of the responsible client party and documented.
- Immediately discontinue work around the unsafe area until concerns are properly addressed
- Assure that all injuries are reported and treated
- Require reports and investigations of all near misses, incidents and accidents

Execution Plan

Scope of Work



Burns & McDonnell is presenting the following qualifications based upon the scope of work for this project. The scope includes the design, procurement and construction of all facilities necessary for repair of the 138kV Transmission Line.

The detailed scope of work includes the replacement of two (2) concrete transmission line structures including their hardware, concrete patching on two (2) structures, insulator replacement on five (5) structures, shield wire hardware on 4 structures, splicing in new wire in two (2) locations, cutting back vegetation in 2 locations, guy and anchor replacement in two (2) locations, and replacing members of a substation structure. The replacement structures and work on the substation structure will require determining the size and strength of the existing structures so they can be replaced with an equivalent.

In addition to the above, at project kick-off, Burns & McDonnell and our construction partner will conduct our own independent inspection/engineering assessment confirm the scope of work and identify any additional areas of concern. Burns & McDonnell is ready to support Beaches Energy 138kV Transmission Line Repair project. This multi-discipline project will need to have a team that has a firm grasp on the complex plan needed to safely construct the project. Choosing a team with the right qualifications and experience for this project will mitigate Beaches Energy's risk and result in a successful project. Burns & McDonnell is that team. With experience and extensive knowledge of transmission and systems, we will design and build the 138kV Transmission Line Repair Project safely, on budget and on time.

Contract Phase

Our project team has previously worked on and visited the project site which allows us to verify existing conditions and identify any potential hazards.

Based on this visit, the team has requested any information that might be needed and noted field investigations that the team would want to conduct to be able to successfully create a detailed design, including videos and pictures of the substation, and access roads to help in the planning phase. Based on these evaluations and a more thorough post-contract execution investigation, our team will develop a preliminary design package that includes all requirements in the Conceptual design package for Beaches Energy approval.

Beaches Energy requires an engineering team who will design an effective plan that will minimize construction time on the 138kV Transmission Line Repair Project. Our qualified team understands the scope of the work on a detailed level as well as an overall project level in order to accomplish this for you. Our partnered contractor, C&C Powerline, has ample experience working on transmission line projects and share our goal of constructing the project in a safe and most efficient way.

The project schedule will indicate the phasing of construction tasks as well as the multiple design packages required to support construction. These packages will require Beaches Energy review and approval based upon the overall schedule requirements.

Engineering

Our team will complete the detailed design based upon Beaches Energy standards and common practices, a system our team is familiar with. Our team is centered around a base of professionals who have worked together on numerous successful projects in the Florida area, including projects for Beaches Energy. The core engineering team we are offering has 5 years of experience, working together on various local Florida efforts for Beaches Energy as well as other Florida clients.

Upon award, our engineering teams can begin detailed design work immediately. As part of the project, we will obtain up-to-date geotechnical investigation reports for the locations requiring pole replacements. In addition, with our team's knowledge of designing transmission line projects in Florida and other coastal regions, we will be able to start hardware and insulations selection in an expedited manner.

We will issue the design packages to Beaches Energy for review as they are Conceptual, Issue for Review, Issue for Construction complete. After Beaches Energy reviews, comments and accepts them, we will identify the project's required materials. Our design team will send the materials list to our subcontractor for purchase. Our procurement team will review all subcontractor's submittals for conformance with the engineering design and Beaches Energy standards.



As our engineers are designing, our planning team will be creating the Level III schedule, which will expand on the Level II schedule and add more detail. By using the more specific designs from the engineers and actively engaging our subcontractors, we will be able to create a more accurate construction sequence and timetable. Our planning team will also engage our procurement team to see that subcontractor schedules are included. Initially, this schedule will focus on the front-end work, which will outline the activities we will accomplish in the first month of the schedule. We will network the balance of the project activities with the front-end activities to prepare for the detailed project execution schedule. The Level III schedule will be resource-loaded (work-hours) and leveled to establish the most efficient method of completing this project. Because we will know the number of employees that will be required for a specific number of activities, hours and days, we will be able to generate a commodity curves graph that will give a clear picture of commodity completion by phase and show us any staffing and scheduling constraints or challenges. Because we build our schedules using the Critical Path Method, we have a logically tied schedule, can identify and avoid relationships that are not finish- to-start, and can determine which activities have the least amount of float time.

Upon Beaches Energy's approval, this schedule will be baselined and used as the "original" plan. Based on the most current project scope and priorities, as well as any changes or challenges that may arise, we will refine the project's activities as necessary to maintain an optimized schedule. The Project Execution Schedule (Level III Schedule) will be network-based, so computer reports will clearly identify all critical and subcritical paths. We will use Primavera P6 as our PC-based scheduling package.

Procurement

The project procurement specialist is the Burns & McDonnell procurement professional assigned to the project team to support and manage the project procurement requirements. The Project Procurement Execution Plan will govern how the 138kV Transmission Line Repair Project will be executed:

- Development of procurement packages and bidders list
- Preparation of project specific procurement/commercial documents
- Development and administration of Project Procurement Status Report
- Request for proposal (RFP) Process (preparation of bid documents – award authorization)
- Purchase order award
- Material expediting
- Submittal expediting
- Shipping authorization and receiving and material management
- Change management
- Invoice processing

Construction

Once the detailed designs are approved and issued for construction, our teams will work with our subcontractors to see that everything is ready to move into the active construction phase.

Our team will coordinate with Beaches Energy to see that access to the site is approved and construction can begin. Our team will also coordinate with C&C Powerline to see that construction sequence and project deliverables are on track per the schedule.

We will coordinate with our subcontractor the sequence of work and release them to start construction. Weekly meetings between the Burns & McDonnell project team and Beaches Energy project management team will allow Burns & McDonnell to detect potential challenges in the earliest stage possible.

Safety

Before employees can mobilize to any site for this project, the safety management team will see that they have conducted all necessary safety training. Burns & McDonnell will also corroborate that all subcontractors have completed the safety trainings described in the Project Safety Manual.

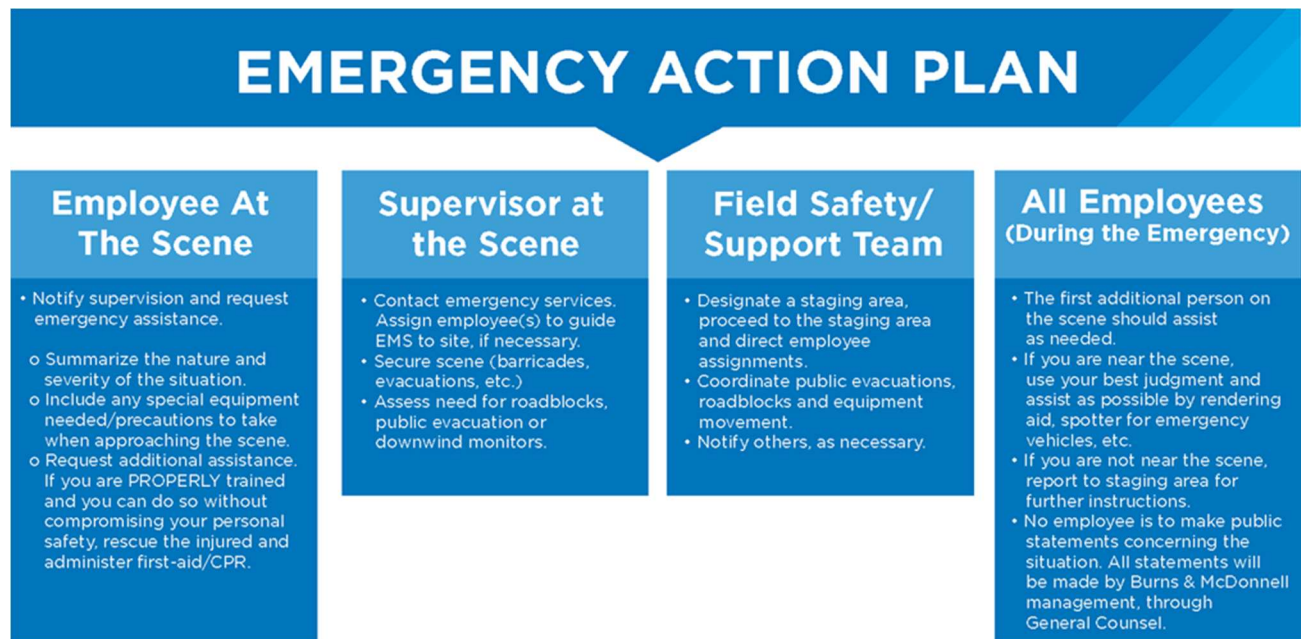
In addition, all of our on- site safety employees will have completed (at a minimum) OSHA 10-Hour training; we require OSHA 30-Hour training for management employees. All employees will be required to be trained in the use of the specific equipment used for this project and they will be evaluated by performance of assigned tasks.

All employees will be required to review and adhere to the 138kV Transmission Line Repair Safety & Health Program before beginning any work. Subcontractors will train all their employees on the contents of their companies' project-specific safety and health programs, which are developed under our guidance.

We hold our subcontractors to higher levels of safety and quality than industry benchmarks. Their programs must include the requirements outlined in the Burns & McDonnell Safety Program which results in adoption to our strict safety standards. Although it is not an OSHA requirement, we are one of few firms to include subcontractors in our safety statistics. It's not just a priority to report good safety statistics; it's a core value – central to our culture – that we verify everyone working on projects goes home safely to their families. Furthermore, all project employees are required to participate in the Project Site-Specific Safety & Health Orientation Training and sign the project orientation training form, Burns & McDonnell Safety Form C-8, acknowledging participation in and understanding of the training prior to performing any work on the project.

All our employees and subcontractor employees will be trained and qualified in the Electrical Hazard Awareness Program and have the knowledge and on-the-job experience prior to any work beginning.

Once on-site (but prior to construction) the safety management team will create a specific emergency action plan (EAPs). The safety manager will contact local police, fire stations and hospitals.



Site supervision will review the EAPs upon arrival at the work location and make any alterations necessary to verify that all measures are in place to deliver the most complete emergency services available. They will be responsible for communicating this information and making it available to every employee on-site prior to active construction. Employees will have to sign forms acknowledging they are aware of and understand the location of the EAP, the nearest medical facility, emergency contacts and roles / responsibilities they must perform in the event of an emergency. Highlights of our standard EAPs are outlined below.

Project Methodology

Issue Tracking and Problem Resolution

Burns & McDonnell acknowledges that sometimes challenges are encountered during construction that would require more information from the engineering team in order to safely deal with those challenges. Burns & McDonnell follows the Request for Information procedure in order to address these issues. The subcontractor would fill out the Request for Information (RFI) document and submit to the project supervisor. If the project supervisor cannot provide guidance, this document will then be re-routed to the engineering manager. The engineering manager will review and send to the appropriate engineering lead. Once the team provides a response addressing the issue, the document will be forwarded to the site supervisor which in turn will send to the subcontractor.

Every issue encountered will have a designated RFI number and the engineering manager is responsible to keep and update on a weekly basis the RFI log. The RFI log will be included in the weekly calls with the project team and will be available to Beaches Energy at their request.

In addition, please see Subcontractor Change Management in the Subcontractor Utilization Plan section for more information on how potential change orders are handled with our construction partners.

Risk Management

For the Transmission Line Repair Project, we will perform risk reviews to identify, assess and develop plans to mitigate risks and create project instructions, which include scope and responsibilities, schedule and budgets, and project-specific requirements. These identified risks will be incorporated into the Burns & McDonnell Risk Matrix tool. This tool is used to assign value to a risk and determine the effect it has on the overall project.

In addition, we will work with Beaches Energy to develop a risk management model for use on this project. Our team has experience setting up effective risk management models for similar transmission projects throughout the United States. The detailed risk review and population of the risks will be conducted during implementation of the project.



Communications Plan

From client engagement, to engineering, to subcontractors, a successful project must have clear and effective communication between all team members and disciplines. Burns & McDonnell's Project Manager is assigned as the one stop resource for all issues between Beaches Energy and the project. All team members, including subcontractors, report to the Project Manager therefore the Project Manager is the first stop for any project questions. The main communication tool to be used is email. By using email, all issues, questions or coordination is done in a timely manner and is documented.

A bi-weekly project team meeting during the design phase will be held via conference call. This will include the engineering manager and Beaches Energy project manager. During this call, the engineering progress will be discussed and the milestone dates on the schedule will be visited.

Once the project moves to the construction phase, Burns & McDonnell will the perform a weekly

conference call to discuss project status, schedule, material deliveries, and any potential issues that need immediate attention. The call will include Burns & McDonnell, Beaches Energy and all subcontractors.

After each conference call, a meeting minutes file will be forwarded to all team members for follow up. Burns & McDonnell utilizes a Document File System (DFS) that is web-based, so access to all drawings, meeting minutes, RFIs, schedules, etc. is accessible easily and quickly.

For additional information, please reference the Subtractor Utilization Plan section below for more information on how Burns & McDonnell will communicate with our construction partners.

Document and Data Management Methodology

Accurate documentation management is a critical component to a project's success. The team will coordinate all document control related activities and will be responsible for receiving, recording, filing and distributing all related documents. Design drawings, Requests for Information, Notices, letters and other documents will be captured in the system by the Project Controls Specialist so that there is a clear record of what transpired and how the project was executed. When applicable, team members are encouraged to generate and distribute project documentation from Primavera's Contract Management, or equivalent system, because the system automatically tracks, logs and maintains a record of all information entered and the database.

COVID-19 Notification

The uncertainty and potential disruptions to the labor force and supply chain caused by the global outbreak and spread of COVID-19 ("coronavirus") may have an impact on this Project, the exact cost and duration of which we can neither predict nor control. Government orders and restrictions may also delay or prevent performance as anticipated. Therefore, this Proposal is conditioned upon an appropriate force majeure clause being included in the contract, which will grant the Consultant a period of relief in performance and appropriate cost relief where circumstances arise that are beyond our control due to COVID-19 related events. In general, force majeure applies when an "act of God," labor shortages, governmental order or regulation, or other extraordinary event prevents performance. The outbreak and spread of COVID-19 is just such an event, the impact of which nobody can predict at this time. To the extent applicable, the doctrines of "commercial impracticability" or "frustration of purpose" under the Uniform Commercial Code ("UCC") may also excuse performance if delivery pursuant to our contract's terms has been made "impracticable" by the occurrence of a contingency, the non-occurrence of which both parties assumed when the contract was made. At this time, it is impossible to foresee or to predict the full impact of COVID-19 around the world and, therefore, have not included a contingency specifically for COVID-19.

Relevant Experience

Design-Build Experience

Unlike many other firms, we are an integrated EPC firm, offering you a single source of responsibility and accountability. While other firms whose mission is a single discipline, we are design-builders, providing complete project development, design, permitting, environmental, procurement, and construction services. We have been in business for over 123 years. In the past three years alone, over 4,000 EPC projects have been executed throughout the company, including many projects of similar size and scope. The example projects section outlines a few projects that demonstrate our vast EPC experience.

Example Projects

Please see *Appendix E* for Burns & McDonnell's relevant project descriptions.

Subcontractor Utilization Plan

Subcontractor Prequalification

Burns & McDonnell's subcontractor management process starts with a rigorous subcontractor prequalification process. All subcontractors interested in participating in a project will be required to provide detailed information about their safety statistics, credit rating, financial statement, bonding capability, past projects, and references. Function leads of Burns & McDonnell will review the provided information and provide a rating for each area. Only subcontractors meeting or exceeding our pre-qualification criteria will be considered to participate in the project.

Subcontractor Kickoff Meeting

Shortly after subcontracts are issued and executed, a Subcontractor Kick-off Meeting will be held for all the subcontractors. The typical topics will include the following:

- Project Safety
- Project Goals
- Subcontractor's Scope of Work
- Subcontractor's Construction Schedule
- Quality Control
- Document Control (Request for Information; Submittal; Meeting Minutes; Reports; On-site As-builts)
- Change Management
- Cost Control (Cash Flow Projection; invoicing)
- Schedule Control (Man-Hour Project; Progress Measurement; Schedule Update)
- Material Management
- Permitting Compliance

The purpose of such meeting is to review project processes and procedures subcontractors need to understand and follow. It is intended to review these procedures and address any

questions from subcontractors. In addition, it also serves as an integration session when all subcontractors can achieve consistent understanding of project goals. They can start to establish working relationships to facilitate the coordination required during the construction phase.

Subcontractor Pre-Mobilization Meeting

Prior to subcontractors being mobilized on site, a pre-mobilization meeting will be held. During the meeting, project team will review the documents (insurance, safety documents, permits) required prior to mobilization. Typical topics including the following:

- Project safety orientation
- Site logistics, including but not limited to temporary parking, material layout yard, delivery address and routes, and trailer locations
- Site communication protocols
- Subcontractor's field representative
- Site security
- Work hours
- Permitting conditions/constraints
- Material management
- Hazard Assessments
- Temporary utilities

This meeting is intended to prepare subcontractors for the upcoming mobilization activities and promote a collaborative working relationship.

Subcontractor Safety Management

At the inception of the project, Burns & McDonnell will develop project specific safety plan. All of the subcontractors are required to follow such plan.

Prior to any subcontractor mobilization on site, a series of pre-mobilization safety submittals are required to be submitted and approved. This includes the following:

- Safety Competent Person Designation
- Drug Screening
- Certificate of Training
- Job Hazard Analysis

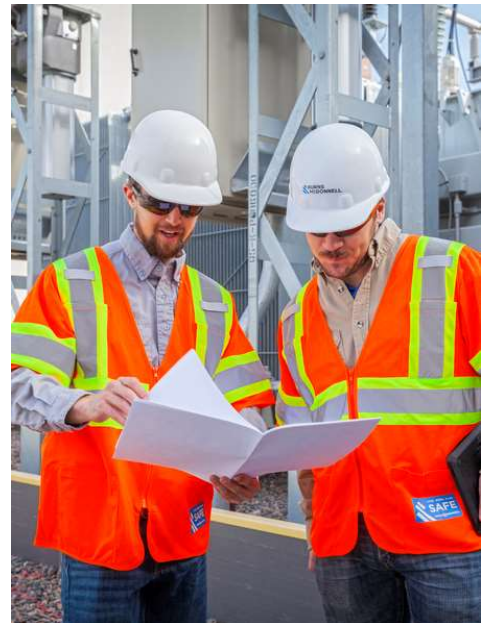
A site-specific safety orientation will be provided to any new on-site employees of subcontractors. This orientation typically includes the following subjects:

- Site specific hazards
- Emergency Action Plan
- Address of local health clinics
- Accident procedures
- Safety communication protocols

Burns & McDonnell will have appropriate safety oversight during active construction and will own the safety management during this phase. Filling out a task safety observation (TSO) card is an interactive way to document that subcontractor employees are performing quality work, asking them to justify how and why they are doing what they are doing. Subcontractor supervisor / front-line manager team will each be required to perform a minimum of one formal TSO per day, providing immediate, certain, and positive feedback. This will also identify and correct project safety and health hazards and at-risk behaviors encountered and provide uniform guidance, requirements to identify and correct these hazards and at-risk behaviors, and proof that all employees are adhering to OSHA standards.

Prior to starting any task, each subcontractor's crew performing the work at the task location will complete a thorough, documented pre-task assessment (PTA) on Burns & McDonnell Safety Form C10. Once the employees or visitors fully understand the procedures, they will sign the PTA, which supervision will verify and authorize. The PTA will include the following:

- Date the task is to be performed.
- Location of the task
- Definition of the task (e.g., setting poles)
- Name, physical address, and telephone number of the nearest medical facility
- A personal protective equipment (PPE) analysis that outlines required protective equipment for employees performing the task. At the minimum, Hard Hats, Hi-Vis Class 2 Vest, Steel Toe Boots, FR Clothing (at energized substation yard), and Glasses with side shields, will be required.
- A step-by-step breakdown of task progression, which includes identification of task step, hazards associated with the particular step, and the control measures used to mitigate those hazards.
- Number of spotters required for any operation involving moving equipment
- Accident procedures
- Identification of the critical step(s) involved in the task; This is the specific element(s) of the job that will pose a greater risk of injury or damage. The crew will stop the task prior to the critical step, think about the step, and confirm that all elements of the task are in place. The crew will only initiate the step after these processes have occurred. After the step has been completed, the crew will discuss any unforeseen occurrences that impacted the job and directives to deal with any other specific hazards or uncommon situations specific to the task, location, and/or environment. These combined activities are known as the STAR (stop, think, act, review) process.



All on-site personnel will be required to stop a task as soon as they observe an unsafe act or condition or whenever they are unsure of the proper way to complete an assigned task. Regardless of position, experience or time of service, any on-site personnel will have the

authority to put a stop to any task. Upon observation of an unsafe act or condition, the observing employee will immediately notify his or her immediate supervisor of the situation. The supervisor will take appropriate control measures to rectify the situation or explain to the questioning employee why the situation is appropriate.

In the case that any incident does occur, subcontractors will be required to report that incident, regardless of severity, to Burns & McDonnell. The priority will be to remove all employees from a hazardous situation and control the scene to prevent further injury or damage. Once the scene is secure, Burns & McDonnell will see that any injured employee receives appropriate medical



treatment. In the event of a non-emergency injury (sprain, strain, etc.), the injured personnel will contact the designated local health clinic as soon as the situation is stabilized. In the event of an emergency injury (serious trauma, profuse bleeding, etc.), we will notify Emergency Medical Services (EMS) in accordance with the Emergency Action Plan. As soon as the scene is secure, and after appropriate medical attention has been administered (if necessary), Burns & McDonnell will notify management and the safety team and make any client notifications

required. On-site safety employees will assist supervision in incident management, including aiding in completion of the written report, taking photographs and collecting statements, and other pertinent information. On-site supervision, safety management, and affected employees will completely fill out the Burns & McDonnell Incident Reporting form. Subcontractor shall provide written report, photos, and any other supporting documentation to Burns & McDonnell as soon as possible but no more than 8 hours after the time of the incident. Burns & McDonnell Project Manager, Subcontractor's Senior Management, site management team, and affected site personnel may convene to perform a root cause analysis and determine corrective actions going forward. Burns & McDonnell will discuss all incidents with all employees on the project to see that similar situations are avoided.

Subcontractor Quality Management

Construction is the critical phase when the design is finally implemented in the field. Burns & McDonnell will monitor the quality of construction activities performed by subcontractors. Our construction quality control approach is consistent, systematic, and has proven to be effective.

Submittals

Burns & McDonnell will review and/or approve the Subcontractor documents, which are required to be submitted per the design document. Burns & McDonnell will verify that all necessary submittals are approved prior to starting a particular work activity. The approved submittals will be maintained in our system and utilized as one of the bases for field verification and inspection.

Preparatory Meeting

Burns & McDonnell will hold a preparatory meeting with each major subcontractor for each major work activity or group of similar activities. A work activity is a task performed by a Subcontractor which is separate and distinct from other tasks, has separate control requirements, and may be

identified by different trades or disciplines, or it may be work by the same trade in a different environment. The preparatory meeting will include the following items:

- Review the subcontract scope of work
- Review of the subcontract specifications regarding materials, erection, installation, testing, documentation, etc.
- Review requirements associated with the quality verification activities to be performed by Burns & McDonnell during construction
- Review the requirements specified on the construction drawings, including construction tolerances
- Verify the Subcontractor has a written quality control program that fully addresses all the above requirements
- Verify all necessary Subcontractor submittals are approved or approved as noted
- Burns & McDonnell will document the items discussed during the meeting in a written report. Any items that require further action will be identified along with the party responsible for resolving the issue and the due date. Reports shall be distributed in accordance with project procedures and retained as quality records.

Initial Inspection

Burns & McDonnell will perform an initial inspection at the start of each major work activity to verify that the subcontractor understands and is prepared to execute their scope of work. The initial inspection will include the following activities:

- Verify that any action items identified during the Preparatory Meeting were resolved
- Fully inspect the initial work performed by Subcontractor to verify that it is in accordance with the requirements specified in the subcontract documents; refer to the applicable Quality Verification Checklist (QVC) for specific inspection steps.
- Verify that the subcontractor is implementing the appropriate quality control procedures at the jobsite
- Prepare a report documenting the specific activities performed during the Initial Inspection and identify any items of nonconformance or other action items for follow-up and resolution
- Burns & McDonnell will document each inspection on a Daily Inspection Log form and the appropriate QVCs.
- Any items that require further action will be identified along with the party responsible for resolving the issue and the due date. Reports shall be distributed in accordance with project procedures and retained as quality records.

Follow-up Inspection

Burns & McDonnell will perform follow-up inspections of the subcontractor's work after the initial inspection and through the completion of the work activity. The frequency and extent of follow-up inspections will be based on the scope of work, on-going Subcontractor performance, and associated risk to the project. The follow-up inspections will include the following activities:

- Verify that any non-conformances or action items identified during the Initial Inspection, or a previous

Follow-up Inspection have been resolved; work should not proceed where non-conformances have been identified but have not been resolved up to at least an approved work-around plan.

- Inspect a representative sample of work performed by the Subcontractor since the Initial Inspection or previous Follow-up Inspection to verify that it is in accordance with the requirements specified in the subcontract documents; refer to the applicable Quality Verification Checklist (QVC) for specific inspection steps.
- Verify that the Subcontractor is implementing the appropriate quality control procedures at the jobsite
- Prepare a report documenting the specific activities performed during each Follow-up Inspection and identify any items of nonconformance or other action items for follow-up and resolution
- Burns & McDonnell will document each inspection on a Daily Inspection Log form and the appropriate Quality Verification Checklist.
- Any items that require further action will be identified along with the party responsible for resolving the issue and the due date. Reports shall be distributed in accordance with project procedures and retained as quality records.

Final Inspection

Burns & McDonnell will perform a Final Inspection at or near the completion of each work activity or pre-defined increment of the work activity. The Final Inspection will include the following items:

- Perform a final inspection of any work performed by the contractor / subcontractor that was not previously inspected during the Initial and Follow-up Inspections but would be prudent to check the final quality of the work; verify that all work follows the specifications and most current drawing revision at the time of final inspection. Refer to the applicable Quality Verification Checklist (QVC) for specific inspection steps.
- Prepare a report documenting the specific activities performed during each Final Inspection and develop a punch list of all items that were found to be incomplete or not in compliance
- Perform a final inspection of any work performed by the contractor / subcontractor that was not previously inspected during the Initial and Follow-up Inspections but would be prudent to check the final quality of the work; verify that all work follows the specifications and most current drawing revision at the time of final inspection; refer to the applicable Quality Verification Checklist (QVC) for specific inspection steps.
- Prepare a report documenting the specific activities performed during each Final Inspection and develop a punch list of all items that were found to be incomplete or not in compliance with the subcontract documents, referenced specifications, and the latest drawing revision at the time of the inspection; this would include any outstanding items of non-conformance or action items identified



during previous Preparatory Meetings, Initial Inspections, and Follow-up Inspections for the work activity.

- Specify the estimated date for which each item on the punch list should be completed or corrected to be in compliance
- Perform follow-up activities to verify that each item on the punch list is completed and/or corrected and is acceptable.
- Burns & McDonnell will document each inspection on a Daily Inspection Log form and the appropriate Quality Verification Checklists.
- Any items that require further action will be identified along with the party responsible for resolving the issue and the due date. Reports shall be distributed in accordance with project procedures and retained as quality records.

Acceptance

Burns & McDonnell will typically accept or release subcontractor construction activities by phases, areas, or systems. The project will define the method and the construction activities associated with each phase, area or system. Burns & McDonnell will verify the following prior to issuing final acceptance for a particular phase, area or system:

- Construction is complete.
- The contractor / subcontractor has completed all required inspections and tests.
- All required documentation has been submitted to Burns & McDonnell.
- Burns & McDonnell has completed all quality verification activities.
- All final inspection punch list items are resolved and accepted.

Non-Conformance Control

The Subcontractor should identify and control items of non-conformance in accordance with their written procedures. In some cases, however, it may be necessary for Burns & McDonnell to issue a Non-conformance Report (NCR).

As early as possible, Burns & McDonnell site manager should review the subcontractor's non-conformance control procedure and forms, and verify that they meet the minimum requirements. Burns & McDonnell will instruct the subcontractor to supply us with a copy of any and all NCRs issued on the applicable order. Burns & McDonnell should verify that contractor-issued NCRs are appropriately dispositioned, verified, and closed in a timely manner.

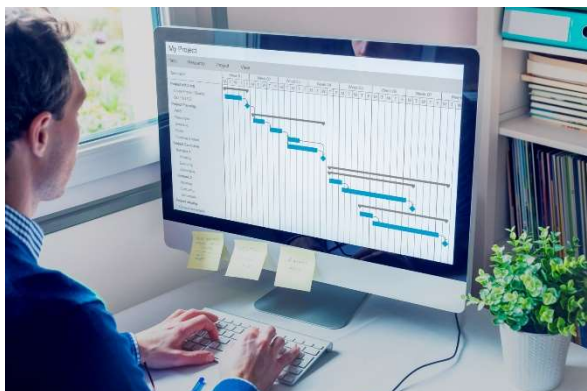
In the event that a Subcontractor does not have a written non-conformance control procedure that meets the minimum requirements, or the Subcontractor does not correctly follow their procedure, Burns & McDonnell may need to issue an NCR. The following are typical examples of when this might be required:

- Burns & McDonnell identifies a non-conforming item at the time of final inspection / test, which was not previously identified and documented by the contractor.
- Burns & McDonnell identifies a non-conforming item during construction that could impact safety or operability and for which the contractor does not have an approved repair procedure.

- Burns & McDonnell identifies a continuing trend of similar minor non-conformances that should have been identified by the subcontractor for preventative action.

Subcontractor Schedule Management

Each subcontractor's contract will include a milestone schedule, which covers the subcontractor's major activities at the project location.



Within 10 days of subcontract award, each subcontractor is required to submit a detailed construction schedule for Burns & McDonnell's review and approval. The detailed construction schedule should meet all the contractual milestone schedule deadlines. This detailed construction schedule will be used to develop overall project schedule. A schedule coordination meeting will be held review the draft project schedule based on individual subcontractor's information. During this meeting, the project master schedule will be reviewed. Any conflicts or constraints will be

identified and resolved. The project baseline schedule will be finalized after such meeting and issued to all subcontractors.

During construction, the Subcontractor will submit weekly schedule updates for the activities of each subcontract package. The updates should record start dates, complete dates, percent complete, and activity logic changes. Burns & McDonnell's site management team will review and confirm such schedule updates. Upon site management team's acceptance, Burns & McDonnell's schedule will enter the update information into project master schedule. Schedule comparison will then be made between baseline schedule and current schedule. Any schedule delay will be identified and communicated back to subcontractors. Subcontractors causing the schedule delay will be required to provide recovery schedule within two days of such notice for Burns & McDonnell's review. If any subcontractor chronically falls behind schedule, a meeting will be held with senior management of that subcontractor to correct such trend.

All the schedule (in native format and PDF format) update will be recorded in case there is any schedule claim situation.

Subcontractor Change Management

Burns & McDonnell will administer the bid process and (tender) issue the related drawings, specifications, and addendum to the bidders during the bid process. This set of documents is defined as the "Bid Set" documents. Upon subcontract award, the successful bidder will be issued the "Issued for Construction" drawing set, schedule, and contract sets. The "Issued for Construction" set defines the negotiated and final subcontract conditions, assumptions, work scope and schedule, and provide the basis for evaluating future change requests. As the Project moves forward, successful change requests will result in change orders and subsequently re-define the "Issued for Construction" set.

As soon as the Subcontractor becomes aware of any circumstances which Subcontractor has reason to believe may necessitate a Change, Subcontractor will issue to Burns & McDonnell a "Change Order Request." All Change Order Requests shall include documentation sufficient to enable Burns & McDonnell to determine:

- Factors necessitating the possibility of a Change
- Impact, which the Change is likely to have on the Subcontract Amount
- Impact, which the Change is likely to have on the timely achievement of Schedule of Work (including the Project Completion Date), and
- Other information, which Burns & McDonnell or Owner may request in connection with such Change.

If Subcontractor fails to notify Burns & McDonnell of a circumstance necessitating a Change within five (5) business days after Subcontractor knew about such circumstance, then Subcontractor will be deemed to have waived any right to receive a Change Order based upon such circumstance, such five (5) business day requirement being an essential term of this Agreement.

Burns & McDonnell shall have no obligation to compensate Subcontractor for any change or extra work unless Subcontractor obtains Burns & McDonnell's written authorization for the performance of such work prior to the performance of the work. Burns & McDonnell may not be obligated to issue a Change Order pursuant to a Change Order Request. Unless otherwise stated by Burns & McDonnell in writing, any work outside the Work described in the subcontract Documents performed by Subcontractor prior to Subcontractor having received a Change Order from Burns & McDonnell will be considered unauthorized work and will be at Subcontractor's sole risk and expense.

If Owner desires to make a Change constituting a modification to the quality, function, intent, or scope of the Work, Burns & McDonnell will issue a "Change Order Notice" to Subcontractor upon receipt corresponding notice from Owner. Subcontractor will promptly review the Change Order Notice and notify Burns & McDonnell in writing within five (5) business days of the options for implementing the proposed change (including, if possible, any option that does not involve an extension of time) and the estimated effect (s), if any, that each such option would have on the Subcontract Amount and the Schedule of Work. Upon receipt of Owner's consent, Burns & McDonnell will issue a Change Order making a Change based upon such Change Order Notice.

A change in the Subcontract Amount, if any, resulting from a Change shall be determined by Burns & McDonnell as follows:

- By lump sum payment in an amount proposed by Subcontractor and accepted by Burns & McDonnell (to be payable as the Parties may agree)
- If Burns & McDonnell does not accept the lump sum amount proposed by Subcontractor, by unit prices agreed upon by the both parties



- If none of the above is agreed upon after good faith negotiation by both parties, Subcontractor will provide Burns & McDonnell with such purchase orders, invoices, sub- subcontractor quotes, and other documents and records as Burns & McDonnell may require to verify Subcontractor's additional direct costs associated with effecting such Change or resulting from the event necessitating such change. Subcontractor shall purchase all equipment, materials, labor, equipment rental, and other items associated with such Change at competitive market prices. Burns & McDonnell will, upon verifying Subcontractor's additional costs associated with such Change, adjust the Subcontract Amount by an amount equal to such Subcontractor's additional costs and allowed profit.

To the extent that Subcontractor demonstrates to Contractor's reasonable satisfaction that a Change will delay Subcontractor in complying with the Schedule of Work, then Contractor may cause the Change Order directing such Change to extend the dates in the Schedule of Work by a number of calendar days, at a maximum, equal to the number of calendar days of delay in the critical path progress of the Work so demonstrated by Subcontractor as being associated with effecting such Change.

Subcontractor Reporting Requirements

Subcontractor's site representative is required to provide daily reports to Burns & McDonnell no later than 9 am of the following workday. Daily reports should contain the following information:

- Labor
- Equipment
- Material
- Activities Performed
- Accident (if any)
- Weather

In addition, on a weekly basis, Subcontractor is required to submit a report documenting field progress, safety issues, environmental issues, and permitting compliance issues.

Subcontractor Meetings

During construction, a weekly status meeting will be held with all subcontractors to review project status and address any issues impacting project progress. Such meeting typically includes the following subjects:

- Safety Status
- Construction progress made during this period
- Construction activities in the next 3 weeks
- Major equipment/material status
- Outstanding Submittals
- Outstanding RFIs
- Deficiency List
- Permitting Status/Compliance
- Environmental Compliance
- Owner Coordination

Proximity

Company Headquarters & Key Office Locations and Capabilities



While Kansas City, Missouri, has remained our global home since 1898, we have more than 50 offices across the United States and around the world. Burns & McDonnell has an office located in Maitland, FL that has been supporting Beaches Energy for more than two years. This office has staff available that can respond to any requests made by Beaches Energy within hours. The project team is all located in our Maitland, FL office and consists of transmission line engineers, civil/structural engineers, designers/CADD technicians, construction manager, and our cost controls specialist. All resources less than 2.5 hours away from the site and available at any given moment. This is part of our response and culture, supporting our commitment to making our clients successful.

Assumptions, Exceptions & Clarifications

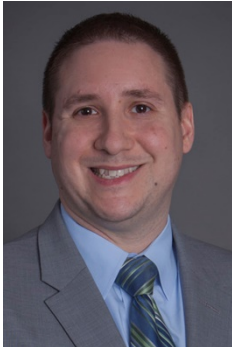
1. Burns & McDonnell is a 100% Employee-Owner firm, and as a result has over 7,600 owners of the company. Due to legal and privacy concerns Burns & McDonnell cannot and does not track personal bankruptcy of our owners. However, as a company Burns & McDonnell has never filed bankruptcy and carries zero debt.

APPENDIX A

RESUMES

MATTHEW KAPUSTA, PE

T&D Regional Practice Manager



Matt is a Senior Electrical Engineer and serves as the T&D Regional Practice Manager in the Orlando office where he oversees an office of 23 engineers and technical professionals working on a number of T&D projects for utility clients in Florida. He has experience in engineering design on electrical substations ranging in size from 13.8kV to 500kV. His responsibilities have included

project management, physical security design, protection and controls.

EDUCATION

- ▶ BS, Electromechanical Engineering, Wentworth Institute of Technology

REGISTRATIONS

- ▶ Professional Engineer (FL, KS)

11 YEARS WITH BURNS & MCDONNELL

13 YEARS OF EXPERIENCE

Williston North Substation | Duke Energy

Williston, Florida | 2018-Present

Project manager and lead substation engineer for a 230kV and 69kV greenfield substation consisting of a 4 bay 230kV breaker and a half configuration, four 230kV lines, one 230/69kV transformer, one 69kV line and multiple instrument transformers. Responsible for design oversight including preliminary and general layout packages, above and below grade physical design, bus design calculations, conduit and cable trench fill calculations, switchyard grounding and creation of material list. Additional responsibilities included project quality control, scheduling, budgeting, and coordination with the client.

Williston Substation | Duke Energy

Williston, Florida | 2018-Present

Project manager and lead substation engineer for a 69kV substation rebuild consisting of a 5 bay 69kV breaker and a half configuration, four 69kV lines, and multiple instrument transformers. Responsible for design oversight including preliminary and general layout packages, above and below grade physical design, bus design calculations, conduit and cable trench fill calculations, switchyard grounding and creation of material list. Additional responsibilities included project quality control, scheduling, budgeting, and coordination with the client.

Citrus County Collector Bus | Duke Energy

Citrus County, Florida | 2015-2018

Project manager and lead substation engineer for 500kV and 230kV collector yards, each consisting of 2 HRSG and 1 STG Transformer taps, 3 breakers and associated disconnect switches, and a line position for the adjacent switchyard tie. Responsible for design oversight including preliminary and general layout packages, above and below grade physical design, bus design calculations, conduit and cable trench fill calculations, switchyard grounding and creation of material



list. Additional responsibilities included project quality control, scheduling, budgeting, and coordination with the client.

Citrus County CC Switchyard | Duke Energy

Citrus County, Florida | 2015-2016

Project manager for a greenfield 500/230kV switchyard located in Citrus County, Florida. Responsibilities included coordination with client, project schedules, budgets, project quality control, and project engineering oversight.

Occidental Swift Creek #1 | Duke Energy

Jasper, Florida | 2015-2016

Project manager and lead substation engineer for replacement of five-115kV and five-25kV Oil Circuit Breaker at Duke's Occidental Swift Creek #1 Substation. Engineering responsibilities included three-line modification, modifying all associated physical drawings, grounding design, conduit design, and creating the physical bill of material. Project Management responsibilities included coordination with client, project schedules and budgets, project quality control, and project engineering.

Mosby Substation Security | Dominion Energy

East Coast United States | 2014-2019

Lead electrical engineer who worked on substation and asset hardening projects at multiple DVP substations. Responsibilities included design and implementation of substation security equipment, one-line modification, modifying all associated physical drawings, grounding design, conduit design, physical bill of material issuance, and coordination and interface with security, construction and substation personal.

Loudoun East SVC Substation | Dominion Energy

Aldie, Virginia | 2015-2019

Lead electrical engineer who worked on the greenfield design of DVP's Loudoun East SVC Substation. The relay portion involved the installation of ten 500kV breakers, one 500kV Cap. Bank, four 500kV lines, six 500kV single phase transformers, multiple 500kV CCVT's, and two SVC units. Responsibilities included one-line modification, modifying and creating AC and DC schematics, creating and modifying relay panel wiring diagrams, creating mechanism wiring diagrams for the new breakers and transformers, creating the relay bill of material, coordination with the client, coordinate and interface with SVC vendor.

Dinner Lake Substation | Duke Energy Florida

Sebring, Florida | 2018

Project manager / lead electrical engineer who led a team of multi-discipline professionals who preformed the civil, structural and electrical engineering design for the rebuild of Dinner Lake Substation. This project included the replacement of one 69kv to 13kV transformer, three 69kV breakers and five 13kV breakers along with numerous instrument transformers, switches and minor equipment. Project management responsibilities included coordination with client, project schedules and budgets, project quality control, and project



STACY W. PRICE, PE

EPC Director



Stacy has over 31 years of engineering experience, with a diverse background in construction, management, and finance. Stacy currently serves as a Southeast Regional Manager for Construction/Design-Build department managing all EPC Projects. Previous to this position Stacy served as Department Manager for the T&D Construction/Design-Build team in our Houston Office. Prior to Burns &

McDonnell, Stacy served as division manager for a direct-hire utility construction company specializing in high-voltage electrical work. His experience included organizational and project management duties on a wide variety of construction projects.

EDUCATION

- ▶ BS, Civil Engineering

REGISTRATIONS

- ▶ Professional Engineer (KS)
- ▶ Contractor's License - Business and Law (ID)

8 YEARS WITH BURNS & MCDONNELL

31 YEARS OF EXPERIENCE

Terrebonne to Bayou Vista | Entergy Services, Inc.

Houma, Louisiana | 2016-Present

EPC project manager for the engineering, procurement and construction of new 230kV transmission lines through the Louisiana wetlands. This project involves 25 miles of new 230kV transmission and multiple substation upgrades. The project includes barge mounted air curtain incinerators for timber disposal, a first configuration in the U.S.

Gray to Allen Creek 345kV Transmission Line | Cross Texas Transmission, LLC

Lefors, Texas | 2015-Present

Project manager who worked on the Gray addition substation project that includes a brownfield substation bay addition upgrade and the installation of a ring bus with breakers, and connection to overhead transmission.

SELA3 Oakville to Alliance 230kV Transmission Line Project | Entergy Services, Inc.

Plaquemine Parish, Louisiana | 2016-2017

EPC project manager for the engineering, procurement and construction of the 230kV transmission line project. The new 10.6 miles of transmission lines will connect the Oakville and Alliance substations.

Port Arthur Reliability Project | Entergy Services, Inc.

Nederland, Texas | 2017-Present

EPC project manager who worked on the engineering, procurement and construction for two new 230kV substations and construction of a new 12.9-mile 230kV transmission line. The project also consists of rebuilds of six substation sites in the area.



STACY W. PRICE, PE

(continued)

China to Amelia 230kV | Entergy Services, Inc.

China, Texas | 2015-2019

EPC project manager for the engineering, procurement and construction of the 230kV transmission project. The project includes a greenfield substation build out and a brownfield substation bay addition upgrades in two substations. Each bay addition involves the installation of a ring bus with breakers, and connection to overhead transmission. This project also includes an 11-mile 230kV transmission line tie from China Substation to the Amelia Substation. The transmission line was a steel monopole construction on driven steel base plated caisson foundations.

Railhead Phase 1 & 2 345kV Substation and Transmission Line Interconnect | Cross Texas Transmission

White Deer, Texas | 2013-2018

Project manager for the 345kV Railhead Phase 1 and 2 substation projects. The project also includes a greenfield substation build out in Phase 1 and a brownfield substation bay addition upgrade in Phase 2. Each substation involves the installation of a ring bus with breakers, and connection to overhead transmission.



ESTEBAN MARTINEZ, PE, MEM

Project Manager / Construction Manager



Esteban is a Project Manager in the Substation Department of Burns & McDonnell who specializes in the design/build of electric power substations. His responsibilities include management of EPC projects, from conceptual to final design and construction, design of electrical layout, protection and control schemes; coordination with clients, contractors

and suppliers, as well as preparation of specifications, bid evaluations, quality control and contract administration.

EDUCATION

- ▶ MS, Engineering Management
- ▶ BS, Electrical and Computer Engineering

REGISTRATIONS

- ▶ Professional Engineer (PR, KS, NJ, FL)

14 YEARS WITH BURNS & MCDONNELL

23 YEARS OF EXPERIENCE

Sampson Substation | Beaches Energy Services

Saint Johns, Florida | 2020-2021

Project manager for the replacement of a 230/138kV autotransformer and relay upgrades. This EPC (Engineering-Procurement-Construct) project included replacing the existing 230/138kV transformer, as well as replacing a total of five disconnect switches on both the 230kV and 138kV side. A new SSVT was installed to upgrade the AC system of the substation. Responsible for the management of all engineering, procurement, and construction.

Sampson Substation Switches Replacement Project | Beaches Energy Services

Jacksonville Beach, Florida | 2016-2019

Project manager who worked on the replacement of disconnect switches at Sampson, Butler, Jacksonville Beach and Ft. Diego Substations. Responsible for all engineering of the projects. Some disconnect switch replacement are in-kind, others are replacements with circuit switchers. Design included all physical, civil and protection designs. In charge of schedule and budget as well as quality control for the physical design.

Program Management | Puerto Rico Electric Power Authority

Puerto Rico | 2020-Present

Assistant program manager who oversees multiple projects that consist of new substation, transmission, generation, building, distribution and telecommunication scopes for this extensive program. Responsibilities include overall management of all leads, including engineering, procurement, EHP; leading the project management team in charge of overseeing all projects developed throughout the lifecycle of the program; and assisted in the decision-making process regarding all reporting, RFPs to A/E firms, and execution plans.



ESTEBAN MARTINEZ, PE, MEM

(continued)

Texas Avenue 69kV Substation | Public Service Electric & Gas Co.

Lawrence Township, New Jersey | 2020-Present

Project manager who worked on the engineering and limited procurement related to Texas Ave 69kV Substation. This substation consists of a 69kV AIS 8-position ring bus with two 69/13kV transformers feeding a 12-position 13kV switchgear. Responsible for site plan development, including grading/water management and plans and elevations; and provides support to the permitting process with limited procurement.

Hilltop 230/69kV Substation | Public Service Electric & Gas Co.

Blackwood, New Jersey | 2019-Present

Project manager who worked on the engineering and limited procurement related to the property purchase for the site of the new Hilltop substation. This substation consists of a 230kV GIS 4-position ring bus, with two 230/69kV transformers feeding a 6-position 69kV GIS ring bus. Site development is included in this scope of work. Connections on either side of the transformer is done via gas insulated bus. Responsible for site plan development, including grading/water management and plans and elevations. Support to the permitting process is included in the scope.

Clay Street Substation | Public Service Electric & Gas Co.

Newark, New Jersey | 2015-Present

Project manager who worked on the complete design and procurement of the Clay St. 69kV conversion project. This project includes engineering and procurement to remove all 26kV sections of the substation and replacing it with a 69kV GIS ring bus. Connection to the GIS ring bus is made using 69kV underground duct banks. Responsible for the procurement of all steel/supports and outdoor materials. In charge of schedule and budget as well as quality control for the project.

Renaissance Substation | City of Homestead, Florida

Homestead, Florida | 2017-2020

Project manager who worked on the design and procurement of a 138kV-13.2kV transformer addition to the Renaissance Substation. Responsible for all engineering aspects of the project, including steel/foundations and connection of the transformer position to the existing ring bus. A 4-position 13.2kV distribution bay is also part of the project. Responsible for the procurement and delivery of all steel structures/support and all electrical connectors. In charge of schedule and budget, as well as quality control.

Black Start Project | Florida Power & Light Company

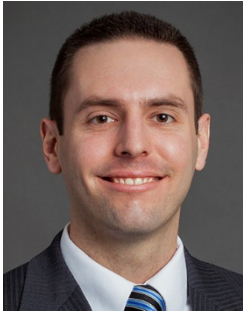
Fort Lauderdale, Florida | 2018-2019

Project manager who worked on the complete design of a small distribution line inside FPL's Lauderdale Generating Station. This project includes engineering of four concrete poles to connect one 13.8kV GSU unit to a dedicated transformer. The distribution line is designed to carry 2,400 amps and the connection is done via existing bus work. Responsible for design requirements, specifications and submittal reviews. In charge of schedule and budget as well as quality control for the project.



ALEX J. KLADIVA PE, SE

Engineering Manager



Alex is a Senior Structural Engineer in the Orlando office experienced in structural analysis, design, coordination, quality control, and field investigation. Alex has served multiple utility clients nationwide designing hundreds of new and retrofit structures and foundations for 12.5kV to 345kV electrical substations. Alex has

performed forensic investigations of commercial and residential structures to determine the cause of structural damage and has designed new commercial and industrial buildings and building additions and repairs. Alex has designed site grading and stormwater drainage for multiple sites, ranging from 1-12 acres. Alex has supported multiple project teams and clients including acting as main structural engineer on a multi-year substation upgrade program supporting three local project teams as well as overseeing remote structural engineers supporting a fourth project team. Alex regularly provides technical oversight and quality review while performing design on unique projects.

EDUCATION

- ▶ MS, Civil Engineering
- ▶ BS, Civil Engineering

REGISTRATIONS

- ▶ Professional Engineer (CA, FL, IL, IN, KS, KY, MO, OH, TX)
- ▶ Structural Engineer (IL, HI, OK)

ORGANIZATIONS

- ▶ Member, ASCE 113 Substation Structure Committee
- ▶ Secretary, IEEE605 Substation Air-Insulated Bus Committee.
- ▶ Member: ASCE Transmission and Substation Foundations Committee

7 YEARS WITH BURNS & MCDONNELL

13 YEARS OF EXPERIENCE

Seminole Substation | Duke Energy Corp

Seminole, Florida | 2021

Engineer of Record and civil/structural engineer for project which involved the addition of a new control building and minor equipment additions to an existing suburban substation. Also responsible for the stormwater design and building design.

Cambium Group II | Duke Energy Corp

Maitland, Florida | 2021

Engineer of Record / structural engineer for this program of telecommunications poles supporting cambium antennas located in or near substation and line switches in various locations in Florida.

Major Projects Program | Duke Energy Corp

Maitland, Florida | 2020-2021

Owner's engineer responsible for providing Owner's Engineer services to ensure conformance with the contract documents and Duke typical design practices. This consisted of reviewing civil and structural design packages from consultants and providing comments.



Searcy Solar Storage | Entergy Services, Inc.

The Woodlands, Texas | 2020-2021

Structural engineer responsible for providing structural Owner's Engineer services on this 145MW solar PV installation. Additionally, led an effort to prepare specifications for future installations. Worked closely with the client to prepare specifications according to client preferences.

Stock Island Bus Support | Florida Municipal Power Agency

Key West, Florida | 2020-2021

Structural engineer of record for project which consisted of the addition of a bus support between an existing GSU and an existing bus support to alleviate forces on the GSU. Responsible for designing a new bus support using a direct embed precast concrete column and steel crossbeam to mitigate corrosion potential as installation challenges. Also performed the physical design.

Bronson Control Building Expansion | Duke Energy Corp

Bronson, Florida | 2020-2021

Civil / structural engineer responsible for the control building addition structure and foundation design to an existing CMU building and with hollow core concrete roof planks and existing substation. Also responsible for the equipment foundation design, expansion grading design and associated stormwater and permitting impacts. Project also included equipment additions to this existing substation including a new transformer and bus run.

Spring Bank Substation | Seminole Electric Cooperative

Green Cove Springs, Florida | 2020

Structural engineer for of a new transformer and bay addition to an existing 230kV/115kV substation. Alex was responsible for providing Owner's Engineer support consisting of review of consultant designs. Additionally, Alex designed a transformer oil containment pit access platform system.

Communications Tower Site Grading and Foundations | Duke

Various Locations (FL, IN, OH, VA, NC) | 2019

Civil engineer for the civil site grading design as well as foundation design for control buildings and miscellaneous equipment. Alex provided civil/structural design review.

Operations and Maintenance Specification Development | Ameren

St. Louis, Missouri | 2020

Structural engineer for the compilation of the client's informal Operations & Maintenance practices and knowledge and combining these with Burns & McDonnell's experience in the transmission industry to develop specifications to support future Operations & Maintenance activities. Alex was responsible for developing and writing two new specifications for inspection and evaluation of both steel and concrete foundations.



CAROLYN GREENWELL, PE, PMP

Quality Assurance & Control / Transmission



Carolyn is a Project Manager in the Orlando office's Transmission & Distribution Division of Burns & McDonnell. She is a Civil Engineer specializing in transmission line design. Her experience has made over 40 T&D projects successful. In this role, her responsibilities include overseeing civil/structural design for overhead

transmission lines. She is experienced in PLS-CADD, FAD, LPILE, Sag10, MathCAD, AutoCAD, Civil 3-D, InRoads, Microstation and other software. Prior to joining Burns & McDonnell, her previous experience encompasses being a senior engineer at a major FL utility blended with consulting experience. Her experience working for both utility and as a consulting engineer gives her an understanding of our clients and what their needs are. Her duties also include coordination with clients, contractors and suppliers, as well as preparation of specifications, bid evaluations, quality control and contract administration.

EDUCATION

- ▶ BS, Construction Engineering and Management

REGISTRATIONS

- ▶ Professional Engineer (Civil Structural): FL, GA
- ▶ Project Management Professional

5 YEARS WITH BURNS & MCDONNELL

22 YEARS OF EXPERIENCE

Major Projects Program | Duke Energy Florida

Lake Mary, Florida | 2017-Present

Owner's engineer for all transmission line work associated with client's Major Project's Program. This role involves understanding standards, design principles and practices for Duke Energy Florida. In addition, the role involves making recommendations to alterations to adjust to EPC vs. traditionally executed project strategies. As Owner's Engineer, the 25+ projects are defined and organized to facilitate either an EPC or traditional vendor execution of the design and construction of the program's transmission line work. This role impacts the technical direction of over the largest portfolio transmission line work Florida has experienced in over 25 years resulting in billions of dollars of revenue.

Osprey Project Value Engineering 230kV | Duke Energy Florida

Lake Mary, Florida | 2019

Project manager/senior engineer Lead in the creation and evaluation of value engineering solutions for the potential greenfield Kathleen - Osprey 230kV project and the Osprey - Haines City East 230kV project. The purpose of the exercise was to evaluate DEF standards and line design philosophy and identify areas that could provide cost savings while still adhering to applicable codes, such as ASCE and NESC. Cost implications of the following areas were explored: tangent framings, conductor tension controls, conductor selection, clearance buffers, shielding angles, structure materials, and foundation types.



Bithlo - Lockwood | Duke Energy Florida

Lake Mary, Florida | 2017-Present

Project manager who implemented successfully led the redesign of approximately 10 miles 69kV transmission line in east Orange County and Seminole County, FL in 115kV transmission standards. The project management portion involved balancing scope, schedule, budget, and quality. Bi-weekly meetings were held with the client to stay in sync with their project expectations. The scope of the project involved a nearly 10-mile 1272 kcmil conductor, single pole 115kV transmission design along right-of-way adjacent to a county road.

Staff Augmentation Project Management | Duke Energy Florida

Lake Mary, Florida | 2017

Project manager who was brought into Duke Energy Florida's Transmission Project Management Department to plan, schedule, analyze risk, budget, manage, coordinate and execute project needs for two critical transmission projects for their system. The New River - Wire Road project portfolio consisted of substation and transmission line projects. The major portions of this work were a new greenfield 230kV substation and five greenfield transmission lines ranging in voltage from 69kV to 230kV. The Morgan Road project portfolio consisted of a new greenfield 230kV substation in addition to a new greenfield 230kV tie and two 69kV greenfield transmission line tie-ins. Both projects set to energize in May 2021.

Saint Cloud 230kV Project | Orlando Utilities Commission

Orlando, Florida | 2016-Present

Senior engineer for BMcD who integrated with OUC's Transmission Planning to vet through potential physical grid options to determine which technical solution best suited OUC's needs. In her role, she reviewed and scoped over 18 technical options with providing high level cost information. The results were included in a BMcD Transmission Planning report for OUC senior management's use for critical utility short- and long-term planning.

Citrus Switchyard 230kV and 500kV Transmission Project* | Duke Energy Florida

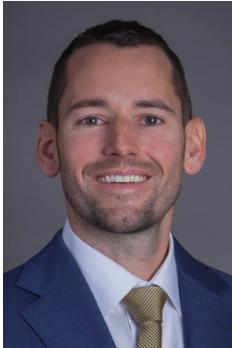
Citrus County, Florida | 2015-2016

Senior engineer in the design and development of routing nine 230kV circuits and three 500kV circuits into the proposed Citrus 500kV Switchyard to support the Citrus Generation Plant. Ms. Greenwell's role in the project was the feasibility study, insulation study, project routing, and preliminary line engineering. The engineering and design includes conceptual design, coordination between various entities to service the generation plant. Duke Energy Florida is in process of evaluating and developing standards and leans on Ms. Greenwell and her previous experience to sort and prioritize an updated version of 500kV (EHV) standards. Once the project is conceptually designed, it will proceed into final design stage, including working with regulators for permitting (Florida SCA in place) and prepared construction specifications with a workbook (including specialized detailed assembly drawings, sag and tension charts, plan and profile drawings, bill of material (THOR), and construction sequence report). The project is slated for in-service in September 2017.



ANDREW HARPER, PE

Quality Assurance & Control / Civil/Structural



Andy is a Department Manager and Senior Engineer in the Burns & McDonnell Orlando office. In addition to engineering management responsibilities, he also performs analysis and design of steel and concrete structures for a wide range of facilities. Additional responsibilities and proficiencies include seismic analysis, connection design and a variety of foundation design capabilities. His software proficiencies include RISA 3D and SAP2000.

EDUCATION

- ▶ BS, Civil Engineering

REGISTRATIONS

- ▶ Registered Civil Engineer (CA, FL, NC, NJ)

7 YEARS WITH BURNS & MCDONNELL

12 YEARS OF EXPERIENCE

Sampson Substation Autotransformer #2 EPC Replacement Project | Beaches Energy Services

St. Johns, Florida | 2020

Lead civil / structural engineer who provided engineering packages for this substation EPC (engineering-procurement-construction) project that consisted of replacing the 230/138kV T2 transformer with an owner-provided 230/138kV autotransformer. The scope also included the replacement of two 230kV line disconnect switches, one 230kV transformer disconnect switch, and two 138kV transformer disconnect switches.

Renaissance Substation | Homestead Energy Services

Homestead, Florida | 2019-Present

Civil/structural engineer responsible for this expansion of an existing 138/13.2kV substation. The project consists of adding one transformer bay to the existing 138kV ring bus, with a 4-position 13.2kV distribution bay fed from the new transformer. Responsible for all civil and structural design.

Civil/Structural Owner's Engineer | Duke Energy

Florida | 2019-2021

Civil/structural engineer responsible for the review and civil and structural oversight of EPC contractors on behalf of Duke Energy Florida. Duke Energy Florida is currently executing a \$2.5B capital portfolio, with Burns & McDonnell acting as Program Manager. Activities include review of construction documents, specifications, calculations and drawings.

Silver Springs Shores Substation Ampacity Upgrades | Duke Energy Corp

Southeast, U.S. | 2019-Present

Project manager responsible for the engineering management of two 69/13kV transformer replacements. The scope also includes a re-build of the 13kV low-side and bus, installation of new SF6 breakers to replace aging 69kV oil breakers, and a complete re-build of the station service. Additional site work includes oil containment, SPCC plan updates and staging of a mobile substation.



Williston North Substation | Duke Energy Corp

Lake Mary, Florida | 2017-2020

Lead structural engineer responsible for the design and oversight of a greenfield 230/69kV substation for Duke Energy Florida. Scope included design of steel structures, bus layout, deep foundation design, building subcontractor oversight for CEE design, and oversight of civil site plans.

UAL South Hanger | Greater Orlando Airport Authority

Orlando, Florida | 2019

Civil/structural engineer responsible for the inspection and analysis of existing 1940s era commercial hanger at OIA. Analyzed existing conditions of hangar columns, lateral system and door framing. Performed construction and repair estimates for columns and lateral bracing. Conceptual designs included welding, shoring, foundation estimates and steel member splices

Clay Street 69kV/4kV GIS Substation | PSEG

Newark, New Jersey | 2018

Civil/structural engineer responsible for the analysis and design of new 69kV GIS substation located in Newark, NJ. Responsibilities included steel structure analysis and design for GIB and AIB supports, oversight of foundation designs, and miscellaneous structures, platforms and oil containment.

Citrus County CC Switchyard | Duke Energy

Citrus County, Florida | 2015-2016

Civil/structural engineer for a greenfield 500/230kV switchyard located in Citrus County, Florida. Responsibilities included development of foundation and structure specifications, substation steel and connection design, foundation design, review of subcontractor submittals and construction support.

Ipiatik Lake Substation | Altalink

Alberta, Canada | 2014-2015

Civil/structural engineer for a greenfield 240/138kV substation (EPC) located in Alberta, Canada. Responsibilities included development of foundation and structure specifications, substation steel and connection design, foundation design, review of subcontractor submittals and construction support.

Kern PP Substation | Pacific Gas & Electric

Bakersfield, California | 2014

Civil/structural engineer for a 115/12kV substation. Performed seismic analysis and design for existing substation lattice structures to determine if existing structures met current seismic performance requirements.

Schindler Substation Expansion | Pacific Gas & Electric

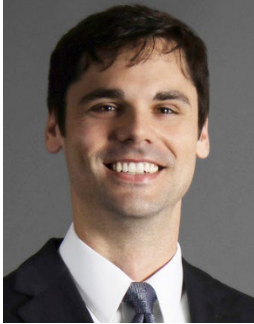
California | 2014

Civil/structural engineer for a 69kV substation upgrade. Responsibilities included development of foundation and anchorage designs, development of structure loads, site layout, and construction support.



RICHIE RIDENOUR, PE

Transmission Engineer



Richie is a Civil Engineer in the Transmission & Distribution department with a focus in overhead transmission line design. His role as a Project Engineer includes support of high-voltage power delivery applications. He is experienced in PLS-CADD, PLS-Tower, PLS-Pole, MFAD, LPile, Sag10, MathCAD, and other software.

EDUCATION

- ▶ BS, Civil Engineering

REGISTRATIONS

- ▶ Professional Engineer (FL, MD)

2 YEARS WITH BURNS & MCDONNELL

9 YEARS OF EXPERIENCE

Transmission Line Underbuild & Analysis | Duke Energy Florida (DEF)

Orlando, Florida | 2021-Present

Transmission line engineer in the evaluation of third-party attachment requests with consideration of DEF transmission line standards and existing infrastructure. Feasibility evaluations considered electrical clearances and structural impact to existing transmission infrastructure. Evaluations incorporated the stricter of applicable DEF transmission line standards, industry standards and codes, and federal, state, and local requirements. Worked closely with the client, including providing weekly updates to DEF Transmission as to progress of evaluations.

Q27 Facilities Study | Seminole Electric Cooperative, Inc.

Tampa, Florida | 2020

Transmission line engineer who provided engineering scope and estimates for 230kV transmission line upgrades to facilitate the installation of a new solar generation site. Required coordination with substation, communications, planning, and construction.

St. Cloud 230kV Project | Orlando Utilities Commission

St. Cloud, Florida | 2019-Present

Transmission line engineer responsible for providing support of a new 230kV transmission line connecting the St. Cloud East and Magnolia Ranch North substations. Multiple routes were considered as part of the TLISA (Transmission Line Siting Act) application. Conceptual engineering calculations were performed for conductor selection, structure type and framing selection, electric and magnetic field studies, and right-of-way width analysis. Attended open houses to notify the public and address any questions or concerns they had.

BESS Facility | Confidential Client

Florida | 2019-2020

Transmission line engineer responsible for engineering services as the Engineer of Record for the transmission installation of this 11.5MW, 23MWhr BESS facility. The facility was commissioned with a

RICHIE RIDENOUR, PE

(continued)

dual use, providing peak shaving and black-start services for five collocated simple cycle F class combustion turbines. This was only the second facility in the US to successfully black-start Class F combustion turbines from a battery system. As part of a multi-disciplinary team in the design, a 13.2kV overhead 3-phase distribution underbuild line was installed on an existing transmission infrastructure in the support of the installation of a battery energy storage system. Responsibilities included conductor selection, clearance calculations, structural/foundation analysis, development of construction drawings, and construction support.

Orange Blossom Bypass | Duke Energy Florida

Summerfield, Florida | 2020

Lead transmission line engineer responsible for a transmission design connecting two (2) 69kV lines in order to bypass the substation during an outage. The design accommodated for utilizing surplus steel poles existing in the client storerooms. The project was designed for 115kV and considered existing and future proposed conductors. Required coordinating with planning, construction, and vegetation management.

325MK Transmission Line | 8MinuteEnergy CMS, LLC

Moapa, Nevada | 2020

Owner's engineer responsible for independent quality assurance and control of third-party 230kV transmission line design. Specific items evaluated were pole relocations during construction and the impact on right-of-way.

Utility Technical Advisor | Confidential Client

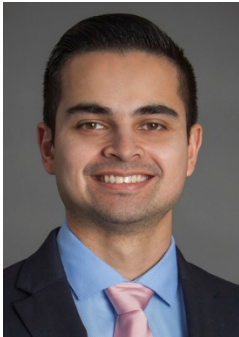
Moncks Corner, South Carolina | 2019-2020

Utility technical advisor who provided technical advisory services to support the potential acquisition of our Southern utility. Visited a select number of transmission and distribution facilities critical to client's electric service area to assess the overall condition of the equipment and systems, as well as review the operational capacity of facility personnel. Performed a condition assessment of existing transmission and distribution infrastructure. Conducted interviews with transmission and distribution staff to ascertain the operations and maintenance (O&M) practices and history.



BILLY ZIMMERMAN, EI

Transmission Engineer



Billy is an Assistant Civil Engineer working with Transmission and Distribution clients in the Orlando office. His main focus is in transmission lines with proficiency in cost estimating, PLS-CADD, and PLS-POLE. His past experiences make him a valuable transmission engineer in developing PLS-CADD models with both client standard and nonstandard engineering designs.

EDUCATION

- ▶ BS, Civil Engineering

REGISTRATIONS

- ▶ Engineer in Training (FL)

3 YEARS WITH BURNS & MCDONNELL

3 YEARS OF EXPERIENCE

Value Engineering Report, Kathleen-Osprey 230kV & Osprey-Haines City 230kV Transmission Line Project | Duke Energy Florida

Osprey, Florida | 2020-2021

Transmission engineer responsible for engineering and design to aid the EPC Kathleen - Osprey 230kV & Osprey - Haines City 230kV projects need for a Value Engineering Report. Requires knowledge of up to date Duke Energy Florida Transmission Line standard practices, PLS-Pole & PLS-CADD Lite. Over two hundred PLS-CADD Lite models were created to study the different parameters to save costs for the EPC project. The Value Engineering Report is the first of its kind and is likely to be integrated into future DEF transmission line projects and could likely change the future of Duke Transmission Line Standards.

Winter Garden Mobile Substation 69kV Transmission Line Support Project | Duke Energy Florida

Winter Garden, Florida | 2019-2021

Transmission engineer responsible for engineering and design to aid the EPC Montverde - Winter Garden projects need for a mobile substation. Requires knowledge of up to date Duke Energy Florida Transmission Line standard practices to implement Modified Electrical Work Order Book. Modified Electrical Work Order Book to be integrated into a Duke Energy Florida standard for further T-Line mobile substation projects.

Blue Springs 230kV Project | Duke Energy Florida

Jasper, Florida | 2019-2020

Transmission engineer responsible for conceptual design package deliverables based on a facility study report. This is to support EPC contractors to competitively bid on the scoped work. Conceptual design package deliverables are based on existing information and design parameters provided by substation and a solar developer. It required knowledge in interpreting and understanding Duke Energy Florida and MPP EPC Program standards.



BILLY ZIMMERMAN, EI

(continued)

St. Cloud 230kV Project | Orlando Utilities Commission

St. Cloud, Florida | 2019-Present

Transmission line engineer responsible for the support of a greenfield 230kV transmission line between the St. Cloud East and Magnolia Ranch North substations. Different transmission line routes were considered as part of the TLSA (Transmission Line Siting Act) application. Conceptual engineering designs were performed for conductor selection, structure type and framing selection, electric and magnetic field studies, and right-of-way width analysis. Actively attended open houses to notify the public and address any questions or concerns they may have.

Newberry Line Design | Duke Energy Florida

Trenton, Florida | 2021

Transmission engineer responsible for engineering and design to aid the Newberry substation need for a mobile substation. Requires knowledge of up-to-date Duke Energy Florida Transmission Line standard practices to implement the new Electrical Work Order Book (EWOB) for mobile substations, which is to be integrated into a Duke Energy Florida standard for further T-Line mobile substation projects. Completed well ahead of schedule. Worked closely with the client to implement the first mobile substation EWOB.

Apalachicola Box Transmission Line | Duke Energy Florida

Chattahoochee, Florida | 2020

Transmission engineer responsible for engineering and design to aid the Apalachicola Capacity Upgrades need for a mobile substation. Requires knowledge of up to date Duke Energy Florida Transmission Line standard practices to implement Modified Electrical Work Order Book. Modified Electrical Work Order Book to be integrated into a Duke Energy Florida standard for further T-Line mobile substation projects.

Q272 EcoPark Solar Project | Duke Energy Florida

Fort Meade, Florida | 2020

Transmission engineer responsible for T-Line engineering scope and cost estimate to aid in the development of the facility study. Requires knowledge of up to date Duke Energy Florida Transmission Line standard and T-Line cost estimating practices. Completed on schedule.

Floral City Mobile Substation Project | Duke Energy Corp

Floral City, Florida | 2020

Transmission engineer responsible for engineering and design to aid the Floral City substation need for a mobile substation. Requires knowledge of up to date Duke Energy Florida Transmission Line standard practices to implement Modified Electrical Work Order Book. Modified Electrical Work Order Book to be integrated into a Duke Energy Florida standard for further T-Line mobile substation projects.



VISHAL VERMA, LEED AP, PMP, MCM

Project Controls Manager



Vishal serves Burns & McDonnell as a Project Controls Section Manager. He is a PMP and has over a decade of experience in project and construction management. Vishal is experienced in developing program management processes on complex projects with expertise in the analysis of project financials, schedule management, and the development and presentation of periodic reports. He has in-depth knowledge of best practices for design and construction, strong cost engineering capabilities and scheduling skills using Primavera P6 software. A summary of his experience is provided below.

EDUCATION

- ▶ MS, Construction Management

REGISTRATIONS

- ▶ LEED AP
- ▶ Project Management Professional

9 YEARS WITH BURNS & MCDONNELL

16 YEARS OF EXPERIENCE

Grid Investment Program | Georgia Power Company

Atlanta, Georgia | 2020-Present

Project controls liaison for this multi-year \$1.3 billion initiative to enhance service and reliability in communities across Georgia. Our investment plan focuses on upgrading transmission and distribution infrastructure across the power grid to decrease the number and length of power outages experienced by customers. Supports the staffing and project controls design and systems for Georgia Power's Grid Investment Program; helped the program team and the client develop the project controls system for a new multi-billion dollars GIP program; currently supports the program team in development and execution of their project controls suite including the cost, schedule and risk management systems.

Major Projects Program | Duke Energy Florida

Florida | 2019-Present

Staff controls manager for this Major Projects Program to manage a CapEx portfolio for Duke Energy, Florida. He is responsible for coordination and development of the Program Execution Plan (PEP) and for Developing the processes and procedures inside the PEP. Mr. Verma is tasked with performing all owner Project Controls functions including cost coding for EPC invoices, Owner Functional Group costs, managing Owner's cost and schedule for individual projects, risk registry, risk analysis tool, scheduling and document control systems and establishing the Key Performance Indicators associated with Safety, Schedule and Budget to track the health and progress of the Program and each EPC contractor. Responsible for setting up the Electronic Project Management Tool (Unifier) and providing a process for document control, construction QA/QC and issuing weekly and monthly summaries on safety, schedule, budget and the development of a monthly program report to provide a summary to DEF on the health and progress of the program and the DBB and EPC contractors.



VISHAL VERMA, LEED AP, PMP, MCM

(continued)

ETG Program Management | Elizabethtown Gas

Elizabeth, New Jersey | 2018

Project controls manager on ETG's LP-EP Program across various business lines within ETG. Responsible for setting up the program controls structure and hiring a team to support ETG as they take on a larger portfolio of projects; part of a management driven initiative to improve and enhance ETG's program management capabilities; worked directly with the ETG program management team to set up processes and procedures for planning and executing a large number of projects in a consistent and standardized manner; led the effort to create the Project Execution Plans and process flows for all project controls areas; accountable for ensuring a successful transition of the program management processes and controls as ETG goes thru several changes both in management and tools/software; instrumental in creating a Program Management solution using Power BI in combination with scheduling in P6 and project cost and accounting in PeopleSoft.

ETDSIC Program | Vectren Corporation

Evansville, Indiana | 2017-Present

Project controls manager for project controls on Vectren's Electric Transmission Distribution Storage Improvement Charge (TDSIC) Program. Responsible for setting up the program controls and hiring the right staff to support Vectren as they execute larger capital projects; worked with the Vectren program management team to set up processes and procedures for planning and executing a large number of projects on a yearly basis; led the effort to create the Project Execution Plans and process flows for all project controls areas; accountable for ensuring successful implementation of the processes that were set up in the Project Execution Plan, including the setup and implementation of P6 and Prism G2 software for enhanced scheduling and cost management.

Portfolio Management | DTE Energy

Detroit, Michigan | 2017-2018

Project controls manager on DTE Energy's Distribution operations (DO) Project Management initiative to improve management of capital projects across their portfolio; accountable for working with DTE staff to standardize their project management processes across Distribution Operations within DTE. These processes were detailed out in a Project Execution Plan. He then helped create the DTE DO portfolio in P6 and continues to support DTE on other Project Management initiatives detailed out in the Project Execution Plan.

Portfolio Management | HydroOne Networks

Toronto, Canada | 2015-2017

Project controls manager on HydroOne's Portfolio Management initiative that will enhance HydroOne's ability to manage a bigger portfolio of projects in the coming years. Responsible for working with various department leads from HydroOne to design and execute project controls solution across their portfolio of projects; led Scheduling, Cost, Document Control and Earned Value Management initiatives and was accountable for the Project Execution Plans and process flow for these areas.



ROBERT FURRER

Superintendent



Robert has over 20 years of construction experience focusing on multiple transmission and distribution projects throughout the country.

10 YEARS WITH BURNS & MCDONNELL
20 YEARS OF EXPERIENCE

CRU-WS3 | Motiva Enterprises, LLC

Port Arthur, Texas | 2020-2021

Construction manager and lead field inspector responsible for managing day-to-day operations of the Motiva STF substation build. Responsibilities include interfacing with Motiva Enterprises project manager, Burns & McDonnell

engineers, inspections for contract and quality plan implementation to the onsite construction crew to assure timely completion and quality assurance. Also, dispute resolution, schedule, compliance and budget control. Client interface is a key function as well as any/all site related issues or concerns arising during the construction process.

CRU-WS3 Substation | Motiva Enterprises, LLC

Port Arthur, Texas | 2020-2021

Constructability manager responsible for managing day-to-day operations of the Motiva CRU/WS3 substation build. Responsibilities include interfacing with Motiva Enterprises project manager, Burns & McDonnell engineers, inspections for contract and quality plan implementation to the onsite construction crew to assure timely completion and quality assurance; dispute resolution, schedule, compliance and budget control. Client interface is a key function as well as any/all site related issues or concerns arising during the construction process.

BPX Construction Management | BP Production Company

Orla, Texas | 2019-2020

Construction manager responsible for managing day-to-day operations of the Grand Slam Squiggy Substation build. Responsibilities included interfacing with BPX project manager, Burns & McDonnell engineers, inspections for contract and quality plan implementation to the onsite construction crew to assure timely completion and quality assurance; dispute resolution, schedule, compliance and budget control. Client interface is a key function as well as any/all site related issues or concerns arising during the construction process.

Gregory-Rincon-Refugio | American Electric Power

Sinton, Texas

Construction manager responsible for overseeing day-to-day operations of the Gregory-Rincon-Refugio 69kV transmission line to interconnect 5 substations. Responsibilities included overall project safety management, project kick-off meetings, multiple contractor oversight and coordination, document review, inspections for contract and quality plan implementation,



ROBERT FURRER

(continued)

engineering coordination, dispute resolution, schedule, compliance and budget control through change management. Client interface is a key function as well as any/all site related issues or concerns arising during the construction process.

SELA3 Oakville to Alliance 230kV Transmission Line Project | Entergy Services, Inc.

Plaquemine Parish, Louisiana | 2016-2017

Construction manager responsible for overseeing day-to-day operations of the SELA 3 project. Oakville to Alliance substation 230kV transmission line to connect the 2 substations. Responsibilities included overall project safety, project kick-off meetings, multiple contractor oversight and coordination, document review, inspections for contract and quality plan implementation, engineering coordination, dispute resolution, schedule, compliance and budget control through change management. Client interface is a key function as well as any/all site related issues or concerns arising during the construction process.

Terrebonne to Bayou Vista | Entergy Services, Inc.

Houma, Louisiana | 2016-Present

Construction manager responsible for overseeing day-to-day operations of the Terrebonne 230kV substation build, as well as the building of the transmission line to connect the existing Bayou Vista substation. Responsibilities also include interfacing with Entergy owner representatives to assure timely completion and quality assurance.

China to Amelia 230kV | Entergy Services, Inc.

China, Texas | 2015-2019

Construction manager responsible for overseeing day-to-day operations of the Amelia North 230kV substation build, and upgrade of the China substation, as well as the building of the transmission line to connect the existing China substation. Responsibilities also include interfacing with Entergy owner representatives to assure timely completion and quality assurance.

Sharyland Substation | Sharyland Utilities

Midland, Texas | 2012-Present

T&D superintendent responsible for new construction on transmission lines. Responsibilities included overall project safety, project kick-off meetings, multiple contractor oversight and coordination, document review, inspections for contract and quality plan implementation, engineering coordination, dispute resolution, schedule compliance and budget control through change management. Client interface is a key function as well as any/all site related issues or concerns arising during the construction process.



CECILIA MURPHY

Procurement Specialist



Cecilia has over 9 years of domestic procurement and expediting experience in the engineering and construction industry. She has gained extensive industry knowledge through her work on various substation, transmission and distribution projects and has been involved in a few projects for the process and industrial industry.

EDUCATION

- ▶ BS, Industrial Distribution

9 YEARS WITH BURNS & MCDONNELL

9 YEARS OF EXPERIENCE

Multiple EPC Projects | Entergy Services

Texas and Louisiana

Procurement lead for multiple EPC (engineering, procurement and construction) Entergy projects with the first project was China to Amelia where she fully executed the purchase and delivery of the control building and other equipment associated with that order. Performing the same position for the Port Arthur Project, Dunn to Winnsboro Project, and the West Monroe project that is still under construction; executed purchase orders for substation and transmission equipment for various Entergy projects; and has become very familiar with Entergy's standards and approved suppliers.

Customer Interconnect Program & SATOC Program | Bonneville Power Administration (BPA)

Procurement lead for this program that involves BPA projects that consist multiple sites and various construction schedules. Materials are released at multiple stages throughout the projects and these programs require extreme organization and a proactive approach. Works closely with the engineering team as well as the construction and project managers.

Tallow Unloading Project | Marathon Petroleum Company

Procurement lead on this project for the mechanical equipment for the engineering only releases. Full bid evaluations were completed, and recommendations were submitted to the client for approval. Worked closely with the engineering team and became more familiar with this type of equipment; gained further experience working on client paper projects for this job.

STF Substation Upgrade & WS3/CRU Substation | Motiva

Port Arthur, Texas

Procurement lead of equipment for the Motiva projects and worked closely with all aspects of the project team, including Engineering, Expediting and Project Management; purchased all final packages for the projects and continued to stay involved with the equipment and materials through project completion and the warranty duration.



CECILIA MURPHY

(continued)

Vicksburg-Schoolcraft Improvements, New Substation, Rebuild Substation & Transmission Line | AEP

Schoolcraft, Michigan

Procurement lead for all purchased equipment associated with this project for both substation sites as well as the transmission equipment; involved initially on the proposal stage and once the project was awarded, continued efforts for all material packages; worked closely with the engineering team and learned about AEP's standards; heavily involved in the daily tasks; and continued to be involved through project completion.

SH1 & IWCP SWGR & MCC Replacement Project | Marathon

Texas City, Texas

Procurement lead responsible for all material packages; receiving and reviewing updated bids, as well as communicating with the team and client; conducted full bid negotiations, evaluations and purchase orders; responsible for ensuring the orders were processed and overall client satisfaction.

Unit 88 Project | Phillips 66

Freeport, Texas

Procurement lead who communicated with vendors to receive updated bids and provide the team with options desired by the client; conducted full bid evaluations; recommendations were submitted to the client for approval; and gained experience working with the client after orders were placed.

Hydrogen Plant | CVR Energy

Coffeyville, Kansas

Procurement lead for the purchase of several pieces of equipment for the CVR project; worked closely with all aspects of the project team, including Engineering, Expediting and Project Management. Main responsibilities included evaluation of received bids; worked with engineering to confirm all options and items were acceptable; held status meetings to ensure the orders stayed on schedule; confirmed all equipment and documentation was received in a timely manner.

138/25kV Multiple Substations | Sharyland Utilities

Midland, Texas

Procurement lead for expediting for the Driver Substation project; lead buyer and expeditor for all following substations. Main responsibilities include bidding and evaluation of needed materials; managed submittals between vendors and engineering; kept deliveries on schedule to the site; communicated with the field for deliveries and materials needed; tracked equipment to the jobsite; and confirmed complete deliveries are made.

- ▶ Driver Substation, East Stiles, West Stanton, Skywest, Eiland, Rebel, Driver Capbank Project, Luther, Airport Road & Coates - Greenfield Projects
- ▶ Gardendale, Pembroke, Stiles, St. Lawrence, East Midland & Triangle - Brownfield Projects
- ▶ Various other Sharyland Substation & Transmission projects



APPENDIX B

OSHA LOGS

Log of Work-Related Injuries and Illnesses

Year 2020



Form approved OMB no. 1218-0176

Establishment name Burns & McDonnell EngineeringCity Kansas City State MO

Identify the person						Describe the case		Classify the case										
(A) Case No.	(B) Employee's Name	(C) Job Title (e.g., Welder)	(D) Date of injury or onset of illness (mo./day)	(E) Where the event occurred (e.g. Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	CHECK ONLY ONE box for each case based on the most serious outcome for that case:				Enter the number of days the injured or ill worker was:		Check the "injury" column or choose one type of illness:						
						Death	Days away from work	Remained at work		Away From Work (days)	On job transfer or restriction (days)	(M)						
								Job transfer or restriction	Other recordable cases			Injury	Skin Disorder	Respiratory Condition	Poisoning	Hearing Loss	All other illnesses	
						(G)	(H)	(I)	(J)	(K)	(L)	(1)	(2)	(3)	(4)	(5)	(6)	
1		Intern	08/04	86301 564th Ave. Carroll, NE	Motor vehicle incident multiple injuries		x			70		x						
Page totals						0	1	0	0	70	0	1	0	0	0	0	0	

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Page 1 of 1

Injury	Skin Disorder	Respiratory Condition	Poisoning	Hearing Loss	All other illnesses
(1)	(2)	(3)	(4)	(5)	(6)

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2020



U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
<u>70</u>	<u>0</u>
(K)	(L)

Injury and Illness Types

Total number of...			
(M)			
(1) Injury	<u>1</u>	(4) Poisoning	<u>0</u>
(2) Skin Disorder	<u>0</u>	(5) Hearing Loss	<u>0</u>
(3) Respiratory Condition	<u>0</u>	(6) All Other Illnesses	<u>0</u>

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name Burns & McDonnell Engineering

Street 9400 Ward Parkway

City Kansas City State MO Zip 64114

Industry description (e.g., Manufacture of motor truck trailers)

Engineering, Architecture, Consulting

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

8 7 1 1

OR North American Industrial Classification (NAICS), if known (e.g., 336212)

5 4 1 3 3 0

Employment information

Annual average number of employees 7081

Total hours worked by all employees through August 2020 16,206,733

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

James Butler
Company executive

Director, Safety & Health
Title

(816) 800-9064

Phone

Date

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health

Year 2019
U.S. Department of Labor
Occupational Safety and Health Administration

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Form approved OMB no. 1218-0176

Establishment name Burns & McDonnell
City Kansas City State MO

Identify the person				Describe the case		Classify the case																	
(A) Case No.	(B) Employee's Name	(C) Job Title (e.g., Welder)	(D) Date of injury or onset of illness (mo./day)	(E) Where the event occurred (e.g. Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	CHECK ONLY ONE box for each case based on the most serious outcome for that case:						Enter the number of days the injured or ill worker was:						Check the "injury" column or choose one type of illness:					
						Death	Days away from work	Remained at work		Away From Work (days)	On job transfer or restriction (days)	(M) Injury	Skin Disorder	Respiratory Condition	Poisoning	Hearing Loss	All other illnesses						
						(G)	(H)	(I)	(J)	(K)	(L)	(1)	(2)	(3)	(4)	(5)	(6)						
1		Mailroom Clerk	1/14	Mailroom	While lifting and moving a box worker strained lower back.		X			17		X											
2		Engineer	1/21	coming from client meeting	EO involved in an Motor vehicle incident		X			13		X											
3		Office Assistant	12/18	Office Stairs	BMCD CWK slipped on stairs, laceration to knee and concussion to the head.		X			20		X											
4																							
5																							
6																							
Page totals						0	3	0	0	50	0	3	0	0	0	0	0						

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Injury
(1)
Skin Disorder
(2)
Respiratory Condition
(3)
Poisoning
(4)
Hearing Loss
(5)
All other illnesses
(6)

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2019



U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
<u>50</u>	<u>0</u>
(K)	(L)

Injury and Illness Types

Total number of...			
(M)			
(1) Injury	<u>3</u>	(4) Poisoning	<u>0</u>
(2) Skin Disorder	<u>0</u>	(5) Hearing Loss	<u>0</u>
(3) Respiratory Condition	<u>0</u>	(6) All Other Illnesses	<u>0</u>

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 50 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name Burns & McDonnell Engineering

Street 9400 Ward Parkway

City Kansas City State MO Zip 64114

Industry description (e.g., Manufacture of motor truck trailers)

Engineering, Architecture, Consulting

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

8 7 1 1

OR North American Industrial Classification (NAICS), if known (e.g., 336212)

5 4 1 3 3 0

Employment information

Annual average number of employees 7,204

Total hours worked by all employees last year 16,012,396

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

James Butler
Company representative

Vice President
Title

816-333-9400

Phone

January 28, 2020
Date

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health

Year **2018**



U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name **Burns & McDonnell**
City **Kansas City** State **MO**

Identify the person			Describe the case		Classify the case				Enter the number of days the injured or ill worker was:						Check the "injury" column or choose one type of illness:					
(A) Case No.	(B) Employee's Name	(C) Job Title (e.g., Welder)	(D) Date of injury or onset of illness (mo./day)	(E) Where the event occurred (e.g. Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	CHECK ONLY ONE box for each case based on the most serious outcome for that case:														
						Death	Days away from work	Remained at work		Away From Work (days)	On job transfer or restriction (days)	(M)								
								Job transfer or restriction	Other recordable cases			Injury	Skin Disorder	Respiratory Condition	Poisoning	Hearing Loss	All other illnesses			
						(G)	(H)	(I)	(J)	(K)	(L)	(1)	(2)	(3)	(4)	(5)	(6)			
1		Testing Technician	2/21	An Employee Owner was walking around a truck in a BMcD Bldg 404 facility parking lot when he slipped on a patch of ice and fell backwards.	Appeox 12:30 pm the EO was walking around a truck when he slipped on a patch of ice, fell backwards and struck his head on the asphalt paving.			X			21	X								
2		Accounts Payable Assistant	11/21	Repetative motions at Employee Owner's desk.	Wrist/hands, EO reported pain in both wrists, due to Carpal Tunnel Syndrome.		X			26	64	X								
3																				
4																				
5																				
6																				
Page totals						0	1	1	0	26	85	2	0	0	0	0	0			

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

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Injury (1)
Skin Disorder (2)
Respiratory Condition (3)
Poisoning (4)
Hearing Loss (5)
All other illnesses (6)

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2018



U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
<u>26</u>	<u>85</u>
(K)	(L)

Injury and Illness Types

Total number of... (M)			
(1) Injury	<u>2</u>	(4) Poisoning	<u>0</u>
(2) Skin Disorder	<u>0</u>	(5) Hearing Loss	<u>0</u>
(3) Respiratory Condition	<u>0</u>	(6) All Other Illnesses	<u>0</u>

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 50 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

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Your establishment name Burns & McDonnell Engineering

Street 9400 Ward Parkway

City Kansas City State MO Zip 64114

Industry description (e.g., Manufacture of motor truck trailers)
Engineering, Architecture, Consulting

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)
8 7 1 1

OR North American Industrial Classification (NAICS), if known (e.g., 336212)
5 4 1 3 3 0

Employment information

Annual average number of employees 6,520

Total hours worked by all employees last year 14,726,351

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

James Butth
Company representative

Vice President
Title

816-333-9400

Phone

1/24/19
Date



APPENDIX C

SAFETY PROGRAM



Site Specific Safety & Health Plan

Client Name

Client Location

Client LOGO (1.0" height)

Project #####

Month day, year



Table of Contents

TABLE OF CONTENTS	1
LIST OF TABLES	8
LIST OF FIGURES	8
1 HEALTH & SAFETY POLICY	11
2 ROLES AND RESPONSIBILITIES	12
2.1 Project Safety & Health Goals	13
2.1.1 Introduction.....	13
2.1.2 Project Safety & Health Goals.....	13
2.2 Project Safety & Health Program	13
2.2.1 Project Site Safety & Health Program	13
2.2.2 General Liability Program	14
2.3 Key Personnel and Responsibility Roles	14
2.3.1 Burns & McDonnell	14
2.3.2 Subcontractor	17
2.3.3 All Employees	18
3 GENERAL SAFETY	21
3.1 Program Administration	22
3.1.1 Purpose.....	22
3.1.2 Project Safety & Health Program	22
3.1.3 Project Safety & Health Coordination Meetings.....	22
3.1.4 Reporting Requirements.....	22
3.1.5 Project OSHA Procedure	22
3.1.6 Project Safety Assessments	25
3.1.7 Project Safety & Health Procedure Issuances	29
3.2 Safety & Health Monitoring and Enforcement.....	29
3.2.1 Procedure	29
3.2.2 Monitoring	29
3.2.3 Enforcement	29
3.2.4 Violation Procedure (Individuals).....	30
3.2.5 Violation Procedure (Company)	31
3.3 Subcontractor Project Safety & Health Coordination and Submittal Requirements.....	31
3.3.1 Purpose.....	31
3.3.2 Pre-Mobilization Submittals - Prior to Subcontractor Mobilizing on Site	31
3.3.3 Pre/Post-Activity Coordination & Submittal Requirements	32
3.3.4 Monthly Submittal Requirements.....	37
3.3.5 Weekly Submittal Requirements	37
3.3.6 One-time Submittals	37
3.3.7 Other Submittals	37
3.4 Project Procedures.....	38
3.4.1 Substance and Alcohol Abuse Prevention Program.....	38
3.4.2 Safety Recognition Programs	38
3.4.3 Task Safety Observations	38
3.4.4 Amendment Form.....	40
3.4.5 Postings	40
3.4.6 Scaffold Tagging.....	41
3.4.7 Signage and Barricading Work.....	41
3.4.8 Safety Color Coding	41
3.4.9 Evacuation/Emergency Procedures	42
3.4.10 Minimum Personal Protective Equipment	42
3.4.11 Cumulative Trauma Prevention	43
3.4.12 Housekeeping	43
3.4.13 Fire Prevention Program	43
3.4.14 Site Sanitation/Waste Plan	44

3.4.15	Cell Phones	46
3.4.16	Breaks and Lunches.....	46
3.4.17	Washing and Hygiene Facilities –.....	46
3.4.18	Machinery, Tools, Material, or Equipment –.....	46
3.4.19	New to Site Employee	46
3.4.20	Visitor Access	48
3.5	Substance and Alcohol Abuse Prevention Program	48
3.5.1	Purpose.....	48
3.5.2	Testing.....	48
3.5.3	Pre-Site Access/Annual Testing	49
3.5.4	Post-Accident/Incident Testing	49
3.5.5	Probable Cause/Reasonable Suspicion Testing.....	49
3.5.6	Random Testing	50
3.5.7	Collections	50
3.5.8	Methodology.....	51
3.5.9	Refusal to Test	51
3.5.10	Testing Parameters	51
3.5.11	Sanctions/Consequences Imposed for Failing Drug and/or Alcohol Test	53
3.5.12	Training.....	53
4	WALKING AND WORKING SURFACES	56
4.1	Protection for Floor Openings.....	58
4.1.1	Floor Grating	58
4.1.2	Hole Covers.....	58
4.2	Protection of Open-Sided Floors, Platforms, and Runways	58
4.3	Guardrails	58
4.4	Ladders.....	58
4.4.1	Care and Use.....	58
4.4.2	Special Requirements	58
4.5	Scaffolds	58
4.5.1	Capacity.....	58
4.5.2	Support	59
4.5.3	Suspension Ropes - non adjustable.....	59
4.5.4	Suspension Ropes – adjustable	59
4.5.5	Stall load.....	59
4.6	Training.....	59
4.6.1	Training Requirements	59
5	EXIT ROUTES	60
5.1	Emergency Action Plans	61
6	POWERED PLATFORMS	62
6.1	Powered Platforms/Aerial Lifts/Scissor Lifts.....	63
6.1.1	General Requirements	63
6.1.2	Specific Requirements.....	63
6.1.3	Ground Control and Spotter.....	63
6.1.4	Fall Restraint.....	63
6.1.5	Training Workers	65
7	OCCUPATIONAL HEALTH AND ENVIRONMENTAL CONTROL.....	66
7.1	Confined Space Entry in Construction	67
7.1.1	Scope.....	67
7.1.2	Definitions.....	67
7.1.3	General Requirements	72
7.1.4	Permit-Required Confined Space Program	76
7.1.5	Permitting Process	79
7.1.6	Entry Permit	80
7.1.7	Training.....	81
7.1.8	Duties of Authorized Entrants.....	82
7.1.9	Duties of Attendants	83
7.1.10	Duties of Entry Supervisors.....	83

7.1.11	Rescue and Emergency Services	84
7.1.12	Employee participation	85
7.2	Confined Space - Sewer System Entry	86
7.2.1	Scope and Application	86
7.2.2	Control of Atmospheric and Engulfment Hazards	87
7.2.3	Entry Procedures	88
7.2.4	Alternate Entry	88
7.2.5	Rescue	89
7.3	Hazardous Energy Control Program (Lockout/Tagout)	90
7.3.1	Purpose.....	90
7.3.2	Scope.....	90
7.3.3	Definitions.....	91
7.3.4	Roles and Responsibilities	95
7.3.5	Requirements	97
7.3.6	Periodic Inspection	98
7.3.7	Procedure	98
7.3.8	Tagging Systems	102
7.3.9	Lock and Tag (LOTO) Log	102
7.3.10	Client LOTO.....	102
7.3.11	Training Requirements	102
7.3.12	Records.....	103
7.4	Occupational Noise Exposure 1926.....	104
7.4.1	Administrative or Engineering Controls	104
7.4.2	Variations in Noise Level	104
7.5	Heat Injury and Illness Prevention Plan.....	105
7.5.1	Training.....	105
7.5.2	Body Fluid Replacement	105
7.5.3	Heat Assessment	105
7.5.4	Acclimatization	106
7.5.5	Rest Breaks.....	107
7.5.6	Sun Screen.....	107
7.5.7	Monitoring Heat Stress	107
7.6	Cold Stress Plan	108
7.6.1	Training.....	108
7.6.2	Environmental Monitoring	109
7.6.3	Protective Clothing and Rest Breaks	109
7.6.4	Identification and Treatment of Cold Stress.....	110
7.6.5	Wind Chill.....	111
7.6.6	Hypothermia.....	112
7.6.7	Chillblains.....	113
7.6.8	Frostbite	113
7.6.9	Cold Water Immersion.....	114
7.7	Fatigue Management Plan.....	114
7.7.1	General.....	114
7.7.2	Responsibilities.....	116
7.8	Ultraviolet Radiation/Sun Exposure.....	117
7.8.1	Ultraviolet (UV) Rays	117
7.8.2	Sunlight exposure.....	117
7.8.3	Prevention.....	117
7.9	Severe Weather & Lightning.....	118
7.9.1	Lightning.....	118
7.9.2	Tornado	120
7.9.3	Thunderstorms	120
7.9.4	Flash Floods.....	120
7.9.5	Hurricane Safety Tips	121
7.9.6	Earthquakes	124
7.10	Working Over or Near Water Hazards	125
7.10.1	Working Over or Near Water, Barges and Boats	125
7.10.2	Boating Safety.....	126
7.10.3	Responsibilities.....	127
7.10.4	Shoreline Safety	129
7.10.5	Personal Flotation Devices	129

7.10.6	Lifesaving and Safety Skiffs	131
7.10.7	Access to and from Wharves, Floats, Barges, and/or Boats	132
7.10.8	Working Surfaces of Barges	133
7.11	Outdoor Biological Exposures	133
7.11.1	Bees, Wasps, and Hornets	133
7.11.2	Fire Ants	134
7.11.3	Scorpions	135
7.11.4	Dog Safety	137
7.11.5	Mosquitoes (ZIKA and West Nile Virus)	138
7.11.6	Poison Ivy, Poison Oak and Poison Sumac	139
7.11.7	Venomous Snakes	141
7.11.8	Venomous Spiders	145
7.11.9	Ticks	147
7.12	Lone Worker / Working Alone	151
7.12.1	General	151
7.12.2	Definitions	152
7.12.3	Hazard Assessment	152
7.12.4	Communications	152
7.12.5	Training	153
7.13	Project Site Ergonomics and Manual Material Handling	153
7.13.1	General	153
7.13.2	Goals	153
7.13.3	Ergonomic Concerns (What to Look for)	153
7.13.4	Hazard Assessment - PTA	154
7.13.5	Training	155
8	PROCESS SAFETY MANAGEMENT AND HAZWOPER	157
8.1	Process Safety Management of Highly Hazardous Chemicals	157
8.1.1	Hot Work Permit	158
8.1.2	Incident Investigation	158
8.1.3	Emergency Planning and Response	158
8.2	HAZWOPER	159
9	PERSONAL PROTECTIVE EQUIPMENT	160
9.1	General Requirements	161
9.1.1	Application	161
9.1.2	Hazard Assessment and PPE equipment Selection	161
9.1.3	Training	161
9.2	Body Protection	162
9.2.1	General	162
9.2.2	Chemical resistant	162
9.2.3	FRC and/or Arc Flash Clothing	162
9.2.4	Vests - heating and/or cooling	163
9.2.5	Outerwear	163
9.2.6	High Visibility apparel rated for traffic zone	163
9.3	Head Protection	163
9.3.1	General Requirements	163
9.3.2	Criteria for Protective Helmets	164
9.4	Occupational Foot Protection	164
9.4.1	Criteria for Protective Footwear	164
9.5	Eye and Face Protection	165
9.5.1	General Requirements	165
9.6	Hearing Protectors	165
9.6.1	General Requirements	165
9.6.2	Training	166
9.7	Hand Protection	166
9.7.1	General Requirements	166
9.7.2	Selection	166
9.8	Respiratory Protection	166
9.8.1	General	166
9.8.2	Duration of Respiratory Protection Use	167

9.8.3	Selection of Respirators	167
9.8.4	Assigned Protection Factors (APF)	167
9.8.5	Fit Testing	168
9.8.6	Field Tests	168
9.8.7	Inspection, Cleaning, Maintenance, and Storage	168
9.8.8	Training and Information	169
9.9	Personal Hydrogen Sulfide Monitors	169
9.10	Personal Floatation Devices	169
9.10.1	Working Over or Near Water, Barges and Boats	169
9.10.2	Personal Flotation Devices	170
10	EXCAVATIONS	172
10.1	Excavation Requirements	174
10.1.1	Determination of Requirements	174
10.1.2	Inspection by Competent Person	174
10.2	Requirements for Protective Systems	174
10.2.1	Protection of Workers in Excavations	174
10.3	Appendix A - Soil Classification	174
10.4	Appendix B - Sloping and Benching	174
11	MEDICAL AND FIRST AID	175
11.1	Medical Services and First Aid	176
11.1.1	Incident Accident Injury Tracking Log	176
11.1.2	First Aid Kits	176
11.2	Injury Illness Case Management	176
12	FIRE PROTECTION	177
12.1	Fire Brigades	179
12.1.1	Fire Brigades	179
12.2	Flammable and Combustible Liquids	179
12.2.1	"Fire control for flammable or combustible liquid storage"	179
12.3	Temporary Aboveground Storage Tanks	179
12.3.1	General requirements	179
12.3.2	Inspection, Maintenance and Testing	180
13	COMPRESSED AIR	181
14	EQUIPMENT-RIGGING-MATERIAL HANDLING	182
14.1	General Requirements for Equipment	184
14.1.1	General	184
14.2	Cranes and Derricks	184
14.2.1	General	184
14.2.2	Cranes and Derricks in Construction	184
14.2.3	Crane Inspection and Lift Plan Submittal:	184
14.2.4	General Requirements for Personnel Platforms	184
14.3	Material Hoists, Personnel Hoists, and Elevators	185
14.3.1	Personnel Hoists	185
14.4	Conveyors	185
14.4.1	General Requirements	185
14.5	Powered Industrial Trucks	185
14.5.1	Operator Training	185
14.5.2	Maintenance of PITs	185
14.6	Rigging Equipment for Materials Handling	185
14.6.1	General	185
15	MOTORIZED VEHICLES AND MECHANIZED EQUIPMENT	187
15.1	Motor Vehicles Project Program	188
15.1.1	Coverage	188
15.1.2	Objective:	188
15.1.3	General Requirements	188

15.2 Dump Trucks.....	189
15.2.1 Operator's station of dump trucks shall be clear of dump area.....	189
15.3 Pneumatic Rubber Tired Vehicles.....	189
15.4 Earthmoving Equipment.....	189
15.4.1 General.....	189
15.4.2 Audible alarms.....	189
15.5 Vacuum Truck.....	189
15.5.1 General.....	189
15.5.2 Bonding and Grounding.....	190
15.5.3 Operations	190
15.5.4 Training.....	191
15.6 Drilling, Boring, and Direct-Push.....	192
15.6.1 Overhead Obstructions	192
15.6.2 Underground Utilities.....	192
15.6.3 Turning or Rotating Machinery	193
15.6.4 Hydraulic Machinery.....	193
15.6.5 Working Safely Around Vehicles	193
Terrain Hazards.....	194
Rig Kill Switch.....	195
15.7 Rail Car and Truck Dock Procedures	195
15.7.1 General Requirements	195
15.7.2 Rail Dock Procedure	196
15.7.3 Truck Dock Procedures	198
16 HAND AND PORTABLE POWERED TOOLS	200
16.1 Hand and Portable Powered Tools and Other Hand-Held Equipment.....	201
16.1.1 General Requirements	201
16.1.2 Tool Guarding	201
17 WELDING CUTTING AND BRAZING	202
17.1 Gas Welding and Cutting.....	203
17.1.1 Hose	203
17.1.2 Additional Rules.....	203
17.2 Arc Welding and Cutting	203
17.2.1 Ground Returns and Machine Grounding	203
17.2.2 Operating Instructions.....	203
17.2.3 Welding Equipment Inspection	203
18 SPECIAL INDUSTRIES.....	204
ELECTRICAL POWER GENERATION, TRANSMISSION, AND DISTRIBUTION	204
TELECOMMUNICATIONS	204
18.1 Electric Power Generation, Transmission, and Distribution	206
18.1.1 General.....	206
18.1.2 Training.....	206
18.1.3 Job Briefing.....	206
Information Transfer.....	206
Before work begins:	206
18.1.4 Personal Protective Equipment.....	207
18.1.5 Crane Lifting Plans	207
18.1.6 Substations	207
18.2 Telecommunications	209
18.2.1 General.....	209
18.2.2 Work Site Safety Practices:	209
18.2.3 Zero-Tolerance Policy to Unsafe Work Practices	210
18.2.4 Rescue	210
18.2.5 Tools and Personal Protective Equipment.....	210
18.2.6 Personal Climbing Equipment	210
18.2.7 Vehicle-Mounted Material Handling Devices and Other Mechanical Equipment	210
18.2.8 Derrick Trucks and Similar Equipment.....	210

18.2.9	Underground Lines	211
18.2.10	Definitions.....	211
19	ELECTRICAL SITE SPECIFIC.....	212
19.1	Electrical Safe Work Practices	213
19.1.1	Contractor Relationships	213
19.1.2	Training Requirements.....	213
19.1.3	Electrical Safety Program.....	215
19.1.4	Working While Exposed to Electrical Hazards.....	216
19.1.5	Use of Equipment.....	218
19.1.6	Achieving an Electrically Safe Work Condition.....	220
19.1.7	Justification for Work.....	220
19.1.8	Personal and Other Protective Equipment.....	221
19.1.9	Alerting Techniques.....	228
20	DEMOLITION	241
20.1	Preparatory Operations	243
20.1.1	General.....	243
20.1.2	Hazardous Materials.....	243
21	STEEL ERECTION	244
21.1	Site Layout, Site Specific Erection Plan and Construction Sequence	246
21.1.1	Approval to Begin Steel Erection	246
21.1.2	Commencement of Steel Erection.....	246
21.1.3	Site-Specific Erection Plan.....	246
21.2	Hoisting and Rigging.....	246
21.2.1	Multiple Lift.....	246
21.3	Structural Steel Assembly	247
21.3.1	Metal Decking	247
22	FALL PROTECTION.....	248
22.1	General.....	249
22.2	Personal Fall Arrest Systems.....	249
22.3	Controlled Access Zones	249
23	CONCRETE AND MASONRY CONSTRUCTION	250
23.1	Appendix A Pre-Cast Concrete.....	251
23.2	Appendix B Lift-Slab Operations.....	251
24	MACHINE AND GUARDING	252
25	BLASTING AND EXPLOSIVES	253
26	HAZARD COMMUNICATION.....	254
26.1	Hazard Communication Program	257
26.1.1	Hazard Communication Program	257
26.1.2	Introduction.....	257
26.1.3	Safety Data Sheets (SDS).....	257
26.1.4	Labeling.....	258
26.1.5	Training.....	258
26.1.6	Emergencies	258
26.1.7	Hazardous Material Identification System (HMIS).....	258
26.1.8	NFPA 704 Labeling System.....	259
26.1.9	OSHA Required Labeling for GHS.....	260
26.2	Silica Dust in Construction.....	262
26.2.1	General.....	262
26.2.2	Silica Exposure Control Plan (SECP).....	263
26.2.3	ECP Training	264
26.2.4	Silica Exposure Controls.....	264
26.2.5	Silica Dust Control Measures.....	264
26.2.6	Construction – Specified Exposure Control Methods.....	266

27	APPENDIX A – SAFETY FORMS.....	273
----	--------------------------------	-----

List of Tables

Table 3 - 1 Scaffold Tagging Color Codes.....	41
Table 3 - 2 Standard Color Coding for Safety.....	42
Table 3 - 3 Fire Extinguisher Requirements	44
Table 3 - 4 Requirements For Toilets Facilities	44
Table 3 - 5 Cut-Off Levels for Substance Abuse Testing	53
Table 3 - 6 DOT Rule (49 CFR Part 40 Section 40.87) - Cutoff Levels for Drug Tests.....	54
Table 7 - 1 Examples of Confined Spaces in Construction Activities	67
Table 7 - 2 Entry Procedures for Confined Space Conditions.....	79
Table 7 - 3 Entry Procedures for Confined Space Conditions.....	88
Table 7 - 4 Procedures for Safely Removing Workers from Sewers.....	90
Table 7 - 5 LOTO: Outline of Roles & Responsibilities in Each Stage	95
Table 7 - 6 Permissible Noise Exposure Levels	104
Table 7 - 7 WBGT Index Monitoring for TLV.....	106
Table 7 - 8 Symptoms and Treatment of Heat Stress	108
Table 7 - 9 Threshold Limit Values for a Work/Warm Up Schedule	110
Table 7 - 10 Cooling Power of Wind on Exposed Flesh	111
Table 7 - 11 Major Identification Features of Snakes	141
Table 7 - 12 Table Tick Borne Diseases and Common US Regions.....	149
Table 9 - 1 Hand Protection Reference Guide.....	166
Table 9 - 2 Respirator Assigned Protection Factor.....	168
Table 19 - 1 Approach Distances For Qualified Workers Alternating Current	218
Table 19 - 2 Protective Clothing and Personal Protective Equipment.....	Error! Bookmark not defined.
Table 19 - 3 Protective Clothing Characteristics.....	Error! Bookmark not defined.
Table 19 - 4 Hazard/Risk Category Classifications and Use of Rubber Insulating Gloves and Insulated and Insulating Hand Tools.....	Error! Bookmark not defined.
Table 19 - 5 Rubber Insulating Equipment, Maximum Test Intervals.....	Error! Bookmark not defined.
Table 19 - 6 Standards on Other Protective Equipment.....	Error! Bookmark not defined.
Table 19 - 7 Approach Boundaries to Energized Electrical Conductors/Circuit Parts for Shock Protection	Error! Bookmark not defined.
Table 26- 1 HMIS Protective Equipment Examples.....	259
Table 26- 2 Exposure Control Tasks and Protection	266

List of Figures

Figure 3 - 1 New to Site Hard Hat Sticker	47
Figure 7 - 1 LOTO Decision Flowchart	98
Figure 7 - 2 NOAA Wind Chill Chart	112
Figure 7 - 3 Stinging Insects	133
Figure 7 - 4 Fire Ants	134
Figure 7 - 5 Scorpion Identification and Range.....	135
Figure 7 - 6 Poisonous Plant Locations	139
Figure 7 - 7 Poisonous Plant Identification	140
Figure 7 - 8 Rattlesnakes	141
Figure 7 - 9 Copperheads	142

Figure 7 - 10 Cottonmouths / Water Moccasins.....	143
Figure 7 - 11 Coral Snakes	143
Figure 7 - 12 Black Widows	145
Figure 7 - 13 Brown Recluse Spiders	145
Figure 7 - 14 Hobo Spiders	146
Figure 7 - 15 Tick Varieties Identification and Ranges	147
 Figure 9 - 1 Personal Floatation Device Type Classification	 171
 Figure 18 - 1 Radio Frequency Radiation Hazard Sign	 211
 Figure 26 - 1 NFPA 704M Label	 260
Figure 26 - 2 Required Label Information	261
Figure 26 - 3 GHS Labeling Guide.....	262

DRAFT

1 Health & Safety Policy

At Burns & McDonnell, safeguarding the safety and health of our employees, subcontractors and related personnel is of the utmost importance. Safety is a core value of our culture, and we are dedicated to protecting the safety and health of all those associated with our company.

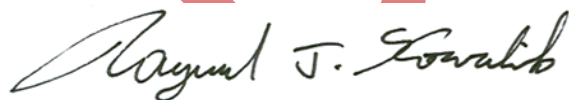
Our mission is “Make Our Clients Successful.” A safe and healthy work environment impacts every measure of a firm’s success, from quality of work life to productivity and profitability — our clients’ and our own. With many of our staff working full time in client facilities, our safety leadership not only affects the safety and health of our employee-owners, but that of many others influenced by their activities.

We understand that each of us plays a vital role in the completion of work in a safe manner. Employee recommendations to improve safety and health conditions are encouraged, and all will be given thorough consideration by our management team. The goal of our ongoing safety and health program is “zero incidents” on all job sites.

Our goal will be achieved by:

- Commitment to a belief that accidents are preventable.
- Top management’s commitment to providing a safe and healthy work environment for all employees by holding management personnel accountable for all aspects of employee safety and health.
- Employee involvement to improve the quality of workplace safety and health.
- This includes brainstorming, inspecting, detecting and correcting, from project startup to project completion.
- Committing auditing resources to detect hazards and ensure hazard correction.
- Ensuring that all employees and subcontractors have the knowledge and training to accomplish the task ahead.
- Providing all employees and all job sites with appropriate, state-of-the-art equipment to get the job done.
- Recognition that safety does not start at the job site, but with executive management.

Burns & McDonnell’s safety record puts us in the top 5% of all contractors nationwide. However, we are determined not to rest upon past successes, but to use those successes as a foundation for continual improvement in making us truly, “World Class”.



Chairman & CEO

Table of Contents

2 Roles and Responsibilities**Project Safety & Health Goals**[Introduction](#)[Project Safety & Health Goals](#)[Project Safety & Health Program](#)[Key Personnel and Responsibility Roles](#)[Global Practice Manager](#)[Director of Corporate Safety & Health](#)[Project Manager](#)[Site Manager \(Project Superintendent\)](#)[Subcontract Site Manager \(Project Superintendent\)](#)[Competent Person](#)[Designated Safety Representative](#)

2.1 Project Safety & Health Goals

2.1.1 Introduction

The Burns & McDonnell Project Safety & Health Program is a framework designed to coordinate the safety & health efforts of Burns & McDonnell employee owners, all Subcontractors and lower tier Subcontractors to Burns & McDonnell on the project in a consistent manner. Each Subcontractor is required to develop and implement a Project Specific Safety & Health Program. The Burns & McDonnell Project Safety & Health Program in no way relieves Subcontractors and lower tier Subcontractors of legal obligations to any local, state or federal laws, regulations or requirements.

The following information provides the safety requirements that all Burns & McDonnell employee owners adhere to. These requirements are the minimum standards for Burns & McDonnell personnel and that Subcontractors to Burns & McDonnell shall implement in their Project Specific Safety & Health Program.

2.1.2 Project Safety & Health Goals

ZERO work-related injuries and illnesses is the highest priority of Burns & McDonnell. Burns & McDonnell is committed to safely constructing a project that is built on time and within budget. Success on this project, for the safety & health of the working individuals, will be achieved by reporting a zero (0) TRIR (Total Recordable Incident Rate) and a zero (0) DART (Days Away, Restricted, and Transferred) rate for work-related injuries and illness. As with all Burns & McDonnell projects, the avoidance of any occupationally related deaths or serious injuries is of the highest priority. [Refer to either the Burns & McDonnell Safety Form B-7 "Classification of Injury" or the Burns & McDonnell Safety Form C-2 "Incident/Accident Investigation Report" for information on what constitutes an OSHA recordable injury or illness,

By creating an atmosphere which minimizes hazards in the work environment, Burns & McDonnell feels a quality product can be easily produced allowing delivery of the finished product on time and within budget to **CLIENT NAME**.

2.2 Project Safety & Health Program

Burns & McDonnell employee owners are responsible for knowing and following established safety procedures that are applicable to performing their jobs safely. All Burns & McDonnell employee owners attend a one-hour General Safety & Health Orientation class. At that time the employee owners are notified that individuals performing fieldwork are required to attend the 10-Hour OSHA Safety Course. No employee owner is to work in any area or under any circumstances where OSHA violations or other known hazards exist until the controlling Subcontractor has taken proper corrective action. Furthermore, **CLIENT NAME** facilities are obligated by law to inform visitors of potential site hazards prior to working at the site. Initial Site Specific Safety & Health Orientation training is required prior to beginning work activities.

2.2.1 Project Site Safety & Health Program

The Project Safety & Health Program is tailored for this work site. The program is available to, and is to be followed by, all workers entering a work site where Burns and McDonnell is the general contractor. All Burns & McDonnell employee owners who will be working at the site are required to review and adhere to this program before beginning work. All Subcontractor workers shall be trained by the Subcontractor on the contents of their company's Project Specific Safety & Health Program that must include the requirements set forth in this program.

All work site personnel, including Burns & McDonnell employee owners and Subcontractors, will familiarize themselves with the contents of the Project Safety & Health Program and apply it during work activities. Furthermore, all project personnel are required to participate in the project's Project Site Specific Safety & Health Orientation Training and to sign the Project Orientation Training form, Burns & McDonnell Safety

Form C-8 “Orientation Training”, acknowledging participation in the training prior to performing any work on the project. This documentation is required with a time, date and signature of the individual to verify an understanding of the Project Safety & Health Program. Unless otherwise established, all Subcontractors to Burns & McDonnell are responsible for administering project orientation training for their workers. Safety is the responsibility of everyone on site, requiring everyone to work together to achieve a safe workplace.

Visitor(s) accessing the site for less than an eight (8) hour period will not be required to attend the Project Orientation Training. Visitor(s) shall be accompanied by an authorized person - one who has been trained on the project hazards and who is familiar with the project throughout the entirety of his/her visit. If the visitor(s) cannot be accompanied by an authorized individual throughout the entirety of the visit, the visitor(s) shall attend the Project Site Specific Orientation Training prior to accessing any work activity area.

2.2.2 General Liability Program

The Subcontractor and all lower tier contractors shall take all necessary precautions to protect the public, the facilities, the personnel and tenants of **CLIENT NAME** from any hazards involving safety & health arising from the scope of work. All work operations shall be isolated from the public and **CLIENT NAME**'s operations to the greatest extent possible. The owner's discretion and interpretation of abatement methods and procedures will be the defining opinion.

2.3 Key Personnel and Responsibility Roles

Purpose: The following information defines the obligations and requirements of key personnel for Burns & McDonnell and for Subcontractor personnel who play a vital role in the Project Safety & Health Program.

2.3.1 Burns & McDonnell

Global Practice Manager

The Global Practice Manager is responsible for making the decision on how to staff the project regarding the need for a full-time Safety & Health Professional. The Global Practice Manager along with the Project Manager is responsible for ensuring that the standard contract language is used and that safety & health requirements (Section 7.12) are met to assure Subcontractor safety & health submittals are in compliance with this Project Safety & Health Program.

The Global Practice Manager is responsible for assuring that the Project Manager, Site Manager and all site personnel adhere to this Project Safety & Health Program and all local, state and federal rules, regulations and procedures regarding safety and health. The Global Practice Manager will utilize the Director of Corporate Safety & Health to evaluate the Project Safety & Health Program and the performance of Project Management. The Global Practice Manager's responsibilities will also include the following:

- Provide the leadership, commitment and support necessary to achieve compliance with the Project Safety & Health Program.

- Sell the customer and Subcontractors on the value to all parties of a well-executed safety program.

- Require safety statistical reports to be submitted to Burns & McDonnell as required by contract.

- Communicate the customer's safety, health and loss control requirements to project management and the Director of Corporate Safety & Health.

- Provide leadership, authority and decisiveness in dealing with noncompliance with the program up to and including termination of Subcontractor and/or project management members for the project.

- Require project management to hold Subcontractors responsible and accountable for safety compliance on the project site with the Project Safety & Health Program.

Director of Corporate Safety & Health

The Director of Corporate Safety & Health is responsible for providing professional safety & health support and oversight to the project management team. The Director of Corporate Safety & Health will review and provide support in all concerns regarding the safety & health of field personnel assigned to this project. The Director of Corporate Safety & Health, or his designee, will conduct field audits of the project work site and programs to evaluate the adequacy of the Project Safety & Health Program. The Director of Corporate Safety & Health will implement necessary changes through the Site Manager.

The Director of Corporate Safety & Health, or his designee, will provide professional support by reviewing Safety & Health Programs of Subcontractors (when there is not a full-time Site Safety & Health) and will assist the project management in complying with the Project Safety & Health Program and all other rules, regulations and procedures which apply to the project. The Director of Corporate Safety & Health responsibilities shall also include the following:

Along with the Global Practice Manager and the Project Manager, establish the correct contract language with regard to the requirements of the Project Safety & Health Program.

Assist the Global Practice Manager and Project Manager in determining staffing and facility needs with regard to Project Safety & Health.

Direct the distribution of safety regulations and safety material.

Act as a safety resource advisory capacity for the organization and generate periodic improvements/revisions to the Project Safety & Health Program as needed.

Include materials necessary for Subcontractors to properly bid the project during pre-bid meeting.

Perform periodic project assessments to evaluate the Project Safety & Health Program and performance of the project management team as well as Subcontractors to Burns & McDonnell. The occurrence of these assessments will vary depending on the necessity for on site evaluation. At a minimum, the project will be assessed periodically.

Communicate safety concerns and coordinate corporate safety requirements with the Corporate Safety & Health Department.

Project Manager

The Project Manager is responsible for communicating with the Director of Corporate Safety & Health in order to have a Project Safety & Health Program established. The Project Manager shall oversee the activities of the Site Safety Manager Management Team (The Burns & McDonnell employee owners who manage the project at the physical location of the site) in order to assure adherence of the Project Safety & Health Program. The Project Manager, along with the Director of Corporate Safety & Health, will be responsible for designating a Field Safety & Health Professional for the project. The Project Manager's responsibilities shall also include the following:

Communicate customer safety, health, and loss control requirements to project team.

Schedule and participate in pre-activity planning meeting for project.

Assist in monitoring compliance with Project Safety & Health Program.

Provide leadership, authority, and decisiveness in dealing with noncompliance of the Project Safety & Health Program up to, and including, termination of the Subcontractor from the project.

Evaluate and use withholding of payment to Subcontractor or other contract remedies, including termination of contract and removal of the Subcontractor from the site when this safety program is being violated.

Give on-going input into necessary changes to this safety program.

Hold Subcontractors accountable and responsible for compliance with the Burns & McDonnell Project Safety & Health Program.

Assure Burns & McDonnell employee owners have in their possession at the job site, the necessary safety equipment such as fall protection safety harnesses and lanyards, hard hats, safety glasses, safety shoes and other safety equipment and require their use as needed.

Plan ahead for safety so that appropriate safety equipment and safety systems are on hand and readily available when needed by Burns & McDonnell employee owners.

Site Manager (Project Superintendent)

The Site Manager is the on-site coordinator and overseer of operations. It is the duty of the Site Manager to see to the maintenance of site security, the coordination of activities by the Subcontractors, and to verify that all activities are performed in a safe manner. The Site Manager is responsible for the safety & health practices and conditions on site. Any Safety & Health Professionals or supervisors provided by Subcontractors shall be utilized as a resource by the Site Manager to optimize performance on site with regard to safety & health. The Site Manager's responsibilities shall also include the following:

The Site Manager shall ensure all personnel of Subcontractors to Burns & McDonnell are in compliance with safe work practices and attend all required safety & health training.

Give on-going input into necessary changes to this Project Safety & Health Program.

Hold Subcontractors responsible and accountable for compliance with the Burns & McDonnell Project Safety & Health Program as well as their own Project Specific Safety & Health Program.

Attend and provide input into the pre-construction safety planning meeting.

Schedule and attend weekly Safety & Health meetings presented by the Safety & Health Professional.

Require submittal of a written plan from all Subcontractors regarding how work processes will be safely performed, such as temporary bracing, (activity hazard analysis).

Obtain a master copy of the Burns & McDonnell material safety data sheets (SDS) compilation and start job specific files for SDS' for the project as submitted by Subcontractors.

Take prompt action up to and including termination of the Subcontractor from the project site to correct unsatisfactory conditions and work practices personally observed or brought to your attention which involve our Subcontractors or employee owners. Whenever a violation of the safety program occurs and requires correction, document the demand for correction utilizing the Burns & McDonnell Safety Form B-1 "Violation Notice" to the Subcontractor and Project Manager. Unsafe situations which involve Subcontractors not under Burns & McDonnell control should be brought to the attention of the responsible client party and documented. Immediately discontinue work around the unsafe area until concerns are properly addressed.

Assure that all injuries are reported and treated.

Require reports and investigations of all near misses, incidents and accidents.

Assure that OSHA recordkeeping requirements are maintained.

Various safety activities may be delegated to others, but the ultimate implementation and monitoring of safe work techniques are the responsibility of the Site Manager (Project Superintendent).

Assure Burns & McDonnell employee owners have in their possession the necessary protective and safety equipment such as fall protection safety harnesses and lanyards, hard hats, safety glasses, safety shoes, and other safety equipment, and require their use as needed.

Plan ahead for safety so that appropriate safety equipment and safety systems are on hand and readily available when needed by Burns & McDonnell employees.

Complete job safety walk-through assessments. Cover the findings of the walk-through with the accompanying Subcontractor. Follow up by documenting the items which require immediate correction.

Site Safety Professional

Provide full-time support in the field to assure operations are planned and conducted in a safe manner.

Provide advice, guidance, and assistance to personnel involved in our projects regarding safety and health issues and work practices. Identify unique safety & health issues by project, before the project begins, for resolution.

Interface with **CLIENT NAME** Safety & Health Department on site safety & health issues and coordinate proactive measures.

Coordinate and mentor project safety & health walk-through assessments. Cover the findings of the walk-through with the accompanying Subcontractor. Follow up by documenting the items which require immediate correction.

Periodically distribute information and updating memos relative to safety, including assisting with safety memorandums.

Conduct on-going training on safety & health subjects.

Review Incident/Accident Investigation reports (including Near Misses) and recommend corrective measures as appropriate.

Report to Corporate Safety & Health periodically regarding the Project Safety & Health Program progress, problems, and objectives.

Organize and help conduct safety training as necessary.

Fully utilize the assistance of our insurance carrier, OSHA, safety organizations, and other resources.

Complete Burns & McDonnell Safety Form B-2 "Daily Field Safety & Health Report" and submit weekly to the Manager of Field Operations Safety & Health.

2.3.2 Subcontractor

Purpose:

Subcontractors are responsible for administering the Project Specific Safety & Health Program developed by the Subcontractor which incorporates the text of this document as a minimum standard. Subcontractors are responsible for the training of workers, safety inspections, necessary safety documentation and coordinating

of work for safe means through Burns & McDonnell and other Subcontractors on this project. For this reason, the following roles have been developed that each Subcontractor shall designate and comply with:

Subcontractor Site Manager (Project Superintendent)

The Subcontractor Site Manager shall have final authority and responsibility for the administering the Project Specific Safety & Health Program. The Site Manager may delegate these duties to persons qualified to administer the program. However, the Site Manager will still be responsible for assuring adherence of the Project Specific Safety & Health Program and for disciplining workers who violate the Project Specific Safety & Health Program requirements. The Subcontractor Site Manager is subject to dismissal from the project for the duration of the project for failing to properly administer the Project Safety & Health Program. This decision will be at the discretion of Burns & McDonnell and the owner.

All Subcontractor Site Supervision

Superintendents, General Foremen, Foremen, or other members of management (persons supervising workers) shall not operate equipment (e.g. material handling, monitoring, etc.) on Burns & McDonnell projects

Competent Person

OSHA requires a competent person be designated for particular activities who can recognize hazards or potential hazards and who has the authority to correct or abate the hazard. For this reason, the Competent Person should be identified on the Activity Hazard Analysis when applicable to the activity. The competent persons for all of the subcontractor project activities shall be submitted by each subcontractor prior to the start of project site activities, using Burns & McDonnell Safety & Health Form C-17 "Competent Person Designation".

OSHA defines a Competent Person as 'One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees *and* who has authorization to take prompt corrective measures to eliminate them'.

Designated Safety Representative

Subcontractors shall designate a qualified safety representative to be responsible for the administration of the Subcontractor's Safety Programs, the Project Specific Safety & Health Program and all **CLIENT NAME** requirements and procedures. This person shall be qualified to identify hazards and have the authority to correct them, coordinate safe work efforts and submit all required documentation to Burns & McDonnell. The Subcontractor shall inform Burns & McDonnell in writing who will be designated to fulfill these obligations utilizing the Burns & McDonnell Safety Form B-3 "Subcontractor Verification".

2.3.3 All Employees

Stop Work Authority

Worker's rights - Any person on site may shut down a work operation that poses imminent danger or a situation arises which is immediately dangerous to life or health on site. When such precautions must be immediately taken, the Site Manager (Project Superintendent) shall be immediately notified and actions to remedy the situation shall be implemented.

All employees have the authority and obligation to stop any work task or operation where concerns or questions regarding the control of a safety, health, or environmental risk exist. Employees are responsible to initiate a Stop Work Intervention when warranted and Management is responsible to create a culture where Stop Work Authority is exercised freely

Any worker onsite may submit an unsafe conditions memo to provide notification of an unsafe work condition that is a less than imminent situation. The Site management shall take appropriate action to mitigate and correct the unsafe condition within a reasonable time frame.

Stop Work Program

General Duty to provide a safe work environment

The employer shall furnish to each of his employees a place of employment which is free from recognized hazards that are likely to cause death or serious physical harm to his employees

All employees have the right and authority to stop any work activity where there are safety, health or environmental concerns

Workers have the right to refuse to do a job if they believe in good faith that they are exposed to an imminent danger.

"Good faith" means that even if an imminent danger is not found to exist, the worker had reasonable grounds to believe that it did exist.

Training

Employees must receive Stop Work Authority training before initial assignment.

The training must be documented including the following:

Employee name,

Dates of the training, and

The subject of the training.

Interventions

When an unsafe condition or unsafe behavior is identified a Stop Work Intervention will be initiated.

The Stop Work Intervention will:

Be initiated in a positive manner

Be coordinated through the supervisor

Notify all affected personnel and supervision of the stop work issue,

Initiate correction of the issue

No work will resume until all stop work issues and concerns have been adequately addressed.

All Stop Work Interventions shall be documented for

Lessons learned and

Corrective measures put into place.

Corrective Actions

The Stop Work Intervention will assure the identified safety concern(s) have been addressed to the satisfaction of all involved persons prior to the resumption of work.

Most issues can be adequately resolved in a timely manner at the job site,

Occasionally additional investigation and corrective actions may be required to identify and address root causes.

Lessons Learned

Stop Work reports shall be reviewed by supervision order to

Measure participation,

Determine quality of interventions and follow-up,

Trend common issues,

Identify opportunities for improvement, and

Facilitate the sharing of lesson learned

Non-Retaliation or discrimination

Workers may bring up safety and health concerns in the workplace to their employers without fear of discharge or discrimination, as long as the complaint is made in good faith.

Workers have a right to seek safety and health on the job without fear of punishment.

Workers have the right to be free from retaliation for exercising safety and health rights.

The worker has the right to refuse to do a task he/she considers unsafe, and is protected if ALL of the following conditions are met:

The worker asked the employer to eliminate the danger, and the employer failed to do so; and

The worker refused to work in "good faith."

The worker genuinely believes that an imminent danger exists.

The worker's refusal cannot be a disguised attempt to harass the employer or disrupt business; and

A reasonable person would agree that there is a real danger of death or serious injury; and

The urgency of the hazard is such that there isn't enough time to get it corrected through regular enforcement channels, such as requesting an OSHA inspection.

Any form of retribution or intimidation directed at any individual or company for exercising their right to issue a stop work authority will not be tolerated by the host facility.

Table of Contents

3 General Safety

Program Administration

Safety & Health Monitoring and Enforcement

Subcontractor Project Safety & Health Coordination and Submittal Requirements

Project Procedures

New to Site Employee

Visitor Access

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3.1 Program Administration

3.1.1 Purpose

Program administration is one of the key elements in communicating and coordinating site activities and Safety & Health obligations. For this reason, activities and procedures have been established to ensure all persons on site shall work in a safe and healthful environment where activity is coordinated and organized.

3.1.2 Project Safety & Health Program

Copies of the Project Safety & Health Program will be included in the Subcontractor bid packages. Each Subcontractor shall keep a copy of the Project Safety & Health Program in their company's on-site facilities. The Subcontractor is responsible with training and familiarization of their workers and their Subcontractor's workers with the minimum requirements set forth in this manual and any changes which are made to it.

3.1.3 Project Safety & Health Coordination Meetings

At the time of the Weekly Project Site Coordination Meeting, Project Safety & Health Coordination will also be discussed. At this weekly meeting up to date Subcontractor work hours shall be submitted as well as other safety & health statistics Burns & McDonnell Safety Form C-1 "Weekly Work Hour Report". Allotted time shall be, up to two hours attendance by the Subcontractor Safety & Health representative, for Burns & McDonnell to specifically address safety, health and coordination concerns with the Subcontractors. This time shall also serve as a forum for Subcontractors' to discuss safety & health concerns as related to each other and the project. Burns & McDonnell will facilitate any concerns between Subcontractors and will assist in finding adequate solutions.

3.1.4 Reporting Requirements

All incidents /accidents shall be immediately (within three minutes) communicated to Burns & McDonnell. Burns & McDonnell Safety Form C-2 "Incident/Accident Investigation Report" shall be submitted within twenty-four (24) hours of the incident. A copy of any supportive material utilized in the investigation shall also be submitted along with the report (i.e. photographs, drawings and witness statements).

All "recordable" accidents, deaths or incidents involving significant equipment damage, facility damage or **CLIENT NAME** property damage shall be immediately communicated to the Site Safety & Health Professional and the Site Manager. If the Site Safety & Health Professional or the Site Manager is not available, notify any Burns & McDonnell employee.

An executive management member, of the Subcontractor will arrive on site within 48 hours of an incident to attend an incident review meeting if an OSHA recordable accident occurs. If an OSHA DART, or a near miss incident that may have produced injury takes place or a property damaging incident occurs which results in a loss of \$5,000 or more, the president of the company shall attend this meeting as well.

At the time of this meeting the executive management member and/or president of the company shall submit a plan of action to prevent such occurrences in the future.

In the event of a work-related fatality, work-related inpatient hospitalizations of one or more employees, work-related amputations, or work-related losses of an eye Burns & McDonnell shall immediately be notified. Failure to comply with this procedure will result in disciplinary action at the discretion of Burns & McDonnell.

A summary of the safety & health statistics for each Subcontract company Burns & McDonnell "Monthly Work Hour Report" Safety Form C-3 shall be submitted by the fifth working day of each month for the previous month's total man/hours and review of incidents from that month.

3.1.5 Project OSHA Procedure

OSHA Notifications

When is Burns & McDonnell required to notify OSHA?

It is the responsibility of the Director of Corporate Safety & Health to notify OSHA:

Of work-related fatalities within 8 hours of finding out about them. Employers only have to report fatalities that occurred within 30 days of a work-related incident.

Of any inpatient hospitalization, amputation, or eye loss within 24 hours of learning about it. Employers only have to report an inpatient hospitalization, amputation or loss of an eye that occurs within 24 hours of a work-related incident.

The location and time of the accident, along with the number of fatalities or hospitalized employees, the name and phone number of a contact person, and a brief description of the accident will be required in the notification.

You may contact OSHA through your area office which can be located using the following hyper-link: <http://www.osha.gov/html/RAmap.html>. After hours you should contact OSHA via: 1(800) 321-OSHA

Arrival of the CSHO

Upon Arrival of the OSHA Compliance Safety & Health Officer, CSHO: Immediately notify Burns & McDonnell Corporate Safety & Health (816) 333-9400.

Before the CSHO arrives at the facility, security, receptionists, or anyone responsible for letting people enter the facility must know to immediately contact the Site Manager in the event of an OSHA inspection.

The Site Manager or his/her designee must accompany the CSHO throughout the entire inspection process.

The CSHO's credentials must be checked before inspection begins. If there are doubts about the validity of the credentials, contact the nearest area OSHA office.

Ask the CSHO the reason for the visit. Reasons for an OSHA inspection may include a fatality or serious injury, Imminent danger, A complaint, A general scheduled inspection, or Special emphasis inspection

Opening Conference:

During the opening conference, the CSHO will inform the designated representatives that the official purpose of the visit is to ascertain if the facility is in compliance with the requirements of the OSH Act. Other topics that should be discussed are:

- the scope of the inspection

- records that need to be reviewed

- a physical inspection

- obligation to privately interview employees

The CSHO must also show a copy of the complaint if one was made.

The following information must be readily available for the CSHO's review

OSHA 300, 300A forms (current and past years). The blank 300 forms may be acquired via the following hyper-link: <http://www.osha.gov/pls/publications/pubindex.list#300>

Company safety programs (including but not limited to):

Lockout/Tagout

Confined Spaces

Fall Protection

Emergency Procedures

Hazard Communication Program

The OSHA poster must be posted in a conspicuous location. The OSHA poster can be printed using the following hyper-link: <http://www.osha.gov/Publications/osh3165.pdf>

Walk around Inspection:

During the walk-around inspection, it is required that a Burns & McDonnell representative accompany the CSHO at all times. Those accompanying the CSHO are to make sure that the inspection stays within the intended scope of the investigation that was discussed in the opening conference. The inspection should not expand outside of this scope.

The CSHO may also have instruments for taking measurements such as air samples, noise samples, or illumination surveys. The Burns & McDonnell representative should perform side by side sampling with the CSHO whenever possible and take notes of the locations and conditions discovered during sampling by the CSHO.

All violations will be documented by the CSHO. Once documented, the CSHO will bring the violations to the attention of the Burns & McDonnell representative. The Burns & McDonnell representative should also make identical notes of the violations that the CSHO cites.

The Burns & McDonnell representative should also correct any violations that he/she comes across during the inspection.

Never admit to a violation or bring a violation to the attention of the CSHO.

When the CSHO takes any photographs or videos of the facility, the Burns & McDonnell representative should take the identical picture for their records.

The CSHO may also conduct private employee interviews. The employee may ask for another representative to accompany them with the interview, but it is the discretion of the CSHO whether it is to be allowed.

After the inspection, the Burns & McDonnell representative should ask the interviewed employee about the content of the interview, and how the questions were answered.

Closing Conference:

All personnel who attended the Opening Conference shall attend the Closing Conference.

The CSHO will describe the suspected violations discovered during the inspection.

The CSHO will also inform that citations may be issued for suspected violations and that penalties may be proposed for each.

The CSHO will then attempt to gather an estimate on how long it will take for the alleged violations to be abated. This estimate will be taken into consideration when the CSHO decides on recommended time for abatement.

Follow-up Inspections:

OSHA may conduct a follow-up inspection if the citations involve imminent danger, a serious offense, or a repeated offense. The follow-up inspection will usually just involve the areas that were cited. All of the same rules for the original inspection apply in the follow-up inspection.

After the Inspection: When the CSHO leaves the facility, the following items must be accomplished:

Update Corporate Safety & Health to discuss further actions.

Fill out Burns & McDonnell Safety Form C-4 "Regulatory Contact Report" and forward it to Corporate Safety & Health.

Debrief employees that may have been interviewed by the CSHO.

Correct any deficiencies and document the corrections.

OSHA recordkeeping

Each employer is required to keep records of fatalities, injuries, and illnesses must record each fatality, injury and illness that is work-related; and is a new case; and meets one or more of the general recording criteria.

Each recordable injury or illness must be entered on an OSHA 300 Log and 301 Incident Report, or other equivalent form, within seven (7) calendar days of receiving information that a recordable injury or illness has occurred.

A company executive must certify that he or she has examined the OSHA 300 Log and when found to be correct will sign the OSHA 300A Summary.

A copy of the annual summary (OSHA 300A) must be posted in each establishment in a conspicuous place (or places) where notices to workers are customarily posted.

The posted annual summary shall not be altered, defaced or covered by other material.

The summary must be posted from February 1 through April 30.

The OSHA 300 Log, the privacy case list (if one exists), the annual summary, and the OSHA 301 Incident Report forms must be retained for five (5) years following the end of the calendar year that these records cover.

3.1.6 Project Safety Assessments**Scope**

This process contains requirements for inspection, self-assessment, and Executive assessment for all project sites where Burns & McDonnell is actively fulfilling the role of Owner's Representative, Construction Manager, General Contractor, or as determined necessary by the Director, Corporate Safety and Health or his / her designee.

Purpose

The purpose of this process is to identify and correct safety and health hazards encountered in the workplace, to provide uniform guidance with respect to these hazards, and satisfy rules or standards promulgated by federal, state, or local authority.

General

Inspections and assessments have been identified as primary management tools for continually improving the Safety and Health Program. These on-site evaluations, when executed effectively, can lead to enhanced safety and health performance.

Safety inspection and assessment should be considered as a tool to be utilized by the Global Practice Leader(s), Director, Corporate Safety and Health, Corporate Safety and Health Manager, Global Practice Safety Segment Leader(s), Project Manager, and the Site Manager to assess site safety and health conditions, insure compliance with the Site Specific Safety and Health Program, and identify methodology for establishing and maintaining continuous improvement of safety and health performance.

The following types of inspection and assessment may be utilized to aid in the continuous improvement of safety and health performance:

Weekly Work Area Assessment

Daily Field Safety and Health Report

Project Safety Assessment

Executive Safety Assessment

Other Inspection

Weekly Work Area Assessment

Weekly Work Area Assessments should be conducted by the Site Manager and/or his/her designee, Site Safety Manager (if applicable), and a minimum of 1 representative from each subcontractor / client contractor.

Scheduling and selection of the assessment team should be coordinated by the Site Manager and / or his / her designee.

The assessment team should conduct a comprehensive review of the Site Safety and Health Program's implementation on the project site.

Burns & McDonnell's "Weekly Work Area Assessment" should be utilized to document compliance, deficiencies, and corrective action(s) taken to be taken.

Completed reports should be submitted to the Burns & McDonnell Site Manager / designee, the Section Manager – Construction Operations, Safety and Health, and submitted via the Intelex System (when application becomes available).

Daily Field Safety and Health Report

Safety observations / interface / concerns should be documented daily by the Site Manager or the Site Safety Manager / Specialist, when applicable.

Burns & McDonnell's "Daily Field Safety and Health Report" (Form B-2) should be utilized to document compliance, deficiencies, corrective action(s) taken / to be taken, and other safety related interface and concerns.

Content should be quantifiable / observation-based with no personal supposition.

Reports completed by the Site Safety Manager / Specialist should be submitted to the Site Manager for review, comment, and recommendation.

Completed reports should be retained for project archiving purposes.

Completed reports should be submitted to the Director, Corporate Safety and Health, Corporate Safety and Health Manager, and Global Practice Safety Segment Leader for review.

Project Safety Assessment

Project Safety Assessments should be conducted by the Global Practice Safety Segment Leader when Burns & McDonnell is contractually responsible for project safety.

Scheduling and project selection should be coordinated by the Project Manager and their respective Global Practice Safety Segment Leader.

An assessment team, comprised of the Site Manager, Site Superintendent (if applicable), Global Practice Safety Segment Leader, and Site Safety Manager / Specialist (if applicable), should conduct a comprehensive review of the Site Safety and Health Program's implementation on the project site.

The comprehensive review should include:

Opening conference – The assessment team will meet with the senior project personnel and review the purpose, scope, and methodology of the assessment and identify site personnel participation.

Site observation and evaluation – The assessment team should conduct a jobsite physical evaluation noting compliance, deficiencies, and corrective actions to be taken with immediate, positive, and certain feedback.

Review of documentation, statistics, and metrics – The assessment team should review documentation required by the Site Safety and Health Program, as well as TRIR and DART Rates.

Closing conference – The assessment team should meet with the senior project personnel and review the findings of the jobsite physical assessment and documentation, statistics, and metrics.

The assessment team should provide immediate, positive, and certain feedback at the management level.

Burns & McDonnell's "Project Safety Assessment" worksheets should be utilized to document compliance, deficiencies, and corrective action(s) taken / to be taken.

Completed worksheets should be submitted to the Site Manager and retained for project archiving purposes.

The Site Manager has the responsibility to ensure implementation of any corrective action(s) to be taken.

Completed worksheets should be submitted to the Global Practice Leader(s), Director, Corporate Safety and Health, Corporate Safety and Health Manager, and Project Manager for review and distribution.

Executive Safety Assessment

Executive Safety Assessments may be conducted by Executive / Senior Management at their sole discretion, when Burns & McDonnell is contractually responsible for project safety.

Executive / Senior Management should conduct at least one cross-global practice safety assessment annually.

Scheduling and project selection should be coordinated by the respective Executive / Senior Manager and their respective Global Practice Safety Segment Leader

A Notification of Assessment should be forwarded to the respective Project Manager, Site Manager, and Global Practice Safety Segment Leader in advance of the assessment.

An assessment team, comprised of the Executive / Senior Manager, Site Manager, Site Superintendent (if applicable), Global Practice Safety Segment Leader, and Site Safety Manager / Specialist (if applicable), should conduct a comprehensive review of the Site Safety and Health Program's implementation on the project site.

The comprehensive review should include:

Opening conference – The assessment team should meet with the senior project personnel and review the purpose, scope, and methodology of the assessment and identify site personnel participation.

Site observation and evaluation – The assessment team should conduct a jobsite physical evaluation noting compliance, deficiencies, and corrective actions to be taken with immediate, positive, and certain feedback.

Review of documentation, statistics, and metrics – The assessment team should review documentation required by the Site Safety and Health Program, as well as TRIR and DART Rates.

Closing conference – The assessment team should meet with the senior project personnel and review the findings of the jobsite physical assessment and documentation, statistics, and metrics.

The assessment team should provide immediate, positive, and certain feedback at the management level.

Burns & McDonnell's "Executive Safety Assessment" worksheets should be utilized to document compliance, deficiencies, and corrective action(s) taken / to be taken.

Completed worksheets should be submitted to the Site Manager and retained for project archiving purposes.

The Site Manager has the responsibility to ensure implementation of any corrective action(s) to be taken.

Completed worksheets should be submitted to the Director, Corporate Safety and Health, Corporate Safety and Health Manager, and Project Manager for review and distribution.

Other Inspection(s)

Other safety and health inspection and assessments may be conducted by federal and state agencies, worker's compensation and general liability insurance carriers, including the Owner / client insurance carrier, and by the Owner's / client safety department. These inspections / assessments should be conducted as follows:

OSHA / State OSHA inspections may be conducted at any company office, project, or other location without appointment or advance notice.

Prescribed requirements for these inspections are detailed in Chapter 3 of the Safety and Health Program.

Company insurance carriers may conduct periodic project inspections, and may also inspect company owned property / premises.

Insurance carrier inspections will typically be pre-scheduled with the Director, Corporate Safety and Health or Insurance Manager.

Insurance carrier inspections will be coordinated by the Director, Corporate Safety and Health or Insurance Manager.

Owner / client inspection of a project site may be conducted at any time.

The Site Manager routinely receives reports of inspections conducted by the Owner / client.

Copies, with comments regarding the inspection recommendations and compliance shall be sent to the Project Manager and the Global Practice Safety Segment Leader.

If response is warranted, the Project Manager shall coordinate with the Corporate Manager of Safety and Health, the Global Practice Safety Segment Leader, the Site Manager, and site personnel.

3.1.7 Project Safety & Health Procedure Issuances

Burns & McDonnell reserves the right to issue Project Safety & Health Procedures which affect all Subcontractors on site. These procedures will be issued to all persons who have received a copy of the Project Safety & Health Program. An effective date and expiration date will be included to indicate the start and duration of the procedure.

3.2 Safety & Health Monitoring and Enforcement

3.2.1 Procedure

Each Subcontractor is responsible for managing its own Project Specific Safety & Health Program and related programs.

Subcontractors are also responsible for monitoring and enforcing the project disciplinary procedures, or disciplinary procedures which are more stringent, for workers performing non-conformance work in relation to Safety & Health.

Subcontractors shall monitor the work of their workers to assure the worker's actions do not create an unsafe condition which may result in harm to themselves, other persons on site or result in property damage.

Failure of Subcontractor management to enforce the disciplinary procedures established in this manual may result in disciplinary action taken against Subcontractor management by Burns & McDonnell.

3.2.2 Monitoring

The enforcement of the Burns & McDonnell Project Safety & Health Program (an outline of Subcontractor minimum requirements) and all related local, state, federal or otherwise stated safety & health rules, regulations and procedures is a vital aspect to achieving a safe and healthful work environment. For this reason, Burns & McDonnell will monitor the activities of the Subcontractors on site and enforce all aspects of the Burns & McDonnell Project Safety & Health Program.

Project Safety & Health assessments shall be performed periodically (refer to Burns & McDonnell Safety Form QSA Physical and QSA Documentation). All findings shall be immediately corrected with written verification (Safety Form QSA Action Items) of the corrections submitted to the Burns & McDonnell Site Manager within the abatement date.

3.2.3 Enforcement

Subcontractors are responsible for enforcing all Safety & Health procedures adopted on this project. Burns & McDonnell will take disciplinary action against Subcontractor management for failing to enforce such procedures. The following actions may be taken against Subcontractor management and personnel for non-compliance issues:

Verbal instruction may be used at the discretion of the designated Safety Manager for conditions or practices which are less than serious and are not likely to cause an accident or incident. Violations may fit into four classes defined as follows:

Non-serious

Any condition or practice which is not likely to cause death or serious physical harm to any person.

Serious

Any condition or practice which is causing or likely to cause death or serious physical harm to any person.

Stop Work/Imminent Danger

The existence of any condition or practice which would reasonably be expected to cause death or serious physical harm before such condition or practice can be corrected. This is a “stop work” situation. All persons shall be withdrawn from the affected area, and no one is allowed into the area except those people deemed necessary to correct the unsafe condition or practice and who are using the necessary controls to safeguard themselves from the hazard.

Repeat

Violations which have been verbally stated or written to an employee or Subcontractor more than once.

Violation Abatement

Abatement of Safety & Health violation notices Burns & McDonnell Safety Form B-1 “Violation Notice” shall take place within the allotted time given to abate the unsafe condition. If the Subcontractor fails to comply with the abatement procedure within the allotted time period, without submittal of an alternate solution, Burns & McDonnell may take corrective action procedures and back charge expense to the Subcontractor who created the unsafe condition.

All Subcontractors on site shall have a violation policy and procedures that shall meet, at a minimum, the following standards:

3.2.4 Violation Procedure (Individuals)

Violations issued are subject to the OSHA regulations which regulate work sites, the Subcontractor Safety & Health Program and the Burns & McDonnell Project Safety & Health Program. The possible consequences subjective to the violation are as follows:

Non-Serious Violations

First Offense is verbal warning. With log book documentation for future reference.

Second Offense is written warning.

Third Offense is time off project or dismissal.

Serious Violations and Repeat Violations

First Offense is subject to time off project or dismissal at the discretion of the Site Manager and/or the Site Safety Manager.

Burns & McDonnell reserves the right to request the dismissal of project personnel who commit serious or repeat safety or health violations.

3.2.5 Violation Procedure (Company)

Violations issued are subject to the OSHA regulations which regulate work sites, the Subcontractor Safety & Health Program and the Burns & McDonnell Project Safety & Health Program. Notice of violation will occur via Burns & McDonnell Safety Form B-1 "Violation Notice". Violation Notices will be logged in Burns & McDonnell Safety Form C-15 "Violation Log".

3.3 Subcontractor Project Safety & Health Coordination and Submittal Requirements

3.3.1 Purpose

Burns & McDonnell has implemented coordination measures and submittal requirements in order to assure the protection of all persons on site and to communicate activities which are being performed on the project. For this reason, those requirements are outlined in the following section so that all Subcontractors are keenly aware of the Project Safety & Health Program Minimum Requirements. These requirements are to be adhered to by Burns & McDonnell employee owners. For help in meeting these requirements refer to Burns & McDonnell Safety Form C-20 "Safety Submittals". The following procedures shall be developed and implemented into the Subcontractor Safety & Health Program for this project.

The Subcontractor shall be responsible for coordination of its work and that of its Subcontractors so that safe work practice is achieved. The Subcontractor shall coordinate all work provided under this agreement with all contiguous contracts and work activities whether provided by facility staff or Subcontractors. Subcontractor shall arrange and schedule the operation of its own work and the work of all Subcontractors so that delays will be avoided when safe work measures are implemented. No extra payment shall be made for any delays incurred from improper coordination of this work with other trade work and compensation for any such delays and all extra work related thereto is considered as having been included in the contract price.

3.3.2 Pre-Mobilization Submittals - Prior to Subcontractor Mobilizing on Site

Purpose:

The following requirements shall be submitted to Burns & McDonnell prior to the start of activities on the project. Program submittals are necessary to coordinate the requirements established in the Subcontractor's Project Specific Safety Program along with the Project Safety & Health Program. It is also necessary for Burns & McDonnell to know who will carry out the functions required by the Project Safety & Health Program and the designated competent persons Burns & McDonnell Safety Form C-17 "Competent Person Designation" for each of the activities.

Safety & Health Program

Submittal of Subcontractor's written Project Specific Safety & Health program to Burns & McDonnell shall be done prior to the start of work. The Project Specific Safety & Health program shall include the requirements outlined in this program as minimum standards. In addition to the written Project Specific Safety & Health program, the following program's shall also be established, submitted and implemented on the project by the Subcontractor, when applicable, if not already included in the Subcontractor's Project Specific Safety & Health program:

Hazardous Energy Control - Lockout/Tagout Procedures

Confined Space Entry Procedures

Hazard Communication Program

Fall Protection Plan

Subcontractors that do not have a written Project Specific Safety & Health Plan may adopt the verbiage located in the Project Safety & Health Rules as Subcontractor's Project Specific Safety & Health Plan for the exclusive use of this project. Burns & McDonnell is in no way responsible for use and/or interpretation of the Burns & McDonnell Project Safety & Health Program when utilized by Subcontractor. Subcontractor must submit in writing to Burns & McDonnell of the intent for Subcontractor to utilize the Burns & McDonnell Project Safety & Health Program as own for the project. The Burns & McDonnell Safety Form B-3 "Subcontractor Verification" can be utilized to fulfill this obligation.

Burns & McDonnell is not responsible for administering the Subcontractor Project Safety & Health Program or safety training any Subcontractor personnel after adoption for the project.

3.3.3 Pre/Post-Activity Coordination & Submittal Requirements

Purpose:

Certain activities pose hazards that require safe work considerations prior to the activity being conducted. For this reason, Burns & McDonnell has established pre/post-activity requirements to assure Burns & McDonnell personnel and/or the Subcontractor consider hazards prior to the start of the activity. These requirements are outlined below:

Permit Required Confined Space Entry

Confined Space entry procedures shall be established by the Subcontractor for entry of their personnel. Burns & McDonnell Safety Form C-6 "Confined Space Request" shall be completed and submitted to Burns & McDonnell prior to entry. It is pertinent for Burns & McDonnell to know this information so that coordination efforts may be properly conducted for any other Subcontractor personnel to enter the confined space. Confined Space procedures for entry of Burns & McDonnell personnel can be found in [Chapter 7](#).

Crane Inspection and Lift Plan Submittal:

An annual third party crane inspection shall be conducted and shall be submitted to Burns & McDonnell prior to the use of any crane on site. This inspection shall be performed by a qualified crane inspector or by a certified inspection service.

This procedure shall in no way eliminate any requirements set forth for crane inspections in the [OSHA Standard 1926.1412](#).

Lift plans shall be completed for all lifts that are over 20 tons, lifts that involve more than one crane or the load to be lifted exceeds 75% of the manufacturer's load rating chart for configuration of the crane. Burns & McDonnell Safety Form N-2 "Critical Lift Plan" shall be used to document this information.

Excavations and Trenching

Burns & McDonnell Safety Form J-1 "Site Specific Excavation Plan" shall be completed by the Subcontractor and submitted to Burns & McDonnell prior to the start of the operation. For trenches and excavations over twenty (20) feet in depth, the Subcontractor shall have a Professional Engineer, who is registered in the state of the project, design the sloping, shoring or shielding method used.

Soil shall be treated as Class C with regards to the dimensions for sloping, shoring and benching unless Burns & McDonnell Safety Form J-3 "Soil Classification" has been completed by a competent person and transmitted to Burns & McDonnell.

Work Notice – Permit to Work

Work permits shall be issued by **CLIENT NAME** Representative before commencing any work activity and must be posted in the immediate area where the work is being done.

The Permit to Work shall apply to hazardous work activities, such as

Excavations

Confined Space Entry

Hot Work (welding, cutting, brazing, spark producing, etc.)

Lockout / Tagout work activities (electrical, mechanical, etc.)

Permit to Work shall

Be requested by the subcontractor/crew foreman/superintendent that will perform the work.

Be discussed during the daily PTA meeting

Remain on the job site until completion of the work or the permit expires, whichever occurs first.

Be legibly written / completed.

Require a new permit at the beginning of each new work shift for the work crew.

Be returned to the approver when the permit has expired or the work that has been completed

The Burns & McDonnell Safety Form C-7 "Work Permit" shall be utilized.

Lockout/Tagout Procedures

Subcontractors are responsible for administering their own lockout/tagout procedures and program while equipment is under the control of the Subcontractor.

The Subcontractors shall coordinate any work that involves existing or permanent site equipment and all start-up processes involving Burns & McDonnell. The project lockout/tagout program shall be utilized in these circumstances along with any requirements set forth by the **CLIENT NAME** Training documentation of all employees affected in the Lockout/Tagout process may be required to be submitted to Burns & McDonnell prior to the beginning of the activity. Burns & McDonnell personnel utilizing lockout on systems will follow [Chapter 7 Lockout/Tagout](#). All authorized locking/tagging authorities of Burns & McDonnell and Subcontractors will be documented in Burns & McDonnell Safety Form G-11 "Tagging Authority List".

Training Requirements

Burns & McDonnell shall conduct project orientations and the subcontractor is responsible for all required worker training. All project employees shall receive an orientation prior to starting to work on the project. Project orientations will be conducted by Burns & McDonnell or designee as needed by the project. This project orientation may not be restricted to the items listed on the Burns & McDonnell Safety Form C-8 "Project Orientation", but shall at a minimum, include all applicable items listed.

Subcontractor employees involved in the following areas shall be trained by the subcontractor. All training shall be documented on the Burns & McDonnell Safety Form C-9 "Certification of Training" and submitted to Burns & McDonnell prior to the activity by the subcontractor for all of, but not limited to, the following:

Fall Protection

Scaffolds

Hazardous Energy Control - Lockout/Tagout

Confined Space

Respiratory Protection

Powered Industrial Truck Operators

Crane Operators (Per Type of Equipment)

High Voltage

Additional information regarding OSHA required training may be found in Burns & McDonnell Safety and Health Form C-21 “OSHA required Training Requirements and Training Guidelines”, or at <https://www.osha.gov/Publications/osh2254.pdf>

Pre-Task Analysis (PTA)

A Pre-Task Analysis (PTA) shall be documented daily (specific to the task being performed) for all subcontractor employees Burns & McDonnell Safety Form C-10 “Pre-Task Analysis (PTA)”. A copy of all PTA reports must be submitted to Burns & McDonnell weekly.

Weekly Work Area Assessment

Weekly Work Area Assessments should be conducted by the Site Manager and/or his/her designee, Site Safety Manager (if applicable), and a minimum of 1 representative from each subcontractor / client contractor forming the Assessment Team.

Scheduling and selection of the assessment team should be coordinated by the Site Manager and / or his / her designee.

The assessment team should use the Burns & McDonnell Safety Form C11 “Weekly Work Area Assessment” as a tool to conduct a comprehensive review of the Site Safety and Health Program’s implementation on the project site.

Burns & McDonnell’s Safety Form C11A “Weekly Work Area Assessment Action Items” should be utilized to document the following:

Client Contractor / Subcontractor being observed,

Enter the name of the respective contractor / subcontractor.

Sub-tier contractors should be identified by their prime contractor / subcontractor name.

Observations / comments regarding compliance and/or deficiencies,

Document observation (see example below).

“...employee observed working at elevation in excess of 6 feet without utilizing fall protection.”

Recommended Corrective Actions (CA),

Recommendations for elimination / mitigation of observed unsafe behaviors / conditions.

The date and time the CA is opened and closed, and

Open / Date & Time

Document date and time of observation.

Closed / Date & Time

Document date and time corrective action(s) completed and verified.

The Responsible person/party for implementing or performing the CA.

Document responsible party for the implementation of corrective action(s).

Completed reports should be submitted weekly to the Burns & McDonnell Site Manager / designee, and the Section Manager – Construction Operations, Safety and Health.

Task Safety Observations (TSO)

Subcontractor supervisors and front-line managers shall be required to perform a minimum of one formal Task Safety Observation per day providing immediate, certain, and positive feedback. The completed Task Safety Observations should be submitted to the Site Manager or his / her designee at the end of each workday.

Incident/Accident Review & Reporting

An executive management member, of the Subcontractor Company whose employee suffered an OSHA Recordable injury, will arrive onsite within 48 hours of the incident to attend an incident review meeting to discuss the incident and shall submit a plan of action / proposed corrective actions to prevent recurrence of similar future events. If the incident results in an OSHA DART injury, a near miss incident that may have resulted in an OSHA Recordable injury, or a property damaging incident occurs resulting in a loss of \$5,000 or more, the president of the Subcontractor Company shall also attend this incident review meeting.

At the time of this meeting the executive management member and/or president of the company such occurrences in the future.

In the event of a work-related fatality, work-related inpatient hospitalizations of one or more employees, work-related amputations, or work-related losses of an eye Burns & McDonnell shall immediately be notified. Failure to comply with this procedure will result in disciplinary action at the discretion of Burns & McDonnell.

Activity Hazard Analysis (AHA)

Major work operations, such as those with a hazardous nature or that require special planning shall use a Burns & McDonnell Safety Form C-12 "Activity Hazard Analysis" completed prior to the work operation. At a minimum, the following details shall be included on the activity hazard analysis:

Define Activity

Describe Sequence of Operation

Specific Hazards Related to Operation

Hazard Control Measures

Training for all Involved Employees

Competent Person

For work associated with:

Fall hazards, including fall hazards associated with scaffold erection and removal, identify the appropriate fall arrest systems.

Materials handling equipment, address safeguarding measures related to materials handling equipment.

Excavations including excavation safeguarding requirements.

The appropriate activity hazard analysis shall be reviewed and attendance documented by the Subcontractor at the preparatory, initial and follow-up phases of the operation.

Prior to the start of the work operation, the appropriate people shall be assembled by the Subcontractor to complete the activity hazard analysis. All employees involved in the operation shall be trained in all of the details described on the activity hazard analysis. The activity hazard analysis Burns & McDonnell Safety Form C-12 “Activity Hazard Analysis” and verification of training Burns & McDonnell Safety Form C-9 “Certification of Training” for all employees involved in the operation shall be submitted to Burns & McDonnell prior to commencing the work operation.

At a minimum, all of the following work operations and activities require an activity hazard analysis along with any other operations determined necessary by Burns & McDonnell: Building

- Mechanical Equipment Installation
- Pile Driving and Drill Pier Installation
- Structural Steel Erection
- Startup and Commissioning Activities
- Painting, Coating and Lining Operations
- Metal Wall Panel Installation
- Pre-Cast Concrete Panel Installation
- Chemical Cleaning Activities
- Concrete Work
- Excavations & Trenching
- Confined Space Work
- Electrical Equipment Installation
- Foundation Work
- Hazardous Waste Remediation
- Heavy Rigging & Lifting Operations
- Insulation Work

Pressure Testing

Roofing & Decking Work

Tower Construction

3.3.4 Monthly Submittal Requirements

Monthly Crane Inspection Reports

A monthly crane inspection shall be conducted by the designated competent person for cranes and shall be submitted to Burns & McDonnell by the first working day of each month.

The crane / lift type specific inspection form from the Burns & McDonnell Safety Forms (refer to Chapter 14 or Chapter 18) shall be used.

3.3.5 Weekly Submittal Requirements

Weekly Toolbox Safety Meetings

All Subcontractors on site shall hold weekly toolbox Safety & Health meetings with their employees which shall be documented on the Burns & McDonnell Safety Form C-13 “Weekly Safety Toolbox Meeting” and submitted to Burns & McDonnell within 24 hours of the meeting. Subcontractors shall inform their personnel of any coordination efforts discussed in the Project Safety & Health Coordination Meeting which will affect their work with regard to Safety & Health. In addition, these meetings shall be utilized to inform their personnel of a select topic to educate employees of hazards incurred on the project and in related activities.

3.3.6 One-time Submittals

Competent Person Designation

A list of competent persons per activity (as required by OSHA) shall be submitted prior to beginning work on any activity that requires a competent person use Burns & McDonnell Safety Form C-17 “Competent Person Designation”.

Chemical Inventory List (CIL)

A list of hazardous materials and chemicals which are used in the course of the company's normal business activities must be maintained and continually updated. This list is to include all substances which require a Safety Data Sheet (SDS). The Chemical Inventory List shall include as a minimum the following information:

- The Product Name (as noted on the SDS)
- The Manufacturer's Name
- Emergency Contact Information
- HMIS Information for Health, Fire, Reactivity, and PPE

A complete chemical inventory for all hazardous chemicals kept on site shall be submitted via Burns & McDonnell L Safety Form Z-1 “Chemical Inventory List”. This list shall be updated as necessary.

Safety Data Sheets (SDS)

A SDS for all chemicals in the chemical inventory list must be provided. Chemicals shall not be brought onsite without the prior submittal of its SDS for inclusion in the SDS inventory and listing on the CIL.

3.3.7 Other Submittals

Other submittals will be required as needed. For help in meeting these requirements refer to the Burns & McDonnell Safety Form C-20 “Safety Submittals”.

3.4 Project Procedures

Subcontractors shall adhere to the following Project Procedures and Requirements:

3.4.1 All Subcontractor Site Supervision

Superintendents, General Foremen, Foremen, or other members of management (persons supervising workers) shall not operate equipment (e.g. material handling, monitoring, etc.) on Burns & McDonnell projects

3.4.2 Substance and Alcohol Abuse Prevention Program

Pre-Site Access/Annual Testing

Post Incident

Reasonable Cause

Random

3.4.3 Safety Recognition Programs

Recognition programs are one of the Five High-Impact Zero Injury Techniques as defined by the Construction Industry Institute. Establishment of these programs is considered of high importance for employee recognition and ownership of the Project Safety & Health Program. The Safety Recognition Program will be designed when the project begins and after a formal budget has been established. Subcontractor participation is encouraged to show a commitment of safety/health on all levels for the project

3.4.4 Task Safety Observations

The purpose of Task Safety Observation is to identify and correct project safety and health hazards and “at risk” behaviors encountered in the workplace, to provide uniform guidance, requirements to identify and correct these hazards and “at risk” behaviors, and satisfy OSHA standards.

General

Inspections and self-assessments are one of the primary management tools for continually improving the Program. These on-site activities are one of the best methods for evaluating individual and group behavior regarding safety. They serve two primary needs: first they evaluate the existing safety and health system which is in place on the project. Second, and more importantly if performed properly, they can evaluate safety behavioral aspects of the individuals and the workforce.

Since 85% of jobsite injuries stem from individual unsafe or “at-risk” behavior, identification of “at risk” behavior is critical to achieving environment free of injury. Safe behavior, plus a continuously improving safety system equals zero injuries.

Procedure

The Site Manager is responsible for the implementation of this procedure when Burns & McDonnell is contractually responsible for safety.

Burns & McDonnell Executive / Senior Management may conduct Task Safety Observation's at their sole discretion, when Burns & McDonnell is contractually responsible for safety.

Burns & McDonnell Site Management shall be required to perform a minimum of one formal Task Safety Observation per day, when Burns & McDonnell is contractually responsible for safety, providing immediate, certain, and positive feedback.

Site Management includes the following:

- Site Manager / Construction Manager
- Assistant Project Manager (when applicable)
- Project Superintendent(s)
- Discipline Superintendent(s)
- Quality Assurance Manager (when applicable)
- Site Safety Manager / Specialist (when applicable)
- Field Engineer (when applicable)

Subcontractor supervisors and front-line managers shall be required to perform a minimum of one formal Task Safety Observation per day providing immediate, certain, and positive feedback.

Contractor supervisors and front-line managers include the following:

- Project / Site Manager
- Assistant Project / Site Manager (when applicable)
- Project / General Superintendent(s)
- Discipline Superintendents(s)
- General Foremen
- Foremen

A formal Task Safety Observation should consist of the following:

- Observe crew at work, noting the safe and “at risk” behaviors.
- Review safe and “at risk” behaviors with crew after observation is complete (immediate)
- Safe behaviors should be commended (positive / certain)
- Corrective coaching if necessary (certain), crew should be involved to make the condition or task safe (positive)
- Continued improvement should be encouraged (certain)
- Completion of the Task Safety Observation Card / Form
- Workers being observed should remain anonymous

Completed Task Safety Observations should be submitted to the Site Manager or his / her designee.

Task Safety Observation results should be recorded / tracked at a project level by utilizing the Task Safety Observation tracking spreadsheet and submitted to the Manager of Operations, Safety and Health, by the 5th of the each month

Negative trends or issues identified should be targeted for improvement

Project Task Safety Observation results should be communicated to the workforce

Improvements made by the workforce should be recognized and / or rewarded, at the discretion of Burns & McDonnell Project Management

Task Safety Observation results should be reviewed by Executive / Senior Management

Negative trends or issues identified should be targeted for improvement

Improvements made by individual projects should be recognized and rewarded, at the sole discretion of Executive / Senior Management

Training

Personnel required, by this program, to perform Task Safety Observations should be trained in the requirements set forth by this program.

Training may be delivered electronically or via an instructor-led class

3.4.5 Amendment Form

On special occasion(s), circumstances on site will necessitate a change in a safety procedure or procedures. In this event, the Project Manager shall be notified, as well as the Director of Corporate Safety & Health and the Global Practice Manager. The Burns & McDonnell Safety Form C-14 "Program Amendment" shall be completely filled out and signed prior to implementing any new procedure.

3.4.6 Postings

Posting of all federally required notices which includes, but is not limited to the following, shall be posted upon arrival of Subcontractor on site.

Notice to Workers Concerning Unemployment Benefits,

Employee Polygraph Protection Act,

Equal Employment Opportunity,

Discrimination in Employment,

Family and Medical Leave Act of 1993,

Federal Minimum Wage,

OSHA – Job Safety & Health,

Emergency Procedures and Contacts

OSHA 300A Summary (February 1 – April 30).

The appropriate State postings:

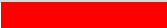
Worker's Compensation

Minimum Wage

Discrimination, etc.

3.4.7 Scaffold Tagging

All scaffolding shall be required to be tagged by the Subcontractor's designated competent person for scaffolds indicating its suitability for use. Burns & McDonnell shall be notified each time a scaffold is tagged prior to employee use. Tags shall be affixed to the scaffold so they are easily noticeable at each access point. The color coding is as follows:

Table 3 - 1 Scaffold Tagging Color Codes		
Scaffold Tag Color		Project Definition
Red		UNSAFE – Do Not Use
Yellow		Warning – Hazard Exists
Green		Ready to Use

The scaffold erector's competent person(s) shall make daily inspections of the scaffolding prior to its use. The inspection shall be documented on the scaffold tag with the inspector's name/initials and date.

Only the erector of the scaffold shall make modifications to the structure. Access ladders are required. Climbing up the side of scaffolding is not permitted unless the scaffold is designed for such use.

Subcontractors are responsible for obtaining all permits; licenses and having a registered engineer approve the scaffold when applicable.

3.4.8 Signage and Barricading Work

The Subcontractor shall barricade and mark (tag/sign) all hazardous areas. Signs, Tags, and Labels shall be provided to give adequate warning and caution of hazards. They are provided to instruct and direct workers and public. This shall include, but is not limited to open ditches, trenches, and other excavations; overhead work; and temporarily suspended loads.

Red barricades shall denote that enclosed area is off limits to any person(s) not performing work in the area.

Yellow barricades shall denote that a hazard exists and should be identified in the barricaded area prior to entering.

Other colors may be used as specified by CLIENT NAME requirements as follows:

3.4.9 Safety Color Coding

Placement of Signs

Hazard alerting signs must be placed to alert and inform viewers from a safe viewing distance, according to ANSI Z535.2-2011, Sections 11 and 12. They must be legible, and must not be a distraction or create a hazard themselves. They must not be placed on or adjacent to moveable objects like doors, windows, etc. Safety and fire equipment signs must be clearly visible in the immediate vicinity of the equipment. Safety signs must be protected from damage caused by fading and other potential environmental conditions. Signs must be displayed with illumination or retro-reflectiveness as needed for adequate legibility under normal operating conditions.

Where illumination is inadequate or colors are not recognizable, supplemental illumination must be used.

Where illumination may be interrupted, the sign should be made with photo luminescent

The following chart represents the color codes of both ANSI/NEMA Z535.1-2006 (R2011) and OSHA:

Table 3 - 2 Standard Color Coding for Safety		
COLOR	MEANING	APPLICATION
Red	Danger	Safety cans and signs.
	Stop	Emergency stop bar or button on machinery. Identification of fire equipment.
Fluorescent Orange, Orange- Red	Biosafety	Labels and containers for blood and infectious waste. (Warning labels must be fluorescent orange or orange-red with the biosafety symbol in a contrasting color.)
Yellow	Caution	Tripping, falling and striking hazards. "Flammable, Keep Fire Away" labels on cabinets. Safety cans and containers for explosives, corrosives or unstable materials.
Orange	Warning	Parts of machinery or energized equipment that may cut, crush or otherwise injure. Inside of transmission guards for pulleys, gears, etc.
Green	Safety	Location of first aid equipment. Location of safety equipment, respirators, safety showers, etc.
Blue	Information	Signs and bulletin boards. Specific railroad warnings against starting, using or moving equipment being repaired.
Black, White, Yellow or Combination of Black with White or Yellow	Boundaries	Traffic or housekeeping markings. Stairways, directions and borders.
Magenta or Purple on Yellow	Radiation Caution	X-ray, alpha, beta, gamma, neutron and proton radiation.

3.4.10 Evacuation/Emergency Procedures

Evacuation/Emergency Procedures shall be implemented for the following circumstances by the Subcontractor for their employees as applicable:

Medical emergencies,

Fire,

Hazardous material spills and

Varying weather circumstances.

Subcontractor shall have person(s) trained in providing First Aid and CPR or have a Designated Medical Facility within approximately fifteen (15) minutes of the job site.

The Burns & McDonnell Safety Form E-1 "Emergency Action Plan" may be developed in the field in coordination with any existing **CLIENT NAME** Emergency Action Plans / Emergency Response Plans.

3.4.11 Minimum Personal Protective Equipment

The following minimum personal protective equipment is required 100% of the time on the project:

Hard Hat (ANSI Z89.1-1986, Class E/G)

Leather work boots steel or composite toe with defined heel

Safety Glasses (ANSI Z87.1-1989)

Full length work pants, coveralls, jeans, etc.

Work shirt with a minimum 4" sleeve length

Hand protection appropriate for task and in accordance with Hand Protection Reference Guide

See [Chapter 9 – Personal Protective Equipment](#) for specific requirements of the PPE. Tank tops and halter tops are prohibited! Any articles of clothing or outerwear that display profane or offensive materials are prohibited. Subcontractors are responsible for supplying all personal protective equipment necessary for employees to safely perform duties required.

3.4.12 Cumulative Trauma Prevention

Work activities that require workers to conduct lifting, handling, or carrying; rapid and frequent application of high grasping forces; repetitive hand/arm manipulations; tasks that include continuous, intermittent, impulsive, or impact hand-arm vibration or whole body vibration; and other physical activities that stress the body's capabilities shall be evaluated by a competent person to ensure the activities are designed to match the capabilities of the workers.

When work activities that stress the body's capabilities are identified, the employer shall establish a cumulative trauma disorders prevention plan and incorporate it in the Plan. The plan shall incorporate processes that recognize cumulative trauma hazards, isolate causative factors, inform and train workers, and implement controls.

Control measures to minimize hand-arm vibration shall include: adherence to the TLV guidelines as specified in the ACGIH in "Threshold Limit Values and Biological Exposure

Indices"; the use of anti-vibration tools and/or gloves; implementation of work practices that keep the worker's hands and body warm and minimize the vibration coupling between the worker and the vibration tool; and application of specialized medical surveillance to identify personnel susceptible to vibration.

Additional information is found in Chapter 7 - Project Site Ergonomics and Manual Material Handling

3.4.13 Housekeeping

Subcontractors are responsible for housekeeping of their work areas and cleaning of the debris and/or surplus materials accumulated as a result of the work process.

Subcontractors shall monitor craft activities to assure housekeeping cleanup is performed throughout the work process.

Accumulation of debris and waste materials slow the work process, create disorganization and contribute to unsafe work conditions. For this reason, all contracts have been structured to require Subcontractors to remedy such problems as assigned on the notification within the allotted abatement period. Failure to meet such conditions may result in charges to the Subcontractor for removal of trash or waste material by others from the work area or for clearing or moving tools, materials or equipment from aisles, walkways or work areas.

3.4.14 Fire Prevention Program

Each Subcontractor shall be responsible for fire protection throughout all phases of work as required by the National Fire Protection Code and the Chapter 12 of this program.

Only work procedures which minimize fire hazards to the extent practical shall be used. A fire extinguisher shall be present in the immediate vicinity of any hot work. Verification shall be made to assure no fire hazards exist for at least 30 minutes following the conclusion of the hot work activity. In addition the following outline summarizes when fire extinguishers are required:

Table 3 - 3 Fire Extinguisher Requirements			
Standard	Location	Type	Distance
150(c)(1)(i)	Building Area	2A	100 Foot Radius
150(c)(1)(iv)	Each Floor	2A	100 Foot Radius
150(c)(1)(iv)	Multi-Story Building	2A or Suitable for Hazard	Next to Stairway
150(c)(1)(vi)	5 Gal. of Flamm. or Comb. Liquids or 5 Gal. of Flammable Gas	10B	Within 50 Feet
150(c)(6)	Open Yard Storage	2A or Suitable for Hazard	100 Foot Radius
152(d)(1)	Flammable Liquid Storage Room	20B	10 Feet Outside
152(d)(2)	Outside Flammable Liquid Storage Area	20B	25-75 Feet
152(d)(4)	Vehicles Used for Dispensing or Transporting Flamm. or Comb. Liquids	20B:C	On Vehicle
152(g)(11)	Service or Fuel Area	20B:C	Within 75 Feet
153(l)	LP-Gas Storage Area	20B:C	In Location
352(d)	Welding, Cutting or Heating Areas	Suitable for Hazard	In Area
550(a)(14)(i)	Crane Cabs	5B:C	On Crane
Subcontractors shall provide, as a minimum, a 20-pound ABC fire extinguisher (charged and ready for use) at each hot work site for fire watch purposes.			

3.4.15 Site Sanitation/Waste Plan

All Wastes Shall Be Disposed Of Properly.

Controls and Disposal Of Solid Waste

Solid waste will be picked up and placed in containers as generated. All waste containers shall be emptied by the contractor on a regular basis, as to prevent over-flowing conditions. All handling and disposal will be conducted in such a fashion as to minimize secondary contamination by overflow or spillage during waste transfer.

Disposal of Demolition and Other Construction Debris

Disposition of construction debris shall be conducted as follows: All wastes generated by demolition activities shall be segregated as much as practicable, and placed in dumpster. Upon completion of all demolition activities, the area shall be clean, absent of signs of demolition, construction, temporary construction barriers or demolished structures. Exceptions to this requirement shall be specifically defined within the scope of work for this task order.

Sewage

All sewage will be disposed of through connections to established sanitary systems. Where such systems are not available, chemical toilets or comparable effective units will be used with collected wastes periodically emptied by means of a sanitary pumping service. No conditions shall be allowed to exist where noticeable odors are present.

Table 3 - 4 Requirements For Toilets Facilities	
Ratio Of # workers to # of Toilets	
Number of Workers	Number of Toilets

10 or less	1 toilet seat and 1 urinal
20 or less	2 toilet seats and 2 urinals
More than 20	2 toilet seats and 2 urinals per additional 15 workers

Additionally, the above ratio of toilet facilities shall be used for female workers independent of male employees on site. Women's facilities shall be clearly indicated as such and be equipped with a lock. Use of these facilities by males shall be prohibited at any time.

Dust Control:

Positive dust control shall be exercised at all times during this project. Dust generation during (saw-cutting or chipping) activities shall be minimized by a constant water stream wetting the concrete. All efforts to minimize dust generation with water spray shall be expended.

Chemicals and Chemical Waste

In the event that a chemical is put into use in some form (after submittals and approvals are obtained if required), the following procedure shall be followed:

All chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action.

All activities and inspection shall be documented.

Chemical waste shall be collected in corrosive resistant containers.

All chemical containers shall be investigated to assure chemical compatibility with the medium to be collected.

Collection drums shall be monitored and removed to a storage or staging area when contents are within 6-inches of the top.

Wastes shall be classified, managed, stored and disposed of in accordance with Federal, State, and local laws and regulations.

Hazardous Waste Management and Disposal

Hazardous waste generated during the course of this project will be appropriately classified by the responsible party (as determined by contract) and removed for appropriate disposal by a licensed disposal company.

Fuels and Lubrication

Any fuels brought on-site by the contractor shall be in approved, self-closing, leak-proof, steel containers. These containers (if any) shall not be stored in a designated area and provide secondary containment as required.

Wastewater Disposal

Wastewater generated during the course of these construction activities, such as spray-waters used during trenching, shall not be allowed to enter any waterways or to enter any storm drain system. Any generated wastewater shall be treated to remove any contaminants prior to discharge, or shall be captured, stored and removed from the facility as potentially contaminated wastewater. No wastewater shall be disposed of without compliance with all Federal, State, or local laws and regulations.

Garbage Disposal

The contractor will place all generated garbage in an appropriate container and arrange for disposal by means of contracted vendor, which can provide a timely pick-up.

3.4.16 Cell Phones

Personal cell phone use is prohibited on the project site, with exception given in designated break areas. Cell phones or any other non-intrinsically safe devices are prohibited in process areas.

3.4.17 Breaks and Lunches

Break Areas

All break areas shall be approved by Burns & McDonnell (or client as required). Break area shall be indicated by a clearly defined border on at least 3 sides. Food and drink other than water shall be confined to designated break areas. There shall be no storage of materials in break areas.

Smoking Areas

Smoking shall be confined to designated smoking areas only. Smoking areas shall have a dedicated fire extinguisher and appropriate receptacles for disposal of cigarettes (butt cans, etc.). There shall be no disposal of other trash in these receptacles.

Drinking Water

An adequate supply of fresh, potable drinking water should be provided in an easily accessible location. Portable water containers used to dispense drinking water shall be cleaned daily, must be capable of being tightly closed, and shall be equipped with a tap. Any container used to distribute drinking water should be clearly marked with the nature of its contents and not used for any other purpose. Containers shall be sealed (duct taped) and dated for fill date.

Where paper cups are supplied, a disposal receptacle should be provided immediately nearby.

The use of pails and dippers or a common drinking cup for dispensing drinking water is prohibited.

If for any reason water that is unfit for human consumption is used at the job site, it must be identified and labeled to clearly indicate that the water is unsafe for drinking, washing or cooking.

3.4.18 Washing and Hygiene Facilities –

Adequate washing facilities for employee-owners shall be provided where hazardous substances may be handled or come into contact with the skin. Such facilities or means, e.g. disposable wet wipes for hand/face washing shall be in near proximity to the worksite.

3.4.19 Machinery, Tools, Material, or Equipment –

The use of any machinery, tool, material, or equipment which is not in compliance with any applicable requirement of this part is prohibited. Such machine, tool, material, or equipment shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

3.4.20 New to Site Employee

This program is designed to easily identify a Subcontractors employee who is new to the Project and thus better identify that Employee's need for additional concern and guidance.

Mentor - All management, supervision, safety personnel and experienced employees are mentors. All are expected to help a new employee through a period of familiarization of site safety policies and rules.

New Employee - An employee who is new to the jobsite or the Subcontractor and has worked on site less than 45 days. Identified with an orange or similar unique hard hat sticker placed on the back of his/her hard hat.

Figure 3 - 1 New to Site Hard Hat Sticker



Employee Identification

Upon completion of the site-specific safety and health orientation, each employee new to the Project Site and/or the Subcontractor will be issued a bright orange "New-to-Site hard-hat sticker which will be placed on the employees hard hat. The orange sticker will be dated at the time of orientation.

The orange Sticker will be left on the hard-hat for a period of 45 calendar days

Mentors

All management, supervision, experienced employees and safety personnel are to closely monitor the activities of the new employees. This is not a craft/job/company specific mentoring program as all personnel may provide safety guidance to any new employee.

The mentors are to provide the new employee additional safety guidance and safety-related help during the 45 day period.

Evaluation and Recognition

At the end of the 45 day calendar period, the new employee's supervisor and safety manager/person shall individually "debrief" the new employee and review the new employee's safety performance.

The supervisor may remove the new employee orange sticker as long as the employee:

- Has not sustained a recordable injury, and
- Was not issued a written safety citation or notice of non-compliance
- Was not responsible for any property or equipment damage and
- Has not missed any scheduled safety meetings.

It is anticipated that the above "debriefing" and performance review will take no more than 10 minutes.

Upon successful completion of the 45 calendar day period and removal of the orange sticker, the employee will be awarded the Site Project Orientation sticker. The sticker should be placed on the back of the hard hat where the orange sticker was removed.

In the event an employee is involved in or experiences one of the four above mentioned performance criteria, the orange sticker must be re-dated and the 45 calendar days starts over.

3.4.21 Visitor Access

Visitors/vendors to the site must sign in using the Burns & McDonnell Safety Form C-16 “Visitor Sign-in”.

Visitor(s) accessing the site for less than an eight (8) hour period will not be required to attend the Project Orientation Training. Visitor(s) shall be accompanied by an authorized person - one who has been trained on the project hazards and who is familiar with the project throughout the entirety of his/her visit. If the visitor(s) cannot be accompanied by an authorized individual throughout the entirety of the visit, the visitor(s) shall attend the Project Site Specific Orientation Training prior to accessing any work activity area.

If an emergency should arise the designated person shall take the Visitor Sign-in sheets to the designated assembly area to be used for accountability of personnel.

3.5 Substance and Alcohol Abuse Prevention Program

3.5.1 Purpose

Burns & McDonnell has the right and obligation to maintain a safe, healthy, and efficient working environment. Being under the influence of a drug or alcohol on the job poses serious safety and health risks to the user and to all those who work with the user.

The use, sale, purchase, transfer, or possession of an illegal drug in the workplace, and the use, possession, or being under the influence of alcohol also poses unacceptable risks for safe, healthy, and efficient operations.

The unlawful manufacture, distribution, consumption, possession, or use of a controlled substance and alcohol is prohibited at the worksites under the scope of work for the Project.

The Subcontractor shall comply with these requirements for a Drug and Alcohol Free Workplace, unless a more stringent program is defined for the Project. By signing a contract agreement with Burns & McDonnell or owner, the Subcontractor certifies that their employees will comply with this written substance abuse testing program.

The Subcontractor shall assist Burns & McDonnell in administering the Project requirements for a substance abuse detection and prevention program as part of its responsibilities and scope of work.

All costs for substance abuse/alcohol testing shall be included in the Subcontractor's contract price.

Personnel entering, working on, or leaving the Project worksite shall be subject to search in support of the substance and alcohol abuse prevention program.

Supplier representatives, home office employees, and field technical representatives who visit the Project worksite on a short-term basis (three-calendar-day period) are not subject to drug and alcohol testing, although such persons are subject to search and/or inspection procedures in support of the substance and alcohol abuse prevention program.

3.5.2 Testing

Burns & McDonnell employee owners and Subcontractor workers working on Project worksites, including workers, new hires, replacements, and supervisory personnel, are subject to the following Drug and Alcohol testing:

Pre-Site Access/Annual testing,

Post-Accident/Incident testing,

Probable Cause/Reasonable Suspicion and

Random testing as a condition of contract.

Subcontractors are required to send evidence that a worker's drug and/or alcohol test was negative, regardless of the reason for testing, to Burns & McDonnell within three days of completion of the test utilizing Burns & McDonnell Safety Form C-18 "Substance Abuse Site Access Verification".

The following is a listing of the types of testing, and required time frames for such testing, as required under this program.

3.5.3 Pre-Site Access/Annual Testing

Initial site access of any worker shall be conditional upon successfully meeting the requirements of the pre-site access substance and alcohol test.

The pre-site access test must be taken by the worker within 5 days prior to reporting to the Project site.

Only workers who are certified as drug- and alcohol-free, in accordance with the requirements of this program, shall be permitted by the Subcontractor to work at the Project worksites.

In addition, each worker shall participate in annual testing.

The pre-site access test date will become their new annual testing date for the substance and alcohol abuse prevention program.

This program prohibits the Subcontractor from giving any more than 7 days' notice to a worker of pre-site access/annual testing.

3.5.4 Post-Accident/Incident Testing

A drug and alcohol test of any worker is required when:

- The incident involves a fatality

- They are involved in a near-miss incident caused by them either directly or indirectly, or

- An incident that results in any injury to the worker or any other individual on the Project site, or

- An incident that results in damage to property in excess of \$1500

- Citations are issued by legal authorities (e.g. police, sheriffs' department, state police, etc.).

Post incident testing shall be conducted immediately or as soon as reasonably possible after the incident, not to exceed two hours after the incident

The test is to be administered either at the time of the first physician visit for the injury or on the day of the incident/property damage.

When post-incident testing is conducted, the employees involved in the testing may not return to work until the testing results have been received, reviewed, and the site supervision has authorized the return to work.

3.5.5 Probable Cause/Reasonable Suspicion Testing

A drug and alcohol test shall be required at the time of observable probable cause circumstances, based on objective evidence about the worker's conduct in the workplace, that would cause a reasonable person to

believe that the worker is demonstrating signs of impairment due to alcohol or other drugs, or is in possession of alcohol, drugs, or other controlled substances.

Such observation must be documented using Burns & McDonnell Safety Form C-19 “Substance Abuse Reasonable Cause Documentation”, and the supervisor shall provide Burns & McDonnell with a copy.

A copy of the C-19 Form shall be provided to the employee upon request.

3.5.6 Random Testing

Subcontractor is required to perform random testing on their workers working on the Project worksite.

The testing is to be unannounced and unscheduled, and upon notification the worker must immediately report to the testing facility.

Random testing shall be conducted at least once each month. The date of such testing shall be selected using a method of selection that randomly selects the date within the time frame specified, so that the date is unpredictable to the potential subjects of the testing.

Supervisors on the Project will not be informed of the names of selected workers or the date of testing until two hours prior to the actual screening process.

Random selection includes all workers on the jobsite the day selected for random testing.

Workers to be tested shall be chosen using a method of selection that:

- Is truly random without discrimination or arbitrary selection,

- Randomly selects 10 percent of subjects from among the pool of each subcontractor and their lower-tiered subcontractor workers on the project worksite,

- Ensures that every worker has an equal chance to be selected for testing each time a selection takes place each month, and

- Can be verified and documented.

3.5.7 Collections

A pre-screening (e.g. Insta-Check) program may be used along with a urinalysis test only if approved by Burns & McDonnell.

If for any reason the pre-screening is inconclusive the specimen shall be sent to the appropriate facility for testing.

Access to the site shall be prohibited until confirmation of a negative test has been received by Burns & McDonnell.

Specimen collection and pre-screenings will be conducted in accordance with the Department of Health and Human Services (DHHS), Substance Abuse and Mental Health Services Administration (SAMHSA), “Mandatory Guidelines for Federal Workplace Drug Testing Programs”.

Specimen collection(s) can be conducted at the project worksite or a local clinic approved by Burns & McDonnell.

The employee should always be escorted to the collection facility by an accompanying supervisor

All substance analysis in specimens shall only be performed by SAMHSA laboratories certified by DHHS, as outlined in the federal guidelines.

In addition, specimen collection shall be conducted in accordance with state and federal law.

The procedure shall be designed to ensure the security and integrity of the specimen provided by each worker by following accepted chain-of-custody guidelines.

Every reasonable effort will be made to maintain the dignity of anyone submitting a specimen for this program.

3.5.8 Methodology

The only methodology for substance abuse testing approved by DHHS is urinalysis.

Urinalysis involves screening for the presence of drug metabolites in a two-step process.

The initial test is an immunoassay, a screening test based on antibodies directed against each major drug class.

Specimens containing the drug at less than the initial test cutoff concentration are reported as “Negative”.

Specimens that are not negative at the initial test are taken to a second, confirmation test using gas chromatography-mass spectrometry (GC/MS). GC/MS is a quantitative test that unequivocally determines presence or absence of the drug.

If a drug is determined to be present at greater than or equal to the confirmation cutoff concentration, it is reported as “Positive”.

No adverse personnel action should ever be taken before completing the two-step procedure.

3.5.9 Refusal to Test

Refusal to test, or failure to remain and complete the testing procedure, shall carry the same sanctions as a positive test result.

Personnel selected for a drug/alcohol test are required to remain under the supervision of their supervisor, collection site personnel, or representative from their company or Burns & McDonnell from the time of test notification until released.

If personnel are unable to supply a sample at the time of testing, they shall be required to wait up to two hours, without leaving the testing facility.

Failure to remain and complete the testing procedure shall be considered a refusal to test, which carries the same sanctions as a positive test.

To accommodate this probability, notification of random testing shall be given in ample time before the end of a shift.

3.5.10 Testing Parameters

Substance Abuse

The substance abuse testing parameters will consist of a 12-panel drug screen using the substances and the cut-off levels listed in TABLE C-4 “Cut-Off Levels for Substance Abuse Testing”. The cut-off levels are

equivalent or more stringent than the DHHS Guidelines for Federal and Department of Transportation (DOT) workplaces listed in the DHHS – SAMHSA guidelines, as well as in 49 CFR Part 40.87 for the DOT.

In addition to these substances and cut-off levels, the creatinine level and specific gravity of the specimen shall be measured.

If the creatinine level is less than 20 milliliter per deciliter and the specific gravity is less than 1.003, the sample shall be considered dilute and another collection will be required.

The second sample shall be requested to be collected the following morning from the time of notification of a diluted sample.

Those samples containing adulterants or considered substituted as determined by the laboratory will be considered as a positive test.

New drugs and preliminary cutoff and confirmation levels may be added and modified periodically in order to parallel the DHHS – SAMHSA and DOT guideline requirements.

More stringent limits of sensitivity and specificity for each drug of abuse may be defined by the Project owner and shall be followed.

Alcohol Abuse

The alcohol abuse testing parameters will consist of an alcohol test using the breath or blood to determine blood alcohol content (BAC). If possible, a breathalyzer-type instrument conforming to the DOT guidelines should be used. If that is not available, then a blood draw may be used.

Breath and/or blood collection shall be conducted at the project worksite clinic or a local clinic approved by Burns & McDonnell.

Failure to provide a sufficient breath sample to complete a breath test or refusing to provide a blood sample will be considered a refusal to test and have the same consequences as a positive test.

The minimum requirement for a positive test result for alcohol will be a BAC of 0.02 % or 0.02 grams of alcohol per 100 milliliters of blood.

Any initial breath test that indicates a BAC of 0.02% or greater will be confirmed by an Evidential Breath Testing device operated by a Breath Alcohol Technician.

The confirmation test will be performed no sooner than 15 minutes and no later than 30 minutes following the completion of the initial test.

Two blood samples will be drawn if the blood is used to determine BAC.

An alcohol concentration of 0.02% or greater from the confirmation breath test or concentration of 0.02 grams of alcohol per 100 milliliters of blood or greater from the blood samples will be considered a positive alcohol test.

Supervision, Confirmation and Control

All drug testing shall come under the control and supervision of a physician with confidentiality protected in accordance with state law and the “American Medical Association’s Code of Ethical Conduct for Physicians Providing Occupational Medical Services” or the Medical Review Officer Manual, as developed by the National Institute on Drug Abuse (NIDA).

The laboratory or testing facility shall report all results to the Medical Review Officer (MRO) for verification and medical review.

The MRO shall be a licensed physician responsible for receiving laboratory results generated by a substance abuse testing program, who has knowledge of substance abuse disorders, and who has received appropriate medical training to interpret and evaluate an individual's medical history, and any other relevant biomedical information, as certified by either the American Medical Association or the American College of Occupational and Environmental Medicine.

3.5.11 Sanctions/Consequences Imposed for Failing Drug and/or Alcohol Test

Immediate removal from the project site shall occur when:

Any worker is found to possess, distribute, sell, attempt to sell, or transfer of an illegal drug while on project worksites or while performing project business;

Any worker is found to be in possession of or under the influence of alcohol while on project worksites or while performing project business;

Any worker is found to be in possession of contraband or other controlled substances;

Any worker is found through drug and alcohol testing to have in their body a concentration of a substance abuse drug or of alcohol that is equal to or exceeds the confirmatory test cutoff limits; or

Any worker refuses to cooperate in providing a specimen or participating in the testing.

Anyone failing to comply with this program shall be permanently prohibited project worksite access.

3.5.12 Training

All workers shall be educated in all provisions of this program through classes and/or other methods as appropriate.

All supervisory personnel (site superintendents, site supervisors, foremen) should receive additional training relative to the detection of signs and symptoms of drug and alcohol use.

Table 3 - 5 Cut-Off Levels for Substance Abuse Testing			
Drug Class	Drugs Confirmed	Cut-Off Level (ng/mL) Initial Test (Immunoassay)	Cut-Off Level (ng/mL) Confirmation Test (GC-MS)
Amphetamines Methamphetamine	Amphetamine (Dexedrine, Benzedrine) Methamphetamine (Desoxyn, Methedrine)	1,000	500
Barbiturates	Amobarbital (Amytal), Butalbital (Fiorinal), Pentobarbital (Nembutal), Phenobarbital (Donnatal), Secobarbital (Seconal)	300	200
Benzodiazepines	Most benzodiazepines used in U.S., and metabolites Diazepam (Valium), Oxazepam (Serax), Chlordiazepoxide (Librium), Alprazolam (Xanax), Chlorazepate (Tranxene),	300	200, except alpha-hydroxyalprazolam

	Temazepam (Restoril)		
Buprenorphine	BUPRENORPHINE METAB	10	5
Cannabinoids	Carboxy-THC (THCA)	50	15
Cocaine metabolite	Benzoyllecgonine	300	150
Methadone	Amidone, Dolophine EDDP (Methadone metabolite)	300	300
Opiates	Codeine Hydromorphone Hydrocodone Morphine	2000 2000	2000 2000
Oxycodone	OxyContin®, OxyIR®, OxyFast®, Percodan®, Percocet®, Tylox, and Vicodin, Endocet, Roxicet, Endodan, Roxicprin	100	100
Phencyclidine, (PCP)	Phencyclidine	25	25
Propoxyphene	Norpropoxyphene (Darvon, Darvocet, Novopropoxyn)	300	200

Table 3 - 6 DOT Rule (49 CFR Part 40 Section 40.87) - Cutoff Levels for Drug Tests			
Initial test analyte	Initial test cutoff concentration	Confirmatory test analyte	Confirmatory test cutoff concentration
Marijuana metabolites	50 ng/mL	THCA ¹	15 ng/mL
Cocaine metabolites	150 ng/mL	Benzoyllecgonine	100 ng/mL
Opiate metabolites			
Codeine/Morphine ²	2000 ng/mL	Codeine Morphine	2000 ng/mL 2000 ng/mL
6-Acetylmorphine	10 ng/mL	6-Acetylmorphine	10 ng/mL
Phencyclidine	25 ng/mL	Phencyclidine	25 ng/mL
Amphetamines ³			
AMP/MAMP ⁴	500 ng/mL	Amphetamine Methamphetamine ⁵	250 ng/mL 250 ng/mL
MDMA ⁶	500 ng/mL	MDMA	250 ng/mL
		MDA ⁷	250 ng/mL
		MDEA ⁸	250 ng/mL

TABLE NOTES:

Note: All DOT-required collections are conducted using split specimen procedures. There are no exceptions to this requirement.

Note: If an alcohol test is also required, the alcohol test should be conducted first, if practicable.

- Delta-9-tetrahydrocannabinol-9-carboxylic acid (THCA).
- Morphine is the target analyte for codeine/morphine testing.
- Either a single initial test kit or multiple initial test kits may be used provided the single test kit detects each target analyte independently at the specified cutoff.
- Methamphetamine is the target analyte for amphetamine/methamphetamine testing.
- To be reported positive for methamphetamine, a specimen must also contain amphetamine at a concentration equal to or greater than 100 ng/mL.
- Methylenedioxymethamphetamine (MDMA).
- Methylenedioxyamphetamine (MDA).
- Methylenedioxyethylamphetamine (MDEA).

[65 FR 79526, Dec. 19, 2000, as amended at 75 FR 49862, August 16, 2010; 77 FR 26473, May 4, 2012]

Drug Testing Laboratory Reporting Requirements:

(a) The laboratory must use the cutoff concentrations displayed in the above table for initial and confirmatory drug tests. All cutoff concentrations are expressed in nanograms per milliliter (ng/mL).

Table 3 - 6 DOT Rule (49 CFR Part 40 Section 40.87) - Cutoff Levels for Drug Tests

- (b) On an initial drug test, The Laboratory must report a result below the cutoff concentration as negative. If the result is at or above the cutoff concentration, the laboratory must conduct a confirmation test.
- (c) On a confirmation drug test, the laboratory must report a result below the cutoff concentration as negative and a result at or above the cutoff concentration as confirmed positive.
- (d) The laboratory must report quantitative values for morphine or codeine at 15,000 ng/mL or above.

DRAFT

Table of Contents

4 Walking and Working Surfaces**General Requirements**

Guarding Floor and Wall Openings and Holes
Protection for Floor Openings
Protection for Wall Openings and Holes
Protection of Open-Sided Floors, Platforms, and Runways
Stairway Railings and Guards
Railing, Toe Boards, and Cover Specifications

Ladders

Requirements
Care and Use
Special Requirements

Scaffolds

Definitions
Capacity
Scaffold Platform Construction
Supported Scaffolds
Suspension Scaffolds
Access
Use
Additional Requirements
Pole Scaffolds
Tube and Coupler Scaffolds
Fabricated Frame Scaffolds and Carpenters Bracket Scaffolds
Plasterers and Large Area Scaffolds (squares)
Bricklayers Square Scaffolds
Horse Scaffolds
Form Scaffolds and Carpenters Bracket Scaffolds
Roof Bracket Scaffolds
Outrigger Scaffolds
Pump Jack Scaffolds
Ladder Jack Scaffolds
Window Jack Scaffolds
Crawling Boards (Chicken Ladders)
Step, Platform, and Trestle Ladder Scaffolds
Single-Point Adjustable Suspension Scaffolds
Two-Point Adjustable Suspension Scaffolds (Swing Stages)
Multi-Point Adjustable Suspension Scaffolds
Catenary Scaffolds
Float (Ship) Scaffolds
Interior Hung Scaffolds
Needle Beam Scaffolds
Multi-Level Suspended Scaffolds
Mobile Scaffolds
Repair Bracket Scaffolds

Stilts**Training**[Training Requirements](#)[Recognizing Hazards](#)[Retraining](#)**Manually Propelled Mobile Ladder Stands**[General Requirements](#)**Other Working Services**[Dock Boards \(Bridge Plates\)](#)

DRAFT

4.1 Protection for Floor Openings

4.1.1 Floor Grating

When floor grating must be removed, Burns & McDonnell “Floor Grating and Handrail Removal Permit” Safety Form D-1 shall first be obtained. This form must be posted at the worksite until the grate is back in place and secure.

4.1.2 Hole Covers

Hole covers shall be secured in place and shall be clearly marked as holes by affixing Burns & McDonnell Safety Form D-6 “Hole Cover” Safety Label.

4.2 Protection of Open-Sided Floors, Platforms, and Runways

4.3 Guardrails

Burns & McDonnell “Perimeter Guardrail Inspection” Safety Form D-2 shall be submitted whenever a guardrail is erected.

Whenever a guardrail must be removed Burns & McDonnell “Floor Grating and Guardrail Removal Permit” Safety Form D-1 shall first be obtained.

Upon completion of their work Subcontractors must either: remove their guardrail system, accept continued responsibility for it, or shall submit Burns & McDonnell “Perimeter Guardrail Inspection” Safety Form D-2 with the next controlling contractor.

4.4 Ladders

4.4.1 Care and Use

Ladders shall be inspected monthly and those with defects shall be withdrawn from service for destruction and tagged or marked as Dangerous, Do Not Use. Inspections shall be documented using Burns & McDonnell “Ladder Inspection” Safety Form D-4.

Wooden or metal ladders shall not be used on Burns & McDonnell projects, except job made wooden ladders shall be permitted provided Burns & McDonnell “Job Made Ladder Checklist” Safety Form D-5 is submitted.

4.4.2 Special Requirements

Cages or wells

Landing platforms

Ladder extensions

Grab bars

Ladder Safety devices

4.5 Scaffolds

4.5.1 Capacity

4.5.2 Support**4.5.3 Suspension Ropes - non adjustable****4.5.4 Suspension Ropes – adjustable****4.5.5 Stall load****4.6 Training****4.6.1 Training Requirements**

Documentation of training shall be submitted via Burns & McDonnell “Certification of Training” Safety Form C-9

DRAFT

Table of Contents

5 Exit Routes

Design and Construction Requirements for Exit Routes

Basic requirements

The number of exit routes must be adequate

Exit discharge

Exit doors must be unlocked

A side-hinged exit door must be used

The capacity of an exit route must be adequate

Exit route must meet minimum height and width requirements

An outdoor exit route is permitted

Maintenance, Safeguards, and Operational Features for Exit Routes

The danger to workers must be minimized

Lighting and marking must be adequate and appropriate

Fire retardant properties of paints or solutions must be maintained

Exit routes

A worker alarm system must be operable

Emergency Action Plans

Application

Written and oral emergency action plans

Minimum elements of an emergency action plan

Worker alarm system

Training

Review of emergency action plan

Fire Prevention Plans

Application

Written and oral fire prevention plans

Minimum elements of a fire prevention plan

Worker information

5.1 Emergency Action Plans

Written emergency action plans shall be documented using Burns & McDonnell Health & Safety Form E-1 “EAP and Fire Prevention Plan”, or equivalent. The plans must be completed, kept in the workplace, and made available to all workers for review.

DRAFT

Table of Contents

6 Powered Platforms**Powered Platforms/Aerial Lifts**[Definitions](#)[General Requirements](#)[Specific Requirements](#)

DRAFT

6.1 Powered Platforms/Aerial Lifts/Scissor Lifts

6.1.1 General Requirements

Aerial lifts may not be field modified for uses other than those intended by the manufacturer, unless the modification has been certified in writing by the manufacturer to be at least as safe as the equipment was before modification.

Equipment can only be operated by trained workers and within equipment rating and design limitations.

6.1.2 Specific Requirements

Lifts shall be tested each day prior to use. Burns & McDonnell Aerial Lift Inspection Safety Form F-1, or equivalent, shall document these inspections.

The lift controls of bucket, derrick, and pole setting trucks, etc. must be tested before use each day to be sure they are in safe working condition.

Critical safety components that affect raising, lowering, or rotating of lifts must be visually inspected before use on each shift for indications of any possible defects.

When other workers are present, vehicles must not be backed up unless (1) the driver has a clear rear view and the vehicle has a back-up alarm or (2) another Worker serves as a guide.

If a vehicle has outriggers, they must be used unless the work area or terrain prevents their use.

Vehicles may only be used within their maximum load limits and without outriggers if the manufacturer's design and instructions indicate that it is safe to operate without the outriggers.

Before outriggers are set, the operator must have a clear view of the outriggers or otherwise ascertain that all workers are clear of outrigger motion.

When a load is suspended from a boom, operators must remain at the controls unless it can be shown that there is no hazard to personnel, such as those created by a falling load, wind, or unstable soil.

6.1.3 Ground Control and Spotter

A ground-man (spotter) trained in the operation of the aerial lift shall remain with the aerial lift when in use at all times.

A given spotter may serve as ground-man for more than one aerial lift only when they are able to view the lifts in the same line of sight and remain capable of; spotting for the lifts, and advise any parties in the vicinity of the overhead hazard.

A ground-man shall wear a high visibility vest while performing their duties.

6.1.4 Fall Restraint

Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

An approved fall restraint system shall be worn when working from an aerial lift and attached to the manufacturer's designated restraint point.

An approved fall restraint system shall be attached to the boom or basket when working from an aerial lift and is not permitted to be attached to adjacent poles or structures.

Electrical Clearances

When operating near energized lines or equipment, aerial lift equipment must maintain the minimum approach distance unless the insulated portion of the aerial lift is operated by a 269-qualified employee. If necessary, another worker must be a spotter for the operator to ensure the minimum approach distance is maintained.

Alternative Minimum Approach Distances for Voltages of 72.5 kV and Less ¹				
Nominal voltage (kV) phase-to-phase	Distance			
	Phase-to-ground exposure		Phase-to-phase exposure	
	m	ft	m	ft
0.050 to 0.300 ²	Avoid Contact		Avoid Contact	
0.301 to 0.750 ²	0.33	1.09	0.33	1.09
0.751 to 5.0	0.63	2.07	0.63	2.07
5.1 to 15.0	0.65	2.14	0.68	2.24
15.1 to 36.0	0.77	2.53	0.89	2.92
36.1 to 46.0	0.84	2.76	0.98	3.22
46.1 to 72.5	1.00	3.29	1.20	3.94

¹ Employers may use the minimum approach distances in this table provided the worksite is at an elevation of 900 meters (3,000 feet) or less. If employees will be working at elevations greater than 900 meters (3,000 feet) above mean sea level, the employer shall determine minimum approach distances by multiplying the distances in this table by the correction factor in Table R-5 corresponding to the altitude of the work.

² For single-phase systems, use voltage-to-ground.

Alternative Minimum Approach Distances for Voltages of More Than 72.5 kV ^{1 2 3}				
Voltage range phase to phase (kV)	Phase-to-ground exposure		Phase-to-phase exposure	
	m	ft	m	ft
72.6 to 121.0	1.13	3.71	1.42	4.66
121.1 to 145.0	1.30	4.27	1.64	5.38
145.1 to 169.0	1.46	4.79	1.94	6.36
169.1 to 242.0	2.01	6.59	3.08	10.10
242.1 to 362.0	3.41	11.19	5.52	18.11
362.1 to 420.0	4.25	13.94	6.81	22.34
420.1 to 550.0	5.07	16.63	8.24	27.03
550.1 to 800.0	6.88	22.57	11.38	37.34

¹ Employers may use the minimum approach distances in this table provided the worksite is at an elevation of 900 meters (3,000 feet) or less. If employees will be working at elevations greater than 900 meters (3,000 feet) above mean sea level, the employer shall determine minimum approach distances by multiplying the distances in this table by the correction factor in Table R-5 corresponding to the altitude of the work.

² Employers may use the phase-to-phase minimum approach distances in this table provided that no insulated tool spans the gap and no large conductive object is in the gap.

³ The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges

If the aerial lift could contact energized lines, then at least one of the following must be done:

The energized lines exposed to contact must be covered with insulating protective material that will withstand the type of contact that might be made during the operation; or

The aerial lift must be insulated, and uninsulated portions of the lifts must maintain the minimum approach distance from live parts.

The aerial lift must also be positioned so that uninsulated portions of the lift cannot come within the minimum approach distance from the live parts.

Note: insulated booms require electrical testing at voltages and intervals specified in ANSI A92.2. An untested boom or one that fails a test is considered non-insulating

or

Workers must be protected by implementing all of the following:

Each piece of equipment (trucks, trailers, etc.) must be grounded.

All pieces of equipment must be bonded together.

Ground mats must be used around equipment to extend the equipotential zone.

Insulating protective equipment or barricades must be used around the equipotential zone.

6.1.5 Training Workers

Employers must provide workers training on hazards, including how to work safely with or near scissor lifts. (29 CFR 1926.454). Training must, at a minimum, include:

Manufacturer's instructions for operating the scissor lift vertically and while in transit.

How to handle materials on the scissor lift, including weight limits.

Other worksite hazards workers may encounter when working on a scissor lift (e.g., contact with electrical wires).

Reporting any equipment defects or maintenance needs

Table of Contents

7 Occupational Health and Environmental Control**Confined Spaces**

Scope, and application
Definitions
General Requirements
Permit-required confined space program
Permit system
Entry permit
Training
Rescue and emergency services
Worker participation

Sewer System Entry

Scope, and Application
Potential Hazards
Entry Permits
Control of Atmospheric and Engulfment Hazards
Entry Procedures
Alternate Entry

Hazardous Energy Control Program (Lockout/Tagout)

Purpose
Definitions
Procedure
Training Requirements

Occupational Noise Exposure 1926

Protection against the effects of noise exposure
Administrative or engineering controls
Variations in noise level
Impulsive or Impact Noise

7.1 Confined Space Entry in Construction

7.1.1 Scope

This procedure sets forth requirements for practices to protect employees engaged in construction activities at a worksite with one or more confined spaces, subject to the exceptions in paragraph (b) of this section.

Examples of locations where confined spaces may occur include, but are not limited to, the following:

Table 7 - 1 Examples of Confined Spaces in Construction Activities					
heating, ventilation, and air-conditioning (HVAC) ducts	pits (such as elevator, escalator, pump, valve or other equipment)	manholes (such as sewer, storm drain, electrical, communication, or other utility);	tanks (such as fuel, chemical, water, or other liquid, solid or gas);	concrete pier columns	precast concrete and other pre-formed manhole units
bins	boilers	sewers	storm drains	water mains	silos
enclosed beams	scrubbers	transformer vaults	step up transformers	lift stations	cesspools
reactors	vessels	air receivers	sludge gates	air preheaters	bag houses
digesters	incinerators	turbines	chillers	mixers	drilled shafts

Exceptions. This procedure does not apply to:

Construction work regulated by Chapter 10 of this plan (Excavations).

Where this procedure applies and there is a more stringent provision that addresses a confined space hazard in another applicable OSHA plan or client program, the subcontractor must comply with both that requirement and the applicable provisions of this procedure.

All confined spaces shall be considered permit required unless they have been declassified using Burns & McDonnell "Work Permit" Safety Form C-07.

Permit-required confined space entry shall not be allowed prior to the completion of Burns & McDonnell "Work Permit" and a pre-entry review has been conducted with the entire authorized crew; Safety Form C-07.

7.1.2 Definitions

Acceptable entry conditions means the conditions that must exist in a permit space, before an employee may enter that space, to ensure that employees can safely enter into, and safely work within, the space.

Attendant means an individual stationed outside one or more permit spaces who assesses the status of authorized entrants and who must perform the duties specified in this section.

Authorized entrant means an employee who is authorized by the entry supervisor to enter a permit space, who has been trained in accordance with and who must perform the duties specified in this section.

Barrier means a physical obstruction that blocks or limits access.

Blanking or blinding means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

Competent person means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.

Confined space means a space that:

Is large enough and so configured that an employee can bodily enter it;

Has limited or restricted means for entry and exit; and

Is not designed for continuous employee occupancy.

Control means the action taken to reduce the level of any hazard inside a confined space using engineering methods (for example, by ventilation), and then using these methods to maintain the reduced hazard level. Control also refers to the engineering methods used for this purpose. Personal protective equipment is not a control.

Controlling Contractor is the contractor that has overall responsibility for construction at the worksite. Under most conditions within this plan Burns & McDonnell shall be considered as the Controlling Contractor unless otherwise indicated.

Note to the definition of “Controlling Contractor”. If the Controlling Contractor owns or manages the property, then it is both a Controlling Contractor and a Host Employer.

Double block and bleed means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Early-warning system means the method used to alert authorized entrants and attendants that an imminent hazard may be developing. Examples of early-warning systems include, but are not limited to:

Alarms activated by remote sensors; and

Lookouts with equipment for immediately communicating with the authorized entrants and attendants.

Emergency means any occurrence (including any failure of power, hazard control or monitoring equipment) or event, internal or external, to the permit space that could endanger entrants.

Employee means any project personnel (including Controlling Contractor, Host Employer or Entry Subcontractor personnel regardless of their affiliation or assigned duties.

Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, crushing, or suffocation.

Entry means the action by which any part of a person passes through the plane of the opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space, whether or not such action is intentional or any work activities are actually performed in the space.

Entry Subcontractor means any subcontractor who decides that an employee it directs will enter a permit space.

Note to the definition of “Entry Employer”. A subcontractor cannot avoid the duties of the plan merely by refusing to decide whether its employees will enter a permit space, and Burns & McDonnell as well as OSHA will consider the failure to so decide to be an implicit decision to allow employees to enter those spaces if they are working in the proximity of the space.

Entry permit (permit) means the written or printed document that is provided by the subcontractor who designated the space a permit space to allow and control entry into a permit space and that contains the information specified in this section.

Entry rescue occurs when a rescue service enters a permit space to rescue one or more employees.

Entry supervisor means the qualified person (such as the Entry Subcontractor's foreman, or Competent Person) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this plan.

Note to the definition of "Entry supervisor" An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by Sections 7-10 of this plan for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

Hazard means a physical hazard or hazardous atmosphere. See definitions below.

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);

Airborne combustible dust at a concentration that meets or exceeds its LFL;

Note to the definition of "Hazardous atmosphere". This concentration may be approximated as a condition in which the combustible dust obscures vision at a distance of 5 feet (1.52 meters) or less.

Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in OSHA 29CFR1926 Subpart D ([Occupational Health and Environmental Control](#)), or in OSHA 29CFR1910 Subpart Z ([Toxic and Hazardous Substances](#)), and which could result in employee exposure in excess of its dose or permissible exposure limit;

Note to the definition of "Hazardous atmosphere". An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effect not covered by this definition.

Any other atmospheric condition that is immediately dangerous to life or health.

Note to the definition of "Hazardous atmosphere". For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Plan, [§1926.59](#), published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Host Employer means the entity that owns or manages the property where the construction work is taking place.

Note to the definition of "Host Employer". If the owner of the property on which the construction activity occurs has contracted with an entity for the general management of that property, and has transferred to that entity the information specified in Section 3(h)(1), OSHA will treat the contracted management entity as the Host Employer for as long as that entity manages the property. Otherwise, OSHA will treat the owner of the property as the Host Employer. In no case will there be more than one Host Employer.

Hot work means operations capable of providing a source of ignition (for example, riveting, welding, cutting, burning, and heating).

Immediately dangerous to life or health (IDLH) means any condition that would interfere with an individual's ability to escape unaided from a permit space and that poses a threat to life or that would cause irreversible adverse health effects.

Note to the definition of “Immediately dangerous to life or health”. Some materials—hydrogen fluoride gas and cadmium vapor, for example—may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim “feels normal” after recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be “immediately” dangerous to life or health.

Inerting means displacing the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

Note to the definition of “Inerting”. This procedure produces an IDLH oxygen-deficient atmosphere.

Isolate or isolation means the process by which employees in a confined space are completely protected against the release of energy and material into the space, and contact with a physical hazard, by such means as:

Blanking or blinding;

Misaligning or removing sections of lines, pipes, or ducts;

A double block and bleed system;

Lockout or tagout of all sources of energy; blocking or disconnecting all mechanical linkages; or

Placement of barriers to eliminate the potential for employee contact with a physical hazard.

Limited or restricted means for entry or exit means a condition that has a potential to impede an employee's movement into or out of a confined space. Such conditions include, but are not limited to, trip hazards, poor illumination, slippery floors, inclining surfaces and ladders.

Line breaking means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Lockout means the placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lower flammable limit or lower explosive limit means the minimum concentration of a substance in air needed for an ignition source to cause a flame or explosion.

Monitor or monitoring means the process used to identify and evaluate the hazards after an authorized entrant enters the space. This is a process of checking for changes that is performed in a periodic or continuous manner after the completion of the initial testing or evaluation of that space.

Non-entry rescue occurs when a rescue service, usually the attendant, retrieves employees in a permit space without entering the permit space.

Non-permit confined space means a confined space that meets the definition of a confined space but does not meet the requirements for a permit-required confined space, as defined below.

Oxygen deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

Contains or has a potential to contain a hazardous atmosphere;

Contains a material that has the potential for engulfing an entrant;

Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

Contains any other recognized serious safety or health hazard.

Permit-required confined space program (permit space program) means the contractor's or subcontractor's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

Physical hazard means an existing or potential hazard that can cause death or serious physical damage. Examples include, but are not limited to:

Explosives (as defined by paragraph (n) of [§1926.914](#), definition of “explosive”);

Mechanical, electrical, hydraulic and pneumatic energy;

Radiation;

Temperature extremes;

Engulfment;

Noise;

Inwardly converging surfaces

Physical hazard also includes chemicals that can cause death or serious physical damage through skin or eye contact (rather than through inhalation).

Prohibited condition means any condition in a permit space that is not allowed by the permit during the period when entry is authorized. A hazardous atmosphere is a prohibited condition unless the subcontractor can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and provides the appropriate PPE to each employee.

Qualified person means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

Representative permit space means a mock-up of a confined space that has entrance openings that are similar to, and is of similar size, configuration, and accessibility to, the permit space that authorized entrants enter.

Rescue means retrieving, and providing medical assistance to, one or more employees who are in a permit space.

Rescue service means the personnel designated to rescue employees from permit spaces.

Retrieval system means the equipment (including a retrieval line, chest or full body harness, wristlets or anklets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Serious physical damage means an impairment or illness in which a body part is made functionally useless or is substantially reduced in efficiency. Such impairment or illness may be permanent or temporary and includes, but is not limited to, loss of consciousness, disorientation, or other immediate and substantial reduction in mental efficiency. Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional.

Tagout means:

Placement of a tagout device on a circuit or equipment that has been de-energized, in accordance with an established procedure, to indicate that the circuit or equipment being controlled may not be operated until the tagout device is removed; and

The subcontractor ensures that:

Tagout provides equivalent protection to lockout; or

That lockout is infeasible and the subcontractor has relieved, disconnected, restrained and otherwise rendered safe all stored (residual) energy.

Test or testing means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

Note: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

Ventilate or ventilation means controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of [1926.57 \(Ventilation\)](#).

The permit required space atmosphere shall be tested to determine whether dangerous air contamination or oxygen deficiency exists.

The minimum parameters to be monitored are oxygen deficiency, Lower Flammable Level (LFL), and hydrogen sulfide concentration.

A written record of the pre-entry test results is made and kept at the worksite for the duration of the job.

Affected workers are able to review the testing results.

The most hazardous conditions will determine when work is being performed in two adjoining, connected spaces

A direct reading gas monitor shall be used.

Portable gas monitors shall be bump tested prior to use.

Testing shall be documented using Burns & McDonnell “Portable Gas Monitor Bump Test Log” Safety Form G-08.

7.1.3 General Requirements

Before beginning work at a worksite, each subcontractor must ensure that a competent person identifies all confined spaces in which one or more of the employees it directs may work, and identifies each space that is a permit space, through consideration and evaluation of the elements of that space, including testing as necessary.

If the workplace contains one or more permit spaces, the Controlling Contractor, Host Employer or Entry Subcontractor who identifies, or who receives notice of, a permit space must:

Inform exposed employees by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, each permit space; and

A sign reading:

“DANGER—PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER”

or using other similar language would satisfy the requirement for a sign.

Inform, in a timely manner and in a manner other than posting, its employees' authorized representatives and the Controlling Contractor of the existence and location of, and the danger posed by, each permit space.

Each subcontractor who identifies, or receives notice of, a permit space and has not authorized employees it directs to work in that space must take effective measures to prevent those employees from entering that permit space, in addition to complying with all other applicable requirements of this plan.

If any subcontractor decides that employees it directs will enter a permit space, that subcontractor must have a written permit confined space program that complies with this section and is implemented at the construction site. The written program must be made available prior to and during entry operations for inspection by employees and their authorized/competent representatives.

A subcontractor may use the alternate procedures specified in this section for entering a permit space only under the conditions set forth in this section provided that all of the following conditions are met:

The subcontractor can demonstrate that all physical hazards in the space are eliminated or isolated through engineering controls so that the only hazard posed by the permit space is an actual or potential hazardous atmosphere;

The subcontractor can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry, and that, in the event the ventilation system stops working, entrants can exit the space safely;

The subcontractor develops monitoring and inspection data that supports the demonstrations required by this section;

If an initial entry of the permit space is necessary to obtain the data required by this section, the entry is performed in compliance with the permit required entry sections.

The determinations and supporting data required by this section are documented by the subcontractor and are made available to each employee who enters the permit space under the terms of this section or to that employee's authorized representative; and

The entry into the permit space under the above conditions and terms of this section is performed in accordance with the requirements of the following paragraph of this section.

Note: See paragraph (g) of this section for reclassification of a permit space after all hazards within the space have been eliminated.

The following requirements apply to entry into permit spaces that meet the conditions set forth in the above paragraph of this section:

Any conditions making it unsafe to remove an entrance cover must be eliminated before the cover is removed.

When entrance covers are removed, the opening must be immediately guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.

Before an employee enters the space, the internal atmosphere must be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee, who enters the space, or that employee's authorized/competent representative, must be provided an opportunity to observe the pre-entry testing required by this paragraph.

No hazardous atmosphere is permitted within the space whenever any employee is inside the space.

Continuous forced air ventilation must be used, as follows:

An employee must not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;

The forced air ventilation must be so directed as to ventilate the immediate areas where an employee is or will be present within the space and must continue until all employees have left the space;

The air supply for the forced air ventilation must be from a clean source and must not increase the hazards in the space.

The atmosphere within the space must be continuously monitored unless the Entry Subcontractor can demonstrate that equipment for continuous monitoring is not commercially available or periodic monitoring is sufficient.

If continuous monitoring is used, the subcontractor must ensure that the monitoring equipment has an alarm that will notify all entrants if a specified atmospheric threshold is achieved, or that an employee will check the monitor with sufficient frequency to ensure that entrants have adequate time to escape.

If continuous monitoring is not used, periodic monitoring is required. All monitoring must ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Any employee who enters the space, or that employee's authorized/competent representative, must be provided with an opportunity to observe the testing required by this paragraph.

If a hazard is detected during entry:

Each employee must leave the space immediately;

The space must be evaluated to determine how the hazard developed; and

The subcontractor must implement measures to protect employees from the hazard before any subsequent entry takes place.

The subcontractor must ensure a safe method of entering and exiting the space. If a hoisting system is used, it must be designed and manufactured for personnel hoisting; however, a job-made hoisting system is permissible if it is approved for personnel hoisting by a registered professional engineer, in writing, prior to use.

The subcontractor must verify that the space is safe for entry and that the pre-entry precautions required by his section have been taken, through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification must be made before entry and must be made available to each employee entering the space or to that employee's authorized/competent representative.

When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, or some indication that the initial evaluation of the space may not have been adequate,

each Entry Subcontractor must have a competent person reevaluate that space and, if necessary, reclassify it as a permit-required confined space.

A space classified by a subcontractor as a permit-required confined space may only be reclassified as a non-permit confined space when a competent person determines that all of the applicable requirements of this section have been met:

If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated or isolated without entry into the space (unless the subcontractor can demonstrate that doing so without entry is infeasible), the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated or isolated;

The Entry Subcontractor must eliminate or isolate the hazards without entering the space, unless it can demonstrate that this is infeasible. If it is necessary to enter the permit space to eliminate or isolate hazards, such entry must be performed as a permit required entry. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated or isolated in accordance with the C-07 permit, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated or isolated;

Note: Control of atmospheric hazards through forced air ventilation does not constitute elimination or isolation of the hazards. This paragraph covers permit confined space entry where the subcontractor can demonstrate that forced air ventilation alone will control all hazards in the confined space.

The Entry Subcontractor must document the basis for determining that all hazards in a permit space have been eliminated or isolated, through a certification on the C-07 permit form that contains the date, the location of the space, and the signature of the competent person making the determination. The certification must be made available to each employee entering the space or to that employee's authorized/competent representative; and

If hazards arise within a permit space that has been reclassified as a non-permit space each employee in the space must exit the space. The Entry Subcontractor must then reevaluate the space and reclassify it as a permit space as appropriate in accordance with all other applicable provisions of this plan and associated documentation.

Permit space entry communication and coordination.

Information sharing, pre-entry and post-entry debrief shall be documented using the Burns & McDonnell Safety Form C-6A "Confined Space Host – Contractor Information Transfer". The confined space hazard evaluation / assessment may be performed using the Burns & McDonnell Safety Form C-6B "Confined Space Hazard Assessment".

Before entry operations begin, the Host Employer must provide the following information, if it has it, to the Controlling Contractor:

The location of each known permit space;

The hazards or potential hazards in each space or the reason it is a permit space; and

Any precautions that the Host Employer or any previous Controlling Contractor or Entry Subcontractor implemented for the protection of employees in the permit space.

Before entry operations begin, the Controlling Contractor must:

Obtain the Host Employer's information about the permit space hazards and previous entry operations; and

Provide the following information to each entity entering a permit space and any other entity at the worksite whose activities could foreseeably result in a hazard in the permit space:

The information received from the Host Employer;

Any additional information the Controlling Contractor has about the subjects listed in this section; and

The precautions that the Host Employer, Controlling Contractor, or other Entry Subcontractor has implemented for the protection of employees in the permit spaces.

Before entry operations begin, each Entry Subcontractor must:

Obtain all of the Controlling Contractor's information regarding permit space hazards and entry operations; and

Inform the Controlling Contractor of the permit space program that the Entry Subcontractor will follow, including any hazards likely to be confronted or created in each permit space.

The Controlling Contractor and Entry Subcontractor(s) must coordinate entry operations when:

More than one entity performs permit space entry at the same time; or

Permit space entry is performed at the same time that any activities that could foreseeably result in a hazard in the permit space are performed.

After entry operations:

The Controlling Contractor must debrief each entity that entered a permit space regarding the permit space program followed and any hazards confronted or created in the permit space(s) during entry operations;

The Entry Subcontractor must inform the Controlling Contractor in a timely manner of the permit space program followed and of any hazards confronted or created in the permit space(s) during entry operations; and

The Controlling Contractor must apprise the Host Employer of the information exchanged with the entry entities pursuant to this subparagraph.

Note: Unless a Host Employer or Controlling Contractor has or will have employees in a confined space, it is not required to enter any confined space to collect the information specified in this section.

If there is no Controlling Contractor present at the worksite, the requirements for, and role of, Controlling Contractors in this section must be fulfilled by the Host Employer or other subcontractor who arranges to have employees of another subcontractor perform work

7.1.4 Permit-Required Confined Space Program

Each Entry Subcontractor must:

Implement the measures necessary to prevent unauthorized entry;

Identify and evaluate the hazards of permit spaces before employees enter them;

Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:

Specifying acceptable entry conditions;

Providing each authorized entrant or that employee's authorized/competent representative with the opportunity to observe any monitoring or testing of permit spaces;

Isolating the permit space and physical hazard(s) within the space;

Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;

Note: When a subcontractor is unable to reduce the atmosphere below 10 percent LFL, the subcontractor may only enter if the subcontractor inertes the space so as to render the entire atmosphere in the space non-combustible, and the employees use PPE to address any other atmospheric hazards (such as oxygen deficiency), and the subcontractor eliminates or isolates all physical hazards in the space.

Determining that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the permit space;

Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards;

Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry, and ensuring that employees are not allowed to enter into, or remain in, a permit space with a hazardous atmosphere unless the subcontractor can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and provides the appropriate PPE to each employee; and

Eliminating any conditions (for example, high pressure) that could make it unsafe to remove an entrance cover.

Provide the following equipment specified in this section at no cost to each employee, maintain that equipment properly, and ensure that each employee uses that equipment properly:

Testing and monitoring equipment needed to comply with the paragraphs of this section;

Ventilating equipment needed to obtain acceptable entry conditions;

Communications equipment necessary for compliance with this section, including any necessary electronic communication equipment for attendants assessing entrants' status in multiple spaces;

Personal protective equipment insofar as feasible engineering and work-practice controls do not adequately protect employees;

Note: The requirements of this section and other PPE requirements continue to apply to the use of PPE in a permit space. For example, if employees use respirators, then the respirator requirements in [§1926.103 \(Respiratory protection\)](#) must be met

Lighting equipment that meets the minimum illumination requirements in §1926.56, that is approved for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present, and that is sufficient to enable employees to see well enough to work safely and to exit the space quickly in an emergency;

Barriers and shields as required by this section;

Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;

Rescue and emergency equipment needed to comply with this section, except to the extent that the equipment is provided by rescue services; and

Any other equipment necessary for safe entry into, safe exit from, and rescue from, permit spaces.

Evaluate permit space conditions in accordance with the following paragraphs of this section when entry operations are conducted:

Test conditions in the permit space to determine if acceptable entry conditions exist before changes to the space's natural ventilation are made, and before entry is authorized to begin, except that, if a subcontractor demonstrates that isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), the subcontractor must:

Perform pre-entry testing to the extent feasible before entry is authorized; and,

If entry is authorized, continuously monitor entry conditions in the areas where authorized entrants are working, except that employers may use periodic monitoring in accordance with paragraph (e)(2) of this section for monitoring an atmospheric hazard if they can demonstrate that equipment for continuously monitoring that hazard is not commercially available;

Provide an early-warning system that continuously monitors for non-isolated engulfment hazards. The system must alert authorized entrants and attendants in sufficient time for the authorized entrants to safely exit the space.

Continuously monitor atmospheric hazards unless the subcontractor can demonstrate that the equipment for continuously monitoring a hazard is not commercially available or that periodic monitoring is of sufficient frequency to ensure that the atmospheric hazard is being controlled at safe levels.

If continuous monitoring is not used, periodic monitoring is required with sufficient frequency to ensure that acceptable entry conditions are being maintained during the course of entry operations;

When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors;

Provide each authorized entrant or that employee's authorized/competent representative an opportunity to observe the pre-entry and any subsequent testing or monitoring of permit spaces;

Reevaluate the permit space in the presence of any authorized entrant or that employee's authorized/competent representative who requests that the subcontractor conduct such reevaluation because there is some indication that the evaluation of that space may not have been adequate; and

Immediately provide each authorized entrant or that employee's authorized/competent representative with the results of any testing conducted in accordance with this section.

Provide at least one attendant outside the permit space into which entry is authorized for the duration of entry operations:

Attendants may be assigned to more than one permit space provided their duties can be effectively performed for each permit space.

Attendants may be stationed at any location outside the permit space as long as their duties can be effectively performed for each permit space to which the attendant is assigned.

If multiple spaces are to be assigned to a single attendant, include in the permit program the means and procedures to enable the attendant to respond to an emergency affecting one or more of those permit spaces without distraction from the attendant's responsibilities.

Designate each person who is to have an active role (as, for example, authorized entrants, attendants, entry supervisors, or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of each such employee, and provide each such employee with the training required by this section

Develop and implement procedures for summoning rescue and emergency services (including procedures for summoning emergency assistance in the event of a failed non-entry rescue), for rescuing entrants from permit

spaces, for providing necessary emergency services to rescued employees, and for preventing unauthorized personnel from attempting a rescue;

Develop and implement a system for the preparation, issuance, use, and cancellation of entry permits as required by this plan, including the safe termination of entry operations under both planned and emergency conditions;

Develop and implement procedures to coordinate entry operations, in consultation with the controlling contractor, when employees of more than one subcontractor are working simultaneously in a permit space or elsewhere on the worksite where their activities could, either alone or in conjunction with the activities within a permit space, foreseeably result in a hazard within the confined space, so that employees of one subcontractor do not endanger the employees of any other employer;

Develop and implement procedures (such as closing off a permit space and canceling the permit) necessary for concluding the entry after entry operations have been completed;

Review entry operations when the measures taken under the permit space program may not protect employees and revise the program to correct deficiencies found to exist before subsequent entries are authorized; and

Note: Examples of circumstances requiring the review of the permit space program include, but are not limited to: Any unauthorized entry of a permit space, the detection of a permit space hazard not covered by the permit, the detection of a condition prohibited by the permit, the occurrence of an injury or near-miss during entry, a change in the use or configuration of a permit space, and employee complaints about the effectiveness of the program.

Review the permit space program, using the cancelled permits retained under Section (5)(f), within 1 year after each entry and revise the program as necessary to ensure that employees participating in entry operations are protected from permit space hazards.

Note: Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.

Table 7 - 2 Entry Procedures for Confined Space Conditions

If you have any of the following conditions	Then follow these procedures
Testing demonstrates the existence of dangerous or deficient conditions and additional ventilation cannot reduce concentrations to safe levels	All workers are trained A self-contained breathing apparatus is worn by any person entering the permit required space. At least one worker stands by the outside of the permit required space ready to give assistance in case of emergency. The rescue workers have a self-contained breathing apparatus available for immediate use. There is at least one additional worker within sight or call of the standby worker. Continuous powered communications is maintained between the worker within the permit required space and standby personnel.
The atmosphere tests as safe but unsafe conditions can reasonably be expected to develop	
It is not feasible to provide for immediate exit from spaces equipped with automatic fire suppression systems and it is not practical or safe to deactivate such systems	
An emergency exists and it is not feasible to wait for pre-entry procedures to take effect	

7.1.5 Permitting Process

Before entry is authorized, each Entry Subcontractor must document the completion of measures required by this section by preparing an entry permit. All permit-required confined spaces require the completion of the Burns & McDonnell "Work Permit" Safety Form C-07 which shall serve as the determination of permitting requirements.

Before entry begins, the entry supervisor identified on the permit must sign the entry permit to authorize entry.

The completed permit must be made available at the time of entry to all authorized entrants or their authorized representatives, by posting it at the entry portal or by any other equally effective means; so that the entrants can confirm that pre-entry preparations have been completed.

The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.

The entry supervisor must terminate entry and take the following action when any of the following apply:

Cancel the entry permit when the entry operations covered by the entry permit have been completed; or

Suspend or cancel the entry permit and fully reassess the space before allowing reentry when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is temporary in nature and does not change the configuration of the space or create any new hazards within it; and

Cancel the entry permit when a condition that is not allowed under the entry permit arises in or near the permit space.

The Entry Subcontractor must retain each cancelled entry permit for at least 1 year to facilitate the review of the permit-required confined space program. Any problems encountered during an entry operation must be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

7.1.6 Entry Permit

The entry permit that documents compliance with this section and authorizes entry to a permit space must identify:

The permit space to be entered;

The purpose of the entry;

The date and the authorized duration of the entry permit;

The authorized entrants within the permit space, by name or by such other means (for example, through the use of rosters or tracking systems) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space;

Note: This requirement may be met by inserting a reference on the entry permit as to the means used, such as a roster or tracking system, to keep track of the authorized entrants within the permit space.

Means of detecting an increase in atmospheric hazard levels in the event the ventilation system stops working;

Each person, by name, currently serving as an attendant;

The individual, by name, currently serving as entry supervisor, and the signature or initials of each entry supervisor who authorizes entry;

The hazards of the permit space to be entered;

The measures used to isolate the permit space and to eliminate or control permit space hazards before entry;

Note: Those measures can include, but are not limited to, the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.

The acceptable entry conditions;

The results of tests and monitoring performed, accompanied by the names or initials of the testers and by an indication of when the tests were performed;

The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services;

The communication procedures used by authorized entrants and attendants to maintain contact during the entry;

Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided for compliance with this plan;

Any other information necessary, given the circumstances of the particular confined space, to ensure employee safety; and

Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.

7.1.7 Training

The subcontractor must provide training to each employee whose work is regulated by this plan, at no cost to the employee, and ensure that the employee possesses the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this plan. This training must result in an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues.

Training required by this section must be provided to each affected employee:

In both a language and vocabulary that the employee can understand;

Before the employee is first assigned any duties under this plan;

Before there is a change in assigned duties;

Whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and

Whenever there is any evidence of a deviation from the permit space entry procedures or there are inadequacies in the employee's knowledge or use of these procedures.

The training must establish employee proficiency in the duties required by this procedure and must introduce new or revised procedures, as necessary, for compliance with this plan.

Prior to entering Confined Spaces, employees are to be trained in:

Confined Space Program Roles and Responsibilities;

Basic knowledge of atmospheric monitoring criteria;

Permitting methods (Permit/Non-Permit);

Communication methods;

Respirator use, if required;

Fire prevention and the use of selected fire suppression equipment;

The hazards and safe work practices specific to each Confined Space Entry;

Emergency procedures for Non-Entry Rescue and requirements for emergency personnel notification for Entry Rescue; and

Entry Supervisor's, Qualified Entrant's and Attendant's responsibilities.

Each affected employee must be trained prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created or special deviations have occurred.

All Confined Space Training is to be documented on the Training Certification Form (Form C-09). The Corporate Department or Site Safety Manager (If qualified) are available to coordinate and/or provide Confined Space Training.

The trainer shall certify that the required training has been accomplished. The certification shall include employee name, trainer signature/initials, date of training.

Certification must be made available to employees and their authorized representative.

The subcontractor must maintain training records to show that the required training of this section has been accomplished. The training records must contain each employee's name, the name of the trainers, and the dates of training. The documentation must be available for inspection by employees and their authorized representatives, for the period of time the employee is employed by that employer.

7.1.8 Duties of Authorized Entrants

The Entry Subcontractor must ensure that all authorized entrants:

Are familiar with and understand the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

Properly use equipment;

Communicate with the attendant as necessary to enable the attendant to assess entrant status and to enable the attendant to alert entrants of the need to evacuate the space;

Alert the attendant whenever:

There is any warning sign or symptom of exposure to a dangerous situation; or

The entrant detects a prohibited condition; and

Exit from the permit space as quickly as possible whenever:

An order to evacuate is given by the attendant or the entry supervisor;

There is any warning sign or symptom of exposure to a dangerous situation;

The entrant detects a prohibited condition; or

An evacuation alarm is activated.

7.1.9 Duties of Attendants

The Entry Subcontractor must ensure that each attendant:

is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

is aware of possible behavioral effects of hazard exposure in authorized entrants;

Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants accurately identifies who is in the permit space;

Remains outside the permit space during entry operations until relieved by another attendant;

Note: Once an attendant has been relieved by another attendant, the relieved attendant may enter a permit space to attempt a rescue when the employer's permit space program allows attendant entry for rescue and the attendant has been trained and equipped for rescue operations.

Communicates with authorized entrants as necessary to assess entrant status and to alert entrants of the need to evacuate the space;

Assesses activities and conditions inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:

If there is a prohibited condition;

If the behavioral effects of hazard exposure are apparent in an authorized entrant;

If there is a situation outside the space that could endanger the authorized entrants; or

If the attendant cannot effectively and safely perform all the duties required under this section;

Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;

Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:

Warns the unauthorized persons that they must stay away from the permit space;

Advises the unauthorized persons that they must exit immediately if they have entered the permit space; and

Informs the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;

Performs non-entry rescues as specified by the employer's rescue procedure; and

Performs no duties that might interfere with the attendant's primary duty to assess and protect the authorized entrants.

7.1.10 Duties of Entry Supervisors

The Entry Subcontractor must ensure that each entry supervisor:

is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;

Terminates the entry and cancels or suspends the permit;

Verifies that rescue services are available and that the means for summoning them are operable, and that the subcontractor will be notified as soon as the services become unavailable;

Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and

Determines, whenever responsibility for a permit space entry operation is transferred, and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

7.1.11 Rescue and Emergency Services

A subcontractor who designates rescue and emergency services must:

Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified;

Note: What will be considered timely will vary according to the specific hazards involved in each entry. For example, [§1926.103 \(Respiratory protection\)](#) requires that employers provide a standby person or persons capable of immediate action to rescue employee(s) wearing respiratory protection while in work areas defined as IDLH atmospheres.

Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified;

Select a rescue team or service from those evaluated that:

Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified;

Is equipped for, and proficient in, performing the needed rescue services;

Agrees to notify the subcontractor immediately in the event that the rescue service becomes unavailable;

Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site; and

Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue team or service can develop appropriate rescue plans and practice rescue operations.

Provide a written copy of operating and rescue procedures as required by these procedures at the worksite for the duration of the job.

A subcontractor whose employees have been designated to provide permit space rescue and/or emergency services must take the following measures and provide all equipment and training at no cost to those employees:

Provide each affected employee with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train each affected employee so the employee is proficient in the use of that PPE;

Train each affected employee to perform assigned rescue duties. The subcontractor must ensure that such employees successfully complete the training required and establish proficiency as authorized entrants;

Train each affected employee in basic first aid and cardiopulmonary resuscitation (CPR). The subcontractor must ensure that at least one member of the rescue team or service holding a current certification in basic first aid and CPR is available; and

Ensure that affected employees practice making permit space rescues before attempting an actual rescue, and at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces, except practice rescue is not required where the affected employees properly performed a rescue operation during the last 12 months in the same permit space the authorized entrant will enter, or in a similar permit space.

Representative permit spaces must, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

Non-entry rescue is required unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. The subcontractor must designate an entry rescue service whenever non-entry rescue is not selected. Whenever non-entry rescue is selected, the Entry Subcontractor must ensure that retrieval systems or methods are used whenever an authorized entrant enters a permit space, and must confirm, prior to entry, that emergency assistance would be available in the event that non-entry rescue fails. Retrieval systems must meet the following requirements:

Each authorized entrant must use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the subcontractor can establish presents a profile small enough for the successful removal of the entrant. Wristlets or anklets may be used in lieu of the chest or full body harness if the subcontractor can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets or anklets is the safest and most effective alternative.

The other end of the retrieval line must be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device must be available to retrieve personnel from vertical type permit spaces more than 5 feet deep.

Equipment that is unsuitable for retrieval must not be used, including, but not limited to, retrieval lines that have a reasonable probability of becoming entangled with the retrieval lines used by other authorized entrants, or retrieval lines that will not work due to the internal configuration of the permit space.

If an injured entrant is exposed to a substance for which a Safety Data Sheet (SDS) or other similar written information is required to be kept at the worksite, that SDS or written information must be made available to the medical facility treating the exposed entrant.

7.1.12 Employee participation

Employers must consult with affected employees and their authorized representatives on the development and implementation of all aspects of the permit space program.

Employers must make available to each affected employee and his/her authorized/competent representatives all information required to be developed by this plan.

7.2 Confined Space - Sewer System Entry

Sewer entry differs in three vital respects from other confined space permit entries; first, there rarely exists any way to completely isolate the space to be entered; second, because isolation is not complete, the atmosphere may suddenly and unpredictably become lethally hazardous (toxic, flammable or explosive) from causes beyond the control of the entrant, and third, experienced sewer workers are especially knowledgeable in entry and work in their permit spaces because of their frequent entries. Unlike other employments where permit space entry is a rare and exceptional event, sewer workers' usual work environment is a permit space.

Adherence to procedure.

Only workers trained in sewer entry are allowed in sewer systems.

Atmospheric monitoring.

Entrants will be trained in the use of, atmospheric monitoring equipment which sounds an audible alarm, in addition to its visual readout. Atmospheric monitors will be available for entrants

Surge flow and flooding.

Sewer crews shall communicate with the local weather bureau and fire and emergency services in their area so that sewer work may be delayed or interrupted and entrants withdrawn whenever sewer lines might be suddenly flooded by rain or fire suppression activities, or whenever flammable or other hazardous materials are released into sewers during emergencies by industrial or transportation accidents.

Special Equipment.

Entry into large bore sewers may require the use of special equipment. Such equipment might include such items as atmosphere monitoring devices with automatic audible alarms, escape self-contained breathing apparatus (ESCBAs) with at least 10 minute air supply (or other NIOSH approved self-rescuer), and waterproof flashlights, and may also include boats and rafts, radios and rope stand-offs for pulling around bends and corners as needed.

7.2.1 Scope and Application

The sections that follow apply only to permit-required confined space entry. The information on alternate entry has been identified with a title.

Potential Hazards

Workers could be exposed to the following:

Engulfment and drowning

Presence of toxic gases that are equal to or more than 10 ppm hydrogen sulfide; measured as an eight-hour time-weighted average; or if the presence of other toxic contaminants is suspected, specific monitoring shall be implemented.

Presence of explosive/flammable gases that are equal to or greater than ten percent of the lower flammable limit (LFL)

Oxygen deficiency/enrichment where the oxygen concentration in the atmosphere which is equal to or less than 19.5% by volume is considered a deficiency, while an oxygen concentration which is greater than 23.5% by volume is enrichment.

Entry Permits

All sewers are considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise by completion of Burns & McDonnell "Work Permit" Safety Form C-7.

Any worker required or permitted to pre-check or enter a sewer shall have successfully completed, at a minimum, the training outlined in our training procedures.

A written copy of operating and rescue procedures as required by these procedures is at the worksite for the duration of the job.

The sewer entry permit is completed before approval can be given to enter a sewer.

The permit verifies completion of items required to protect workers.

The permit is kept at the job site for the duration of the job.

If circumstances cause an interruption in the work or a change in the alarm conditions for which entry was approved, a new sewer entry permit needs to be completed.

7.2.2 Control of Atmospheric and Engulfment Hazards

Surveillance

The surrounding area is surveyed to avoid hazards such as drifting vapors from tanks, piping, or sewers.

Testing

The sewer atmosphere shall be tested to determine whether dangerous air contamination or oxygen deficiency exists.

A direct reading gas monitor is used. Portable gas monitors shall be bump tested prior to use. Record of testing shall be documented using Burns & McDonnell Portable gas Monitor Bump Test Log Safety Form G-8.

Testing is performed by a supervisor who has successfully completed the gas detector training for the monitoring method used.

The minimum parameters to be monitored are oxygen deficiency, Lower Flammable Level (LFL), and hydrogen sulfide concentration.

A written record of the pre-entry test results is made and kept at the worksite for the duration of the job.

Affected workers are able to review the testing results.

The most hazardous conditions will determine when work is being performed in two adjoining, connected spaces.

Space ventilation

Mechanical ventilation systems, where required, are set at one hundred percent of the outside air.

Where possible, open additional manholes to increase air circulation.

Use portable blowers to increase natural circulation if needed.

After a suitable ventilation period, repeat the testing.

Entry may not begin until testing has demonstrated that the hazardous atmosphere has been eliminated or controlled.

7.2.3 Entry Procedures

Table 7 - 3 Entry Procedures for Confined Space Conditions	
If you have any of the following conditions	Then follow these procedures
1. Testing demonstrates the existence of dangerous or deficient conditions and additional ventilation cannot reduce concentrations to safe levels 8. The atmosphere tests as safe but unsafe conditions can reasonably be expected to develop 9. It is not feasible to provide for immediate exit from spaces equipped with automatic fire suppression systems and it is not practical or safe to deactivate such systems 10. An emergency exists and it is not feasible to wait for pre-entry procedures to take effect	All workers are trained A self-contained breathing apparatus is worn by any person entering the sewer. At least one worker stands by the outside of the sewer ready to give assistance in case of emergency. The rescue workers have a self-contained breathing apparatus available for immediate use. There is at least one additional worker within sight or call of the standby worker. Continuous powered communications is maintained between the worker within the sewer and standby personnel.

7.2.4 Alternate Entry

Certification

Sewers may be entered without the need for a written permit or attendant if the space can be maintained in a safe condition for entry by mechanical ventilation alone.

All sewers are considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise.

Any worker required or permitted to pre-check or enter a sewer will have successfully completed, at a minimum, the training outlined in our training procedures.

A written copy of operating and rescue procedures shall be at the worksite for the duration of the job.

The sewer pre-entry checklist Burns & McDonnell Confined Space Entry Permit Safety Form G-7 shall be completed before entry into a sewer.

If circumstances dictate an interruption in the work, the sewer shall be reevaluated and a new checklist shall be completed.

Pumps and Lines:

All pumps and lines which may reasonably cause contaminants to flow into the sewer are disconnected, blinded, and locked out, or effectively isolated by other means to prevent development of dangerous air contamination or engulfment.

Not all lateral lines to sewers or storm drains require blocking. However, where experience or knowledge of use indicates a reasonable potential for contamination of air or engulfment into an occupied sewer, then all affected lateral lines are to be blocked.

If blocking or isolation requires entry into the sewer, the provisions for entry into a permit-required confined space are implemented.

Surveillance:

The surrounding area is surveyed to avoid hazards such as drifting vapors from tanks, piping, or sewers.

Testing:

The atmosphere within the sewer will be tested to determine whether dangerous air contamination or oxygen deficiency exists.

Detector tubes, alarm only gas monitors, and explosion meters are examples of monitoring equipment that may be used to test sewer atmospheres.

Testing is performed by the entry supervisor who has successfully completed the gas detector training for the monitoring method to be used.

The minimum parameters to be monitored are oxygen deficiency, LFL, and hydrogen sulfide concentration.

A written record of the pre-entry test results are made and kept at the worksite for the duration of the job.

The supervisor will certify in writing, based upon the results of the pre-entry testing, that all hazards have been eliminated or controlled.

Affected workers shall be able to review the testing results.

The most hazardous conditions will determine when work is being performed in two adjoining, connecting spaces.

Entry Procedures

When entering without permit or an attendant, entry into and work within may proceed if:

- There are no non-atmospheric hazards present

- The pre-entry tests show there is no dangerous air contamination or oxygen deficiency within the space; and there is no reason to believe that any is likely to develop

- Continuous testing of the atmosphere in the immediate vicinity of the workers within the space is accomplished

- Workers will immediately leave the sewer when any of the gas monitor alarm set points are reached as defined

- Workers will not return to the area until a supervisor who has completed the gas detector training has used a direct reading gas detector to evaluate the situation and has determined that it is safe to enter.

- If you are entering a space without a permit or an attendant

- Arrangements for rescue services are not required for entries that do not require a permit.

- See the rescue section for instructions regarding rescue planning where an entry permit is required.

7.2.5 Rescue

Call the local rescue service

Rescue entries into sewers are made only by trained and properly equipped personnel.

If immediate hazards to injured personnel are present, workers at the site implement emergency procedures without entering the sewer.

Continuous gas monitoring performed during all sewer entry operations. If alarm conditions occur, entry personnel exit the sewer and permit is no longer valid.

When dangerous air contamination is attributable to flammable or explosive substances, lighting and electrical equipment needs to be Class 1, Division 1 rated per National Electrical Code (NEC) and no ignition sources may be introduced into the area.

When it is practical, the full-body harness is used to suspend a person upright and a hoisting device or similar apparatus is available for lifting workers out of the sewer.

If at any time the use of a hoisting device or full-body harness and attached lifeline may endanger the worker, their use may be discontinued.

NOTE: Review and follow the requirements for any of the situations in Table G-2, *Procedures for Removing Workers from Sewers*.

Table 7 - 4 Procedures for Safely Removing Workers from Sewers	
If	Then
There is any questionable action or non-movement by the worker inside	– Perform a verbal check. – Immediately remove the worker from the sewer if there is no response or a questionable response from them
The worker is disabled due to falling or impact	– Do not remove the worker from the sewer unless there is immediate danger to the worker's life. – Notify local rescue personnel immediately. – Make sure the standby worker doesn't enter the sewer in this case. – Only trained rescue personnel (wearing self-contained breathing apparatus-SCBA) may enter to perform a rescue. – Make sure all workers entering the space use a full-body harness with attached lifeline with the free end of the line secured outside the entry opening. – Make sure the standby worker uses the lifeline to attempt to rescue a disabled worker without entering the space and summons rescue services based on their assessment of the situation.

7.3 Hazardous Energy Control Program (Lockout/Tagout)

7.3.1 Purpose

The purpose of this procedure is to establish the means & methods in which the lockout / tagout and permit to work functions will be administered, and shall also establish the minimum requirements for the lockout of energy isolating devices whenever work is done on systems, machines or equipment.

The intent of implementing these procedures is to avoid the unanticipated release of Hazardous Energy that could threaten the health and safety of project employees or damage equipment. Hazardous Energy in this context includes, but is not limited to: electrical, thermal, hydraulic, pneumatic, chemical, stored, residual and potential energy such as from capacitors, batteries, elevated weights, and compressed springs.

These procedures shall be used to ensure that the machine, circuit or equipment is isolated from all potentially hazardous energy sources and Locked out before employees perform any work where the unexpected energization or start-up of the machine, circuit or equipment, or the release of stored energy could cause an injury or property damage.

7.3.2 Scope

Before work may be performed on systems, equipment and/or circuits which could cause injury by contact with electrically energized parts, by accidental startup of machinery, by release of fluid pressure (air, steam, hydraulic, temperature extremes etc.) or by contact with acids, corrosives, flammables or other hazardous materials, electrical circuits shall be de-energized, valves shall be closed, pressures shall be bled off, and hazardous materials shall be drained from lines and/or vessels when necessary.

7.3.3 Definitions

Affected Employee - An Affected Employee is an employee whose job requires him/her to operate or use a machine or equipment on which work is being performed under Lockout or Tagout, or whose job requires him/her to work in an area in which such work is being performed. These employees do not service or maintain machinery or perform lockout/tagout activities. Affected employees are trained in the purpose and use of energy-control procedures. They are also able to do the following:

- Recognize when the energy-control procedure is being used,

- Understand the purpose of the procedure, and

- Understand the importance of not tampering with lockout or tagout devices and not starting or using equipment that has been locked or tagged out.

Authorized Employee - An Authorized Employee is an employee who physically performs Lockout or Tagout on systems, machines or equipment in order to perform work on that system, machine or equipment. They have the knowledge and skills necessary for the safe application, use, and removal of energy-isolating devices. They are also trained and demonstrate understanding and competence in the following:

- Hazardous energy source recognition;

- The type and magnitude of the hazardous energy sources in the workplace; and

- Energy-control procedures, including the methods and means to isolate and control those energy sources.

- PTW (Permit to Work) program process

An Affected Employee becomes an Authorized Employee when that employee's duties include performing work on the machine or equipment.

Capable of being locked out - an Energy Isolating Device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if Lockout can be achieved without the need to dismantle, rebuild, or replace the Energy Isolating Device or permanently alter its energy control capability, such as a lockable valve cover or circuit breaker block out.

Client - A Client is the entity which owns or in some cases operates the facility where the project activities are being conducted. OSHA refers to this entity as the Host Employer

De-energized – De-energized means free from any electrical connection to a source of potential difference and from electrical charge; not having a potential different from that of the earth.

Device – A device is a unit of an electrical system that is intended to carry, but not utilize electric energy.

Disconnecting means – A disconnecting means is a device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.

Disconnecting (or isolating) switch. (Over 600 volts, nominal.) - A mechanical switching device used for isolating a circuit or equipment from a source of power.

Employee - An Employee may be an individual person, an employee, an employee owner, a project worker, a contractor /subcontractor, or a member of a partnership, corporation, agency, association, or organization.

Energized - connected to a Hazardous Energy Source or containing residual or stored energy.

Energy Isolating Device – An energy isolating device is a mechanical device that physically prevents the transmission or release of hazardous energy, including but not limited to the following:

A manually operated electrical circuit breaker;

A disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently;

A line valve;

A blank flange, slip blind, or any similar device used to physically block or isolate energy.

A block and any similar device used to block or isolate hazardous energy.

CAUTION: *Push buttons, selector switches and other control circuit type devices are not energy isolating devices and are not acceptable for LOTO use.*

Hazardous Energy Source - Any electrical, rotational, mechanical, hydraulic, pneumatic, wind, thermal, chemicals, nuclear, residual stored energy, gravity or pressurized liquids or gasses that could cause injury to an Employee or property damage. .

Group Lock Box - a box utilized to organize lock keys which are used for the isolation of equipment. This box has multiple positions where locks and tags shall be attached, and cannot be completed with the multi-lock device. The Tagging Authority for the LOTO will sign on the LOTO Log for the lock box.

Hot Tap - A HOT TAP is a procedure used in the Work activities which involves welding on a piece of equipment (pipelines, vessels or tanks) while it is under pressure, in order to install connections or appurtenances. A HOT TAP is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

Holder - Any Affected or Authorized worker who is signed onto the Isolation Record or the Electrical LOTO Log as a Holder. By signing on as a Holder, personnel ensure the LOTO is maintained until they have signed off. LOTOs cannot be removed without first clearing all Holders off the respective forms. All LOTOs must have at least one Holder.

Isolation Record (IR) - The Isolation Record is a form used to initiate or request energy isolation and to track the placement and removal of that isolation. All isolations requiring more than one lockout / tagout, or a single mechanical isolation, must be documented on an Isolation Record. Single electrical isolations can be controlled from the electrical LOTO log. Isolation Records have a unique number assigned for tracking purposes (Burns & McDonnell "Isolation Record" Safety Form G-13).

Lockout (LOTO) - Lockout is the placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device - a Lockout device is a device that utilizes a positive means of securing an energy isolating device in the safe position and prevent the energizing of a system, machine or equipment. Examples include such items as a lock, (either key or combination type), blank flanges and bolted slip blinds.

Lockout/Tagout Log - The Lockout/Tagout Log is a form used to track the Authorized Employees that are directly involved in a hazardous energy isolation work procedure. The LOTO Log controls and tracks the placement and

removal of the lockout devices by individual Authorized Employees. This document also supports the LOTO manager's control of the Isolation Record.

LOTO Manager - The LOTO Manager is the employee that manages the overall LOTO program during the construction, testing and startup phases of the project. The LOTO Manager or his designee is the employee who approves the issuance of Permits to Work, Do Not Operate isolations, as well as the hanging of System Under Test and System Under Operation tags for the project. The LOTO Manager has been trained, and is competent in the applicable OSHA standards. The LOTO Manager's responsibilities transfer to the Client only after the system acceptance certificate has been submitted to Burns & McDonnell.

Lockout / Tagout Sequence and Responsibilities - Sequence steps and employee responsibilities for the Lockout / Tagout program vary with the three main stages of the project: Construction, Startup, and Operations. Details are outlined below under Roles & Responsibility section.

Normal Operations - the utilization of a machine or equipment to perform its intended production function.

Other Employee - All employees who are or may be in an area where Hazardous Energy control procedures may be utilized however are not directly involved with the work or the systems, equipment or machines.

Permit to Work (PTW) - A Permit to Work is a documented work authorization process which is required to perform work on equipment, areas, systems, or sub-systems that have been turned over to Startup or Operations. The PTW form is preprinted in triplicate and contains a unique sequential permit number (Burns & McDonnell safety form C-7 "Work Permit").

Readily accessible – Readily accessible means that it is capable of being reached quickly for operation, renewal, or inspections, so that those needing ready access do not have to climb over or remove obstacles or to resort to portable ladders, chairs, etc.

Setting Up - any work performed to prepare a system, machine or equipment to perform its normal production operation.

Start Up - The Startup stage starts on a system by system basis when construction turnover of a system is accepted by Startup as mechanically complete (in accordance with project turnover procedure).

SYSTEM UNDER OPERATION - the stage in the construction project where major equipment and systems under the control of Operations may be operated or energized as necessary to support the construction project's operational requirements.

SYSTEM UNDER TEST - the stage in the construction project where major equipment or systems under the control of Startup may be operated or energized as necessary for the testing of the system or components.

Tag - A Tag is a prominent warning device, which includes a means of attachment, which can be securely fastened to a Lockout Device and an Energy Isolating Device in accordance with an established procedure, to indicate that the Energy Isolating Device and the system, equipment or machine being controlled may not be operated until the Lockout Device is removed. Various different configurations of a TAG that are applicable to these procedures are detailed below:

Do Not Operate (DNO) Tags

The general construction LOTO red danger lockout Tag (DNO) signifies that a device is not to be operated or energized by anyone.

The Tag is placed on systems, equipment/mechanism that, if operated, can result in the injury of an Employee or damage to plant equipment.

The Tag implies that the equipment shall remain in the non-operative position.

In the case where the non-operative position is not readily apparent, it will be stated on the back of the tag.

This Tag will be placed and removed by the Employee doing the work.

The Tag will be logged with date and time, and signed by the Authorized Employee in the Lockout and Tag Log.

The Tag is always to be used with a lock.

Burns & McDonnell “Danger – Do Not Operate” (DNO) Tags (white w/red and black lettering):

The Tag used to identify an isolation point and control the position or status of any device (valve, breaker, etc.) required to ensure a safe lockout. These tags will have a unique number and will be accompanied by an appropriate Locking Device (Burns & McDonnell “Do Not Operate Tag” Safety Form G-14).

Burns & McDonnell “Caution – SYSTEM UNDER TEST” (SUT) Tags (yellow w/black lettering):

This Tag is used to identify major equipment or systems during the Startup phase which may be operated or energized as necessary for the testing of the system or components.

Each Tag must have the appropriate Tagging Authority's name written on it (Burns & McDonnell “Caution - System under Test Tag” Safety Form G-15).

Only the Employee whose name is on the Tag is authorized to operate or direct the operation of that device/system and or remove the Tag.

Client “Caution – SYSTEM UNDER OPERATIONS” (SUO) Tags (orange w/black lettering):

This Tag is used to identify major equipment and systems which are under the control of the Client's Operations team and may be operated or energized as necessary to support the project operational requirements (Burns & McDonnell “Caution System under Operations Tag” Safety Form G-16).

Tagging Authority - This is the Authorized and competent person acting in the role of Tagging Authority for a contractor in their assigned areas of responsibility. Their responsibilities shall include but are not limited to the following:

The Tagging Authority shall certify to the LOTO Manager all covered personnel's training commensurate with their level of responsibility and involvement in the LOTO program as identified below.

Tagging Authority affixes Lockout Devices and tags to the Energy Isolating Devices under the witness of the LOTO Manager or his designee

Tagging Authority, LOTO Manager or his designee verifies the effectiveness of isolation prior to allowing personnel to sign-on to the Electrical LOTO Log and begin work on a system.

Tagging Authority requests the removal of isolation from LOTO Manager

Tagging Authority takes responsibility to ensure equipment and devices are in a safe condition (i.e. status of energy isolating devices is safe for the level of completion or status of the equipment – test, operational or otherwise)

Tagging Authority List - The Tagging Authority List shall be posted in a conspicuous location and shall identify each company's authorized Tagging Authority. Use the Burns & McDonnell “Tagging Authority List” Safety Form G-11.

Tagging Safety Displays - Tagging Safety Displays shall be located throughout the project site. These compliance assurance exhibits are intended to identify and explain the Tags and Locking Devices which have been authorized for use on the project.

Tagout - A Tagout is the placement of a Tag on an Energy Isolating Device, in accordance with an established procedure, to indicate that the Energy Isolating Device and the equipment being controlled may not be operated until the Tagout device is removed.

All project Employees shall be trained to understand that the Tagout shall provide a level of safety equivalent to that obtained by using a Lockout Device.

Work - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing systems, machines or equipment. These activities include lubrication, cleaning or unjamming of system components, machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the system, machine or equipment and the release of hazardous energy.

7.3.4 Roles and Responsibilities

Lockout / Tagout Sequence and Responsibilities - Sequence steps and personnel responsibilities for the lockout / tagout program vary with the three main stages of the project: Construction, Startup, and Operations as shown in the following table.

Table 7 - 5 LOTO: Outline of Roles & Responsibilities in Each Stage			
Stage	Tagging Authority	Authorized Worker	Notes
Construction	Contractor assigned manager level Employee	General: Superintendent Foremen Discipline: Superintendent Foremen	1. Construction is in control of equipment and systems. 2. DNOs are used for LOTO.
Startup	Startup Manager Startup Engineers (by assigned system)	Startup: Engineer Technician	1. Startup has accepted items on a system basis. 2. SUTs indicate items are in startup phase. 3. DNOs are used for LOTO.
Operations (Client)	Operations Manager Operation Supervisors	Operations: Supervisors Operators	1. Operations have accepted control of the system. 2. Client SUO tags indicate items are in operation. 3. Client DNOs are used for LOTO.

Lockout / Tagout Sequence

Construction Stage Activities:

The Construction stage starts at site mobilization and lasts through construction execution. This stage ends on a system by system basis as the systems are turned over to the Startup team.

Startup Stage Activities:

The Startup stage starts on a system by system basis when construction turnover of a system is accepted by Startup as mechanically complete (in accordance with project turnover procedure). This status is indicated in the field by the presence of System under Test (SUT) tags on major equipment, valves, etc. The Startup stage ends on a system by system basis as the system is accepted by The Client's Operations team as being substantially complete.

Operations Stage Activities:

The Operational Stage starts on a system by system basis when Startup turnover of a system is accepted by the Client's Operations team as being substantially complete (in accordance with the project turnover procedures). This status is indicated in the field by the presence of System Under Operations (SUO) Tags on major equipment, valves, and the transition to the Client's permanent plant LOTO program is being implemented

Responsibilities

The BMcD LOTO Manager or designated alternate shall:

- Maintain a record of all Tagging Authority, Authorized, Affected, and other worker's training certifications.

- Maintain a list of Authorized Workers which shall be made available to Tagging Authorities for the purposes of verifying Authorized Workers.

- The Tagging Authority list (Burns & McDonnell "Tagging Authority List" Safety Form G-11) will be updated by the BMcD LOTO Manager on a routine basis as it becomes necessary to make adjustments to Employees and or assigned areas of responsibility.

- Copies of the updated Tagging Authority list will be maintained in the Site Project Management Trailer during the construction stages and the client control room (or designated location) during startup and operations.

- Approve LOTO Permit-To-Work (PTW) requests.

- Approves the isolation and release of isolation requests from the Tagging Authority,

- Approve DNO Isolations, and the hanging of SUT and SUO tags for the project.

- Issue tags and Isolating Devices required for LOTO compliance as applicable to the LOTO work scopes.

- Maintain, update, post and redistribute as necessary all LOTO records and supplies including, but not limited to the following.

 - Site-specific LOTO training compliance records

 - Certification Of Training (C-09)

 - Isolation Record (G-13)

 - LOTO Permit-To-Work (C-07)

 - Electrical LOTO Log (G-10)

 - Lock Removal Authorization (G-03)

 - Tagging Authority List (G-11)

 - Isolation tags and devices (G-14/15/16)

Tagging Authority

The Tagging Authority is the authorized and competent person acting in the role of Tagging Authority for a contractor in their assigned areas of responsibility. Their responsibilities shall include but are not limited to the following:

The Tagging Authority shall certify to the LOTO Manager all covered personnel's training commensurate with their level of responsibility and involvement in the LOTO program as identified below.

Tagging Authority affixes Lockout Devices and tags to the Energy Isolating Devices under the witness of the LOTO Manager or his designee

Tagging Authority, LOTO Manager or his designee verifies the effectiveness of isolation prior to allowing personnel to sign-on to the Electrical LOTO Log and begin work on a system.

Tagging Authority requests the removal of isolation from LOTO Manager

Tagging Authority takes responsibility to ensure equipment and devices are in a safe condition (i.e. status of energy isolating devices is safe for the level of completion or status of the equipment – test, operational or otherwise)

Violations

Only the LOTO Manager, Tagging Authority or designated Authorized Worker (Holder) are authorized to place or remove tags

Failure to comply with any of the Lockout/Tagout rules shall be considered just cause for discharge or removal of the persons involved from the job site. Examples of failure to comply include but are not limited to the following:

Operating or working on a system or piece of equipment without obtaining a proper LOTO and/ or Permit-To-Work.

Operating or working on a system or piece of equipment in violation of the tags in place.

Removing tags from a system or piece of equipment without proper authorization.

7.3.5 Requirements

Controls that are to be deactivated during the course of work on equipment or circuits shall be locked and tagged when deemed necessary and recorded in the Lockout/Tagout Log.

Tags shall be labeled to plainly identify the equipment or circuits being worked on and shall be placed with the Lockout Device on the Lockout. Tag information shall include the name of the equipment, date, time and the employee responsible for its placement.

The Lockout Tagout Manager or their designee will place his/her lock and tag on any system prior to the employee placing theirs.

Each employee shall have his or her own lock and tag.

All employees are required to comply with the restrictions and limitations imposed upon them during the use of Lockout. The Authorized Employees are required to perform the Lockout in accordance with this procedure.

All employees, upon observing a system, machine or piece of equipment which is locked out to perform work shall not attempt to start, energize, or use that system, machine or equipment.

Only one type of Tag (DNO, SUT, or SUO) can be on the same device at the same time.

Training must be conducted (or verified) to ensure that all employees are knowledgeable of their duties with regard to Lockout / Tagout and hazardous energy control (i.e. training must be commensurate with their level of responsibility and involvement – Other, Affected, Authorized, and Tagging Authority).

In the event a Tag or Tags are found either missing or lying on the ground, they are to be reported to the LOTO Manager or his designee immediately. Do NOT assume you know where they are to be placed or replace them yourself. Upon notification, the LOTO Manager shall immediately investigate and determine the status of the LOTO and if the Tag can be reattached or a work stoppage is necessary for employee or equipment safety.

All Locking Devices should be accompanied by a DNO Tag and must be identified or traceable to the user by a name or unique number as determined by the lock user's supervisor. Locking Devices not accompanied by a DNO Tag are at risk of being removed, however the same stipulations shall apply for removal as described in an Emergency Release procedure, listed below.

Failure to comply with the Lockout and Tagging Procedure rules shall be considered just cause for discharge or removal of the employees involved from the project site

7.3.6 Periodic Inspection

Burns & McDonnell shall conduct a periodic inspection of the Hazardous Energy Control procedure at least annually to ensure that the procedure and the requirements of the OSHA standard are being followed.

The periodic inspection shall be performed by an Authorized Employee other than the ones(s) utilizing the Hazardous Energy Control procedure being inspected.

The periodic inspection shall be conducted to correct any deviations or inadequacies identified.

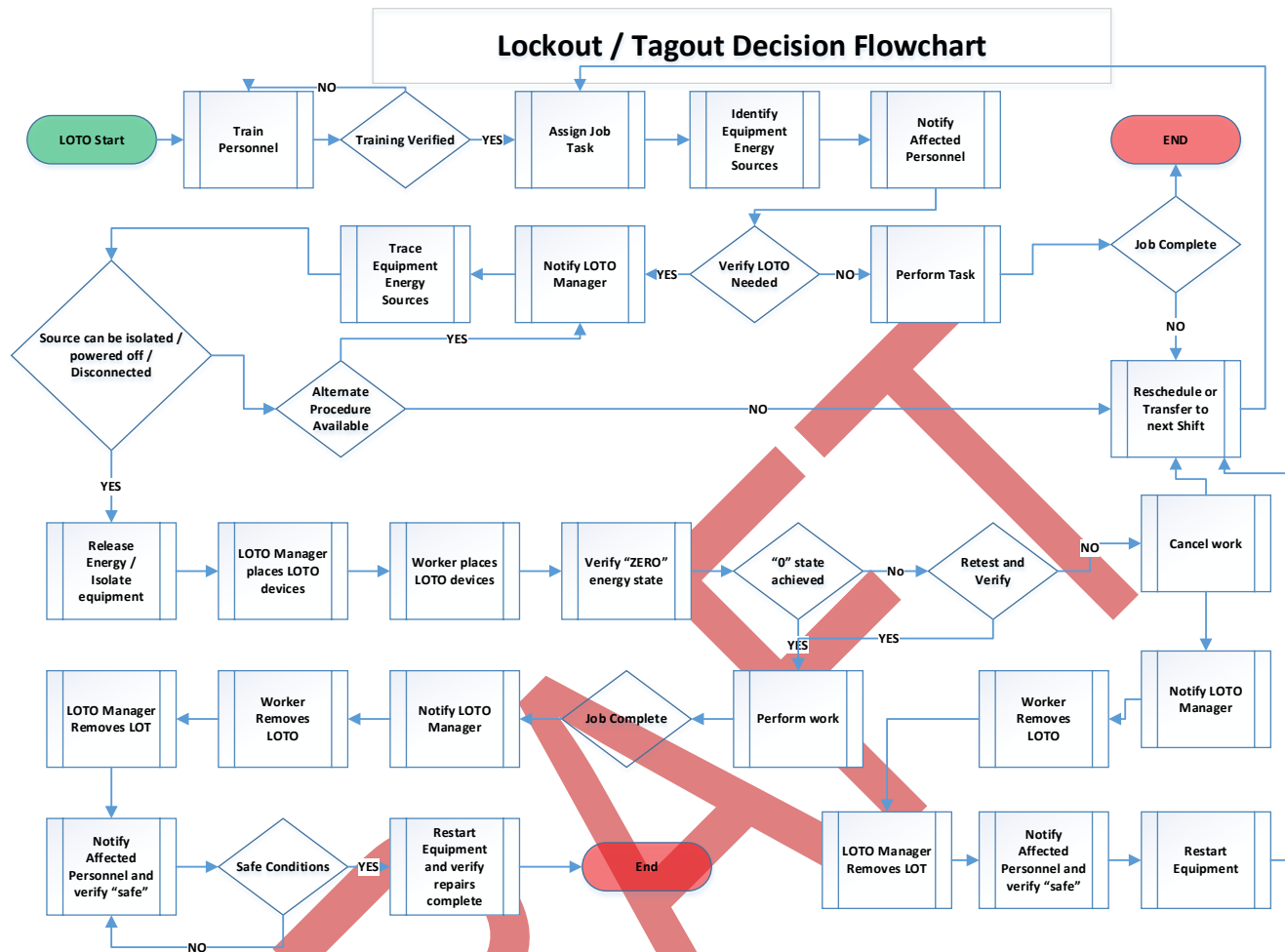
Where Lockout is used for Hazardous Energy control, the periodic inspection shall include a review, between the inspector and each Authorized Employee, of that employee's responsibilities under the Hazardous Energy control procedure being inspected.

Burns & McDonnell shall certify that the periodic inspections have been performed. The certification shall identify the systems, machines or equipment on which the Hazardous Energy Control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the employee performing the inspection.

7.3.7 Procedure

The following jobsite Lockout and Tagging procedure is to be followed. In some instances, particular requirements will dictate variances from this procedure. However, any change or variance must be viewed with caution by the Lockout Tagout Manager/designee and possible contingencies accounted for at all times. Changes to the procedure shall be documented on the Burns & McDonnell Safety & Health Form C-14 Amendment Form" and approved by BMCD Corporate Safety & Health.

Figure 7 - 1 LOTO Decision Flowchart



Verification

Verify that the authorized employee is trained in LOTO and refer to the manufacturer's and/or installer's company procedure/drawings to identify the type and magnitude of the energy that the machine or equipment utilizes. The authorized employee shall understand the hazards of the energy and shall know the methods to control the energy.

Identify Equipment.

Determine which equipment is involved with the work to be performed.

Determine Availability.

The site manager/designee, with client representatives as needed, will determine the available systems and equipment prior to locking out the equipment to ensure that normal operation of associated equipment will not cause activation of systems or equipment that are being worked on.

Notification

Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.

De-energize and remove the Equipment from Service.

If the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.). De-activate the energy isolating device(s) by placing all electrical disconnects in the off position and/or close all valves to equipment or systems to be worked on so that the machine or equipment is isolated from the energy source(s).

Lockout and tagout Equipment.

After de-energizing and/or closing of valves, the Lockout Tagout Manager (1st) and then the authorized employee(s) (with assigned individual lock(s)) thereafter who will accomplish the work will place their own appropriate locks and tags on all switches and/or valves, and wherever necessary to avoid accidental startup or energizing. The lockout mechanism shall be placed on the equipment/mechanism in such a way as to prevent operation or access to energizing switches or valves. The LOTO Manager and employees shall record their names and lock numbers in the lockout/tagout log.

Check for Safety.

The supervisor in charge of the work will physically inspect the equipment or systems prior to the actual work taking place and verify the authorized employee's LOTO.

The supervisor will make certain that all switches and/or valves are physically inoperative, that all fluid pressures are bled off, that all stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) have been dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc. (or by any other recognized control methods which may have been used as necessary). The supervisor shall also ensure that all hazardous materials are drained and removed from the immediate work area.

The supervisor shall ensure that the equipment is disconnected from the energy source(s) by first checking that no employees are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate.

Caution: Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

After determining that all equipment, circuits and systems have been rendered safe for work, appropriate tags and locks shall be placed on the associated electrical disconnects, valves and wherever else required to prevent the accidental start-up of the equipment, circuits or systems being worked on.

Placement of Lockout –

If more than one employee is required to work on a system, each employee must place their separate Lock and Tag on the equipment before commencing work.

All employees working on systems/equipment that are to be locked out are to receive his/her own lock and key. The employee who places a lockout on an electrical disconnect or valve is the only one permitted to remove it.

Working on Equipment

Complete the work which was authorized to be performed

Restoring Equipment to Service.

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.

Check the work area to ensure that all employees have been safely positioned or removed from the area.

Verify that the controls are in neutral.

Remove the lockout devices and reenergize the machine or equipment.

Note: The removal of some forms of blocking may require re-energization of the machine before safe removal.

Removal of Lockout –

After each portion of the work is completed, the employee who placed the lockout mechanism on the equipment will be responsible for its immediate removal. If more than one work operation is being performed on a piece of equipment or system, it will be necessary for each employee to remove his/her lockout mechanism immediately after the work task has ended. After the work is complete the supervisor in charge of the work activity will immediately notify the Lockout Tagout Manager. Then the Lockout Tagout Manager will remove his/her locking mechanisms.

Note: Prior to notifying the LOTO Manager it will be the responsibility of the employee(s) supervisor to ensure that all work has ended and the equipment or system is safe for normal operation. Removal of each lock and Tag will also be recorded in the log.

Emergency Release

Under extraordinary circumstances, it may be necessary to remove a Lock or Tag that has been affixed by someone else or without the proper signoff of a holder. Only the LOTO Manager or his designee may authorize the removal of a Lock or Tag and only in accordance with the following stipulations:

The worker who is responsible for the Lock or Tag or is a holder of the isolation is not present at the facility, and all reasonable efforts have been taken to contact the responsible worker.

All measures are taken to notify the worker prior to his resuming work.

If the employee is unavailable, only then after physical inspection by site manager or authorized supervisor has determined that all work has been completed and the safety of equipment and/or system is ensured, can a lockout mechanism be removed.

In addition, if the Lock or Tag is on an item that is in the construction or startup stage, the authorization of the project field manager or startup manager will also be required, respectively. A log will be kept to document these authorizations.

Unauthorized removal of tags and lockout mechanisms is not permitted. Infraction of this rule will result in disciplinary action up to and including termination.

Notification of Completion

Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

When working on equipment which utilizes a plug-in device for power, action shall be taken to ensure that no one can energize the equipment until the work has been completed. These actions include the employee has unplugged the equipment from the energy source and the plug is under the exclusive control of the employee performing the servicing or maintenance. The plug is under the exclusive control of the employee if it is physically in the possession of the employee, or in arm's reach and in line of sight of the employee, or if the employee has affixed a lockout/tagout device on the plug.

OSHA 1910.269 allows power distribution systems and power generating facilities to use a tagout and training system instead of a lockout requirement. While in compliance with OSHA, this procedure is not in compliance with Burns & McDonnell safety requirements. Contact the Burns & McDonnell Safety & Health Department if you are instructed not to lockout any energized systems on your project. There are alternative methods, which may be used to ensure the safety of all workers.

7.3.8 Tagging Systems

Special waterproof, sealed tags must be used.

Tags are to be used for Do Not Operate, Systems under Test, and Systems under Operations

7.3.9 Lock and Tag (LOTO) Log

The lockout and tagout log G-10 will indicate the tagged equipment, the number of the lock and the tag, the location of tags, the employee who attached the Tag and lock, the date and time of placement and removal.

The log will be maintained and updated daily.

7.3.10 Client LOTO

Some Burns & McDonnell projects are contractually obligated to use a client Lockout/Tagout procedure. Burns & McDonnell supervisory employees are to coordinate the use of all Lockout/Tagout procedures with the client representative. A single LOTO Manager shall be assigned to coordinate the LOTO process.

7.3.11 Training Requirements

Training must be conducted and documented to ensure that all personnel are knowledgeable of their duties with regard to Lockout/Tagout and Hazardous Energy control. The training must be commensurate with the employee's level of responsibility and involvement, e.g. Other, Affected, Holder, Authorized, and Tagging Authority. Prior to performing a job requiring Lockout / Tagout, training and verification of knowledge as outlined below shall be performed to ensure that the purpose and function of the Project Safety Tagging Program is clearly understood by all field workers.

Affected workers are required to be trained in the following areas:

- The use of this procedure.

- Recognition of hazardous energy sources.

- Type and magnitude of hazardous energy present in workplace (potential danger).

- Potential hazards caused by failing to adhere to the Safety Tagging Program.

Authorized Workers are required to be trained in the following areas:

- The use of this procedure.

- Recognition of hazardous energy sources.

- Type and magnitude of hazardous energy present in workplace (potential danger).

- Methods and means necessary for proper isolation and control.

- Proper use of the following forms: Isolation Record, PTW, Electrical LOTO Log).

- Proper methods and sequencing for placing and removing LOTOs.

Closing out PTW.

Other Workers are required to be trained in the following areas:

The purpose of the safety tagging program.

The use and appearance of locks and tags.

The potential hazards that locks and tags protect against.

The penalties for removing locks and tags.

Prohibitions against attempting to operate locked or tagged equipment.

Tagging Authority is required to be trained in the following areas:

The use of this procedure.

Recognition of hazardous energy sources.

Type and magnitude of hazardous energy present in workplace (potential danger).

Methods and means necessary for proper isolation and control.

Proper use of the following forms: Isolation Record, PTW, Electrical LOTO Log).

Proper methods and sequencing for placing and removing LOTOs.

Closing out PTW.

Considerations in determining if and when a requested work activity can be approved to proceed.

Proper delegation of LOTO functions and follow-up to ensure program is implemented properly.

Proper identification of the need for additional permits (Confined Space Entry, Hot Work Permit, Safe Work Plan), and establishment of these programs in accordance with the project safety manual.

Retraining:

Retraining will be provided for all affected and authorized workers under the following conditions:

Change in job assignment.

Change in machinery/equipment/process that presents a new hazard.

Change in the Safety Tagging Procedure.

When deviations or inadequacies in worker's knowledge is identified.

When deviations in the use of the Safety Tagging Procedure are identified.

7.3.12 Records

The following records are to be maintained in the project files:

Permit to Work (PTW): (Burns & McDonnell Safety Form C-07 "Work Permit").

Isolation Record (IR): (Burns & McDonnell “Isolation Record” Safety Form G-13).

Electrical LOTO Log: (Burns & McDonnell “Electrical LOTO Log” Safety Form G-10).

Tagging Authority List: (Burns & McDonnell “Tagging Authority List” Safety Form G-11).

Certification of Training: (Burns & McDonnell “Certification of Training” Safety Form C-09).

Lock Removal Authorization: (Burns & McDonnell “Lock Removal Authorization” Safety Form G-03).

7.4 Occupational Noise Exposure 1926

Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table G-4 of this section when measured on the A-scale of a standard sound level meter at slow response.

7.4.1 Administrative or Engineering Controls

When workers are subjected to sound levels exceeding those listed in the table below in this section, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment as required shall be provided and used to reduce sound levels to within the levels of the table.

7.4.2 Variations in Noise Level

If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

Impulsive or impact noise. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

In all cases where the sound levels exceed the values shown herein, a continuing, effective hearing conservation program shall be administered.

Table 7 - 6 Permissible Noise Exposure Levels	
Duration per day, hours	Sound level, dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula set forth below.

$F(e) = (T(1) \text{ divided by } L(1)) + (T(2) \text{ divided by } L(2)) + \dots + (T(n) \text{ divided by } L(n))$ where:

- F (e) = The equivalent noise exposure factor.
- T = The period of noise exposure at any essentially constant level.
- L = The duration of the permissible noise exposure at the constant level (from Table G-6)

NOTE: If the value of $F(e)$ exceeds unity (1) the exposure exceeds permissible levels.

A sample computation showing an application of the formula in paragraph (d) (2) (ii) of this section is as follows. An worker is exposed at these levels for these periods:

110 dBA @ 1/4 hour	100 dBA @ 1/2 hour	90 dBA @ 1 1/2 hours
$F(e) = (1/4 \text{ divided by } 1/2) + (1/2 \text{ divided by } 2) + (1 \text{ 1/2 divided by } 8)$		
$F(e) = 0.500 + 0.25 + 0.188$		
$F(e) = 0.938$		

NOTE: Since the value of $F(e)$ does not exceed unity (1.0), the exposure is within permissible limits.

7.5 Heat Injury and Illness Prevention Plan

In areas where heat stress may impact employee health and safety, acclimatization and heat stress shall be assessed to establish proper work/rest regimens and fluid replacement. Heat Stress and heat strain are conditions resulting from environmental factors including temperature, relative humidity, radiant heat transfer, and air movement, as they are affected by clothing. The primary objective of the heat injury and illness plan is to prevent heat stroke which is life threatening and the most serious of the heat-induced disabilities.

7.5.1 Training

The SSO will have received training developed by the American Red Cross or American Heart Association in first aid and cardiopulmonary resuscitation (CPR), including training in heat related illnesses.

During hot environments, toolbox safety training will include recognizing, preventing, and treating the signs and symptoms of heat stress. During potential heat stress conditions, ice should be readily available to rapidly cool victims.

7.5.2 Body Fluid Replacement

When heat stress is determined to be a concern by the SSO, water will be made available at the Site for employee fluid replacement. Balanced, electrolyte solutions to replace fluid and electrolyte loss may be present but should not be a substitute for water. Employees will be provided with replacement fluids at a minimum rate of 8 ounces each half hour per person.

7.5.3 Heat Assessment

The SSO will assess employee and weather conditions to determine when to start heat stress assessment. For employees with permeable work clothing, Wet Bulb Globe Temperature (WBGT) Index or physiological monitoring shall be conducted. For employees in impermeable work clothing, only physiological monitoring shall be conducted to determine appropriate controls.

WBGT Monitoring

The WBGT Index Monitoring for the Threshold Limit Values (TLVs) are provided as follows:

Table 7 - 7 WBGT Index Monitoring for TLV				
Allocation of Work in a Cycle of Work and Recovery	TLV as based on WBGT readings in degrees Fahrenheit			
	Light	Moderate	Heavy	Very Heavy
	(Sitting with light manual work with hands or hands and arms, and driving. Standing with some light arm work and occasional walking.)	(Sustained moderate hand & arm work, moderate arm & leg work, moderate arm and trunk work or light pushing and pulling. Normal walking.)	(Intense arm and trunk work, carrying, shoveling, manual sawing; pushing and pulling heavy loads and walking at a fast pace.)	(Very intense activity at fast to maximum pace.)
75 to 100%	87.8	82.4	-	-
50 to 75%	87.8	84.2	81.5	-
25 to 50%	89.6	86	84.2	76.1
0 to 25%	90.5	88.7	86.9	80.6
(Adapted from AGCIH 2011 TLV®s and BEI®s, Thermal Stress, Tables 2 and 3)				
Operations conducted outdoors may expose workers to weather, ecological hazards, and other location-related hazards. The following sections summarize these hazards.				

Physiological Monitoring

(The Section below is taken from AGCIH 2011 TLV®s and BEI®s, Thermal Stress Table 4)

One or more of the following measures may mark excessive heat strain, and an individual's exposure to heat stress should be discontinued when any of the following occur:

Sustained (several minutes) heart rate is in excess of 180 bpm (beats per minute) minus the individual's age in years (e.g., 180-age), for individuals with assessed normal cardiac performance; or

Body core temperature is greater than 101.3° F for medically selected and acclimatized personnel; or greater than 100.4° F in unselected, un-acclimatized workers; or

Recovery heart rate at one minute after a peak work effort is greater than 120 bpm; or

There are symptoms of sudden and severe fatigue, nausea, dizziness, or lightheadedness.

An individual may be at greater risk of heat-related disorders if:

Profuse sweating is sustained over hours; or

Weight loss over a shift is greater than 1.5% of body weight; or

24-hour urinary sodium excretion is less than 50 moles.

7.5.4 Acclimatization

According to the OSHA Technical Manual, a properly designed and applied heat acclimatization program decreases the risk of heat-related illnesses. Such a program basically involves exposing employees to work in a hot environment for progressively longer periods. The following protocol, based on NIOSH (1986), will be followed:

For workers who have had previous experience in jobs where heat levels are high enough to produce heat stress, the regimen should be 50% exposure on day one, 60% on day two, 80% on day three, and 100% on day four.

For new workers who will be similarly exposed, the regimen should be 20% on day one, with a 20% increase in exposure each additional day.

7.5.5 Rest Breaks

When heat stress conditions are applicable, all rest breaks should be taken out of the zone of exclusion into a cooler, shaded, rest area. If these conditions are not available, more frequent rest breaks will be taken. Persons who are not acclimatized shall be allowed additional breaks.

7.5.6 Sun Screen

Where there is potential for sun burn to exposed skin to solar radiation (short or long term) employees shall be provided sun screen, to use according to manufacturer's directions, with a sun protection factor (SPF) appropriate for their skin type and exposure.

7.5.7 Monitoring Heat Stress

These procedures should be considered when the ambient air temperature exceeds 70°F, the relative humidity is high (>50 percent), or when workers exhibit symptoms of heat stress.

The heart rate (HR) should be measured by the radial pulse for 30 seconds, as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 100 beats per minute or 20 beats per minute above resting pulse. If the HR is higher, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the pulse rate still exceeds 100 beats per minute at the beginning of the next rest period, the work cycle should be further shortened by 33 percent. The procedure is continued until the rate is maintained below 100 beats per minute or 20 beats per minute above resting pulse.

Heat Stroke

Heat stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Heat Cramps

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather.

Heat Syncope

Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Table 7 - 8 Symptoms and Treatment of Heat Stress

	Heat Syncope	Heat Rash	Heat Cramps	Heat Exhaustion	Heat Stroke
Signs and Symptoms	Sluggishness or fainting while standing erect or immobile in heat.	A skin irritation caused by excessive sweating during hot, humid weather. Profuse tiny raised red blister-like vesicles on affected areas, along with prickling sensations during heat exposure.	Painful spasms in muscles used during work (arms, legs, or abdomen); onset during or after work hours.	Fatigue, nausea, headache, giddiness; skin cool, moist and/or clammy; complexion pale, muddy, flushed or red skin; may faint on standing; rapid thready pulse and low blood pressure; oral temperature normal or low	Life threatening. Red, hot, dry skin; dizziness; confusion; rapid breathing and rapid weak pulse; high oral temperature (as high as 105°F)
Treatment	Remove to cooler area. Rest lying down. Increase fluid intake. Recovery usually is prompt and complete.	Keep skin clean and dry, preventing infection. Avoid using ointments or creams as they keep the skin warm and moist and may make the condition worse. Try to work in a cooler, less humid environment when possible.	Remove to cooler area. Rest lying down. Increase fluid intake.	Remove to cooler area. Remove or loosen tight clothing and apply cool, wet cloths such as towels or wet sheets. Rest lying down, with head in low position. If person is awake and alert, give a half glass of cool water every 15 minutes. Do not let them drink too quickly. Seek medical attention.	CALL 911 or local Emergency Medical Services Move the person to a cooler place. Keep the person lying down. Quickly cool the body by wrapping wet sheets around the body and fan it. If you have ice packs or cold packs, wrap them in a cloth and place them on each victim's wrists and ankles, in the armpits and on the neck to cool the large blood vessels. Watch for signals of breathing problems and make sure the airway is clear.

7.6 Cold Stress Plan

This procedure applies to all employees who perform fieldwork in cold environments at risk of cold stress injury. Frostbite, hypothermia, and trench foot are the most common cold induced problems that personnel must be protected against.

7.6.1 Training

Burns & McDonnell workers have been educated about cold stress as part of their HAZWOPER 40-hour initial training. Site workers will receive refresher training by the SSHS in cold stress safety and health procedures. The training program will include, at a minimum, instruction in the following areas:

Proper first aid treatment

Proper clothing practices

Proper eating and drinking habits

Recognition of impending frostbite

Recognition of the signs and symptoms of impending hypothermia or excessive cooling of the body when shivering does not occur

Safe working practices

The SSHS will be trained in first aid, CPR and cold stress conditions.

7.6.2 Environmental Monitoring

Frostbite and hypothermia are two types of cold injury that personnel must be protected against during the performance of field duties. Factors influencing the development of a cold injury include ambient temperature, wind velocity, and moisture from the environment and/or sweating.

The SSHS will monitor environmental conditions by recording ambient temperature and estimated wind-speed. Information contained in **Tables 7-1 and 7-2** will be used to evaluate the possibility of hypothermia among workers on-Site.

7.6.3 Protective Clothing and Rest Breaks

Wear appropriate cold weather clothing when temperatures are at or below 40°F to protect exposed skin. These protective items can include coats, thermal suites, gloves, facemask, and foot wear. The objective is to protect all parts of the body, with emphasis on the hands and feet. If wind chill is a factor on the work site, the cooling effect of the wind will be reduced by shielding the work area or requiring workers to wear an outer windbreak layer garment. Eye protection against a glare and ultraviolet light are recommended in snowy and icy conditions.

The work rate should slow to reduce probability of heavy sweating that could result in wet clothing. If heavy work must be done, opportunities for rest breaks will be provided where workers have the opportunity to remove clothing layers and/or to change into dry clothing. Conversely, plan work activities to minimize time spent sitting or standing still. Rest breaks should be taken in a warm, dry area. When fine work is required to be performed with bare hands, do not allow more than 10-20 minutes of work to occur in temperatures below 50 °F, without providing a hand warm-up break. Workers handling evaporative solvents during cold stress conditions will take special precautions to avoid soaking gloves and clothing because of the added danger of prolonged skin contact and evaporative cooling.

In addition to wearing gloves for hand warmth, the following recommendations are adapted from OSHA's 2007 cold-stress Emergency Preparedness Guide:

Wear at least three layers of clothing. An inner layer of wool, silk or synthetic to wick moisture away from the body. A middle layer of wool or synthetic to provide insulation even when wet. An outer wind and rain protection layer that allows some ventilation to prevent overheating.

Wear a hat or hood. Up to 40% of body heat can be lost when the head is left exposed.

Wear insulated boots or other footwear that is waterproof.

Keep a change of dry clothing available in case work clothes become wet.

With the exception of the wicking layer do not wear tight clothing. Loose clothing allows better ventilation of heat away from the body.

Avoid touching cold metal surfaces with bare skin.

Monitor your physical condition and that of your coworkers.

Move into warm locations during work breaks; limit the amount of time outside on extremely cold days.

Drink plenty of liquids to keep hydrated; avoiding caffeine and alcohol.

7.6.4 Identification and Treatment of Cold Stress

When frostbite, hypothermia, or other cold stress symptoms are suspected, treat the patient to relieve symptoms or transport them to the medical facility identified in this plan.

Table 7 - 9 Threshold Limit Values for a Work/Warm Up Schedule (for a Four-Hour Shift)										
Air Temp. Range / Sunny Sky	Wind Speed Miles per Hour, mph									
	No Noticeable		5		10		15		20	
°F	MWP	#	MWP	#	MWP	#	MWP	#	MWP	#
-15 / -19	Normal	1	Normal	1	75	2	55	3	40	4
-20 / -24	Normal	1	75	2	55	3	40	4	30	5
-25 / -29	75	2	55	3	40	4	30	5	Non-Emergency Work Should Cease	
-30 / -34	55	3	40	4	30	5				
-35 / -39	40	4	30	5						
-40 / -44	30	5								
≤ -45										
MWP = Maximum Work Period in minutes; # = Number of Breaks per 4-hour shift										
Temperature degrees are approximate for °F, Fahrenheit; Adopted from TLV 2007										

Table 7 - 10 Cooling Power of Wind on Exposed Flesh [Expressed as Equivalent Temperature - Under Calm Conditions]												
Estimated Wind Speed (mph)	Actual Temperature Reading (° F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Chill Temperature (°F)											
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
Wind speeds > 40 mph have little additional effect	LITTLE DANGER If < 1 hour with dry skin. Maximum danger of false sense of security.				INCREASING DANGER Danger from freezing of exposed flesh within one (1) minute.				GREAT DANGER Flesh may freeze within 30 seconds.			
	Trench foot and Immersion foot may occur at any point on this chart.											

This procedure applies to all employees who perform fieldwork in cold environments at risk of cold stress injury. Frostbite, hypothermia, and trench foot are the most common cold induced problems that personnel must be protected against.

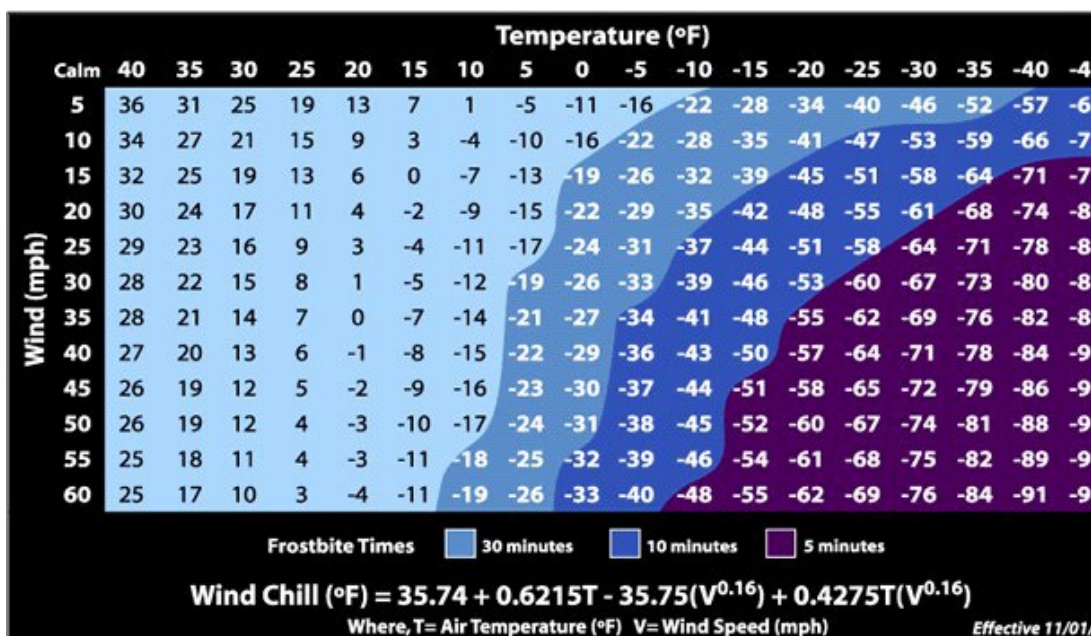
Employee-Owners and subcontractors/consultants who are exposed to extreme cold or work in cold environments may be at risk of cold stress. Extreme cold weather is a dangerous situation that can bring on health emergencies in susceptible people, such as those without shelter, outdoor workers, and those who work in an area that is poorly insulated or without heat. What constitutes cold stress and its effects can vary across different areas of the country. In regions relatively unaccustomed to winter weather, near freezing temperatures are considered factors for "cold stress." Whenever temperatures drop decidedly below normal and as wind speed increases, heat can more rapidly leave your body. These weather-related conditions may lead to serious health problems.

7.6.5 Wind Chill

Consider monitoring the work conditions and adjusting the work schedule using guidelines developed by the U.S. Army (wind-chill index) and the National Safety Council (NSC).

Wind-Chill Index is used to estimate the combined effect of wind and low air temperatures on exposed skin. The wind-chill index does not take into account the body part that is exposed, the level of activity, or the amount or type of clothing worn. For those reasons, it should only be used as a guideline to warn workers when they are in a situation that can cause cold-related illnesses.

Figure 7 - 2 NOAA Wind Chill Chart



NSC Guidelines for Work and Warm-Up Schedules can be used with the wind-chill index to estimate work and warm-up schedules for fieldwork. The guidelines are not absolute; workers should be monitored for symptoms of cold-related illnesses. If symptoms are not observed, the work duration can be increased.

7.6.6 Hypothermia

When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. A body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know it is happening and will not be able to do anything about it.

Symptoms of hypothermia can vary depending on how long you have been exposed to the cold temperatures.

Early Symptoms

- Shivering
- Fatigue
- Loss of coordination
- Confusion and disorientation

Late Symptoms

- No shivering
- Blue skin

Dilated pupils

Slowed pulse and breathing

Loss of consciousness

Take the following steps to treat a worker with hypothermia:

Alert the supervisor and request medical assistance.

Move the victim into a warm room or shelter.

Remove their wet clothing.

Warm the center of their body first—chest, neck, head, and groin—using an electric blanket, if available; or use skin-to-skin contact under loose, dry layers of blankets, clothing, towels, or sheets.

Warm beverages may help increase the body temperature, but do not give alcoholic beverages. Do not try to give beverages to an unconscious person.

After their body temperature has increased, keep the victim dry and wrapped in a warm blanket, including the head and neck.

If victim has no pulse, begin cardiopulmonary resuscitation (CPR).

7.6.7 Chillblains

Chilblains are caused by the repeated exposure of skin to temperatures just above freezing to as high as 60 degrees F. The cold exposure causes damage to the capillary beds (groups of small blood vessels) in the skin. This damage is permanent and the redness and itching will return with additional exposure. The redness and itching typically occurs on cheeks, ears, fingers, and toes.

Symptoms of chilblains include:

Redness

Itching

Possible blistering

Inflammation

Possible ulceration in severe cases

Workers suffering from chilblains should:

Avoid scratching

Slowly warm the skin

Use corticosteroid creams to relieve itching and swelling

Keep blisters and ulcers clean and covered

7.6.8 Frostbite

Frostbite is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in the affected areas. It most often affects the nose, ears, cheeks, chin, fingers, or toes. Frostbite can permanently damage body tissues, and severe cases can lead to amputation. In extremely cold temperatures, the risk of frostbite is increased in workers with reduced blood circulation and among workers who are not dressed properly.

Symptoms of frostbite include:

- Reduced blood flow to hands and feet (fingers or toes can freeze)

- Numbness

- Tingling or stinging

- Aching

- Bluish or pail, waxy skin

Workers suffering from frostbite should:

- Get into a warm room as soon as possible.

- Unless absolutely necessary, do not walk on frostbitten feet or toes-this increases the damage.

- Immerse the affected area in warm-not hot-water (the temperature should be comfortable to the touch for unaffected parts of the body).

- Warm the affected area using body heat; for example, the heat of an armpit can be used to warm frostbitten fingers.

- Do not rub or massage the frostbitten area; doing so may cause more damage

- Do not use a heating pad, heat lamp, or the heat of a stove, fireplace, or radiator for warming. Affected areas are numb and can be easily burned

7.6.9 Cold Water Immersion

Cold water immersion creates a specific condition known as immersion hypothermia. It develops much more quickly than standard hypothermia because water conducts heat away from the body 25 times faster than air. Typically people in temperate climates don't consider themselves at risk from hypothermia in the water, but hypothermia can occur in any water temperature below 70°F. Survival times can be lengthened by wearing proper clothing (wool and synthetics and not cotton), using a personal flotation device (PFD, life vest, immersion suit, dry suit), and having a means of both signaling rescuers (strobe lights, personal locator beacon, whistles, flares, waterproof radio) and having a means of being retrieved from the water.

7.7 Fatigue Management Plan

7.7.1 General

Burns & McDonnell is committed to providing a safe workplace for the benefit of their employees and subcontractors. In order to provide a safe work environment, employees must be able to perform their job duties in a safe, secure, productive, and effective manner, and remain able to do so throughout the entire time they are working. Burns & McDonnell recognizes that an effective fatigue management program can contribute to reducing the incidents and injuries among their workers.

Managing fatigue also means recognizing and assessing it as a possible factor in workplace incidents. Normal incident investigation questions should provide the investigator with an indication if fatigue could have been a contributing cause of an incident.

What is an Extended/Unusual Shift and when are they used?

A normal work shift is generally considered to be a work period of no more than eight consecutive hours during the day, five days a week with at least an eight-hour rest. Any shift that incorporates more continuous hours, requires more consecutive days of work, or requires work during the evening should be considered extended or unusual.

Extended shifts may be used to maximize scarce resources. Long or unusual shifts are often required during response and recovery phases of emergency situations. These schedules ensure that the appropriate scarce resources are in place and accessible while full mobilization is being developed.

Extended or unusual work shifts may be more stressful physically, mentally, and emotionally. Non-traditional shifts and extended work hours may disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration. These effects lead to an increased risk of operator error, injuries and/or accidents.

Society is oriented toward traditional daytime work hours and work at night will often intensify fatigue and reduce alertness. Workers generally will not acclimate to night work, and sleep patterns will generally be disrupted so the non-work periods do not provide full recovery, resulting in sleep deprivation. Studies suggest that it can take up to 10 days to adapt to a night time work schedule.

Fatigue is a message to the body to rest. It is not a problem if the person can and does rest. However, if rest is not possible, fatigue can increase until it becomes distressing and eventually debilitating. The symptoms of fatigue, both mental and physical, vary and depend on the person and his or her degree of overexertion. Some examples include: weariness, sleepiness, irritability, reduced alertness, lack of concentration and memory, lack of motivation, increased susceptibility to illness, depression, headache, giddiness, or loss of appetite and digestive problems.

A Fatigue Management Plan (FMP) shall be completed and implemented whenever work hours exceed:

- 10-hours a day for more than 5 consecutive days;
- 50-hours in a 5-day work week;
- 12-hours a day for more than 4 consecutive days, or
- 60-hours a week for sedentary (to include office) work.

The FMP shall address the following conditions for operator work hour limitations:

Rest Breaks

No work period shall exceed 4.5 hours.

All worker to have a minimum 30 minutes break after the each 4.5 hour work period.

In extreme conditions (agreed and recorded at tailgate meetings) high energy use tasks will have an additional 15 minute break between work periods.

Equipment Operators.

Any employee who shows signs of fatigue or who has reported fatigue will not be permitted to operate any heavy equipment or vehicle(s) until he/she has had a minimum of 14 hours of rest

Operators of equipment, such as hoisting equipment and draglines, mobile construction equipment, electrical power systems, hydropower plants, industrial manufacturing systems, hydraulically operated equipment, powered vessels, and boats, shall not be permitted to exceed 12-hours of duty time in any 24-hour period, including time worked at another occupation. A minimum of 8 consecutive hours of rest between shifts in a 24-hour period is required.

Rest is defined as: a period of time during which the person concerned is off duty; is not performing work, including administrative tasks; and is afforded the opportunity for uninterrupted sleep. This does not include time for breaks, meals, or travel time to/from work.

Motor Vehicle Operators.

Operators of motor vehicles, while on duty, shall not operate vehicles for a continuous period of more than ten 10-hours in any 24-hour period; moreover, no employee, while on duty, may operate a motor vehicle after being in a duty status for more than 12-hours during any 24-hour period.

A minimum of 8 consecutive hours shall be provided for rest in each 24-hour period.

Floating Plant.

All floating plant personnel shall be scheduled to receive a minimum of 8-hours rest in any 24-hour period, except:

When quarters are provided immediately adjacent to, or aboard the work site, these hours of rest may be divided into no more than 2 periods, one of which must be at least 6 continuous hours in length.

Rest periods may be interrupted in case of emergency, drill, or other overriding operational necessity.

7.7.2 Responsibilities

Supervisors / Managers / Foreman are responsible for

Observing the attentiveness, performance, and behavior of the employees they supervise

Assuring the employees they supervise are fit for duty

Following their FMP when presented with circumstances or knowledge that indicate that an employee may be showing signs of fatigue

Managing work schedules to help control worker fatigue.

The Supervisor will monitor workers that are near the end of their shift cycle for any signs of fatigue. If and when this is observed the worker shall be informed that he/she is required to return to their room and get extra time to sleep.

Upon their return to work on the following day they are to be monitored for any continued signs of fatigue.

The supervisor will also monitor the work to insure that the worker is attentive and performing his/her tasks in a safe and efficient manner.

The Supervisor will present the information or observations to the employee at the earliest possible time in order to address the fatigue issues that may arise from their work schedule. This discussion will include the possibility of changes to their tasks and time requirements (these may be adjusted to minimize the work conditions placed on the worker).

Workers / Employees are responsible for

Managing their time away from the worksite in a manner that allows them to get plenty of rest and approximately 7-8 hours of sleep every evening

Taking micro breaks throughout the day and taking advantage designated breaks to minimize fatigue and increase mental fitness

Notifying their supervisors when they feel like they are getting fatigued and are not fit for duty

Notifying the supervisor when they observe a coworker acting in a manner that indicates the coworker may be fatigued

Reporting any medication being taken including any over the counter medication such as for cold or flu, as these may impair the employee's ability to work safely and contribute to them getting fatigued at an quicker pace

7.8 Ultraviolet Radiation/Sun Exposure

7.8.1 Ultraviolet (UV) Rays

Ultraviolet (UV) rays are a part of sunlight that is an invisible form of radiation. UV rays can penetrate and change the structure of skin cells.

There are three types of UV rays: ultraviolet A (UVA), ultraviolet B (UVB), and ultraviolet C (UVC).

UVA is the most abundant source of solar radiation at the earth's surface and penetrates beyond the top layer of human skin. Scientists believe that UVA radiation can cause damage to connective tissue and increase a person's risk for developing skin cancer.

UVB rays penetrate less deeply into skin, but can still cause some forms of skin cancer.

Natural UVC rays do not pose a risk to workers because they are absorbed by the Earth's atmosphere.

7.8.2 Sunlight exposure

Sunlight exposure is highest during the summer and between 10:00 a.m. and 4:00 p.m. Working outdoors during these times increases the chances of getting sunburned.

Snow and light-colored sand reflect UV light and increase the risk of sunburn.

Employee-Owners and subcontractors/consultants are at risk of UV radiation even on cloudy days.

Many drugs increase sensitivity to sunlight and the risk of getting sunburn. Some common ones include Thiazides, Diuretics, Tetracycline, Doxycycline, Sulfa antibiotics, and NSAIDs, nonsteroidal anti-inflammatory drugs, such as ibuprofen.

7.8.3 Prevention

Supervisors should take the following steps to protect workers from exposure to UV radiation:

When possible, avoid scheduling outdoor work when sunlight exposure is the greatest

Provide training to workers about UV radiation including:

 Their risk of exposure

 How to prevent exposure

The signs and symptoms of overexposure

Workers should follow these recommendations to protect themselves from UV damage:

Wear sunscreen with a minimum of SPF 15.

Wear appropriate clothing

Sunscreen Performance and SPF

SPF refers to the amount of time that persons will be protected from a burn. An SPF of 15 will allow a person to stay out in the sun 15 times longer than they normally would be able to stay without burning. The SPF rating applies to skin reddening and protection against UVB exposure.

SPF does not refer to protection against UVA. Products containing Mexoryl, Parsol 1789, titanium dioxide, zinc oxide, or avobenzone block UVA rays.

Sunscreen performance is affected by wind, humidity, perspiration, and proper application.

Old sunscreens should be thrown away because they lose their potency after 1-2 years.

Sunscreens should be liberally applied at least 20 minutes before sun exposure.

Special attention should be given to covering the ears, scalp, lips, neck, tops of feet, and backs of hands.

Sunscreens should be reapplied at least every 2 hours and each time a person gets out of the water or perspires heavily.

Some sunscreens may also lose efficacy when applied with insect repellents, necessitating more frequent application when the two products are used together.

Follow the application directions on the sunscreen bottle.

Appropriate Clothing.

Clothing with a tight weave is more protective than loosely woven clothing.

High-SPF clothing has been developed to provide more protection for those with photosensitive skin or a history of skin cancer.

Workers should also wear wide-brimmed hats and sunglasses with almost 100% UV protection and side panels to prevent excessive sun exposure to the eyes.

7.9 Severe Weather & Lightning

7.9.1 Lightning

There is no safe place outside when thunderstorms are in the area. If you hear thunder, you are likely within striking distance of the storm. Lightning often strikes more than three miles from the center of the thunderstorm, far outside the rain or thunderstorm cloud and can strike 10-15 miles from the thunderstorm.

When thunderstorms threaten, don't start anything you can't quickly stop. Monitor the weather to identify potentially hazardous weather approaching the area (TV/cable, radio, etc.) and pay attention to the daily forecasts (www.nws.noaa.gov) so you know what to expect during the day. Also pay attention to early signs of thunderstorms: high winds, dark clouds, rain, distant thunder or lightning. If these conditions exist, do not start a task you cannot quickly stop.

Lightning's distance: Count the time from the flash to the bang—for each 5 seconds between, the lightning is 1 mile away (activate lightning safety plan at count of 30 or 6 miles away). Stop work, stay in safe shelter and don't resume activities for 30 minutes—it's called the 30-30 rule.

Note: The 30-30 Rule is best suited for existing thunderstorms moving into the area. It cannot protect against the first lightning strike.

Caution is necessary in the field with regard to the hazards of lightning. Decide when to suspend activities and move to a safe location. The following precautions should be taken:

Outdoors

Be aware of the weather to foresee and watch for the buildup of possible thunderstorms.

Be prepared to demobilize and take shelter before thunderstorms are too close. A safe shelter is a substantial building with electricity or plumbing or an enclosed, metal-topped vehicle with windows up.

Stay off and away from anything tall or high, including rooftops, scaffolding, utility poles and ladders.

Stay off and away from large equipment such as bulldozers, cranes, backhoes, track loaders and tractors.

Do not touch materials or surfaces that can conduct electricity, including metal scaffolding, metal equipment, utility lines, water, water pipes and plumbing.

If you are caught outside with no safe shelter anywhere nearby the following actions may reduce your risk

- Immediately get off elevated areas such as hills, mountain ridges or peaks

- Never lie flat on the ground, seek shelter under an isolated tree, or shelter under a cliff or rocky overhang

- Immediately get out and away from ponds, lakes and other bodies of water

- Stay away from objects that conduct electricity (barbed wire fences, power lines, windmills, etc.)

Indoor Lightning Safety

Stay off corded phones, computers and other electrical equipment that put you in direct contact with electricity.

Avoid plumbing, including sinks, baths and faucets.

Stay away from windows and doors, and stay off porches.

Do not lie on concrete floors, and do not lean against concrete walls.

Curtailment of Site Activity

Lightning activity should be monitored using appropriate detection equipment. If lightning activity threatens during site activities, a number of incremental action steps to minimize personnel exposure are to be implemented.

Lightning at 20 miles – Action steps:

- Notify personnel of increased lightning hazard.

- Prepare to cease unnecessary outdoor activity.

- Have nonessential personnel find shelter.

Lightning at 15 miles. Or thunder heard by personnel, but no lightning flash observed – Action steps:

Secure outdoor equipment.

Cease outdoor activity other than securing equipment and critical tasks.

Personnel not occupied due to activity curtailment should move to designated lightning shelter.

Lightning at 10 miles or lightning observed – Action steps:

Immediate cessation of outdoor activity. Abandon efforts to secure equipment if not completed.

All personnel take cover in designated shelter. If no other shelter is available, personnel can move to hardtop automobiles for shelter. Personnel on foot should find low risk locations and disperse if no other options are available

7.9.2 Tornado

Tornado Watch – Tornadoes are possible in the area; remain alert for approaching storm.

Tornado Warning – A Tornado has been sighted or indicated by weather radar. If a tornado warning is issued for your area and the sky becomes threatening, move to a pre-designated place of safety.

When events and activities are calendared during tornado seasons, it is important that all participants are well informed and have a plan of action for their occurrence. Upon notification of a tornado warning, all activities and events should be cancelled until weather conditions and field conditions allow the activity to resume.

Recognizing the Danger – What to Look and Listen for

Look out for dark, often greenish skies, and a wall cloud, large hail and loud roar similar to a freight train. If a warning is issued and you are indoors, stay away from windows and move to an interior room or hallway or the lowest floor; get under a sturdy piece of furniture if possible. At the fields or enroute, get out of automobiles, trailers, or camping type vehicles.

7.9.3 Thunderstorms

Monitor the weather to identify potentially hazardous weather approaching the area (TV/cable, radio, etc.).

Decide when to suspend activities and move to a safe location.

Safe evacuation sites include substantial and enclosed buildings and fully enclosed metal vehicles with the windows up.

Unsafe shelters include solitary trees, water, metal objects, electrical and electronic equipment, open fields, and high ground.

7.9.4 Flash Floods

Flash Flood Watch – Indicates that flash flooding is a possibility in or close to the watch area. Those in the affected area are urged to be ready to take action if a flash flood warning is issued or flooding is observed. These watches are issued for flooding that is expected to occur within 6 hours after the heavy rains have ended.

Flash Flood Warning – A flood warning issued for life/property threatening flooding that will occur within 6 hours. It could be issued for rural or urban areas as well as for areas along the major rivers. Very heavy rain in a short period of time can lead to flash flooding, depending on local terrain, ground cover, degree of urbanization, amount

of man-made changes to the natural river banks, and initial ground or river conditions. Dam breaks or ice jams can also create flash flooding.

Listen to local radio and TV stations for information and advice.

Stop work if advised to evacuate, do so immediately!!

Move to a safe area...not cut off by floodwaters.

DO NOT attempt to drive over a flooded roadway. Do not drive into barricaded areas; the barricades are there for a reason!

7.9.5 Hurricane Safety Tips

Important Terms

It is important to remain informed and understand the terminology. By international agreement, all cyclone circulation originating over tropical waters are referred to as “tropical cyclones” and classified by form and intensity as follows:

Tropical Disturbance: A moving area of thunderstorms in the tropics that maintains its identity for 24 hours or more.

Tropical Depression: Rotary circulation at the surface, highest constant windspeed 38 mph or 33 knots.

Tropical Storm: Distinct rotary circulation, constant wind speed ranges from 39 – 73 mph or 34 – 63 knots.

Hurricane: A tropical cyclone with wind speeds of 74 mph or greater that is usually accompanied by heavy rain, thunder, lightning, coastal tidal surges and possible tornadoes. These storms are also known as typhoons in the Western Pacific and cyclones in the Indian Ocean and South Pacific Ocean.

Hurricane Watch: Issued for a coastal area where there is a threat of hurricane conditions within 24 - 36 hours.

Hurricane Warning: Issued when hurricane conditions are expected in a specified coastal area in 24 hours or less. Actions for protection of life and property should begin immediately.

Flash Flood Watch: A flash flood is possible in the area. Stay alert for deteriorating conditions.

Flash Flood Warning: A flash flood is imminent. Take immediate protective actions.

While forecasting methods and tools are improving year after year, people are still at great risk to tropical storms and hurricanes because they continue to build along the coastline. The following is a list of helpful hints that you can use before hurricane season, when a watch or warning is issued, before, during, and after a tropical storm, or hurricane strikes your area.

Pre-Season Preparation

Enter the season prepared; Know all evacuation routes if you live close to the coast.

Make sure your home / building/facility meets building codes for withstanding hurricanes, and they have storm shutters.

Maintain a current list of telephone numbers and contacts for emergency action team members, emergency management (civil defense), local police and fire departments, medical facilities, utilities, contractors, vendors, insurance agent/ broker, building owner, HVAC contractor, electrician, plumber, etc.

Contact local authorities to plan and coordinate activities before the need for emergency action. That way you will both be better prepared.

Designate a person to monitor weather conditions and keep the action plan leader up to date on weather conditions before, during, and after a hurricane. Arrange backup communications, such as two-way radios or cellular phones.

Arrange an off-site emergency communications control center, such as a hotel meeting room just outside the hurricane area, in case it becomes too dangerous to remain on site.

Review your business continuity plan and update as needed, including employee contact information. If you do not have a business continuity plan, consider utilizing the Liberty Mutual Disaster Recovery and Business Continuity Plan Property Risk Management Guide to assist in developing one.

Remind employees of key elements of your business continuity plan, including post-event communications procedures and work/payroll procedures. Make sure all employees have a paper copy of the plan.

Ensure that post-event communications procedures discuss how employees will be notified when to return to work. (Local radio or TV station public service announcement, telephone call, employee intranet, etc.)

Inspect all fire protection and life safety equipment.

Provide diesel or gasoline-driven emergency generator on site with full tank of fuel and reserve fuel on hand. (High demand may make it difficult to obtain a generator. Advance arrangements and/or retainers may ensure availability.)

Determine which company records are vital and make plans to protect/relocate them.

Identify vulnerable and/or critical equipment and processes. Provide instructions for safely shutting down processes, data processing equipment, etc. Consider disconnecting and relocating critical equipment to higher elevations.

Identify key equipment and stock that will need to be protected with tarpaulins or waterproof covers.

Identify a hot site (an off-site data processing location for immediate business resumption) or a cold site (an off-site location ready for setup of your own data processing equipment). Also, consider an off-site business recovery facility where you can resume general business operations.

Identify actions to take in the event of live electrical wires, leaking gas, flammable liquids, corrosive/toxic materials, and damage to foundations or underground piping.

Evaluate the interdependency of your facilities and develop a contingency plan.

Maintain ongoing agreements with contractors for supplies and repairs needed after a hurricane.

When possible, use contractors who are outside potential hurricane areas, as local contractors may also have storm damage or local authorities' needs may be given a higher priority.

Have proper tools, supplies, plenty of batteries and flashlights, and a first aid kit

Always have plenty of non-perishable foods on hand.

Listen to a NOAA Weather Radio (Available on the Red Cross Store) for critical information from the National Weather Service (NWS).

Check your disaster supplies. Replace or restock as needed

Create a hurricane evacuation plan with members of your household. Planning and practicing your evacuation plan minimizes confusion and fear during the event.

Find out about your community's hurricane response plan. Plan routes to local shelters, register family members with special medical needs and make plans for your pets to be cared for

When a Watch or warning is issued

Leave low lying areas.

Protect windows with plywood boards, or storm shutters.

Secure outside objects. Bring in anything that can be picked up by the wind (bicycles, lawn furniture).

Close your windows, doors and hurricane shutters. If you do not have hurricane shutters, close and board up all windows and doors with plywood.

Turn your refrigerator and freezer to the coldest setting. Keep them closed as much as possible so that food will last longer if the power goes out

Make sure you have plenty of fuel and water. Have several days' supply of food and water for each family member.

If called to evacuate, do so immediately.

Before the Storm

Be ready to put your plan and preparation into action; Pay attention to local weather reports on radio, television, or the internet.

Have house boarded up, or have storm shutters in place.

Have plenty of food and water.

Make sure all your tools, supplies, and first aid kit available for use.

Have a secure room available.

Turn off propane tank.

Unplug small appliances.

Fill your car's gas tank.

Obey evacuation orders. Avoid flooded roads and washed out bridges

During the Storm

Emergency personnel should stay at the facility only if safe to do so. Notify local authorities if personnel are staying on site.

Keep names and phone numbers of your electrician, heating contractor, plumber, fire department, and building owner easily accessible.

In an emergency situation, comply with all directions provided by authorities. Always keep your first-aid kit available.

Designate times for key staff members to call into conference calls for situation overviews.

Update employee emergency hotline and/or company intranet and website with posting on the status of the facility.

When safe to do so, patrol the property continuously. Watch for roof leaks, pipe breakage, fire, or structural damage. Constantly monitor any boilers that must remain online.

During power failure, turn off electrical switches to prevent re-energizing of equipment until necessary checks are completed.

Stay in a secure room; away from windows.

Do not use the phone, or candles.

Monitor Weather and Civil Service Bulletins on either regular or NOAA radio.

Have supplies on hand.

Remain indoors when the eye moves over your area because the storm will resume shortly.

After the Storm

Make sure that all is definitely clear outside, and the storm has completely passed before going out.

Report downed power lines, and stay away from them.

Use stored water and food.

Continue listening to a NOAA Weather Radio or the local news for the latest updates.

Stay alert for extended rainfall and subsequent flooding even after the hurricane or tropical storm has ended.

If you evacuated, return home only when officials say it is safe.

Drive only if necessary and avoid flooded roads and washed out bridges.

Keep away from loose or dangling power lines and report them immediately to the power company.

Stay out of any building that has water around it.

Inspect your home for damage. Take pictures of damage, both of the building and its contents, for insurance purposes.

Use flashlights in the dark. Do NOT use candles.

Avoid drinking or preparing food with tap water until you are sure it's not contaminated.

Check refrigerated food for spoilage. If in doubt, throw it out.

Wear protective clothing and be cautious when cleaning up to avoid injury.

Watch animals closely and keep them under your direct control.

Use the telephone only for emergency calls.

7.9.6 Earthquakes

Action to Take If an Earthquake Strikes

One of the greatest threats during an earthquake is falling debris. Earthquakes are unpredictable and strike without warning. Therefore, it is important to know the appropriate steps to take when one occurs, and to be so thoroughly familiar with these steps, that you can react quickly and safely. If you are in a commercial or residential building, remember the following procedures.

Steps to Take During An Earthquake:

Remain inside the building.

Seek immediate shelter under a heavy desk or table--or brace yourself inside a door frame or against an inside wall.

Stay clear of windows--at least 15 feet away.

Stay put. If shaking causes the desk or table to move, be sure to move with it.

Resist the urge to panic. Organize your thoughts. Think as clearly as possible, and anticipate the sights and sounds that may accompany an earthquake.

Don't be surprised if the electricity goes out, fire or elevator alarms begin ringing, or the sprinkler system is activated.

Expect to hear noise from broken glass, creaking walls, and falling objects.

Steps To Take Immediately After An Earthquake:

Remain in the same "safe" location for several minutes after the earthquake, in case of aftershocks.

Do not attempt to evacuate or leave your immediate area unless absolutely necessary or when instructed to do so by a proper authority.

Check for injuries and administer necessary first aid. Recognize and assist co-workers who are suffering from shock or emotional distress.

Implement your survival plan. Establish a temporary shelter if rescue teams are expected to be delayed.

Use a stairway when instructed to exit building.

Steps to Take Before An Earthquake:

Prepare an earthquake kit, with warm clothing, food and water to last at least 72 hours.

Organize a planning session to be conducted by your local emergency response authorities.

7.10 Working Over or Near Water Hazards

7.10.1 Working Over or Near Water, Barges and Boats

Employees when working over or near water, where the danger of drowning exists shall be provided with U.S. Coast Guard (USCG) - approved personal flotation devices.

Inspect personal flotation devices before and after each use for defects which would alter their strength or buoyancy.

Do not use defective units.

Employees who will be working over or near water must be adequately trained in their responsibilities and the safe work practices associated with this task. All water work activities shall be documented and discussed on the PTA (project task analysis) and shall be signed by all members of the crew prior to the start of work activities near or over water

At least one person in each crew shall be trained in cardiopulmonary resuscitation, first aid, and basic emergency-response skills

Employees who are unable to swim must notify their supervisor

Employees, who will be performing work over or near water, where the danger of drowning exists, are not permitted to work alone at any time.

Ensure a 30 in. diameter life ring with 150 ft. of (3/8" dia. – 600 lb. capacity) line is readily available and that travel distance between the life rings does not exceed 200 ft.

Warning rope and flags / barricade tape shall be installed a minimum of 10 ft. from the water's edge to restrict access.

All personnel will be accounted for on site by the person in charge of the operation, safety equipment will remain in place for the complete operation and until all persons are accounted for.

When preparing to go out on a boat the operator must check that the required safety equipment is onboard and the boat and other equipment is in good operating condition

All boats must carry one wearable (Type I, II, III or V) USCG - approved PFD for each person onboard or being towed.

All protective equipment must be worn in a manner that does not create a hazard in itself (loose straps, catch hazards, wrong sized etc.) Everyone who uses personal protective equipment shall be trained in its use, operation and maintenance.

All on-water activities must have a communication plan to ensure prompt and effective communication with boats, shoreline crews and On-Site Supervisor or trip plan holder.

The communication plan should make use of whatever technology is available.

All boat operators and shoreline captains should be equipped with radios and trained in the use of the radios.

Hand signals should also be reviewed and understood by all as a back-up communication system.

7.10.2 Boating Safety

Review and participate in barge/boat tailgate safety meeting, including emergency escape procedures and emergency escape route assignments;

Ramps to barges/boats shall be of adequate strength, provided with side boards, well maintained, and properly secured;

The subcontractor shall eliminate, to the extent possible, conditions causing slippery working and walking surfaces used by employees;

Active work areas shall be kept free of equipment and materials not in use, and clear of debris not necessary for the work in progress;

The barge/boat shall have (a) suitable lifeboat(s) to handle the number of people on the barge/boat;

A first aid kit and blanket or other suitable covering shall be available on the barge

Trip Plans will be filed before any boat leaves a custodian

Boat Crew and Passenger Briefing checklists must be completed before any boat leaves shore and any on-water activity takes place

Boat Equipment and Service Checklists must be completed at the beginning and end of each day of operation

All operations that involve the deployment of larger equipment (booms, anchors, shorelines etc.) will be conducted with a minimum of two appropriately sized boats with at least one boat being assigned safety boat duties.

Boats must have a minimum crew of two before leaving shore (operator plus one).

All personnel in a boat must wear a USCG approved Lifejacket or Personal Floatation Device.

Marker Buoys are required if any area of the watercourse is obstructed from normal navigation (when any lines, booms, anchors or other “in water” equipment is tied to shore or across a channel or narrow channels obstructed by work activities). Hazard and information buoys must be placed upstream and downstream with enough warning distance to allow users to safely navigate the hazard.

If a boat or boats are being used with no shoreline crew or On Site Supervisor (one or more boats going on a river or lake run, site assessment etc.) a reliable means of communicating with a control person (trip plan holder) must be in place.

In areas where there is no cellular or radio service, boat operators must research communication options (e.g. location of public telephones, satellite telephones, and other means of communication) and devise a communication plan which identifies a means of communication to be implemented in case of emergency.

No boats are to operate within 440 yards upstream or 110 yards downstream of any low head dam, weir or water control structure.

Live lines (lines from the boat to any other object) will be looped (not tied) in such a way that it can be released when under pressure, the line must be under the immediate control of a crew member. The boat should only be tied to the shore.

Parked boats must be tied to the shore.

Loading and unloading of equipment will only occur when the boat is secured to shore and stable.

Equipment transported by boat must be secured in such a way that movement or shifting cannot occur.

No alcohol is allowed in the boats or along the shoreline at any time. Operation of the boats by persons impaired by drugs (both prescription and non-prescription) or alcohol is prohibited. Drivers suspended from operating a motor vehicle by an impaired driving conviction are prohibited from operating project boats.

7.10.3 Responsibilities

On-Site Supervisor

Overall site safety. Ensure site control, accident management plan and appropriate site safety and first aid personnel are in place.

Ensure compliance with all project guidelines and applicable regulations (accident reporting, spill reporting etc.)

Brief team captains on the operation and their duties

Approve Water Activity Hazard Assessment

Exercise emergency authority to stop and prevent unsafe activities.

Boat Captain

The Boat Captain may also act as a boat operator

Safety briefing of boat operators

Assign work boat and safety boat duties

Participate in Water Activity Hazard Assessment

Supervise all boat activities

Set up traffic patterns and speed control for multi-boat operations

Ensure effective communications between boats and shoreline

Exercise emergency authority to stop and prevent unsafe activities.

Boat Operators

Responsible for the safety of the boat and crew

Responsible for compliance to all boating legislation and WCSS Guidelines

Ensure the Equipment & Service Checklist is completed (pre and post use)

Complete Crew/Passenger Briefing Checklist

Supervise equipment loading and securing

Filing of Trip Plan with On Site Supervisor (or Responsible Person if no Supervisor or ground support present)

Exercise emergency authority to stop and prevent unsafe activities.

Safety Boat

Placement of any hazard or information buoys

Ensure all public using the water way or immediate shoreline is notified of the operation and how to safely avoid the hazards

Monitor the water and shoreline activities

Act as a rescue boat

Boat Crew

As assigned by Boat Captain or Boat Operator

Must receive Crew/Passenger Briefing prior to leaving shore and conducting any on water activity

Safety Captain (Safety Captain should not be assigned to work on a crew):

Participate in the Water Activities Hazard Assessment

Supervise the safety of all personnel

Complete Shoreline Crew/Observer Briefing & Checklist

Ensure appropriate placement of shoreline safety/rescue stations

Exercise emergency authority to stop and prevent unsafe activities.

Shoreline Worker:

As assigned by Captain or other team leaders

7.10.4 Shoreline Safety

Shoreline crew and observer briefing checklists must be completed before any activity takes place

If chest waders are worn by personnel working on shore, in or near the water, they must have a waist belt capable of stopping water from entering the lower portion of the wader.

The “buddy system” will be used for any shoreline crews where water entry is required.

Shoreline safety equipment stations must be in place on any exercise or operation where shoreline crews are working in water.

Full body harnesses and safety lines will be used by shoreline crews that enter water with steep banks, or they are working immediately upstream of weirs, log jams, deep holes or rapids. These areas should be avoided if possible as equipment deployment sites.

7.10.5 Personal Flotation Devices

When preparing to go out on a boat the operator must check that all the required safety equipment is onboard.

All boats must carry one wearable (Type I, II, III or V) U. S. Coast Guard-approved PFD for each person onboard or being towed.

All PFDs must be:

- U. S. Coast Guard-approved

- In good and serviceable condition.

- Readily accessible.

Readily accessible means you must be able to put the PFD on in a reasonable amount of time in an emergency.

PFDs should not be stowed in plastic bags, in locked or closed compartments or have other gear stowed on top of them.

Of the proper size for the intended wearer. Sizing for PFDs is based on body weight and chest size.

Inherently buoyant Type III, Type V work vests, or better USCG-approved personal flotation devices (PFDs) shall be provided and properly worn (zipped, tied, latched, etc., in closed fashion) by all persons in the following circumstances: **See Chapter 9 “Personal Protective Equipment” - Working Over Near Water - Figure 9 -1.**

On floating pipelines, pontoons, rafts, or stages;

On structures or equipment extending over or next to water except where guardrails, personal fall protection system, or safety nets are provided for employees;

Working alone at night where there are drowning hazards, regardless of other safeguards provided;

In skiffs, small boats, or launches, unless in an enclosed cabin or cockpit; or

Whenever there is a drowning hazard.

Automatic-Inflatable PFDs Type V or better, USCG Approved for Commercial Use, may be worn by workers in lieu of inherently buoyant PFDs, provided the following criteria are met:

PFDs are worn only by workers over 16 years of age and those who weigh 90 lb. or more;

An AHA must be performed for this activity;

PFDs must be inspected, maintained, stowed and used only in accordance with the manufacturer's instructions (currently not intended to be used in areas of heavy construction or maintenance or where hot work (welding, brazing, cutting, soldering, etc.) is to be performed;

PFDs shall provide a 30-lb. minimum buoyancy post deployment;

USACE projects shall comply with USACE's Auto-Inflatable Personal Flotation Device, Standards of Use Procedures, and current edition.

The USCG-approval for auto-inflatable PFD's is contingent upon the PFD being worn, not stowed. All auto-inflatable PFDs must be worn at all times drowning hazard exists.

Throwable devices (Type IV PFD).

On USCG-inspected vessels, ring buoys are required to have automatic floating electric water lights.

On all other floating plant and shore installations, lights on life rings are required only in locations where adequate general lighting (e.g., floodlights, light stanchions) is not provided. For these plants and installations, at least one life ring, and every third one thereafter, shall have an automatic floating electric water light attached.

All PFDs shall be equipped with retro-reflective tape in accordance with USCG requirements.

Life rings (rope attachment not required) and ring buoys (rope attachment required) shall be USCG-approved; shall have at least 70 ft. of 3/8 in. of attached solid braid polypropylene, or equivalent. Throw bags may be used in addition to life rings or ring buoys. Life rings or ring buoys shall be readily available and shall be provided at the following places:

At least one, not less than 24 in. dia. on each safety skiff up to 26 ft. in length

At least one (1) 30 in. in diameter on all motor boats longer than 26 ft. in length up to 65 ft. in length and for motor boats 65 ft. in length or longer, a minimum 3 life buoys of not less than 30 in dia. and one additional for each increase in length of 150 ft. or fraction thereof; and

At least one (1) at intervals of not more than 200 ft. on pipelines, walkways, wharves, piers, bulkheads, lock walls, scaffolds, platforms, and similar structures extending over or immediately next to water, unless the fall distance to the water is more than 45 ft. , in which case a life ring shall be used. (The length of line for life rings at these locations shall be evaluated, but the length may not be less than 150 feet.)

At navigation locks, an analysis of the benefits versus the hazards of using floating safety blocks (blocks that may be quickly pushed into the water to protect individuals who have fallen in the water from being crushed by vessels) shall be made.

This analysis shall be documented as an AHA.

If the use of blocks is found acceptable, consideration shall be given to the size and placement of the blocks, the appropriate means of securing and signing the blocks, etc.

When the use of blocks is found unacceptable, alternative safety measures shall be developed.

7.10.6 Lifesaving and Safety Skiffs

At least one skiff shall be immediately available at locations where employees work over or immediately next to water. Skiffs shall be kept afloat or ready for instant launching.

Personnel trained in launching and operating the skiff shall be readily available during working hours. Lifesaving personnel shall perform a lifesaving drill, including the launching and recovery of the skiff, before the initiation of work at the site and periodically thereafter (but at least monthly or whenever new personnel are involved).

Skiffs shall be kept afloat or ready for instant launching. A lifesaving skiff is considered as being "immediately available" when the following criteria are met:

The skiff must be in the water or capable of being quickly launched by one person.

There must be at least one person present and specifically designated to respond to water emergencies and operate the skiff at all times when there are employees above water.

When the operator is on break another operator must be designated to provide the requisite coverage while employees are above water.

The designated operator must either man the skiff at all times or remain in the immediate area such that the operator can quickly reach the skiff and get underway.

The skiff operator may be assigned other tasks provided the tasks do not interfere with the operator's ability to quickly reach the skiff and get underway.

The communication system, such as a walkie-talkie, must be used to inform the skiff operator of an emergency and to inform the operator where the skiff is needed.

The skiff must be equipped with both a motor and oars.

Required equipment must be onboard and meet or exceed USCG requirements. Skiffs shall be equipped as follows:

Four (4) oars (two (2) if the skiff is motor powered);

Oarlocks attached to gunwales or the oars;

One (1) ball-pointed boat hook;

One (1) ring buoy with 70 ft. of 3/8 in. solid braid polypropylene, or equivalent, line attached; and
PFDs in number equaling the skiff rating for the maximum number of personnel allowed on board.

Fire Extinguisher.

In locations where waters are rough or swift, or where manually operated boats are not practical, a power boat suitable for the waters shall be provided and equipped for lifesaving.

Skiffs and power boats shall have buoyant material capable of floating the boat, its equipment, and the crew.

On vessels (such as skiffs) without permanently mounted navigation lights, portable battery-operated navigation lights will be available and used for night operations.

Lifesaving Boats.

One or more lifesaving boats, either manually or power-operated, shall be provided and readily accessible at all times.

Lifesaving boats shall be properly maintained, ready for emergency use and equipped with oars and oarlocks attached to the gunwales, boathook, anchor, ring buoy with 50 ft. of 600 pound capacity line and two life preservers. Oars are not required on boats that are powered by an inboard motor.

Where, because of swift current, lifeboats cannot be used, a line shall be stretched across the stream with tag lines or floating planks trailing in the water at intervals not to exceed 6 ft. If this is impracticable, some other arrangement for providing effective life lines near the water surface shall be provided.

The employer shall ensure that there is in the vicinity of each barge in use at least one portable or fixed ladder which will reach from the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that the barge is in use.

7.10.7 Access to and from Wharves, Floats, Barges, and/or Boats.

Ramps for access of vehicles to or between barges shall be of adequate strength, provided with side boards, well maintained, and properly secured.

Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp or a safe walkway shall be provided.

When dredge discharge pipe lines are used as walkways, they shall be provided with a flat surface walkway at least 12 in. wide, anchored to the pipe line to prevent displacement. A railing providing at least a single rail or taut rope 42 to 45 in. high shall be provided along one side. When rope is used, it shall be at least as strong as 3/4-in. diameter Manila or at least 3/8-in. diameter wire rope, or equivalent.

Catwalks or platforms shall be at least 20 in. wide with railings provided at all locations over bodies of water more than 4 feet deep. Plank for such use at those locations subject to immersion shall be rough sawn and treated to resist rot. Railings shall be installed in accordance OSHA guardrail regulations.

When the upper end of the means of access rests on or is flush with the top of the bulwark, substantial steps properly secured and equipped with at least one substantial hand rail not less than thirty-four (34) in. or more than thirty-eight (38) in. above the tread nosing shall be provided between the top of the bulwark and the deck.

Obstructions shall not be laid on or across the gangway, ramp, catwalk or other means of access.

The means of access shall be adequately illuminated for its full length.

Jacob's ladders shall be of the double rung or flat tread type. They shall be well maintained and properly secured.

A Jacob's ladder shall either hang without slack from its lashings or be pulled up entirely.

7.10.8 Working Surfaces of Barges.

Employees shall not be permitted to walk along the sides of covered lighters or barges with coamings more than 5 ft. high unless there is a 3-ft. clear walkway or a grab or a taut hand line is provided.

Decks and other working surfaces shall be maintained in a safe condition.

Employees shall not be permitted to pass fore and aft, or over, or around deck loads, nor shall employees be permitted to walk over deck loads from rail to coaming, unless there is a safe passage.

If it is necessary for an employee to stand at the outboard or inboard edge of the deck load where less than 36 in. of bulwark, rail, coaming, or other protection exists, the employee shall be provided with a suitable means of protection against falling from the deck load.

7.11 Outdoor Biological Exposures

7.11.1 Bees, Wasps, and Hornets

Figure 7 - 3 Stinging Insects			
Bees			
			
Honey Bee	Bumble Bee	Carpenter Bee	Sweat Bee
Wasps			
			
Yellow Jacket	Common Wasp	Mud Dauber	Paper Wasp
Hornets			
			
European Hornets	Baldfaced Hornet	Oriental Hornet	

Stinging insects such as bees, wasps, and hornets are found throughout the United States. Workers should take the following steps to prevent insect stings:

Wear light-colored, smooth-finished clothing.

Avoid perfumed soaps, shampoos, and deodorants.

Don't wear cologne or perfume.

Avoid bananas and banana-scented toiletries.

Wear clean clothing and bathe daily. (Sweat may anger bees.)

Wear clothing to cover as much of the body as possible.

Avoid flowering plants when possible.

Keep work areas clean. Social wasps thrive in places where humans discard food.

Remain calm and still if a single stinging insect is flying around. (Swatting at an insect may cause it to sting.)

If you are attacked by several stinging insects at once, run to get away from them. (Bees release a chemical when they sting, which may attract other bees.)

Go indoors.

A shaded area is better than an open area to get away from the insects.

If you are able to physically move out of the area, do not attempt to jump into water. Some insects (particularly Africanized Honey Bees) are known to hover above the water, continuing to sting once you surface for air.

If a bee, wasp, or hornet comes inside your vehicle, stop the car slowly and safely and open all the windows.

CAUTION: Workers with a history of severe allergic reactions to insect bites or stings should carry an epinephrine auto injector (EpiPen) and should wear a medical identification bracelet or necklace stating their allergy.

If a worker is stung by a bee, wasp, or hornet:

Have someone stay with the worker to be sure that they do not have an allergic reaction.

Wash the site with soap and water.

Remove the stinger using gauze wiped over the area or by scraping a fingernail over the area.

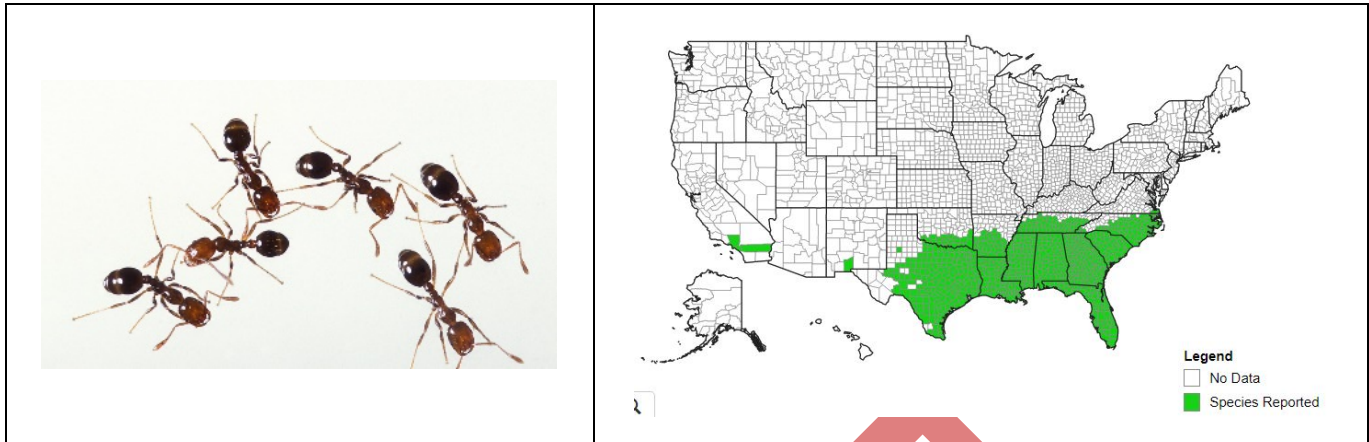
Never squeeze the stinger or use tweezers.

Apply ice to reduce swelling.

Do not scratch the sting as this may increase swelling, itching, and risk of infection.

7.11.2 Fire Ants

Figure 7 - 4 Fire Ants



Workers should take the following steps to prevent fire ant stings and bites:

Do not disturb or stand on or near ant mounds.

Be careful when lifting items (including animal carcasses) off the ground, as they may be covered in ants.

Fire ants may also be found on trees or in water, so always look over the area before starting to work.

Workers should take the following steps if they are stung or bitten by fire ants:

Rub off ants briskly, as they will attach to the skin with their jaws.

Antihistamines may help.

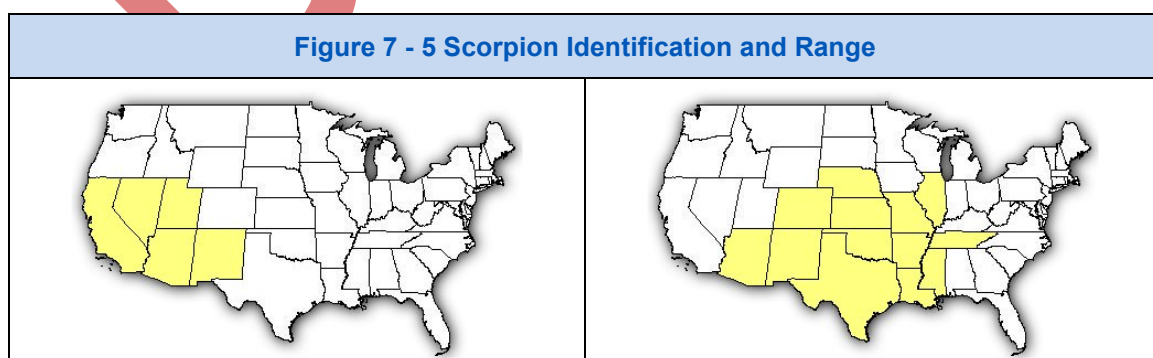
Follow directions on packaging.

Drowsiness may occur.

Take the worker to an emergency medical facility immediately if a sting causes severe chest pain, nausea, severe sweating, and loss of breath, serious swelling, or slurred speech.

CAUTION: Workers with a history of severe allergic reactions to insect bites or stings should carry an epinephrine auto injector (EpiPen) and should wear a medical identification bracelet or necklace stating their allergy.

7.11.3 Scorpions



	
Arizona Bark Scorpion The average length of mature Bark Scorpions is 1.5 inches. The Arizona Bark Scorpion is typically a golden-yellow color or very light brown. It has a slender tail and pincers. In the United States, the Arizona Bark Scorpion is found in Arizona, California, Nevada, New Mexico and Utah This species has a very painful sting. Although once an extremely feared scorpion that's sting was considered lethal, research suggests that this species probably poses no serious threat to a healthy adult. The sting of this species is, however, considered to be medically significant and can be dangerous and potentially lethal to children or the elderly.	Stripebacked Scorpion The average length of mature Stripebacked Scorpions is 2.5 inches. The Stripebacked Scorpion varies in color from yellowish-tan to brown. As you can see in the picture below, the Stripebacked Scorpion has 2 dark gray lines that run the length of its back. Older scorpions tend to be a darker brown, and the stripes may not be as obvious. In the United States, the Stripebacked Scorpion is found in Arizona, Arkansas, Colorado, Illinois, Kansas, Louisiana, Mississippi, Missouri, Nebraska, New Mexico, Oklahoma, Tennessee, and Texas. It is the most widespread scorpion in the United States. Opinions are varied about the potential danger of the Stripebacked Scorpion ranging from it's harmless to its being reported as extremely painful and potentially dangerous.

Scorpions usually hide during the day and are active at night. They may be hiding under rocks, wood, or anything else lying on the ground.

Workers should take the following steps to prevent scorpion stings:

- Wear long sleeves and pants.
- Wear leather gloves.
- Shake out clothing or shoes before putting them on.

CAUTION: Workers with a history of severe allergic reactions to insect bites or stings should carry an epinephrine auto injector (EpiPen) and should wear a medical identification bracelet or necklace stating their allergy.

Workers should take the following steps if they are stung by a scorpion:

- Contact a qualified health care provider or poison control center for advice and medical instructions.
- Ice may be applied directly to the sting site (never submerge the affected limb in ice water).
- Remain relaxed and calm.
- Do not take any sedatives.
- Capture the scorpion for identification if it is possible to do so safely.

7.11.4 Dog Safety

Dogs will bite the first thing they come to. If an employee holds out their hand to fend off the dog, that is what the dog will bite. If a large enough stick is nearby, that can be used to give something else to bite on while the employee moves towards safety (while the employee pulls it and inches towards safety – similar to a less friendly game of tug of war with a dog toy).

Any dog may bite - even one familiar to you.

Most dog bites occur on the owner's premises.

Avoid all dogs - both leashed and stray.

Be aware that chained dogs are also dangerous. Dogs do not like to be restrained. A chained dog is only as secure as the chain holding it.

Do not disturb a dog while it is sleeping, eating, or caring for puppies.

A dog is wary of anything it does not understand; if you have tools or equipment in your hands, a dog may consider these a threat to its safety.

Dogs react strongly to body language; strangers should project confidence.

If a dog approaches to sniff you, stay still and do not reach out to the dog; this may be interpreted as an act of aggression.

Dogs are more aggressive when they travel in packs. Even docile dogs often become uncharacteristically violent and vicious when they are in a pack.

Dogs may attack if they are angry, afraid, or rabid. Know how to spot an angry, afraid, or rabid dog and leave the area immediately.

If you are threatened by a dog, remain calm, do not scream, and avoid direct eye contact – staring a strange dog directly in the eyes can be perceived as a challenge.

If you say anything, speak calmly and firmly.

Dogs want to attack from the rear, coming up from behind. Even one who sits up in his yard ahead of you may wait until you pass before giving chase. Do not turn your back on a dog.

While working position yourself so you face your partner, so you have a view of any animals, people, or vehicles that may come up from behind.

Don't turn and run (running from a dog will trigger its natural chase instinct and increase its aggression, and you will not be able to outrun the dog). Try to stay still until the dog leaves, or back away slowly until the dog is out of sight or you have reached safety (e.g., vehicle, outside a gated/fenced area).

If attacked, retreat to vehicle or attempt to place something between you and the dog.

Get a solid object between you and the dog if possible. Or, if you are holding a jacket or other soft item, stuff it in the dog's mouth.

If you cannot reach your vehicle, try to climb on the roof of a nearby car, or get on the other side of a nearby gate or doorway until you get assistance or wait for the dog to leave.

If you fall or are knocked to the ground, curl into a ball with your hands over your head and neck, and protect your face.

If there is no chance to retreat and no chance of using any of the above techniques, do whatever you can to defend yourself and get out of the situation; kicking is safer than using your hands and arms (assuming you are wearing jeans).

If a dog grabs a hand or a leg, go limp, the dog may let go.

If bitten, immediately scrub the bite site vigorously with soap and water, seek medical attention as soon as possible, and report the incident to your supervisor and the local authorities.

Report all dog-related incidents to your supervisor, even if they do not result in a bite.

7.11.5 Mosquitoes (ZIKA and West Nile Virus)

The West Nile and ZIKA virus is most often spread to humans from the bite of an infected mosquito. West Nile Virus was first reported in the United States in 1999. By 2004, the virus was reported throughout the United States.

Most human infections with West Nile Virus (about 80%) cause no symptoms. Approximately 20% of those infected experience flu-like symptoms. Less than 1% of those infected develop severe symptoms. Employee-Owners and subcontractors/consultants of all ages may be affected.

Exposure Symptoms, Prevention and Treatment

Workers are at risk of West Nile Virus exposure any time infected mosquitoes are biting, the most are most active from dusk to dawn from July to September.

Workers who have potential for exposure should:

- Use insect repellent when mosquitoes are biting

- Apply insect repellent containing DEET (more than 20% DEET for longer protection), picaridin, or oil of lemon eucalyptus to exposed skin and to clothing

- Use permethrin on clothing only

- Carefully follow label directions for repellent use

- Do not apply pump or aerosol products directly to the face

- Spray products onto the hands and carefully rub them over the face, avoiding the eyes and mouth

- Use a repellent that provides protection for the amount of time that you will be outdoors and reapply it as needed. The percentage of active ingredient in the repellent determines the length of protection

- Wash skin treated with insect repellent with soap and water after returning indoors

- Use protective clothing when mosquitoes are biting, such as long-sleeved shirts, long pants, and socks

- Spray clothing with products containing DEET, picaridin, oil of lemon eucalyptus, or permethrin, as mosquitoes may penetrate thin clothing

- Use permethrin repellents on clothing as directed; Do Not apply them to skin

- Wash clothing treated with insect repellent before wearing it again

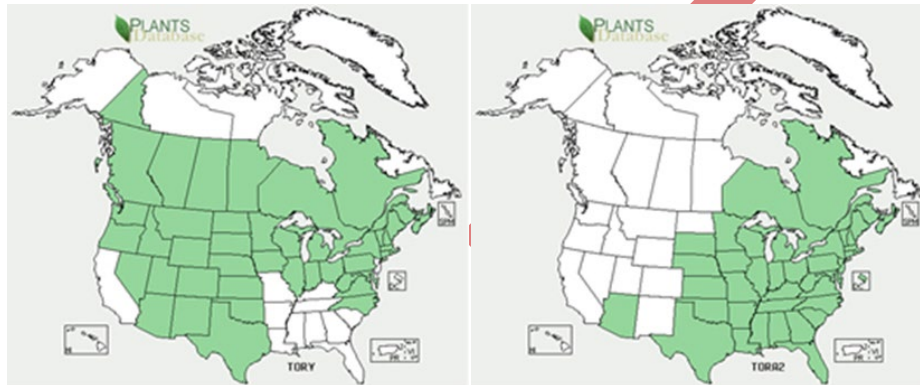
Do not apply repellent to skin that is covered by clothing

7.11.6 Poison Ivy, Poison Oak and Poison Sumac

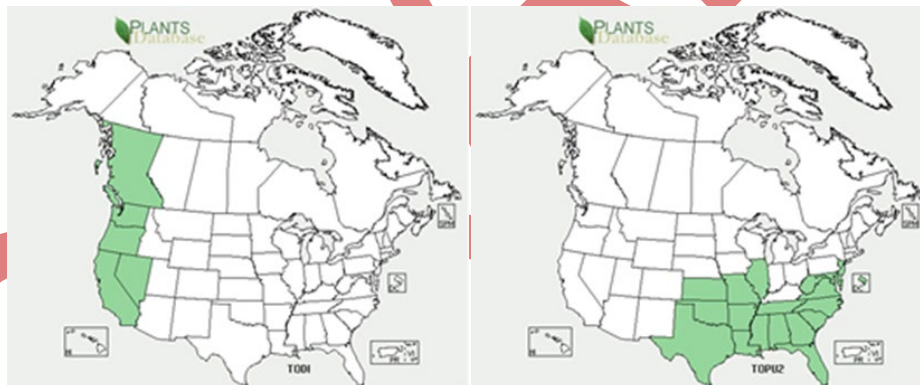
Poison ivy, poison oak, and poison sumac can release urushiol, when the leaf or other plant parts are bruised, damaged, or burned. When the oil gets on the skin an allergic reaction, referred to as contact dermatitis, occurs in most exposed people as an itchy red rash with bumps or blisters.

Figure 7 - 6 Poisonous Plant Locations

Poison Ivy is Across the United States, except California, Alaska, and Hawaii



Poison Oak is Primarily the Southeast and West Coast

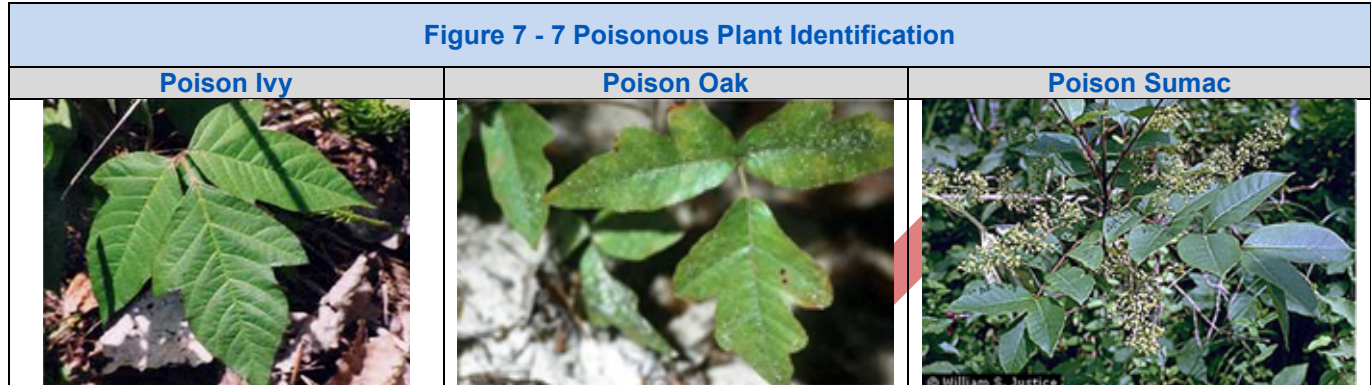


Poison Sumac is abundant along the Mississippi River and boggy areas of the Southeast



Plant Identification

The old saying "*Leaves of three, Let it be!*" is a helpful reminder for identifying poison ivy and oak, but not poison sumac which usually has clusters of 7-13 leaves.



Exposure Prevention, Symptoms, and Treatment

Workers can prevent contact with poisonous plants by taking these steps:

- Wear long sleeves, long pants, boots, and gloves.

- Wash exposed clothing separately from the rest of the laundry using hot water with an oil cutting detergent.

- Use barrier creams

Barrier skin creams, such as a lotion containing bentoquatam, may offer some protection before contact.

Barrier creams should be washed off and reapplied twice a day.

After use, clean tools with rubbing alcohol (isopropanol or isopropyl alcohol) or soap and lots of water.

Urushiol can remain active on the surface of objects for up to 5 years.

Wear disposable gloves during this process.

Do not burn plants that may be poison ivy, poison oak, or poison sumac as inhaling smoke from burning plants can cause severe allergic respiratory problems. Supervisors should prevent workers from being exposed to burning poisonous plants whenever possible. However, when exposure to burning poisonous plants is unavoidable, supervisors should provide workers with:

- A NIOSH-certified half-face piece particulate respirator rated R-95, P-95, or better.

These respirators should protect against exposure to burning poisonous plants, but will not protect against all possible combustion products in smoke, such as carbon monoxide.

Respirators must be worn correctly and consistently throughout the time they are used.

For respirators to be effective there must be a tight seal between the user's face and the respirator.

Respirators must be used in the context of a written comprehensive respiratory protection program.

Workers who have come in contact with poisonous plants should:

Immediately rinse skin with rubbing alcohol, specialized poison plant washes, degreasing soap (such as dishwashing soap) or detergent, and lots of water.

Rinse frequently so that wash solutions do not dry on the skin and further spread the urushiol.

Scrub under nails with a brush.

Apply wet compresses, calamine lotion, or hydrocortisone cream to the skin to reduce itching and blistering.

Follow the directions on any creams and lotions. Do not apply to broken skin, such as open blisters.

Oatmeal baths may relieve itching.

An antihistamine such as diphenhydramine (Benadryl) can be taken to help relieve itching.

Follow directions on the package.

Drowsiness may occur.

In severe cases or if the rash is on the face or genitals, seek professional medical attention.

Call 911 or go to a hospital emergency room if the worker is suffering a severe allergic reaction, such as swelling or difficulty breathing, or has had a severe reaction in the past.

7.11.7 Venomous Snakes

Venomous snakes found in the United States include rattlesnakes, copperheads, cottonmouths/water moccasins, and coral snakes. They can be dangerous to Employee-Owners and subcontractors/consultants. Although rare, some workers with a severe allergy to snake venom may be at risk of death if bitten. It is important for supervisors to train their workers about their risk of exposure to venomous snakes, how they can prevent and protect themselves from snake bites, and what they should do if they are bitten.

Below is a guide to identifying poisonous snakes from non-poisonous snakes.

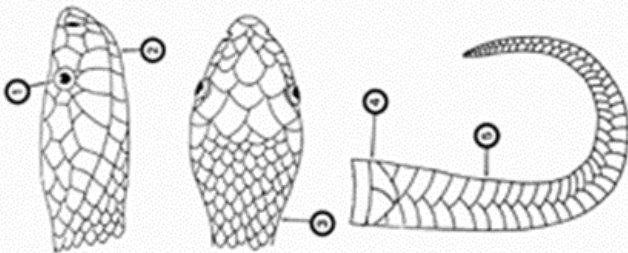
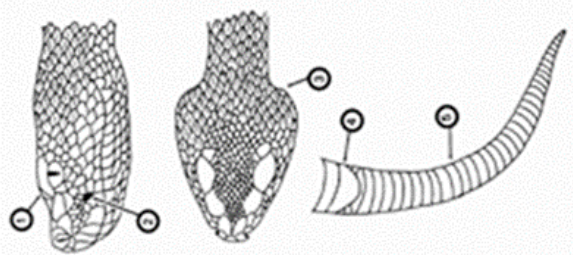
Table 7 - 11 Major Identification Features of Snakes	
Non-Venomous Snake	Venomous snake
1. Round pupils 2. No sensing pit 3. Head slightly wider than neck 4. Divided anal plate 5. Double row of scales on the underside of the tail	1. Elliptical pupils 2. Sensing pit between eye and nostril 3. Head much wider than neck 4. Single anal plate 5. Single scales on the underside of the tail
	

Figure 7 - 8 Rattlesnakes



Timber Rattlesnake

Rattlesnakes are the largest of the venomous snakes in the United States. They can accurately strike at up to one-third their body length. Rattlesnakes use their rattles or tails as a warning when they feel threatened. Rattlesnakes may be found sunning themselves near logs, boulders, or open areas. These snakes may be found in most work habitats including the mountains, prairies, deserts, and beaches across the US.

U.S. Geographic Region: Across the entire United States



Kansas Prairie Rattlesnake



Eastern Diamondback



Mojave Rattlesnake

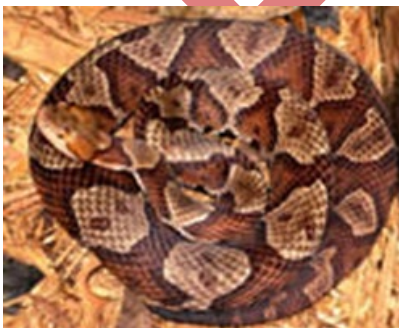


Massasauga



Western Diamond-backed Rattlesnake

Figure 7 - 9 Copperheads



Copperheads vary in color from reddish to golden tan. The colored bands on their body are typically hourglass-shaped. Most adults are 18–36 inches long. They are not usually aggressive, but will often freeze when frightened. Workers are more likely to be bitten when they unknowingly step on or near a copperhead. Copperheads are often found in the Eastern states and extending as far west as Texas and are most likely located in forests, rocky areas, swamps, or near sources of water like rivers.

U.S. Geographic Region: Eastern states, extending as far west as Texas



Copperhead Snake Range



Figure 7 - 10 Cottonmouths / Water Moccasins



Cottonmouth snakes average 50–55 inches long. The adult snake's skin is dark tan, brown, or nearly black, with vague black or dark brown cross-bands. Juveniles have a bold cross-banded pattern of brown or orange with a yellow tail. Cottonmouths are frequently found in or around water. They do not scare easily and will defend themselves when threatened.

U.S. Geographic Region: Wetland areas, rivers, lakes, etc., in the southeastern states



Cottonmouth Snake Range



Figure 7 - 11 Coral Snakes



These snakes are often confused with non-venomous king snakes, which have similar colored bands although in a different arrangement.

However, if the red bands are touching the yellow bands, then it is a venomous coral snake. Coral snakes tend to hide in leaf piles or burrow into the ground.

U.S. Geographic Region: Wooded, sandy, or marshy areas of the Southern United States



Exposure Symptoms, Prevention, and Treatment

Workers should take the following steps to prevent a snake bite:

- Do not try to handle any snake.
- Stay away from tall grass and piles of leaves when possible.
- Avoid climbing on rocks or piles of wood where a snake may be hiding.
- Be aware that snakes tend to be active at night and in warm weather.
- Wear boots, snake chaps and long pants when working in areas with the potential for venomous snake presence.
- Wear leather gloves when handling brush and debris.

Workers should take the following steps if they are bitten by a snake:

- Seek medical attention as soon as possible (dial 911 or call local Emergency Medical Services.)
- Try to remember the color and shape of the snake, which can help with treatment of the snake bite.
- Keep still and calm. This can slow down the spread of venom.
- Inform your supervisor.
- Apply first aid if you cannot get to the hospital right away.
- Lie or sit down with the bite below the level of the heart.
- Wash the bite with soap and water.
- Cover the bite with a clean, dry dressing.

Workers should NOT do any of the following steps if they are bitten by a snake:

- Do not pick up the snake or try to trap it.
- Do not wait for symptoms to appear if bitten, seek immediate medical attention.
- Do not apply a tourniquet.

Do not slash the wound with a knife.

Do not suck out the venom.

Do not apply ice or immerse the wound in water.

Do not drink alcohol as a painkiller.

Do not drink caffeinated beverages

7.11.8 Venomous Spiders

Venomous spiders found in the United States include the black widow, brown recluse, and hobo spiders. Spiders are usually not aggressive and most bites occur because a spider is trapped or unintentionally contacted.

Figure 7 - 12 Black Widows



Black widow spiders are found throughout North America, but are most common in the southern and western areas of the United States. They are identified by the pattern of red coloration on the underside of their abdomen. They are usually found in workplaces containing undisturbed areas such as woodpiles, under eaves, fences, and other areas where debris has accumulated. They may also be found living in outdoor toilets where flies are plentiful.



Black widow spiders build webs between objects, and bites usually occur when humans come into direct contact with these webs.

A bite from a black widow can be distinguished from other insect bites by the two puncture marks it makes in the skin. The venom is a neurotoxin that produces pain at the bite area and then spreads to the chest, abdomen, or the entire body.

Figure 7 - 13 Brown Recluse Spiders



The brown recluse spider, also known as the violin spider, is most commonly found in the Midwestern and southern states of the United States. It is brown in color with a characteristic dark violin-shaped (or fiddle-shaped) marking on its head and has six equal-sized eyes (most spiders have eight eyes). Brown recluse spiders are usually found in workplaces with secluded, dry, sheltered areas such as underneath structures logs, or in piles of rocks or leaves. If a brown recluse spider wanders indoors, they may be found in dark closets, shoes, or attics.

	The brown recluse spider cannot bite humans without some form of counter pressure, for example, through unintentional contact that traps the spider against the skin. Bites may cause a stinging sensation with localized pain. A small white blister usually develops at the site of the bite. The venom of a brown recluse can cause a severe lesion by destroying skin tissue (skin necrosis). This skin lesion will require professional medical attention
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Figure 7 - 14 Hobo Spiders

	The hobo spider is found throughout the Pacific Northwest. It is large and brown with a distinct pattern of yellow markings on its abdomen. Unlike many other similar looking spiders, hobo spiders do not have dark bands on their legs. To catch their prey, hobo spiders build funnel webs in holes, cracks, and recesses. They may be found in outdoor workplaces with retaining walls, and in foundations, window wells, and stacks of firewood and bricks. Indoors, they can nest between boxes or other storage items, on window sills, under baseboard heaters or radiators, behind furniture, and in closets. Hobo spiders do not climb like most spiders but are fast runners. These spiders are much more likely to attack if provoked or threatened. The bite of a hobo spider may go unnoticed; however a moderate to severe, slow-healing wound will develop.
	

Exposure Symptoms, Prevention, and Treatment

Workers can take the following preventive steps:

Inspect or shake out any clothing, shoes, towels, or equipment before use.

Wear protective clothing such as a long-sleeved shirt and long pants, hat, gloves, and boots when handling stacked or undisturbed piles of materials.

Minimize the empty spaces between stacked materials.

Remove and reduce debris and rubble from around the outdoor work areas.

Trim or eliminate tall grasses from around outdoor work areas.

Store apparel and outdoor equipment in tightly closed plastic bags.

Keep your tetanus boosters up-to-date (every 10 years). Spider bites can become infected with tetanus spores.

Workers should take the following steps if they are bitten by a spider:

Stay calm. Identify the type of spider if it is possible to do so safely. Identification will aid in medical treatment.

Wash the bite area with soap and water.

Apply a cloth dampened with cold water or filled with ice to the bite area to reduce swelling.

Elevate bite area if possible.

Do not attempt to remove venom.

Notify your supervisor.

Immediately seek professional medical attention.

7.11.9 Ticks

Ticks typically are in wooded areas, bushes, tall grass, and brush. Ticks are black, black and red, or brown and can be up to one-quarter inch (6.4 mm) in size.

In some geographic areas, exposure is not easily avoided. Wear tightly woven light-colored clothing with long sleeves and pant legs tucked into boots; spray only outside of clothing with permethrin or permethrin and spray skin with only DEET; and check yourself frequently for ticks.

Where site conditions warrant (vegetation above knee height, tick endemic area) or when tasks warrant (e.g., having to sit/kneel in vegetation) that diminish the effectiveness of the other controls mentioned above, bug-out suits (check with your local/regional warehouse)/Tyvek shall be used. Bug-out suits are more breathable than Tyvek.

Avoid habitats where possible; reduce the abundance through habitat disruption or application of acaricide. If these controls aren't feasible, contact your local/regional warehouse for preventative equipment such as repellants, protective clothing, and tick removal kits. Use the buddy system and perform tick inspections prior to entering the field vehicle. If ticks were not planned to be encountered and are observed, do not continue fieldwork until these controls can be implemented.

Figure 7 - 15 Tick Varieties Identification and Ranges

American Dog Tick



American dog tick is the most commonly identified species responsible for transmitting *Rickettsia rickettsii*, which causes Rocky Mountain spotted fever in humans. The American dog tick can also transmit tularemia. This tick is widely distributed east of the Rocky Mountains and also occurs in limited areas on the Pacific Coast. American Dog Tick larvae and nymphs feed on small rodents. Dogs and medium-sized mammals are the preferred hosts of adults, although it feeds readily on other large mammals, including humans.



Blacklegged Tick



The blacklegged tick, commonly known as a "deer tick", can transmit the organisms responsible for anaplasmosis, babesiosis, and Lyme disease. This tick is widely distributed in the northeastern and upper midwestern United States. Blacklegged Tick larvae and nymphs feed on small mammals and birds, while adults feed on larger mammals and will bite humans on occasion. It is important to note that the pathogen that causes Lyme disease is maintained by wild rodent and other small mammal reservoirs, and is not transmitted everywhere that the blacklegged tick lives. In some regions, particularly in the southern U.S., the tick has very different feeding habits that make it an unlikely vector in the spread of human disease.



Brown Dog Tick



The brown dog tick has recently been identified as a reservoir of *R. rickettsii*, causing Rocky Mountain spotted fever, in the southwestern U.S. and along the U.S.-Mexico border. Brown dog ticks are found throughout the U.S. and the world. Dogs are the primary host for the brown dog tick for each of its life stages, although the tick may also bite humans or other mammals.



Gulf Coast Tick



The Gulf Coast tick resides in coastal areas of the United States along the Atlantic coast and the Gulf of Mexico. The Gulf Coast tick can transmit *Rickettsia parkeri* rickettsiosis, a form of spotted fever. Gulf Coast tick larvae and nymphs feed on birds and small rodents, while adult ticks feed on deer and other wildlife. Adult ticks have been associated with transmission of *R. parkeri* to humans.



Lone Star Tick



The Lone Star Tick transmits *Ehrlichia chaffeensis* and *Ehrlichia ewingii*, causing human ehrlichiosis, tularemia, and STARI. The lone star tick is primarily found in the southeastern and eastern United States. White-tailed deer are a major host of lone star ticks and appear to represent one natural reservoir for *E. chaffeensis*. Lone Star Tick larvae and nymphs feed on birds and deer. Both nymphal and adult ticks may be associated with the transmission of pathogens to humans.



Rocky Mountain Wood Tick



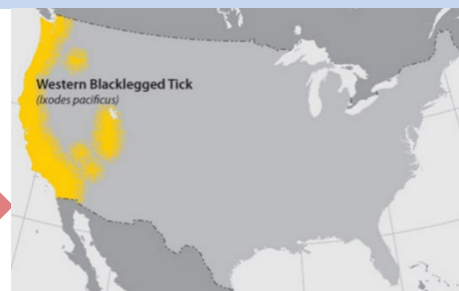
Rocky Mountain wood tick can transmit Rocky Mountain spotted fever and tularemia to humans. This tick is found in the Rocky Mountain states. Adult ticks feed primarily on large mammals. Larvae and nymphs feed on small rodents. Adult ticks are primarily associated with pathogen transmission to humans



Western Blacklegged Tick



The western blacklegged tick can transmit the organisms responsible for causing anaplasmosis and Lyme disease in humans. Wild rodents and other mammals are likely reservoirs of these pathogens. This tick is distributed along the Pacific coast of the United States. Larvae and nymphs feed on birds and small rodents, while adult ticks feed on deer and other mammals. Both adult and nymphal ticks are known to transmit disease to humans.



Illnesses, Signs, and Symptoms

Six notable tick-borne pathogens cause human illness in the United States. These pathogens may be transmitted during a tick bite, normally hours after attachment (a reason to find tick bites and remove ticks quickly). The illnesses, presented in order of most common to least, include:

Table 7 - 12 Table Tick Borne Diseases and Common US Regions	
Tick-Borne Disease	Common US Regions
Lyme disease (bacteria)	Northeast, North Central, Pacific Coast
Babesia / Babesiosis (protozoan parasite)	Northeast, Midwest, Northwest
Ehrlichiosis (bacteria)	East, Southeast, Central
RMSF Rocky Mountain Spotted Fever (bacteria)	Southeast, Atlantic Coast
STARI Southern Tick-Associated Rash Illness (bacteria)	Southeast, Atlantic Coast
Tick-Borne Relapsing Fever	Rocky Mountains, Pacific Coast
Tularemia (Rabbit Fever) (bacteria)	All States except Hawaii
Anaplasmosis	Northeast, North Central, Pacific Coast
Colorado Tick Fever	Northwest, Rocky Mountains
Powassan Encephalitis	Northeast
Q fever	Throughout the United States

These illnesses include some or all of the following: fever, headache, muscle aches, chills, stiff neck, joint aches, nausea, vomiting, abdominal pain, bone pain, diarrhea, fatigue, malaise, weakness, and small solid ring-like or spotted rashes.

Symptoms will vary based on the illness, and may develop in infected individuals typically between 3 and 30 days after transmission. Some infected individuals will not become ill or may develop only mild symptoms. Lyme: a rash

might appear that looks like a bull's-eye with a small welt in the center. RMSF: a rash of red spots under the skin 3 to 10 days after the tick bite. In both RMSF and Lyme disease, chills, fever, headache, fatigue, stiff neck, and bone pain may develop.

If symptoms appear, contact the site safety and health supervisor and seek medical attention.

Controls

The methods for controlling exposure to ticks include, in order of most- to least-preferred:

Avoiding tick habitats, and ceasing operations in heavily infested areas

Reducing tick abundance through habitat disruption or application of insecticide

Personal protection through use of protective clothing, repellants (DEET), and contact insecticides (permethrin or permethrin)

Frequent tick inspections and proper hygiene

Note: Vaccinations are not available and preventative antibiotic treatment after a bite is generally not recommended.

When avoiding the habitat or reducing tick abundance is not feasible, to prevent tick bites:

Clothing

Wear light-colored clothing so they may be more easily seen before they bite.

Wear long sleeves and long pants.

Tuck in your clothes (shirt inside your pants, and pants legs inside your socks or boots)

Check your clothing frequently for ticks.

Repellants and Contact Insecticides

Use repellents (DEET) on your skin with contact insecticide (permethrin or permethrin) on your clothing only, as directed on the product label; these products are nearly 100-percent effective in preventing tick bites when used together, and used correctly.

Apply repellants to all areas of exposed skin. Insects may only need unprotected skin the size of a quarter, repellant on nearby skin or on clothes will not protect this area of skin.

Reapply repellants before the duration of protection expires:

5 to 10 percent: 2-4 hours

15 percent: 6 hours

25 to 30 percent: up to 8 hours

100 percent: 10+ hours

Tick Check

A tick check should be performed after field activities in potential tick habitats, before entering the field vehicle (you do not want to infest your field vehicle with ticks).

Have your field partner check your back; the backs of your legs, arms and neck; and your hairline. Shake off clothing as thoroughly as possible before entering the vehicle.

Once the field day is completed, repeat this procedure and perform a thorough self-check at the end of the day, search your entire body carefully for ticks, (particularly the groin, armpits, neck and head), and shower.

Tick Removal

If a tick has embedded itself into the skin, remove the tick, preferably using a Tick Removal Kit, if available.

The tick should be removed quickly, the sooner it is removed the less likely the transmission of potentially infectious organisms, if it is carrying them.

The tick should be removed cleanly, to prevent the bite wound from becoming infected.

The tick should be removed intact, to prevent infecting the tick's fluids into the bite wound, which may contain infectious organisms. In addition, if intact, the tick may be assessed to determine if it is carrying infectious organisms (see procedures below).

Use pointed precision tweezers. Cosmetic tweezers with wide, flat ends may crush the tick, increase the potential of the transmission of potentially infectious organisms if the tick is carrying them, and make the wound worse. Choose un-rasped fine-pointed tweezers whose tips align tightly when pressed firmly together.

After disinfecting the area first, grasp the tick as close to the skin surface as possible and pull upward with steady, even pressure.

Do not twist or jerk the tick as this may cause the tick's mouth parts to break off and remain in the skin. If this happens, remove the mouthparts with tweezers, and consult your healthcare provider if infection occurs.

Do not grasp, squeeze, crush, or puncture the body of the tick because its fluids (saliva, hemolymph, gut contents) may contain infectious organisms. Releasing these organisms to the outside of the tick's body or into the bite area may increase the chance of infectious organism transmission.

Do not handle the tick with bare hands because infectious agents may enter through mucous membranes or breaks in the skin.

Place tick in a zip lock bag in the event that management or the health-care provider asks for analysis of the tick.

Thoroughly disinfect the bite wound and wash your hands with soap and water.

Tick Bite Treatment

Tick bites should be treated with first aid. Clean and wash hands and disinfect the bite wound site before and after removing the embedded tick. Monitor the site of the bite for the appearance of a rash or early tick-borne illness symptoms beginning 3 to 30 days after the bite.

7.12 Lone Worker / Working Alone

7.12.1 General

The purpose of this section is to establish methods to maintain the safety of personnel who are working alone. This includes providing a method to identify potential hazards, pre-planning to eliminate or protect against these hazards, establishing itineraries and communication plans, and responsibilities for plan implementation and

activities. Concern for the lone worker is fundamental to Burns & McDonnell's responsibility to providing a safe workplace to all employees. Effective risk assessment can play a major role in controlling or eliminating risks associated with health, violence, travel, or level of work experience.

7.12.2 Definitions

Effective Means of Communication – Radio, telephone (landline or cellular) or other electronic communication device

Hazard Assessment – A documented review of working conditions and foreseeable emergency situations, e.g. fire, equipment failure, illness, and accidents in all situations where employees may be working alone and identification of the mitigation and controls necessary to assure worker safety.

Imminent Danger – A danger that is not normal for that occupation. A danger under which a person engaged in that occupation would not normally carry out his/her work

Lone Worker – Persons are considered to be a lone worker if they have neither visual nor audible communication with someone who can summon assistance in the event of an injury or illness. Some examples of times when personnel might work alone are the beginning and end of flexible working periods, holidays, and weekends and after hours.

7.12.3 Hazard Assessment

All employees who will have to work alone must fill out an Activity Hazard Analysis (AHA) prior to performing the work. The AHA shall identify and document existing or potential hazards arising from the conditions and circumstances of the work, shall address hazards and identify control measures in order to minimize risk associated with working alone, and shall specify procedures for emergency response including provisions for contacting appropriate local officials. The hazard assessment will identify specific criteria to determine when an employee search is necessary cover all aspects of the work at hand and countermeasure that need to be put in place to minimize the risk associated with the work.

This written hazard assessment will document and be used to communicate that assessment to all affected workers. The hazard assessment will address hazards and identify control measures in order to minimize risk associated with working alone. The AHA shall be reviewed with the employee's department head or designee as they will be communicating to them during their work activity.

Any type of field work (day, overnight, remote or not) requires the completion of a trip itinerary by the work supervisor. The trip itinerary must be posted in the site office and a copy should be taken into the field. Workers and supervision should be familiar with their responsibilities prior to any field work being conducted.

Note: When a danger is judged to be imminent due to work being done by a lone worker, postpone the work and put mitigation procedures in place. Perform the work at such time that the risk(s) can be effectively controlled or eliminated.

7.12.4 Communications

The employee shall make contact with the appropriate authorities prior to commencing work operations informing them of the future work and the details of the work scope.

Employees will carry an appropriate communication device that, no matter where the employee is located, can communicate back to their supervisor for checking in at a minimum of every two hours or more frequently if defined by the risk assessment of the AHA. A back up means of communication shall also be carried by the employee in case an unforeseen event happens to the primary means of communication. The selected communication shall be readily available (easily within the immediate reach) of the employee and shall be tested prior to the start of work to verify that it effectively operates in the area/environment.

When the employee calls their supervisor they shall communicate their current location and direction they are heading, wellbeing, and estimated time until completion of their work assignment. The supervisor shall document this information during each call.

If the employee misses a scheduled call the supervisor shall attempt to make contact with the employee. If after a reasonable amount of time the supervisor cannot make contact with the employee, then the supervisor shall contact the appropriate authorities and report the employee's last known location and the direction the employee would be traveling to enable the authorities to begin a search for the employee.

If effective means of communication is not practicable or readily available at the work site, the company shall ensure that there is a minimum of two people dispatched to the job, or that a system is in place so that the worker is visited at regular set intervals, or that the worker contacts a company representative on regular set intervals.

7.12.5 Training

Instruction and training help ensure that staff understands the risks and required safety precaution associated with their work. Training should include, but is not limited to:

Burns & McDonnell Work Alone standard

Identification and participation in hazard assessment

Requirements and limitations of working alone situation

Use and maintenance of any required personal protective equipment

Instruction to perform tasks safely

7.13 Project Site Ergonomics and Manual Material Handling

7.13.1 General

Some of the most common injuries in construction are the result of job demands when workers must often lift, stoop, kneel, twist, grip, stretch, reach overhead, or work in other awkward positions to do a job. Repeated or continual exposure to one or more of these factors initially may lead to fatigue and discomfort. Over time, injury to the back, shoulders, hands, wrists, or other parts of the body may occur. Injuries may include damage to muscles, tendons, ligaments, nerves, and blood vessels. These workers are at risk of developing a work-related musculoskeletal disorder (WMSD). These risks can be reduced by performing a hazard analysis of the job focusing on the interaction between the worker's capabilities and the work demands and providing appropriate countermeasures.

7.13.2 Goals

The goals of construction ergonomics are to assure that jobs and tasks can be performed by the workers in a safe, efficient, effective and pain-free manner, achieve those interactions between the work and the worker that will optimize productivity, and preserve the safety and health of the workforce.

7.13.3 Ergonomic Concerns (What to Look for)

The ergonomic concerns during construction include, but are not limited to the following:

Repetitive motions

Examples are bending and lifting, twisting, reaching

Awkward postures

Examples are low headroom, restricted accessibility, twisting, kneeling, squatting, standing, sitting in one position too long, reaching and lifting –low or high, load obscuring the carriers vision, static posture where fixed positions are maintained for extended periods

Forceful exertions (Weight places stress on the back at a 10:1 ratio)

Lifting heavy materials or equipment (>50lbs.)

Carrying heavy materials or equipment

Lifting or carrying awkward or odd shapes, or load instability

Pressure points

Examples are grasping [or contact from] loads, leaning against parts or surfaces that are hard or have sharp edges

Environmental issues

Examples are temperature and humidity, vibration, lighting, air movement, or the walking surface and path where the object is to be carried.

Stress – tense muscles are more susceptible to strains and sprains

7.13.4 Hazard Assessment - PTA

Before manual lifting/carrying is performed, a hazard assessment must be completed. This assessment can be included in the daily PTA using Burns & McDonnell Safety Form C-10. Supervisors must also periodically evaluate work areas and employees' work techniques to assess the potential for and prevention of injuries as well as evaluate any new operations to engineer out hazards before work processes are implemented.

The pre- task assessment must consider the ergonomic concerns noted above and implement hazard mitigation and controls for the identified hazards. These controls should follow the hierarchy of controls, some examples include the following:

Engineering improvements

- Provide mechanical devices, tools, or equipment

- Ergonomically designed handles and grips

- Tool balancers / supports

- Benches and material stands / lift tables to maintain material near waist height and in lifting zone

- Tool and/or tooling extensions

- Mechanical lifting and/or transporting equipment

- Aerial lift usage to get personnel closer to work

- Dividing the load into smaller units, repackaging

- Redesigning the packaging with lifting grips or using non-slip materials

- Automatic material feeds

Administrative improvements

Proper lifting techniques

Using a two-person lift

Alternate heavy tasks with light tasks.

Provide variety in jobs to eliminate or reduce repetition (i.e., overuse of the same muscle groups).

Adjust work schedules, work pace, or work practices.

Provide recovery time (e.g., short rest breaks).

Modify work practices so that workers perform work within their power zone (i.e., above the knees, below the shoulders, and close to the body).

Rotate workers through jobs that use different muscles, body parts, or postures.

Working at ground level rather than overhead

PPE

Anti-vibrations gloves

Slip resistant coated gloves

Kneeling pads / knee pads / kneeling creepers

7.13.5 Training

Training of workers should include the general principles of ergonomics, recognition of ergonomic hazards and types of injuries, the project procedures for reporting hazardous conditions, and the methods and procedures for early reporting of injuries. Additionally, job specific training should be given on safe lifting and work practices, and ergonomic hazards and controls. This training should include planning the lift/carry and injury prevention/reduction techniques:

Body management - Don't overdo it.

Set a work pace that is comfortable for you on certain tasks.

Slow down if you're doing a lot of heavy, repetitive lifting, take it slowly if you can.

Allow yourself more recovery time between lifts, as well.

Stretch first

If you know that you're going to be doing work that might be hard on your back, take the time to stretch your muscles before starting, just like a professional athlete would do before a workout.

This will help you avoid painful strains and sprains

Rest your body (back, hands, neck, etc.)

Take frequent, short (micro) breaks.

Taking a one minute stretch break every now and then can help you avoid stiff & sore symptoms

Prevention of injuries

Relocate materials equipment and objects up off the floor.

Raise / lower shelves.

The best zone for lifting is between your shoulders and your waist.

Put heavier objects on shelves at waist level, lighter objects on lower or higher shelves.

Avoid repetitive lifting and carrying

Use carts and dollies to move objects, instead of carrying them yourself.

Push the cart rather than pull it

Reduce the amount of weight lifted.

Use proper lifting techniques

Lift with the legs, not the back

Turn properly without twisting

Keep the load close using a good grip

Plan the lift

Where use of lifting equipment is impractical or not possible, two man lifts must be used.

Use manual lifting equipment such as dollies, hand trucks, lift-assist devices, jacks, carts, or hoists

Utilize other engineering controls such as conveyors, lift tables, cranes and hoists

Use of provided manual lifting equipment by employees must be enforced.

Reduce forceful exertions

Periodically switch to easier tasks.

Use power tools rather than manual tools.

Use tools that are ergonomically designed

Alternate hands while performing a repetitive task

8 Process Safety Management and HAZWOPER

8.1 Process Safety Management of Highly Hazardous Chemicals

Process Safety Management of Highly Hazardous Chemicals

Application

Worker Participation

Process Safety Information

Process Hazard Analysis

Operating Procedures

Training

Contractors

Pre-Startup Safety Review

Mechanical Integrity

Hot Work Permit

Management of Change

Incident Investigation

Emergency Planning and Response

Compliance Audits

Trade Secrets

Appendix A List of Highly Hazardous Chemicals, Toxics and Reactives

Appendix B Block Flow Diagram and Simplified Process Flow Diagram

Diagram (a) Block Flow

Diagram (b) Process Flow

Appendix C Compliance Guidelines and Recommendations for Process Safety Management

Introduction to Process Safety Management

Worker Involvement in Process Safety Management

Process Safety Information

Process Hazard Analysis

Operating Procedures and Practices

Worker Training

Contractors

Pre-Startup Safety

Mechanical Integrity

Non-Routine Work

Managing Change

Investigation of Incidents

Emergency Preparedness

Compliance Audits

Appendix D - Sources Of Further Information (Non-mandatory)

8.1.1 Hot Work Permit

The workplace shall issue Burns & McDonnell Health & Safety Form C-7 “Work Permit” for hot work operations conducted on or near a covered process.

The permit shall document that the fire prevention and protection requirements have been implemented prior to beginning the hot work operations; it shall indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed.

The permit shall be posted at the site until completion of the hot work operations.

8.1.2 Incident Investigation

Each incident which resulted in (Accident), or could reasonably have resulted (Near Miss) in a catastrophic release of highly hazardous chemical in the workplace shall be investigated using the Burns & McDonnell Health & Safety Form C-2 “Incident / Accident Investigation Report”.

The incident shall be reported in conformance with Chapter 3 – Program Administration, part (3) “Reporting Requirements”, the investigation shall be initiated as promptly as possible, with the report due to Corporate Health & Safety not later than 24 hours following the incident.

The incident investigation team shall consist of at least one person knowledgeable in the process involved, including a contract worker if the incident involved work of the contractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident.

The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract workers where applicable.

Incident investigation reports shall be retained for five years.

8.1.3 Emergency Planning and Response

Burns & McDonnell Health & Safety Form E-1 “EAP and Fire Prevention Plan” shall be completed and made available on site.

8.2 HAZWOPER

Hazardous Waste Operations and Emergency Response

Scope, Application, and Definitions

Health & Safety Program

Site Characterization and Analysis

Site Control

Training

Medical Surveillance

Engineering Controls, Work Practices, and Personal Protective Equipment for Worker Protection

Monitoring

Informational Programs

Handling Drums and Containers

Decontamination

Emergency Response by Workers at Uncontrolled Hazardous Waste Sites

Illumination

Sanitation at Temporary Workplaces

New Technology Programs

Certain Operations Conducted Under the Resource Conservation and Recovery Act Of 1976

Emergency Response Program to Hazardous Substance Releases

Table of Contents

9 Personal Protective Equipment**General Requirements**[Application](#)[Worker-Owned Equipment](#)[Design](#)[Hazard Assessment and Equipment Selection](#)[Defective and Damaged Equipment](#)[Training](#)**Eye and Face Protection**[General Requirements](#)[Criteria for Protective Eye and Face Devices](#)**Respiratory Protection**[Permissible Practice](#)[Respiratory Protection Program](#)[Selection of Respirators](#)[Medical Evaluation](#)[Fit Testing](#)[Use of Respirators](#)[Maintenance and Care of Respirators](#)[Breathing Air Quality and Use](#)[Identification of Filters, Cartridges and Canisters](#)[Training and Information](#)[Appendix B-2 Respirator Cleaning Procedures \(Mandatory\)](#)[Appendix C OSHA Respirator Medical Evaluation Questionnaire \(Mandatory\)](#)[Appendix D Information for Workers Using Respirators When Not Required \(Mandatory\)](#)**Head Protection**[General Requirements](#)[Criteria for Protective Helmets](#)**Foot Protection**[General Requirements](#)[Criteria for Protective Footwear](#)**Electrical Protective Devices**[Design Requirements](#)[In-Service Care and Use](#)**Hand Protection**[General Requirements](#)[Selection](#)**Respiratory Protection Program**[Respirator Selection](#)[Training](#)[Fit Testing](#)[Tests](#)[Medical Evaluations](#)[Work Area Surveillance](#)[Unknown Atmospheres](#)[Additional Considerations](#)

9.1 General Requirements

9.1.1 Application

If a hazard requires affected workers to use PPE - all workers within 10' of the (originally) affected workers shall be required to wear equivalent protection.

9.1.2 Hazard Assessment and PPE equipment Selection

The workplace shall verify that an activity hazard analysis (AHA) has been performed through a written certification that identifies the workplace evaluated; the person certifying that the AHA has been performed; the date(s) of the AHA; and, which identifies the document as an AHA. Burns & McDonnell Health & Safety Form C-12 "Activity Hazard Analysis".

The subcontractor shall assure that the worker is instructed in and uses protective equipment in accordance with the manufacturer's instructions and the hazard assessment.

The subcontractor shall assure that all required safety devices and safeguards, whether employer or worker provided, including personal protective equipment for the eyes, face, head, hand, foot, and extremities (limbs), protective clothing, respiratory protection, protective shields and barriers, comply with the applicable standards, are adequate for the hazards, and are maintained in a safe, sanitary condition.

Protectors shall be of such design, fit and durability as to provide adequate protection against the hazards for which they are designed. They shall be reasonably comfortable and shall not unduly encumber the worker's movements necessary to safely perform his or her work.

Defective and damaged equipment shall be removed from service until repaired or destroyed. Defective or damaged personal protective equipment shall not be used.

9.1.3 Training

Initial

Training shall be provided to each worker required to use PPE.

Each worker shall demonstrate an understanding of the training and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

Documentation of training shall be submitted using Burns & McDonnell "Certification of Training" Health & Safety Form C-9.

Each such worker shall be trained to know the following:

- When PPE is necessary;

- What PPE is necessary;

- How to properly don, doff, adjust, and wear PPE;

- The limitations of the PPE; and,

- The proper care, maintenance, useful life and disposal of the PPE.

Re-Training

When there is reason to believe that any affected worker who has already been trained does not have the understanding and skill required to properly use the PPE, they shall be retrained such that they can demonstrate their ability and understanding of the training items listed above.

Circumstances where retraining is required include, but are not limited to, situations where:

Changes in the workplace render previous training obsolete; or

Changes in the types of PPE to be used render previous training obsolete; or

Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

9.2 Body Protection

9.2.1 General

The minimum general protection shall be full length work pants, coveralls, jeans, etc. and a work shirt with a minimum 4" sleeve length. Tank tops and sleeveless shirts are not allowed.

Clothing material which is in direct contact with the skin is considered a primary personal protection zone when performing a hazard assessment

Primary personal protection zone clothing includes socks, underwear, T-shirts, shirt or blouse, and pants or overalls. All primary personal protection zone apparel must be in good repair -- frays and holes are not acceptable.

NOTE: 100% cotton clothing is not a PPE item.

Workers exposed to the hazards of flames or electrical arc shall not wear clothing that, when exposed to flames, electric arcs, or hot piping, could increase the extent of injury.

Workers shall wear appropriate clothing when exposed to welding operations, poisonous plants, insects, hazardous chemicals or when scratches, abrasions, or burns could occur.

Loose clothing or jewelry shall not be worn near rotating equipment.

Clothing shall not be worn if they are torn or have holes. If damaged at work, precautions should be taken to reduce employee's exposure to injuries for the completion of the shift.

Exposed jewelry shall not be worn near energized equipment.

The bottoms of pant legs shall be taped, bloused, or otherwise secured while working near power augers and mowing equipment.

9.2.2 Chemical resistant

Coveralls and splash suits shall be required as determined by the hazard assessment.

9.2.3 FRC and/or Arc Flash Clothing

FRC and/or Arc Flash Resistant with ratings determined by the hazard assessment

Workers working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed.

Electric arc flash protection shall be provided for any person who enters the flash protection zone. They must wear flame-resistant clothing and PPE, based on the incident exposure associated with the specific task. Refer to NFPA 70E for specific Hazard Risk Classifications and clothing/equipment requirements.

Synthetic clothing such as acetate, nylon, polyester, rayon, either alone or in blends with cotton, may not be worn while in the flash protection zone.

Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested.

9.2.4 Vests - heating and/or cooling,

Vests with internal pockets which are used to hold the cooling or heating packets which assist with controlling the core body temperature.

9.2.5 Outerwear

Raincoat/Raingear

Cold Weather Wear – A. Exterior garments include coats, jackets, overalls, coveralls, parkas, etc., which are worn over the primary work clothing.

Outer apparel shall meet the minimum requirements for the hazard rating, e.g. FRC 2 required for working in the “zone”, then outmost apparel shall be rated at FRC2 or higher.

9.2.6 High Visibility apparel rated for traffic zone

High visibility apparel meeting, at a minimum, ANSI/ISEA 07-2004 Performance Class 2 requirements, shall be worn by workers (such as, but not limited to, signal persons, spotters, survey crews, and inspectors) whenever:

Workers are exposed to vehicular or equipment traffic at speeds up to 45 mph (72.4 kph)

There is limited visibility of workers exposed to mobile/heavy equipment operations, vehicles, load handling, or other hazardous activities

Reduced visibility conditions exist due to weather conditions, illumination, or visually complex backgrounds where ambient visibility is at least 50ft (15.2 m); or

Workers are involved in activities in close proximity to vehicular traffic with no protective barriers

The following conditions require the determination (based on risk assessments) if Performance Class 3 high-visibility apparel is needed

Exposed to vehicular traffic in excess of 50 mph (72.4 kph)

Reduced visibility conditions exist due to weather conditions, illumination, or visually complex backgrounds where ambient visibility is less than 50 ft. (15.2 m); or

Workers are performing tasks which divert attention from approaching vehicular traffic, traveling in excess of 50 mph (72.4 kph), as posted

9.3 Head Protection

9.3.1 General Requirements

Affected workers shall wear a protective helmet in all work areas other than in the office/trailers.

The protective helmet designed to reduce electrical shock hazard shall be worn by affected workers when near exposed electrical conductors.

Workers name (first and last) shall be clearly visible on the front of the hard hat.

Burns & McDonnell projects shall require the use of a Class E/G hard hat

The Hard hats shall not be reversed even if suspension is reversed.

9.3.2 Criteria for Protective Helmets

Protective helmets shall comply with ANSI Z89.1-1986, American National Standard for Personal Protection-Protective Headwear for Industrial Workers-Requirements.

9.4 Occupational Foot Protection

9.4.1 Criteria for Protective Footwear

Each affected worker shall use protective footwear in all work areas other than in the office/trailers

Protective footwear shall comply with:

ASTM F2413-11 Standard Specification for Performance Requirements for Protective (Safety) Toe Cap Footwear

Footwear certified as meeting ASTM F2413-11 must first meet the requirements of Section 5.1 Impact Resistant Footwear and Section 5.2 Compression Resistant Footwear.

Additional requirements such as metatarsal protection, conductive protection, electric hazard resistance, static dissipative protection and protection against punctures can be met.

ASTM F2412-11 Standard Test Methods for Foot Protection,

Identification requirements

All footwear manufactured to the ASTM specification must be marked with the specific portion of the standard with which it complies. One shoe of each pair must be clearly and legibly marked (stitched in, stamped on, pressure sensitive label, etc.) on either the surface of the tongue, gusset, shaft or quarter lining. The marking must be enclosed in a rectangular border and a four-line format is suggested. Line four is used only when more than three sections of the standard applies to the footwear.

Line #1 - This line identifies the ASTM standard. It indicates that the protective footwear meets the performance requirements of ASTM F2413 issued in 2011.

Line #2: M I/75 C/75 Mt75 - This line identifies the gender (M [Male] or F [Female]) of the user. It also identifies the existence of impact resistance (I), the impact resistance rating (75 foot-pounds), compression resistance (C) and the compression resistance rating (75) which correlates to 2500 pounds of compression. The metatarsal designation (Mt) and rating (75 foot-pounds) is also identified.

Lines 3 & 4: PR - Lines 3 and 4 are used to identify footwear made to offer protection from other specific types of hazards referenced in the standard. They are used to designate conductive (Cd) properties, electrical hazard resistance properties (EH), footwear designed to reduce the accumulation of excess static electricity (SD) and puncture resistance (PR).

Any changes to the original components of safety toe footwear such as replacing or adding aftermarket footbeds/inserts could cause failure to any or all parts of the ASTM standard and the marking would be invalid.

Note: The ASTM standard does not allow for the use of add-on type devices (strap-on foot, toe or metatarsal guards) as a substitute for protective footwear. However, OSHA allows with the appropriate documentation from the manufacturer (must be available on site).

Footwear shall be of leather, or equivalent non-porous material,

Footwear shall extend above the ankle (minimum 6" height) and have a defined heel.

9.5 Eye and Face Protection

9.5.1 General Requirements

Each affected worker shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

Each affected worker shall use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

Each affected worker who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design, or wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.

Affected worker shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation.

9.6 Hearing Protectors

9.6.1 General Requirements

Hearing protection will be made available at no cost to all workers whose exposure equals or exceeds 85 dBA TWA and required for all workers who work in areas where exposure may equal or exceed the limiting values in [OSHA Standard 1910.95 App A, Table G-16A](#).

If a worker has experienced an STS, the worker is required to wear hearing protection if the noise exposure equals or exceeds 85 dBA.

Workers will be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors.

Hearing protectors will be replaced as necessary.

Each hearing protector available for selection must have a Noise Reduction Rating (NRR) sufficient to reduce the noise level below 90 dBA.

Workers required to wear hearing protectors will receive training in the proper use, care, and fitting of hearing protection issued to them.

Hearing protection will be periodically evaluated to ensure that the hearing protection attenuates noise levels to less than 90 dBA, or less than 85 dBA for workers who have had a threshold shift. Methods specified in Appendix B of the OSHA Occupational Noise Exposure [Standard](#) will be used.

The adequacy of hearing protector attenuation will be re-evaluated whenever worker noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. More effective hearing protectors will be provided, if needed.

9.6.2 Training

All workers who are exposed to noise at or above a TWA of 85 dBA will be included in an annual hearing conservation training program.

Initial training must be provided upon assignment to a job that has been identified as having an exposure level above the 85 dBA TWA. Training must be provided annually thereafter.

9.7 Hand Protection

9.7.1 General Requirements

Contractor / subcontractor employees shall be required to use appropriate hand protection at all times while on the project site, with exception given for field project offices and lunch / break areas, providing work activity requiring hand protection is not being performed.

9.7.2 Selection

Appropriate hand protection shall be selected based upon evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, the hazards and potential hazards identified, and in accordance with the minimum requirements of the Hand Protection Reference Guide.

Table 9 - 1 Hand Protection Reference Guide	
Activity / Exposure	Glove Type
Light lifting, moving boxes, etc.	Cotton, Leather, or cut-resistant
Handling lumber, steel, rebar, etc.	Leather or cut-resistant
Exposure to sharp edges, glass, box cutters, etc.	Cut-resistant
Exposure to open flame or molten metal, etc.	Insulating gloves w/ gauntlet cuff (welding glove, etc.)
Low Temperature	Insulating gloves
Electrical	Use appropriate PPE for high voltage - NFPA 70E
Chemicals	Refer to SDS / manufacturer recommendations

9.8 Respiratory Protection

9.8.1 General

Due to the respiratory hazards associated with chemical and dust exposures, respiratory protection is a crucial part of the Health and Safety Program. At no time shall an employee be forced to work in a hazardous situation without proper respiratory protection. Respiratory protection shall be in compliance with federal, state and local regulations. (29 CFR 1910.134 & 1926.103)

The nature of the hazard must be identified to make sure that and overexposure does not occur. Relevant factors include oxygen deficiency, physical and chemical properties of the hazard, physiological effects on the body, concentrations of the toxic substances, the Permissible Exposure Limits (PEL) and warning properties (odor, skin or upper respiratory irritation).

When feasible engineering controls are not enough to control airborne hazardous materials, the contractor shall provide respiratory protective equipment for its employees. NIOSH, OSHA and EPA safety criteria will be used as guidelines for selecting the equipment. Only NIOSH approved respiratory protective equipment shall be used. Employees who are required to use the respirators will be medically screened, properly fit-tested, fitted with the appropriate respirator and filters, and trained.

The effective use of a respirator depends on an individual's ability to wear a respirator, which must be determined by a physician or other licensed health care professional (PLHCP).

Burns and McDonnell employee owners working at the project site who are required to utilize respiratory protection shall refer to the Burns & McDonnell Policy Manual, Chapter 9 for respiratory protection program requirements.

Burns & McDonnell employee owners are not allowed, under any circumstances, to enter any work area containing an atmosphere with unknown concentrations of a hazardous air contaminant or a measured atmosphere determined to be Immediately Dangerous to Life or Health (IDLH).

The IDLH levels for many substances are published by the National Institute for Occupational Safety and Health (NIOSH). Air monitoring must be performed to determine air contaminant levels prior to respiratory protection equipment selection and prior to entry into an unknown concentration during routine entry or emergency releases of hazardous chemicals.

9.8.2 Duration of Respiratory Protection Use

The length of time a respirator will be worn by an employee owner must be evaluated. This is very important when using a self-contained breathing apparatus (SCBA) in which the air supply is limited, or when using an air-purifying respirator whose filter cartridges can become clogged or saturated to the point that they do not protect the worker from gases and vapors. Therefore, a respirator cartridge change-out schedule will be implemented depending upon the type and concentration of chemicals expected to be present

9.8.3 Selection of Respirators

The two general types of respirators typically used include:

Air-purifying respirators use cartridges or particulate air filters to remove contaminants from the breathing zone.

Air-supplying respirators use supplied air from compressed air tanks or air compressors.

Respirators for IDLH atmospheres. Even with an appropriate respirator *under no circumstances* shall an IDLH atmosphere be entered.

9.8.4 Assigned Protection Factors (APF)

The protection afforded by respirators depends on the seal of the face-piece to the face; no leakage should be evident around valves and through or around cartridges or canisters. Depending on these criteria, the degree of protection may be ascertained and a relative safety factor assigned. Protection factors are only applicable if all elements of an effective respirator program are in place and being enforced. APFs are used to determine what type of respiratory protection is required to be worn depending upon the hazardous atmosphere. Respirators may be worn in atmospheres where the contaminants are less than the APF when multiplied by the Occupational Safety and Health Administrations Permissible Exposure Limit.

Table 9 - 2 Respirator Assigned Protection Factor⁵

Type of Air Purifying Respirator ^{1,2}		Assigned Protection Factor, APF
Maintenance-Free and Dual Cartridge-Half Face		10 ³
Maintenance-Free and Dual Cartridge-Full Face		50 ⁶
Powered Air Purifying	Loose Fitting Face Piece	25
	Half Mask	50
	Full Face Piece	1000
	Helmet / Hood	25 - 1000 ⁴

Notes:

1. Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.
2. The assigned protection factors in Table 9-2 are only effective when the employer implements a continuing, effective respirator program, including training, fit testing, maintenance, and use requirements.
3. This APF category includes filtering facepieces, and half masks with elastomeric facepieces.
4. The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.
5. These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134(d)(2)(ii).
6. To Achieve an APF of 50, a quantitative fit test is required

9.8.5 Fit Testing

Employees whose work includes tasks that require respirator use will be fit tested to determine if a proper face-piece-to-face seal has been accomplished. However, they must first be medically cleared to wear a respirator.

If a successful fit-test cannot be achieved, alternate sizes and manufacturer's equipment will be tried and tested. If a proper seal remains unattainable, the employee may be offered a powered-air-purifying-respirator (PAPR), a supplied-air respirator, or will not be allowed to perform work requiring respiratory protection.

9.8.6 Field Tests

Positive and negative pressure fit tests are used to check the seal of the respirator being used in the field. Both tests must be performed each time a respirator is put on and prior to entering a contaminated area. Although the positive and negative tests are essential to a good respiratory protection program and should always be used prior to entering an area of exposure, they are solely used as a field test and cannot be substituted for the qualitative or quantitative fit test.

9.8.7 Inspection, Cleaning, Maintenance, and Storage

Respirators must be stored in a clean area unlikely to be contaminated by the work in progress. They should be stored in a secure atmosphere, such as a plastic bag, in a way that does not deform the shape of the face-piece.

Employees will be responsible for the inspection, cleaning and maintenance of their own air-purifying respirators. The respirators will be inspected by the employee prior to and after each use. Cleaning and

disinfecting will be performed after each day's use (or sooner if necessary). Only employees who have completed the appropriate training courses and are qualified can perform maintenance on respirators.

9.8.8 Training and Information

Training shall be provided prior to requiring the worker to use a respirator in the workplace. At a minimum, all employees using respirators will be trained in basic respirator practices, their Respiratory Protection Program, the hazards of the job and related topics required by the OSHA regulations in 29 CFR 1910.134. This training shall be documented via Burns & McDonnell Safety Form I-1 "Respirator Training Record".

Respirators are effective only when they are fitted to the employee owner and worn properly. Since proper use often depends upon the wearer's motivation, it is important that the need for the respirator be explained fully.

9.9 Personal Hydrogen Sulfide Monitors

Company and subcontract personnel (excluding visitors escorted at all times) are required to wear a personal H₂S monitor in all Operating areas which have the potential for H₂S release. The employees and contractors are exempt from wearing monitors while using supplied air respirators (fresh air). The personal monitors are instruments designed to alarm when the H₂S concentrations exceed 10 PPM. The H₂S monitor should never be used in place of properly preparing a job or as a replacement for selecting and wearing the proper personal protective equipment.

Personal shall take proper care of the monitor and perform the required daily and monthly testing in accordance with manufacturer's recommendations to assure the proper operation of the unit. They shall replace the H₂S personal monitor when it begins to not function properly or low battery warnings are present.

The H₂S personal monitor may not alarm quickly enough to provide protection to an employee upon sudden and close range release of large amounts of concentrated H₂S. Due to the immediate effect of H₂S, if high concentrations and large volumes of H₂S gas are released, employees may be affected before/during monitor activation. The H₂S personal monitor may also be affected by exposure to certain chemicals (acids/caustics) and low humidity.

The personal H₂S monitors must be placed in the employees breathing zone between the head and the chest. The monitor must not be covered by the employee's clothing, hair, hats, equipment, coveralls and/or tools. The recommended placement of the monitor is clipped on the outside of the front lapel of coveralls, shirt or jacket. The monitor is not permitted to be attached to the hard hat.

The monitor should be placed in a designated storage area free from exposure to H₂S when not in use.

9.10 Personal Floatation Devices

9.10.1 Working Over or Near Water, Barges and Boats

Employees when working over or near water, where the danger of drowning exists shall be provided with U.S. Coast Guard (USCG) - approved personal flotation devices.

Inspect personal floatation devices before and after each use for defects which would alter their strength or buoyancy.

Do not use defective units: remove from site and destroy.

Ensure a 30 in. diameter life ring with 150 ft. of (3/8" dia. – 600 lb. capacity) line is readily available and that travel distance between the life rings does not exceed 200 ft.

All boats must carry one wearable (Type I, II, III or V) USCG - approved PFD for each person onboard or being towed. All personnel in the boat must wear a USCG approved Lifejacket or Personal Floatation Device.

All protective equipment must be worn in a manner that does not create a hazard in itself (loose straps, catch hazards, wrong sized etc.) Everyone who uses personal protective equipment shall be trained in its use, operation and maintenance.

9.10.2 Personal Flotation Devices

All PFDs must be:

- U. S. Coast Guard-approved

- In good and serviceable condition.

- Readily accessible.

- Readily accessible means you must be able to put the PFD on in a reasonable amount of time in an emergency.

- PFDs should not be stowed in plastic bags, in locked or closed compartments or have other gear stowed on top of them.

- Of the proper size for the intended wearer. Sizing for PFDs is based on body weight and chest size.

Life rings (rope attachment not required) and ring buoys (rope attachment required) shall be USCG-approved; shall have at least 70 ft. of 3/8 in of attached solid braid polypropylene, or equivalent. Throw bags may be used in addition to life rings or ring buoys. Life rings or ring buoys shall be readily available.

All wearable PFDs shall be of a highly visible orange/reddish color. Each PFD shall have at least 31 in² of retro-reflective material attached to its front side and at least 31 in² on its back side, per USCG requirements

Each PFD shall be equipped with a USCG-approved automatically activated light. Lights are not required for PFDs on projects performed exclusively during daylight hours.

Before and after each use, the PFD shall be inspected for defects that would alter its strength or buoyancy.

Throwable devices (Type IV PFD).

On USCG-inspected vessels, ring buoys are required to have automatic floating electric water lights.

On all other floating plant and shore installations, lights on life rings are required only in locations where adequate general lighting (e.g., floodlights, light stanchions) is not provided. For these plants and installations, at least one life ring, and every third one thereafter, shall have an automatic floating electric water light attached.

All PFDs shall be equipped with retro-reflective tape in accordance with USCG requirements.

TYPE I: Offshore Life Jacket

These vests are geared for rough or remote waters where rescue may take a while.

They are excellent for flotation and will turn most unconscious persons face up in the water.

TYPE II: Near-Shore Vest

These vests are good for calm waters and fast rescues.

Type II vests may lack the capacity to turn unconscious wearer's face up.

TYPE III: Flotation Aid

These vests or full-sleeved jackets are good for calm waters and fast rescues.

They are not for rough waters since they will not turn a person's face up.

TYPE IV: Throw-able Device

To be acceptable, Type V - PFDs must be used in accordance with their label

These cushions or ring buoys are designed to be thrown to someone in trouble.

They are not for long hours in rough waters, non- swimmers or the unconscious.

TYPE V: Special-Use Device

These windsurfing vests, deck suits, hybrid PFDs and others are designed for specific activities, such as kayaking or water skiing.

Figure 9 - 1 Personal Flotation Device Type Classification

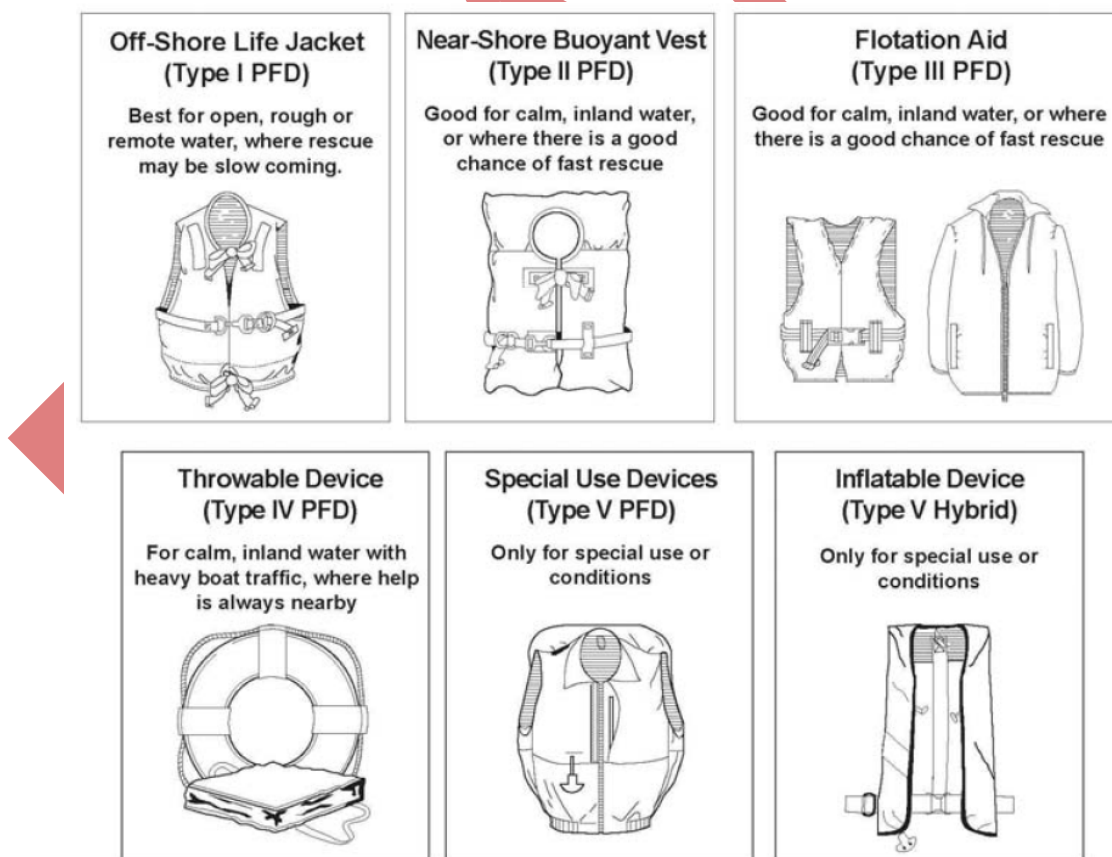


Table of Contents

10 Excavations

Excavations

Scope and Application
Definitions
Excavation Requirements
Requirements for Protective Systems
Protection of workers
Design of Sloping and Benching
Design of Support Systems
Materials and Equipment
Installation and Removal of Support
Sloping and Benching Systems
Shield Systems
Appendix A Soil Classification
Appendix B Sloping and Benching
Appendix C Timber Shoring for Trenches
Appendix D Aluminum Hydraulic Shoring for Trenches
Appendix E Alternatives to Timber Shoring
Appendix F Selection of Protective Systems

Underground Construction

Scope and Application
Access and Egress
Check-In/Check-Out
Safety Instruction
Notification
Communications
Emergency Provisions
Hazardous Classifications
Gassy Operations-Additional Requirements
Air Quality and Monitoring
Ventilation
Illumination
Fire Prevention and Control
Welding, Cutting, and Other Hot Work
Ground Support
Blasting
Drilling
Haulage
Electrical Safety
Hoisting Unique to Underground Construction
Definitions

Caissons

Compressed Air
Hydrostatic or Air-Pressure Test
Access
Man Lock
Gauges

Cofferdams

Flooding Control
Warning Signals
Cofferdam Walkways, Bridges, or Ramps
Shipping Channels

Compressed Air

General Provisions
Medical Attendance, Examination, and Regulations
Telephone and Signal Communication
Signs and Records
Compression
Decompression
Man Locks and Special Decompression Chambers
Compressor Plant and Air Supply
Ventilation and Air Quality
Electricity
Sanitation
Fire Prevention and Protection
Bulkheads and Safety Screens
Definitions Applicable to Compressed Air
Appendix A Decompression Tables

10.1 Excavation Requirements

10.1.1 Determination of Requirements

Site specific excavations requirements shall be determined (and followed) using Burns & McDonnell Site Specific Excavation Plan Safety Form J-1.

10.1.2 Inspection by Competent Person

Any excavation which is bodily entered by any worker must first be inspected by a competent person using Burns & McDonnell Excavation Inspection Safety Form J-2. The form shall be completed at the start of each shift, posted at the entrance to the excavation and updated as often as necessary.

10.2 Requirements for Protective Systems

10.2.1 Protection of Workers in Excavations

Burns & McDonnell Selection of Protective Systems Safety Form J-5 shall be used to determine requirements.

10.3 Appendix A - Soil Classification

Basis of classification - The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a competent person using the tests described in Burns & McDonnell Soil Classification Safety Form J-3. This completed form shall be transmitted to Burns & McDonnell as documentation of the soil classification.

Soil classification - Soil and rock deposits shall be classified in accordance with appendix A of this chapter. Burns & McDonnell Soil Classification Safety Form J-3 shall be transmitted to Burns & McDonnell as documentation of the soil classification.

10.4 Appendix B - Sloping and Benching

Table of Contents

11 Medical and First Aid**Medical Services and First Aid**[Availability of Medical Personnel](#)[Absence of an Infirmary, Clinic, or Hospital](#)[Corrosive Materials](#)[Incident Accident Injury Tracking Log](#)[Appendix A First Aid Kits](#)**Worker Access to Medical and Exposure Records**[Purpose](#)[Scope and Application](#)[Definitions](#)[Preservation of Records](#)[Access to Records](#)[Trade Secrets](#)[Worker Information](#)[Transfer of Records](#)

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11.1 Medical Services and First Aid

11.1.1 Incident Accident Injury Tracking Log

The Burns & McDonnell “Incident Accident Injury Tracking Log” Safety Form K-1, log will be utilized to track all first aid cases on the project.

11.1.2 First Aid Kits

First aid kits shall be checked by the employer before being sent out on each job. While on the project site the first aid kits shall be inspected at least weekly to ensure that the expended items are replaced. The Burns & McDonnell “Weekly First Aid Kit Inspection” Safety Form K-2, shall be used to document the weekly inspections.

11.2 Injury Illness Case Management

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Table of Contents

12 Fire Protection

Scope, Application, and Definitions

Scope

Application

Definitions

Fire Brigades

Portable Fire Extinguishers

Scope and Application

General Requirements

Selection and Distribution

Inspection, Maintenance and Testing

Hydrostatic Testing

Training and Education

Fire Detection Systems

Installation and Restoration

Maintenance and Testing

Protection of Fire Detectors

Response Time

Number, Location and Spacing of Detecting Devices

Worker Alarm Systems

Scope and Application

General Requirements

Installation and Restoration

Maintenance and Testing

Manual Operation

Liquefied Petroleum Gas (LP-GAS)

Approval of equipment and systems

Welding on LP-Gas containers

Container valves and container accessories

Safety devices

Dispensing

Requirements for appliances

Containers outside of buildings

Containers used inside of buildings or structures

Multiple container systems

Storage of LPG containers

Storage outside of buildings

Fire Protection Systems utilizing containers other than DOT containers

LP-Gas and other gases stored in the same area

Damage from vehicles

Temporary Heating Devices

Ventilation

Clearance and Mounting

Stability

Solid fuel salamanders

Oil-fired heaters

Flammable & Combustible Liquids

General Requirements
Indoor Storage of Flammable & Combustible Liquids
Storage Outside of Buildings
Fire Control for Flammable or Combustible Liquid Storage
Dispensing Liquids
Handling Liquids at the Point of Final Use
Service and Refueling Areas
Scope for Storage Tanks
Tank Storage
Piping, Valves, & Fittings
Marine Service Stations

Temporary Aboveground Storage Tanks

Scope and Application
29 CFR 1910.106
29 CFR 1926.152
General Requirements
Inspection, Maintenance & Testing

DRAFT

12.1 Fire Brigades

12.1.1 Fire Brigades

Fire Brigades shall not be utilized. Trained workers are only authorized to combat fires at the incipient stage.

12.2 Flammable and Combustible Liquids

12.2.1 "Fire control for flammable or combustible liquid storage"

At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage of more than 60 gallons of flammable or combustible liquids.

At least one portable fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside.

At least one portable fire extinguisher having a rating of not less than 20-B:C units shall be provided on all tank trucks or other vehicles used for transporting and/or dispensing flammable or combustible liquids.

12.3 Temporary Aboveground Storage Tanks

12.3.1 General requirements

Provide a completed initial installation checklist (Burns & McDonnell Safety and Health Form L-2, Initial Installation Checklist for Aboveground Flammable and Combustible Liquid Tanks) to the project manager for approval prior to installation of the temporary storage tank. The installation checklist includes items for the following:

Storage Tank Design -Atmospheric

Normal Venting for Tanks

Emergency Relief Venting for Fire Exposure

Tank System Corrosion Protection

Foundations for and Anchoring of Tanks

Location with Respect to Property Lines, Public Ways, and Important Buildings on the Same Property

Shell-to-Shell Spacing Between Any Two Adjacent Aboveground Tanks

Control of Spills from Aboveground Tanks

Collision Protection for the tank(s)

Testing Requirements for Tanks

Fire Prevention and Control

Emergency Planning and Training

Inspection and Maintenance

Prevention of Overfilling of Tanks

12.3.2 Inspection, Maintenance and Testing

The aboveground flammable and combustible liquid storage tank(s) shall be inspected monthly using Burns & McDonnell Safety and Health Form L-3, "Aboveground Storage and Dispensing Tanks Monthly Inspection Checklist". The checklist includes items for the following:

Identification markings

Labeling

Spill control and spill containment maintained for

Equipment is in good repair and safe operating condition

Alarms, interlocks, and controls are tested and working

Demarcation of hazard areas is in place

Ignition source controls in place for

Separation distances maintained from

Fire Equipment

Housekeeping

Emergency Planning and Training

Table of Contents

13 Compressed Air[General Requirements](#)[Installation and Equipment Requirements](#)

DRAFT

Table of Contents

14 Equipment-Rigging-Material Handling

General Requirements for Equipment

Cranes and Derricks

General Requirements

Cranes and Derricks in Construction

Cranes and Derricks Used in Demolition and Underground Construction

Crawler, Locomotive, and Truck Cranes

Hammerhead Tower Cranes

Overhead and Gantry Cranes

Derricks

Floating Cranes and Derricks

Suspended Personnel Platforms

Helicopters

Helicopter Regulations

Briefing

Slings and Tag Lines

Cargo Hooks

Personal Protective Equipment

Loose Gear and Objects

Housekeeping

Operator Responsibility

Hooking and Unhooking Loads

Static Charge

Weight Limitation

Ground Lines

Visibility

Signal Systems

Approach Distance

Approaching Helicopter

Personnel

Communications

Fires

Material Hoists, Personnel Hoists, and Elevators

General Requirements

Material Hoists

Personnel Hoists

Elevators

Base Mounted Drum Hoists

General Requirements

Overhead Hoists

General Requirements

Conveyors

General Requirements

Powered Industrial Trucks

General Requirements

Operator Training

PIT Refueling & Battery Changing

Lighting for PIT Operating Areas
Control of Noxious Gases & fumes
PIT Loading of Vehicles
PIT Operations
Traveling
Loading of the PIT
Operation of the PIT
Maintenance of PITs

Rigging Equipment for Materials Handling

General
Alloy Steel Chains
Wire Rope
Natural Rope and Synthetic Fiber
Synthetic Webbing (Nylon, Polyester, and Polypropylene)
Shackles and Hooks

Handling Materials

Use of Mechanical Equipment
Secure Storage
Housekeeping
Clearance Limits
Rolling Railroad Cars
Guarding

DRAFT

14.1 General Requirements for Equipment

14.1.1 General

All equipment shall have a daily pre-use inspection performed prior to each shift of operation, using the appropriate Burns & McDonnell Safety form, e.g. Burns & McDonnell Safety form N-8 “Daily Construction Vehicle Pre-Use Inspection Checklist”, Burns & McDonnell Health & Safety Form N-5 “Daily Forklift Pre-Inspection” or Burns & McDonnell “Crane Inspection” Safety Forms N-1A or N-1B

All equipment operators shall be trained and qualified to operate the specific equipment

Operator’s license in accordance with OSHA (Burns & McDonnell Safety Form C-21 “OSHA Required Training and Training Guidelines” as identified on the Burns & McDonnell Safety Form C-9 “Certification of Training”

14.2 Cranes and Derricks

14.2.1 General

Superintendents, General Foremen, Foremen, or other members of management (persons supervising workers) shall not operate cranes on Burns & McDonnell projects.

14.2.2 Cranes and Derricks in Construction

14.2.3 Crane Inspection and Lift Plan Submittal:

An annual third party crane inspection shall be conducted and certification shall be submitted to Burns & McDonnell prior to the use of any crane on site. This inspection shall be performed by a qualified crane inspector or by a certified inspection service.

This procedure shall in no way eliminate any requirements set forth for crane inspections in the OSHA Standard 1926.1400.

Critical Lift plans shall be completed for all lifts that are over 20 tons, lifts that involve more than one crane, lifts are over an operating or occupied area, or the load to be lifted exceeds 75% of the crane manufacturer’s load rating chart for configuration of the crane. Burns & McDonnell Safety & Health Form N-2 “Critical Lift Plan” shall be used to document this information.

Hand signals to crane and derrick operators shall be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals shall be posted at the job site Burns & McDonnell Safety & Health Form N-4 “Hand Signals”.

A competent person shall inspect all machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition. Competent persons shall be designated on Burns & McDonnell Safety & Health Form C-17 “Competent Person Designation”. Any deficiencies shall be repaired, or defective parts replaced, before continued use.

A third party annual inspection of the hoisting machinery shall be made by a competent person, or by a government or private agency recognized by the U.S. Department of Labor. The employer shall maintain a record of the dates and results of inspections for each hoisting machine and piece of equipment. No crane shall be used on a Burns & McDonnell project prior to transmittal of the inspection document to Burns & McDonnell.

14.2.4 General Requirements for Personnel Platforms

The use of a crane or derrick to hoist workers on a personnel platform is prohibited, except when the erection, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more hazardous or is not possible because of structural design or worksite conditions.

This use must be approved by Burns & McDonnell Corporate Safety & Health. The Burns & McDonnell Safety & Health Form N-3 “Suspended Personnel Platform Checklist” shall be completed and submitted to Burns & McDonnell for review and approval prior to use of the personnel platform.

14.3 Material Hoists, Personnel Hoists, and Elevators

14.3.1 Personnel Hoists

Following assembly and erection of hoists, and before being put in service, an inspection and test of all functions and safety devices shall be made under the supervision of a competent person designated to Burns & McDonnell by transmittal, Burns & McDonnell Health & Safety Form C17 “Competent Person Designation. A similar inspection and test is required following major alteration of an existing installation.

All personnel hoists shall be inspected and tested at not more than 3-month intervals. A certification record which includes the date the inspection and test of all functions and safety devices was performed; the signature of the person who performed the inspection and test; and a serial number, or other identifier, for the hoist that was inspected and tested shall be maintained onsite.

These hoists shall be inspected and maintained on a weekly basis, using Burns & McDonnell Health & Safety Form N3 “Suspended Personnel Platform Checklist”.

Whenever the hoisting equipment is exposed to winds exceeding 35 miles per hour it shall be inspected and put in operable condition before reuse.

14.4 Conveyors

14.4.1 General Requirements

Conveyors shall be locked out using the Burns & McDonnell Health & Safety Form G1 – Lockout Tagout Procedure or otherwise rendered inoperable, and tagged out with a Do Not Operate tag during repairs and when operation is hazardous to workers performing maintenance work.

14.5 Powered Industrial Trucks

14.5.1 Operator Training

Certification - The employer shall certify that each operator has been trained and evaluated. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation. Documentation of the certification shall be transmitted to Burns & McDonnell via Burns & McDonnell Health & Safety Form C-9 “Certification of Training”. Additionally, all PIT operators shall carry on their person documentation of their training (card, hard hat sticker, etc.)

14.5.2 Maintenance of PITs

PITs shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily and documented via Burns & McDonnell Health & Safety Form N-5 “Daily Forklift Pre-Inspection”.

14.6 Rigging Equipment for Materials Handling

14.6.1 General

Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service. Inspections shall be documented using the Burns & McDonnell Health & Safety Form N6 “Rigging Inspection Record”.

DRAFT

Table of Contents

15 Motorized Vehicles and Mechanized Equipment

Motor Vehicles Project Program

[Coverage](#)[Objective](#)[General Requirements](#)

Earthmoving Equipment

[General](#)

Lifting and Hauling Equipment

[General](#)[Lifting and Hauling Equipment Operator Qualifications](#)[Lifting and Hauling Equipment Refueling](#)[Lighting for Operating Areas](#)[Lifting and Hauling Equipment Loading of Vehicles](#)[Lifting and Hauling Equipment Operations](#)[Traveling with the Lifting and Hauling Equipment](#)[Loading of the Lifting and Hauling Equipment](#)[Operation of the Lifting and Hauling Equipment](#)[Maintenance of the Lifting and Hauling Equipment](#)

Pile Driving Equipment

[General Requirements](#)[Barges or Floats](#)[Pile Driving Equipment](#)

15.1 Motor Vehicles Project Program

15.1.1 Coverage

This procedure covers all motor vehicles that operate on the project jobsite. All vehicles regardless of ownership, including employee owned or leased vehicles being used for company business; company rented or fleet vehicles; and Contractor vehicles, including but not limited to: automobiles, trucks, utility vehicles (gators, carts, mules, etc.)

15.1.2 Objective:

The primary objective of the motor vehicle project safety program is to prevent injuries, deaths and expenses related to vehicular accidents while operating at the jobsite.

15.1.3 General Requirements

All motor vehicles operating on the project site shall

Be checked using Burns & McDonnell Safety & Health form O-1 “Vehicle Checklist” at the beginning of each shift to assure that the equipment is in safe operating condition. Defects shall be corrected before vehicles are placed in service

Have a service brake system, an emergency brake system, and a parking brake system, and shall be maintained in operable condition.

Be equipped with at least two headlights and two taillights in operable condition.

Have brake lights in operable condition.

Be equipped with an operable audible warning device at the operator's station.

Have seats adequate for the number of workers to be carried.

Have [Seat belts](#) and anchorages installed.

Be backed in to parking spots

All [equipment](#) shall have an un-obstructed view to the rear unless:

The vehicle has a reverse signal alarm or:

The vehicle is backed up only when an observer signals that it is safe to do so.

Or the vehicle horn must be sounded before backing the vehicle.

All vehicles with cabs shall be equipped with windshields, and operable windshield washers and powered wipers.

Cracked and broken glass shall be replaced.

Vehicles shall be equipped with operable defogging or defrosting devices.

All [hauling vehicles](#) shall have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.

Tools and material shall be secured to prevent movement when transported in the same compartment with workers.

15.2 All Subcontractor Site Supervision

Superintendents, General Foremen, Foremen, or other members of management (persons supervising workers) shall not operate equipment (e.g. material handling, monitoring, etc.) on Burns & McDonnell projects

15.3 Dump Trucks

15.3.1 Operator's station of dump trucks shall be clear of dump area.

Dump trucks shall be capable of being locked in position to prevent accidental lowering of the body.

Operating levers shall be equipped with a latch or other device which will prevent accidental starting or tripping of the mechanism.

15.4 Pneumatic Rubber Tired Vehicles

All pneumatic rubber-tired motor vehicles shall be equipped with fenders.

Mud flaps may be used in lieu of fenders whenever motor vehicle equipment is not designed for fenders.

15.5 Earthmoving Equipment

15.5.1 General

All equipment on Burns & McDonnell projects shall be equipped with roll over protective structures.

15.5.2 Audible alarms

All bi-directional equipment, such as rollers, compactors, front-end loaders, bulldozers, and similar equipment, shall be equipped with a horn distinguishable from the surrounding noise level, which shall be operated as needed when the machine is moving in either direction. The horn shall be maintained in an operative condition.

Earthmoving or compacting equipment which has an obstructed view to the rear shall not be used in reverse gear unless the equipment has a reverse signal alarm or a worker (spotter) signals that it is safe to do so.

Scissor points on equipment shall be guarded.

Where necessary for safe operation a spotter or spotters, equipped with Hi-visibility vests, flags, horns or the like, shall be used for moving equipment.

15.6 Vacuum Truck

15.6.1 General

Before starting any vacuum truck operations— make sure that workers understand the following:

The hazards associated with the liquids or substances to be vacuumed or transferred

Sources of ignition

Flammable atmospheres

Toxic vapor PEL and STEL limits

The evacuation and rescue procedures in the event of a toxic gas leak s

Specific site hazards which may affect the truck operation the safe operation of the vacuum equipment

15.6.2 Bonding and Grounding

The complete vacuum transfer system needs to be bonded so that there is a continuous conductive path from the vacuum truck through the hose and nozzle to the tank or source container and grounded to dissipate stray currents to earth (ground).

Prior to starting transfer operations, vacuum truck need to be grounded directly to the earth or bonded to another object that is inherently grounded (due to proper contact with the earth) such as a large storage tank or underground piping

15.6.3 Operations

The operator shall ensure that:

Air quality monitoring at the work site is conducted at such locations as the discharge area of the vacuum truck venting hose. Testing should be completed by a qualified person using properly calibrated and adjusted detectors.

First aid is readily available on site in the event of exposure to toxic gas.

The manufacturer's instructions are consulted to confirm that the vacuum equipment is designed for the particular transfer operation.

All equipment—including tank and vacuum trucks, and pumping equipment—is in safe working condition.

The tank interior, filter baghouse, and cyclone separators are clean and free of any substances that may react with the liquids to be vacuumed or transferred.

The Vacuum hose is constructed of conductive material or thick walled hose with imbedded conductive wiring, shall be used when transferring flammable and combustible liquids when the potential for a flammable atmosphere exists in the area of operations.

Conductive hose shall provide suitable electrical conductance less than or equal to 1 mega ohm per 100 feet (as determined by the hose manufacturer).

Thin walled metallic spiral-wound conductive hoses should not be used because of the potential for electrical discharge through the thin plastic that covers the metal spiral.

Any required permits and inspect for vacuum trucks, equipment, and loading/off-loading sites have been obtained to assure safe operations

Smoking, or any other source of ignition, shall not be permitted within at least 100' (depending on local procedures and atmospheric conditions) of the truck, the discharge of the vacuum pump, or any other vapor source

To prevent exposure to toxic gases during transfer operations:

Vacuum trucks shall not enter into tank dike area until such areas have been checked/monitored and rendered safe:

Vacuum trucks cargo tanks shall be depressurized

All personnel shall leave the vacuum truck cab during loading and off-loading operations

When transferring flammable liquids or hazardous materials, vacuum truck operators shall remain positioned between the vacuum truck and the source or receiving tank, vessel, or container and within 25' of the vacuum truck throughout the duration.

Vacuum truck operators shall monitor the transfer operation and be ready to quickly close the product valve and stop the pump in the event of a blocked line or release of material through a broken hose or connection;

Never transfer fluids from one truck to another unless it has been established that no chemical reaction will occur.

Position trucks to minimize exposure to any discharged gases and fumes.

Ensure that discharge lines are long enough and large enough for safe operation.

Position vent lines away from workers and workstations, including control panels, valve handles, gauges, shut-offs, and hose attachment points. If possible, use a vertical exhaust stack to divert exhaust gases away from workers and ignition sources.

Check air monitoring equipment during operations to confirm that venting is proceeding safely.

Monitor the following: tank level indicators to avoid overfilling tank pressure gauges to avoid over-pressurizing receiving tanks or creating excessive vacuum in supply tanks tank temperature gauges to help identify possible chemical reactions

Under normal conditions, the absence of oxygen minimizes the risk of ignition in a vacuum truck.

Operating blowers and vacuum pumps at high speeds creates high air movement and high vacuum levels, resulting in high discharge air temperatures and high discharge vapor concentrations that can present potentially ignitable conditions.

Minimize the air introduced into the system when pressure loading or unloading. Submerge the suction line in liquid, or reduce the vacuum pump speed when skimming or nearing the end of a load.

Maintain a log of transported fluids and any potential residue.

Use gravity loading and unloading whenever possible.

Use a vapor recovery system—when available—to avoid venting tanks directly to the atmosphere.

15.6.4 Training

Employers are responsible for properly training, instructing, and supervising workers. These responsibilities include the following:

Vacuum truck operators shall be trained and properly licensed in accordance with applicable regulations:

Vacuum truck operators must be aware of the effect of speeds, turns and the changing center of gravity:

Vacuum truck operators shall maintain proper distances when operating vacuum trucks inside facilities with restricted clearances.

All workers involved with the process shall attend pre-work meetings. These meetings should cover the hazards to which workers are exposed by their work.

Training should include:

Slip, trip and fall awareness

The use of personal protective equipment—such as H₂S personal alarms and air-supplied respirators.

The hazards of toxic gas exposure and trained to know what to do in case of a release.

A site-specific orientation which includes:

- Hazards of the petroleum products, by-products, wastes and materials being transferred

- Relevant government and facility safety procedures and emergency response requirements

- SDS locations

- Appropriate PPE

15.7 Drilling, Boring, and Direct-Push

The following safety procedures cover various boring methods, including but not limited to rotary (mud and air rotary), sonic, hollow-stem auger, hammer, cable-tool, top drive, direct-push, and directional boring.

15.7.1 Overhead Obstructions

Check for proper clearance of overhead lines and other obstructions prior to setup and each time the rig derrick or drilling rods are raised, lowered, or moved.

Borings should not be conducted in locations that will place any part of the rig, rods, or equipment within 20 feet of overhead power lines, even when raised. If any part of the drill rig will be closer than 20 feet to an overhead line, prior arrangements must be made to take the line out of service or have it booted (blanketed and insulated) by the electric utility. Refer to OSHA 29 CFR 1910.333 (i) (1) and Table S-5 and 29 CFR 1926.550 (a) (15) for proper clearance distances.

Avoid unnecessary touching of the rig when being raised or lowered.

Do not move the rig when in a raised position.

15.7.2 Underground Utilities

Initiate a utility clearance call in advance of boring (and sub-surface) activities for each designated work area and document the utility clearance prior to start of work, including the ticket number, utilities notified, and the names of all persons granting utility clearance and record on the Field Safety Checklist- Intrusive Activities (Form J-4). It is illegal in some states to perform any subsurface excavation without calling the utilities clearance service for the state (e.g. One Call).

Coordinate with the Owner to confirm known locations of underground utilities.

If a utility clearance cannot be obtained for a certain area (such as within plant boundaries) then use non-mechanical methods such as hydro-excavation/pot-holing, air-knifing, or hand-tool methods.

If a significant increase in resistance to drilling or digging occurs in an area where bedrock is not expected, STOP WORK immediately, reassess the situation, reevaluate the data on the locations of underground utilities, and do not proceed until safety has been verified.

Call the Project Manager if any uncertainty exists as to the clearance of utilities.

Minimize borings in the immediate vicinity of known or suspected underground utilities.

In the event that underground utilities are encountered, the following steps should be taken:

- Cease drilling or digging immediately.

- Notify the Project Manager.

- Submit an incident notification through the Safety & Health reporting system.

15.7.3 Turning or Rotating Machinery

The principal hazard of turning or rotating machinery is the danger of snagging clothing or body parts. Therefore, the following guidelines should be observed:

- Whenever possible, stay at least two feet from turning or rotating machinery. This includes augers, cathead, engine power takeoff, and drill rods.

- If machinery must be approached closer than two feet, minimize the amount of time in close proximity to the machinery and use caution.

- Near turning or rotating machinery, be aware of where other workers are standing and moving so that no one is jostled into the machinery.

- Use caution when wearing loose or baggy clothing

- Keep clear of the cathead rope at all times it may break while in use, also, it is often coiled on the ground and presents a tipping hazard.

15.7.4 Hydraulic Machinery

The hazards of hydraulic machinery include the following guidelines:

- Stay at least two feet from the hydraulic systems. When under pressure, hydraulic hoses are subject to breaking and 'whipping' around or they may sustain a pinhole leak which can spray out hydraulic fluid at a high pressure.

- If machinery must be approached closer than two feet, minimize the amount of time in close proximity to the machinery and use caution.

- Do not allow the operator to 'overdrive' the equipment, which could cause a 'blow-out' of hydraulic equipment or hoses.

15.7.5 Working Safely Around Vehicles

Use extra caution when on a site with traffic and/or construction vehicles. The investigation area may be present in the following traffic areas and extra precautions should be taken:

- Highway and road shoulders

City streets

Parking lots

Construction site equipment

Landfills

Airports

Precautions to be taken when working near other operating equipment or traffic include:

Wear high-visibility clothing,

Establish controlled areas using traffic barricades, cones, or signs,

Utilize a flagger for traffic watch and control

Beware of heavy truck and vehicle traffic as the view of operators of large equipment may be limited. Do not position yourself or your vehicle behind equipment or haul trucks.

Precautions to be taken when working near the operating equipment include:

Watch the rig operations to know where all machinery and equipment are located

Stay visible to the operator as much as possible when near operations.

Keep out of, or move cautiously, in areas where work is in progress, including the hoist and derrick, sample driving equipment, auger and drill rod storage and hoisting areas, water pump or compressor, and rig exhaust.

When equipment or the hole must be approached, signal for the operator to stop work.

Work inside buildings requires venting of the rig exhaust and monitoring of the air for exhaust gasses.

As possible, position yourself and work up-wind from the vehicle exhaust.

Terrain Hazards

While working around borings, excavations, and backhoe test pits the following precautions should be taken:

Stay at least 6-feet away from the edge of holes or provide barricades / fall protection.

Watch for stress cracks, forming in the ground near the edge of the excavation and holes, as a sign of potential soil collapse into the excavation.

Keep 6-feet away from the soil stockpile as it may be unstable and collapse

Additional concerns to be alert and watch for are:

Stability of the rig:

Sliding of the rig in muddy conditions

Tipping or rolling of the rig on sloping or muddy ground

Tipping of the rig while the hydraulic leveling jacks are being raised or lowered

Tipping of the rig because of poor support structures or timbering under the hydraulic leveling jacks

Possible collapse of the rig derrick

Possible falling or flying rig and derrick parts

Possible breakage of the Standard Penetration Test hammer

Possible bending or breaking of drilling rods if the driller is inappropriately stacking the drill rods above the top of the derrick while pulling rods

Breaking of hydraulic lines.

Work at quarry and construction sites requires caution in the following areas:

Stay well back from precipitous terrain and rock walls.

Beware of falling rock.

Coordinate your schedule to avoid blasting operations, and check in with the quarry operator before entering.

Rig Kill Switch

If the rig has a kill switch, learn where it is and how to use it to shut the rig off in case of an emergency. A discussion should be held with the driller on each rig at the startup of the field work to discuss the location and use of the kill switch.

15.8 Rail Car and Truck Dock Procedures

15.8.1 General Requirements

Personal Protective Equipment (PPE)

Approved hard hats, approved metatarsal boots and approved safety glasses with permanently attached side shields shall be worn in designated areas.

Training

Appropriate training based on complexity of the job and potential hazards related to in plant rail shall be provided to all applicable employees.

Assessments shall be used to determine whether the personnel have the knowledge and have demonstrated skills to safely perform their work assignments.

Retraining and testing shall be required for unsatisfactory/unsafe performance of job assignments.

Training shall be documented; form C-9 Training Certification

Date of class completion

Name of Course

Name Of Trainee

Name of Trainer

Traffic Crossing

In all cases pedestrians/employees shall cross at existing designated pedestrian rail crossings where provided.

Additionally, vehicle crossings are not intended as pedestrian crossings unless they are so identified and/or located, and no other pedestrian crossings exist in the area.

If a designated crossing is not available.

Do not cross within 10 feet of the end of a parked rail car,

do not cross between uncoupled cars,

Stop, look and listen prior to proceeding across the tracks, and

Never step on rails, as they may be slippery.

Crossing around / through equipment:

Never attempt to crawl under rail equipment or

Never climb over moving rail equipment or

Never attempt to cross in front of moving equipment.

Never position any part of the body in a potential pinch point, as rail equipment can move in either direction at any time.

Working around RR tracks

Obtain permission from the railroad supervisor (or designated person) prior to performing work within six (6) feet of any railroad track,

Permission must be obtained to take the track out of service.

15.8.2 Rail Dock Procedure

A warning system and operational procedure shall be in place

The use of de-rails or derailing devices shall be included in the system

Track wells, internal tracks and loading and unloading areas shall be equipped with audible and visual warning devices that operate while the derail is disengaged

Electronic locking devices operated by trained /designated personnel are to be used to lock the derails in place

Spotted cars shall be secured by chocks, blocks, or the handbrake

Employees shall be trained in the use of car shakers, mechanical assists, etc.

Employees who enter a full or partially full bulk car shall be provided with fall protection and/or confined space entry procedures (hazards such as engulfment, material bridging, auger pits, etc.

Lockout control procedures shall be in place when performing activities where rail car movement could present a hazard.

Note: Examples include, but are not limited to, cleaning around rails, maintenance of tracks or track areas, work in or around rail track wells or rail car bumpers

Ensure that the railroad is contacted and made aware of where and when the employees will be working

The procedure to move trains into and out of a facility shall be under the control and responsibility of a trained/ designated person

Designated personnel shall inspect the rail dock area and tracks at the beginning of each shift ensuring:

- The warning system /equipment are properly positioned and functional.

- Audible and visual warning devices are operating properly while the derail is disengaged.

- The tracks are clean and free of debris

The local procedures shall include the designated personnel ensuring the following during switching activities:

- The track well is clear and no one is working in the area around the tracks.

- All pedestrian doors into the track well are secured during switching.

- All dock plates have been removed, bridges have been lifted and overhead doors have been opened

- The audible and visual warning devices are operating properly

- Electronic locking devices are operational.

- A system shall be in place to prevent rail cars from moving once they are in place on the dock

- Chocks and wheel stops shall be periodically inspected for cracking and other deterioration

- Hand brake shall be set

Powered or portable dock boards when used, shall be:

- Provided a good fit between the dock edge and the rail car

- Prevented from slipping

- Periodically visually inspected for cracking and other deterioration

Boxcar loading and/or unloading

Visually inspect all doors before opening and closing

Regularly lubricate the rail car doors

Use a mechanical assist which moves parallel with the travel of the door

Assure no other employees are in the “line-of-fire” during the opening and closing of the door

Tank cars loading and/or unloading

If located remote from the rail dock, requires separate warning operation

Spotted cars shall be secured by chocks, blocks, or the handbrake

If the tank car contains a hazardous material:

Are the people loading /unloading it trained in the safe handling of the material?

Are they trained in emergency procedures?

Are proper warning signs used during loading and unloading operations?

15.8.3 Truck Dock Procedures

The facility shall have a written safe operating practice for truck dock operations including, but not limited to:

The spotting, securing and inspecting trailers prior to loading/unloading activities

The covering of trailers or trucks which are loaded or unloaded away from the dock areas (i.e. loading/unloading from ground level, side loading/unloading of open side trailers).

The Inspection of the trailers prior to any loading or unloading operations including:

Interior items including: floor, sidewalls, doors and roof structure.

Exterior items including: floor cross members and fasteners, top and bottom rails, sidewalls, doors, rear impact bar (ICC bar), trailer landing gear.

The dock safety procedures shall be posted in a highly visible location which provides easy access

The SOP shall ensure that

Outside tractor drivers do not place or remove trailer control (stop) signs or perform any other dock safety procedures unless specifically authorized to do so

All dock spots are marked with a unique means of identification visible to both dock employees and drivers from inside the building, the dock well, and the outside of the dock.

All fork trucks used at the loading dock shall clearly be marked with the vehicle's lifting capacity

Markings should be in the format: CAP: 6,000 lbs.

Trucks with a capacity greater than 8,000 lbs., but less than 10,000 lbs. must also be marked “H D”.

“HD” heavy-duty fork trucks are prohibited from entering standard-duty over the road trailers to load and unload material

HD fork trucks are only used in heavy-duty trailers, which are properly identified and marked

Fork trucks with lifting capacities in excess of 10,000 lbs. are prohibited from entering highway trailers except where the trailer floor system has been certified and labeled by the manufacturer to match or exceed the capacity of the fork truck being used.

All trailers shall be chocked and properly restrained prior to any loading or unloading operations

Single and double axle trailers require a chock on each side. Triple axle trailers require two chocks on each side.

Moveable axles must be locked in the rear most position.

Trailer “dock locks” or other automatic restraint systems in use shall be visually verified they are properly engaged

Jack stands shall be used properly for dropped trailers

A single center-mount spreader beam style jack stand or two corner-post style jack stands are required.

The jack stands must be placed under the trailer supporting the frame (not the floor).

Jack stands must make contact with the underside of the trailer frame.

They should be adjusted up to the trailer frame equally.

Trailers with an overhang of six (6) feet or more or equipped with adjustable axle positions that cause the rear of the trailer to over/hang the rear axles a distance of six (6) feet or more must have corner-post style jack stands placed under the rear corners.

Trailers equipped with Air-Ride systems must have the system deflated and jack stands placed under the rear corners.

Truck Dock Facilities & Equipment

Chocks and jack stands shall be periodically inspected for cracks, wear and deterioration

Procedures shall be in place to protect workers while performing maintenance work on dock plates, dock locks or other automatic restraint systems, including:

Prohibit work being performed between a parked trailer and the dock plate.

Requiring dock plates on either side of the work location be taken out of service, barricaded or marked with caution tape to prevent other activities from occurring.

Require trailers on either side of the work location be moved out where possible.

Adequate lighting shall be provided on the dock and in loading areas

Table of Contents

16 Hand and Portable Powered Tools

Definitions

[Definitions](#)

Hand and Portable Powered Tools and Other Hand-Held Equipment

[General Requirements](#)[Compressed Air Used For Cleaning](#)

Guarding of Portable Powered Tools

[Portable Powered Tools](#)[Pneumatic Powered Tools and Hose](#)[Portable Abrasive Wheels](#)[Explosive Actuated Fastening Tools](#)[Power Lawnmowers](#)

Other Portable Tools and Equipment

[Jacks](#)[Abrasive Blast Cleaning Nozzles](#)

16.1 Hand and Portable Powered Tools and Other Hand-Held Equipment

16.1.1 General Requirements

Each company shall be responsible for the safe condition of tools and equipment used by workers, including tools and equipment which may be furnished by the workers. Any tool which does not pass the pre-use inspection or is not in compliance with any applicable requirement is prohibited and shall be identified as unsafe by tagging or locking the controls to render them inoperable and removed from the site for repair or disposal.

Workers using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dust, fumes, mists vapors, or gases shall be provided with particular PPE necessary to protect them from the hazard. ([See Chapter 9 for the requirements for a Hazard Assessment and determination of the appropriate PPE](#))

The Burns & McDonnell Health & Safety Form P1 - Hand & Portable Power Tools Pre-Operation Inspection Checklist can serve as a basis for the daily pre-use inspection of the tools, as well as to document the monthly inspection.

16.1.2 Tool Guarding

Guards shall be in place and operable at all times while the tool is in use. The guard may not be manipulated in such way that will compromise its integrity or compromise the protection in which intended. Guarding shall meet the requirements set forth in ANSI B15.1.

Table of Contents

17 Welding Cutting and Brazing**Gas Welding and Cutting**

Transporting
Placing Cylinders
Treatment of Cylinders
Use of Fuel Gas
Fuel Gas and Oxygen Manifolds
Hose
Torches
Regulators and Gauges
Oil and Grease Hazards
Additional Rules

Arc Welding and Cutting

Manual Electrode Holders
Welding Cables and Connectors
Ground Returns and Machine Grounding
Operating Instructions
Shielding

Fire Prevention

Designated Safe Location
Cannot Be Moved
Flammable Paints
Fire Extinguishing Equipment
Fire Prevention Precautions are Not Sufficient
Walls, Floors, and Ceilings
Enclosed Spaces
Containers Which Contain or Have Contained Flammable Liquids
Drums Containers, or Hollow Structures
Before Heat is Applied

Ventilation and Protection in Welding, Cutting, and Heating

Mechanical Ventilation
Welding, Cutting, and Heating in Confined Spaces
Welding, Cutting, or Heating of Metals of Toxic Significance
Inert-Gas Metal-Arc Welding
General Welding, Cutting, and Heating

Welding, Cutting, and Heating in Way of Preservative Coatings

Surface Covered By a Preservative Coating
Highly Flammable Hardened Preservative Coatings
Protection Against Toxic Preservative Coatings
Artificial Cooling

17.1 Gas Welding and Cutting

17.1.1 Hose

Flashback arrestors shall be used at both the gauge and the torch end of the hose.

17.1.2 Additional Rules

For additional details not covered in this chapter, applicable technical portions of American National Standards Institute, Z49.1-1967, Safety in Welding and Cutting, shall apply.

17.2 Arc Welding and Cutting

17.2.1 Ground Returns and Machine Grounding

The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable containing the circuit conductor or through a separate wire which is grounded at the source of the current.

Grounding circuits, other than by means of the structure, shall be checked to ensure that the circuit between the ground and the grounded power conductor has resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

17.2.2 Operating Instructions

When welding on galvanized metals a respirator with a P100 filter is required.

17.2.3 Welding Equipment Inspection

Daily pre-operational equipment inspections shall be performed on all welding machines and equipment. The inspections shall be documented using the Burns & McDonnell Safety Form Q-1.

Table of Contents

18 Special Industries

Electrical Power Generation, Transmission, and Distribution

Telecommunications

DRAFT

Electric Power Generation, Transmission, and Distribution

General
Medical Services and First Aid
Job Briefing
Hazardous Energy Control
Enclosed Spaces
Excavations
Personal Protective Equipment
Ladders
Hand and Portable Power Tools
Live-Line Tools
Materials Handling and Storage
Working On or Near Exposed Energized Parts
De-Energizing Lines
Grounding for the Protection of Workers
Testing and Test Facilities
Mechanical Equipment
Overhead Lines
Line-Clearance Tree Trimming Operations
Communication Facilities
Underground Electrical Installations
Substations
Power Generation
Special Conditions
Definitions
Appendix A - Form Hand Signals
Appendix B - Radio Frequency Radiation Hazard Sign

18.1 Electric Power Generation, Transmission, and Distribution

18.1.1 General

18.1.2 Training

Workers shall be trained in and familiar with the [safety-related](#) work practices, safety procedures, and other safety requirements in this section that pertain to their respective job assignments. Workers shall also be trained in and familiar with any other safety practices, including applicable emergency procedures, that are not specifically addressed by this section but that are related to their work and are necessary for their safety.

Documentation of this training shall be submitted via Burns & McDonnell Pole & Bucket Rescue Safety Form R-2.

18.1.3 Job Briefing

Daily job briefing is required, using Burns & McDonnell Daily Job Briefing Safety Form R-1, and shall be conducted with all the workers involved before they start each job.

Information Transfer.

Before work begins:

The host company shall inform the contractor of the characteristics of the host company's installation that are related to the safety of the work to be performed such as:

- Conditions that are related to the safety of the work to be performed that are known to the host company;

- Information about the design and operation of the host company's installation that the contractor needs to make the assessments required by this section; and

- Any other information about the design and operation of the host company's installation that is known by the host company that the contractor requests, and that is related to the protection of the contractor's employees.

Contractors shall comply with the following requirements:

- The contractor shall ensure that each of its employees is instructed in the hazardous conditions relevant to the employee's work that the contractor is aware of as a result of information communicated to the contractor by the host company

- Before work begins, the contractor shall advise the host company of any unique hazardous conditions presented by the contractor's work.

- The contractor shall advise the host company of any unanticipated hazardous conditions found during the contractor's work that the host company did not previously mention. The contractor shall provide this information to the host company within 2 working days after discovering the hazardous condition.

The contractor and the host company shall coordinate their work rules and procedures so that each worker is protected.

Confirmation of the information exchange shall be documented on Burns & McDonnell Safety Form R-10 "Host –Contractor Information Transfer"

18.1.4 Personal Protective Equipment

Fall protection equipment shall be inspected Burns & McDonnell Safety Form R-8 “Fall Protection Equipment Inspection”. See [Chapter 9, Personal Protective Equipment](#) for additional PPE requirements.

18.1.5 Crane Lifting Plans

Lifting plans shall be developed prior to any crane lifts to verify reasons for lift, the description of work responsibilities, the crane inspection, and operator qualifications. The lift plan shall be reviewed at the PTA / Daily Job Briefing / lift crew meeting to assure personnel are aware of the work to be performed, hazards, and control measures prior to the crane lift.

A pre-lift crane permit Burns & McDonnell Safety Form R-4 “Pre-Lift Crane Permit” and pre-lift safety checklist Burns & McDonnell Safety Form R-5 “Pre-Lift Safety Checklist” shall be completed

Additionally, Critical Lift Plans shall be completed for all lifts that are over 20 tons, lifts that involve more than one crane or the load to be lifted exceeds 75% of the manufacturer’s load rating chart for configuration of the crane. Burns & McDonnell Safety Form N-2 “Critical Lift Plan” shall be used to document this information.

18.1.6 Substations

Upon entering an attended substation, each worker other than those regularly working in the station shall report his or her presence to the worker in charge in order to receive information on special system conditions affecting worker safety.

Telecommunications

Application

General

Training

Worker Protection in Public Work Areas

Tools and Personal Protective Equipment

Rubber Insulating Equipment

Personal Climbing Equipment

Ladders

Other Tools and Personal Protective Equipment

Vehicle-Mounted Material Handling Devices/Mechanical Equipment

Materials Handling and Storage

Cable Fault Locating and Testing

Grounding for Worker Protection -- Pole Lines

Overhead Lines

Underground Lines

Microwave Transmission

Tree Trimming

Definitions

Appendix A - Form Hand Signals

Appendix B - Radio Frequency Radiation Hazard Sign

18.2 Telecommunications

18.2.1 General

Tower Climbers and Ground Crew Workers

All work crews must be provided with and must use proper safety equipment at all times.

If proper safety equipment is unavailable or not functioning, no work at heights should be done.

All workers should annually certify their commitment to “100 percent tie off.”

For every level in the contracting chain, however, “100 percent tie off” cannot simply be a written policy. All entities and individuals involved, particularly job site supervisors and individual workers, must have a firm commitment to enforcing 100 percent tie off at every worksite at all times when workers are climbing.

All climbing work should include comprehensive safety planning, including Activity Hazard Analysis (AHA) and Emergency Action Plan (EAP), for every job site

When starting work for the day, foremen should conduct a toolbox meeting where the Activity Hazard Analysis (AHA) is discussed. Part of the AHA review should also include a mental and physical check-in with climbers. Do they feel mentally and physically ready to climb safely that day? If there are any situations or conditions that may prevent them from being focused on climbing safely, the foreman has a responsibility to remove that climber from the climbing team.

Subcontractors should take special care when training new employees and ensure that each new employee is working alongside experienced workers at all times.

All work crews should not work at heights when weather conditions raise safety risks.

Keep track of employee work schedules, including travel and driving time, to ensure that employees are not climbing while fatigued.

All work crews should continually seek to enhance their safety skills and awareness through regular trainings and stand-downs.

Particular attention should be paid to inspections, including equipment inspections and PPE inspections.

18.2.2 Work Site Safety Practices:

All contractors shall require supervisors to conduct a tailgate meeting at the beginning of each work day. The purpose of these meetings is to highlight the most important safety issues for the day.

In addition to covering issues such as the location of rescue equipment, other topics to address include possible hazards specific to the jobsite, the need for hard hats and eye protection at all times, the need to be aware of overhead hazards, especially during lifts, and keeping clear of the load.

Other critical topics include the location of the nearest hospital, and how to direct someone to call 911 in an emergency.

Activity Hazard Analysis: Before any worker sets foot on a job site, the contractor shall complete a comprehensive Activity Hazard Analysis. The AHA is required to be on-site for all work activities.

The AHA should provide an overview of the location of the work site, the type of tower, and an overview of the work to be done. It should include the precise location of the work site, the location and contact information for all local emergency services including the nearest hospital or medical center.

It should provide a detailed analysis of each individual job task to be completed, the hazards associated with that task, as well as the preventative measures to avoid those hazards, including applicable personal protective equipment.

Finally the JHA should include a list of all personnel working on site, along with information regarding the training and certifications held by each individual.

For work sites where personnel will be working at heights and/or where hoisting personnel or materials will be performed, a more detailed AHA is required, and shall include specific hazard control measures unique to the work activities being performed on that job site.

Subcontractors shall institute work policies and procedures that guarantee that safe work practices will always be followed on site.

For example: when contractors begin every single work day with a tailgate meeting discussing the day's work, and then immediately follow the meeting with daily equipment inspections, critical safety practices are less likely to be overlooked.

18.2.3 Zero-Tolerance Policy to Unsafe Work Practices

Subcontractors shall institute a zero-tolerance policy regarding unsafe practices, in particular towards free climbing and shall require 100 percent tie off. Any individual employee who is found to be violating that rule is shall be immediately disciplined, with penalties ranging from mandated re-training to dismissal depending on the individual circumstances.

18.2.4 Rescue

Subcontractors must ensure that there is a competent person on site at all times. This person should monitor the mental and physical wellbeing of climbers on their team. The competent person has the responsibility and obligation to remove an unfit worker from climbing duty for any reason.

18.2.5 Tools and Personal Protective Equipment

Personal protective equipment, protective devices and special tools needed for work shall be provided and used. Daily a competent person shall inspect and ensure that these personal protective devices, tools, and equipment are in good condition. Burns & McDonnell Daily Job Briefing Safety Form R-1

18.2.6 Personal Climbing Equipment

General - Harnesses with safety belts and straps shall be provided and used when work is performed at positions more than 4 feet above ground, on poles, and on towers. Inspection of this equipment shall be completed daily, using the Burns & McDonnell Safety Form V-2 "Fall Protection Equipment Inspection".

18.2.7 Vehicle-Mounted Material Handling Devices and Other Mechanical Equipment

Visual inspections of equipment shall be made by a competent person each day the equipment is to be used to ascertain that it is in good condition. Burns & McDonnell Boom Truck Inspection Safety Form R-3

18.2.8 Derrick Trucks and Similar Equipment

Derricks and its associated equipment are to be inspected by a competent person at intervals set by the manufacturer but in no case less than once per year. Records shall be maintained including the dates of

inspections, and necessary repairs made, if corrective action was required. Burns & McDonnell Boom Truck Inspection Form R-3

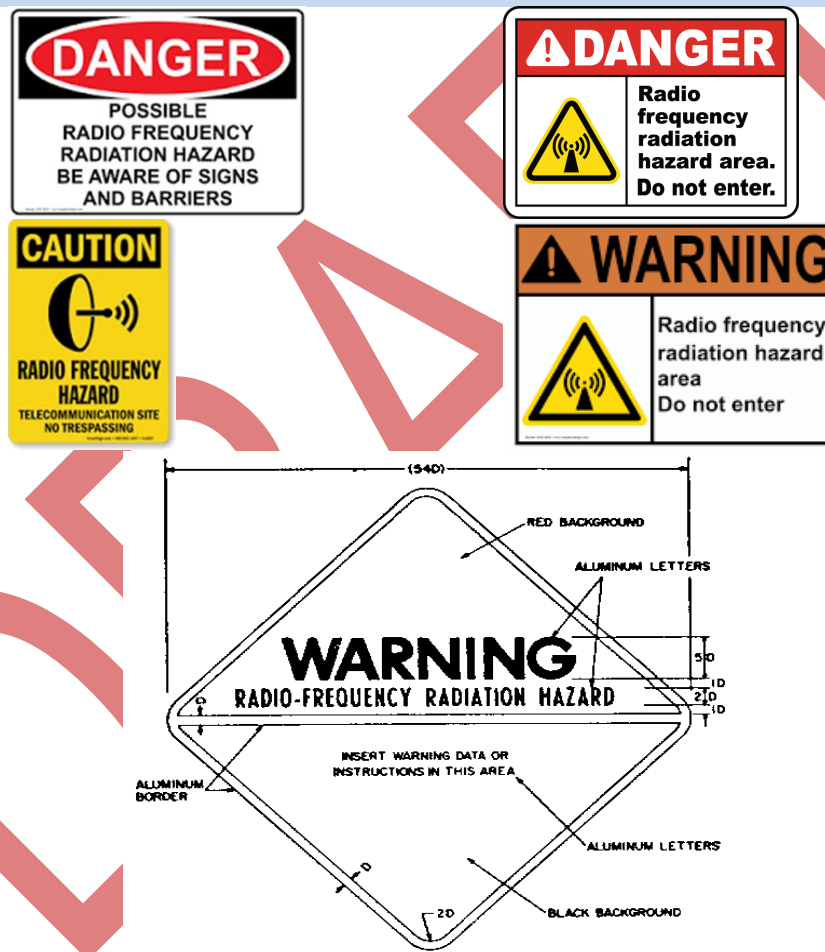
18.2.9 Underground Lines

Requirements prior to entering manholes and unvented vaults. Before a worker enters a manhole, a Confined Space permit is to be completed. Burns & McDonnell Safety Form C-7 “Work Permit” (Confined Space Entry Section)

18.2.10 Definitions

For definitions for this Chapter refer to definitions within [1910.269 - Electric Power Generation, Transmission, and Distribution](#).

Figure 18 - 1 Radio Frequency Radiation Hazard Sign



1. Place handling and mounting instructions on reverse side.
2. D = Scaling unit.
3. Lettering: Ratio of letter height to thickness of letter lines.
 - Upper triangle : 5 to 1 Large
 - 6 to 1 Medium
 - Lower triangle 4 to 1 Small
 - 6 to 1 Medium
4. Symbol is square, triangles are right-angle isosceles.

Figure G-11

Radio-Frequency Radiation Hazard Warning Symbol

Table of Contents

19 Electrical Site Specific

General Requirements

[Approval](#)[Examination, Installation, and Use of Equipment](#)[Splicing](#)[Arcing Parts](#)[Marking](#)[Grounding](#)[Flexible Cords and Cables](#)[Electric Welders-Disconnecting Means](#)

Selection and Use of Work Practices

[General](#)[Working On or Near Exposed Energized Parts](#)

Use of Equipment

[Portable Electric Equipment](#)

Electrical Safe Work Practices

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19.1 Electrical Safe Work Practices

19.1.1 Contractor Relationships

Host Site Responsibilities.

The host site shall inform the contractor of known electrical hazards related to the contract that might not be recognized by the contractor's employees and any other pertinent electrical information the contractor needs to make the required safety assessments.

Contractor Responsibilities.

The contractor shall ensure that each of his workers is instructed in the electrical hazards communicated by the host site.

The contractor shall ensure that each of his workers follows electrical safe work practices including **CLIENT NAME** safety-related work rules.

The contractor shall advise the host site of any unique hazards presented by his work, any unanticipated hazards found during the work, and any additional needed measures taken to perform the work.

19.1.2 Training Requirements.

Safety Training.

The training requirements shall apply to employees who face a risk of electrical hazard that is not reduced to a safe level by the applicable electrical installation requirements.

Employees shall be trained to understand the specific hazards associated with electrical energy.

They shall be trained in the safety-related work practices and procedural requirements needed to provide protection from the electrical hazards associated with their work

Employees shall be trained to identify and understand the relationship between electrical hazards and possible injury.

The training shall be classroom, on-the-job, or a combination of the two.

Emergency Procedures.

Employees exposed to shock hazards shall be trained in methods of release of victims from contact with exposed energized electrical conductors or circuit parts.

Employees shall be regularly instructed and annually certified in methods of first aid and emergency procedures, such as approved methods of resuscitation, if their duties warrant such training.

Employee Training.

Qualified Person - A qualified person shall be trained and knowledgeable of the construction and operation of equipment or a specific work method and be trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method.

They shall also be familiar with the proper use of the special precautionary techniques, personal protective equipment, including arc-flash, insulating and shielding materials, and insulated tools and test equipment.

A person can be considered qualified with respect to certain equipment and methods but still are unqualified for others.

Workers permitted to work within the Limited Approach Boundary of exposed energized electrical conductors and circuit parts operating at 50 volts or more shall, at a minimum, be additionally trained in all of the following:

- The skills and techniques necessary to distinguish exposed energized electrical conductors and circuit parts from other parts of electrical equipment

- The skills and techniques necessary to determine the nominal voltage of exposed energized electrical conductors and circuit parts

- The approach distances specified in Table 6

- The decision-making process necessary to determine the degree and extent of the hazard

- The personal protective equipment and job planning necessary to perform the task safely

An employee, who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person shall be considered to be a qualified person for the performance of those duties.

Tasks that are performed less often than once per year shall require retraining before the performance of the work practices involved.

Employees shall be trained to select an appropriate voltage detector and shall demonstrate how to use a device to verify the absence of voltage, including interpreting indications provided by the device and understand all limitations of each specific voltage detector that may be used.

Unqualified Persons.

Unqualified persons shall be trained in and be familiar with any of the electrical safety related practices that are necessary for their safety.

Retraining.

An employee shall receive additional training (or retraining) under any of the following conditions:

- If the supervision or annual inspections indicate that the employee is not complying with the safety-related work practices

- If new technology, new types of equipment, or changes in procedures necessitate the use of safety-related work practices that are different from those that the employee would normally use

- If the employee must use safety-related work practices that are not normally used during his or her regular job duties

Training Documentation.

The employer shall document that each employee has received the required training when the employee demonstrates proficiency in the work practices involved

Shall be maintained for the duration of the employee's employment.

Shall contain each employee's name and the dates of the training.

19.1.3 Electrical Safety Program.

Procedures.

The procedures for working within the Limited Approach Boundary of energized electrical conductors and circuit parts operating at 50 volts or more or where an electrical hazard exists shall be identified before work is started.

Hazard/Risk Evaluation Procedure.

The hazard/risk evaluation procedure shall be determined prior to work starting within the Limited Approach Boundary when energized electrical conductors and circuit parts are operating at 50 volts or more.

The procedure shall identify the hazard/risk process that shall be used by employees to evaluate tasks before work is started.

Pre-job briefing.

Before starting each job, the employee in charge shall conduct a job briefing with the employees involved.

The briefing shall cover such subjects as hazards associated with the job, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements.

If the work or operations to be performed during the work day or shift are repetitive and similar, at least one job briefing shall be conducted before the start of the first job of the day or shift.

Additional job briefings shall be held if changes that might affect the safety of employees occur during the course of the work.

If the work involved is routine, a brief discussion shall be reasonably expected to accomplish the briefing for hazard recognition and avoidance.

A more extensive discussion shall be conducted if either of the following apply:

- The work is complicated or particularly hazardous.

- The employee cannot be expected to recognize and avoid the hazards involved in the job.

Other Precautions for Personnel Activities

Alertness

Employees shall be alert at all times when they are working within the Limited Approach Boundary of energized electrical conductors or circuit parts operating at 50 volts or more and in work situations where electrical hazards might exist.

Employees shall not be permitted to work within the Limited Approach Boundary of energized electrical conductors or circuit parts operating at 50 volts or more, or where other electrical hazards exist, while their alertness is recognizably impaired due to illness, fatigue, or other reasons.

Employees shall be instructed to be alert for changes in the job or task that may lead the person outside of the electrically safe work condition or expose the person to additional hazards that were not part of the original plan.

Blind Reaches

Employees shall be instructed not to reach blindly into areas that might contain exposed energized electrical conductors or circuit parts where an electrical hazard exists.

Illumination

Employees shall not enter spaces containing electrical hazards unless illumination is provided that enables the employees to perform the work safely.

Where lack of illumination or an obstruction precludes observation of the work to be performed, employees shall not perform any task within the Limited Approach Boundary of energized electrical conductors or circuit parts operating at 50 volts or more or where an electrical hazard exists.

Conductive Articles and Materials

Conductive articles of jewelry and clothing shall not be worn where they present an electrical contact hazard with exposed energized electrical conductors or circuit parts. Conductive materials, tools, and equipment that are in contact with any part of an employee's body such as watchbands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, metal headgear, or metal frame glasses shall be handled in a manner that prevents accidental contact with energized electrical conductors or circuit parts.

Such materials and equipment include, but are not limited to, long conductive objects, such as ducts, pipes and tubes, conductive hose and rope, metal-lined rules and scales, steel tapes, pulling lines, metal scaffold parts, structural members, bull floats, and chains.

19.1.4 Working While Exposed to Electrical Hazards.

General.

Safety-related work practices shall be used to safeguard employees from injury while they are exposed to electrical hazards from electrical conductors or circuit parts that are or can become energized.

The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

Energized Electrical Conductors and Circuit Parts — Safe Work Condition.

Energized electrical conductors and circuit parts to which an employee might be exposed shall be put into an electrically safe work condition before an employee works within the Limited Approach Boundary of those conductors or parts.

Energized Electrical Conductors and Circuit Parts — Unsafe Work Condition.

Only qualified persons shall be permitted to work on electrical conductors or circuit parts that have not been put into an electrically safe work condition.

Working Within the Limited Approach Boundary of Exposed Electrical Conductors or Circuit Parts that Are or Might Become Energized.

Prior to working within the Limited Approach Boundary of exposed electrical conductors and circuit parts operating at 50 volts or more, lockout/tagout devices shall be applied.

Electrical Hazard Analysis.

If the energized electrical conductors or circuit parts operating at 50 volts or more are not placed in an electrically safe work condition, other safety-related work practices shall be used to protect employees who might be exposed to the electrical hazards involved.

Such work practices shall protect each employee from arc flash and from contact with energized electrical conductors or circuit parts operating at 50 volts or more directly with any part of the body or indirectly through some other conductive object.

Work practices that are used shall be suitable for the conditions under which the work is to be performed and for the voltage level of the energized electrical conductors or circuit parts.

Appropriate safety-related work practices shall be determined before any person is exposed to the electrical hazards involved by using both shock hazard analysis and arc flash hazard analysis.

Shock Hazard Analysis. A shock hazard analysis shall determine the voltage to which personnel will be exposed, boundary requirements, and the personal protective equipment necessary in order to minimize the possibility of electrical shock to personnel.

Arc Flash Hazard Analysis. An arc flash hazard analysis shall determine the Arc Flash Protection Boundary and the personal protective equipment that people within the Arc Flash Protection Boundary shall use.

Energized Electrical Work Permit.

When working on energized electrical conductors or circuit parts that are not placed in an electrically safe work condition (i.e., for the reasons of increased or additional hazards) work shall be performed by written permit only.

Unqualified Persons.

Unqualified persons shall not be permitted to enter spaces that are required to be accessible to qualified employees only, unless the electric conductors and equipment are placed in an electrically safe work condition.

Safety Interlocks.

Only qualified persons following the requirements for working inside the Restricted Approach Boundary shall be permitted to defeat or bypass an electrical safety interlock and then only temporarily while the qualified person is working on the equipment.

The safety interlock system shall be returned to its operable condition when the work is completed.

Overhead lines.

If work is to be performed near overhead lines, the lines shall be de-energized and grounded, or other protective measures shall be provided before work is started. If the lines are to be de-energized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved to de-energize and ground them. If protective measures, such as guarding, isolating, or insulating, are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

Qualified Persons”

Qualified workers must adhere to the approach distances in the Table when working in the vicinity of overhead lines.

Table 19 - 1 Approach Distances For Qualified Workers Alternating Current	
Voltage range (phase to phase)	Minimum approach distance
300V and less	Avoid Contact
Over 300V, not over 750V	1 ft. 0 in.
Over 750V, not over 2kV	1 ft. 6 in.
Over 2kV, not over 15kV	2 ft. 0 in.
Over 15kV, not over 37kV	3 ft. 0 in.
Over 37kV, not over 87.5kV	3 ft. 6 in.
Over 87.5kV, not over 121kV	4 ft. 0 in.
Over 121kV, not over 140kV	4 ft. 6 in.

Unqualified Persons.

When an unqualified person is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

For voltages to ground 50kV or below - 10 feet (305 cm);

For voltages to ground over 50kV - 10 feet (305 cm) plus 4 inches (10 cm) for every 10kV over 50kV.

When an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given above.

Note: For voltages normally encountered with overhead power line, objects which do not have an insulating rating for the voltage involved are considered to be conductive.

19.1.5 Use of Equipment.

Test Instruments and Equipment.

Rating.

Test instruments, equipment, and their accessories shall be rated for circuits and equipment to which they will be connected.

Design.

Test instruments, equipment, and their accessories shall be designed for the environment to which they will be exposed, and for the manner in which they will be used.

Visual Inspection.

Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors shall be visually inspected for external defects and damage before each use. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee shall use it until repairs and tests necessary to render the equipment safe have been made.

Operation Verification.

When test instruments are used for the testing for the absence of voltage on conductors or circuit parts operating at 50 volts or more, the operation of the test instrument shall be verified before and after an absence of voltage test is performed.

Portable Electric Equipment.

This section applies to the use of cord-and-plug-connected equipment, including cord sets (extension cords).

Portable equipment shall be handled in a manner that will not cause damage.

Flexible electric cords connected to equipment shall not be used for raising or lowering the equipment.

Flexible cords shall not be fastened with staples or hung in such a fashion as could damage the outer jacket or insulation.

Grounding-Type Equipment.

A flexible cord used with grounding-type utilization equipment shall contain an equipment grounding conductor.

Attachment plugs and receptacles shall not be connected or altered in a manner that would interrupt continuity of the equipment grounding conductor. Additionally, these devices shall not be altered in order to allow use in a manner that was not intended by the manufacturer.

Adapters that interrupt the continuity of the equipment grounding conductor shall not be used.

Visual Inspection of Portable Cord-and-Plug- Connected Equipment and Flexible Cord Sets.

Frequency of Inspection.

Before each use, portable cord-and-plug-connected equipment shall be visually inspected for external defects (such as loose parts or deformed and missing pins) and for evidence of possible internal damage (such as a pinched or crushed outer jacket).

Defective Equipment.

If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee shall use it until repairs and tests necessary to render the equipment safe have been made.

Proper Mating.

When an attachment plug is to be connected to a receptacle, the relationship of the plug and receptacle contacts shall first be checked to ensure that they are of mating configurations.

Conductive Work Locations.

Portable electric equipment used in highly conductive work locations or in job locations where employees are likely to contact water or conductive liquids shall be approved for those locations.

Connecting Attachment Plugs.

Employees' hands shall not be wet when plugging and unplugging flexible cords and cord-and-plug-connected equipment if energized equipment is involved.

Energized plug and receptacle connections shall be handled only with insulating protective equipment if the condition of the connection could provide a conductive path to the employee's hand (if, for example, a cord connector is wet from being immersed in water).

Locking-type connectors shall be secured after connection.

GFCI Protection Devices.

GFCI protection devices are required on all jobs

GFCI protection devices shall be tested per manufacturer's instructions and prior to use; and the GFCI testing shall be documented at least monthly

Overcurrent Protection Modification.

Over current protection of circuits and conductors shall not be modified beyond that permitted by applicable portions of electrical codes and standards dealing with overcurrent protection.

19.1.6 Achieving an Electrically Safe Work Condition.

An electrically safe work condition shall be achieved when LOTO has been performed and verified by the following process:

Use an adequately rated voltage detector to test each phase conductor or circuit part to verify they are de-energized. Test each phase conductor or circuit part both phase-to-phase and phase-to-ground. Before and after each test, determine that the voltage detector is operating satisfactorily.

Where the possibility of induced voltages or stored electrical energy exists, ground the phase conductors or circuit parts before touching them. Where it could be reasonably anticipated that the conductors or circuit parts being de-energized could contact other exposed energized conductors or circuit parts, apply ground connecting devices rated for the available fault duty.

19.1.7 Justification for Work.

General.

Energized electrical conductors and circuit parts to which an employee might be exposed shall be put into an electrically safe work condition before an employee works within the Limited Approach Boundary of those conductors or parts, except:

Greater Hazard. Energized work shall be permitted where the employer can demonstrate that de-energizing introduces additional or increased hazards.

Infeasibility. Energized work shall be permitted where the employer can demonstrate that the task to be performed is infeasible in a de-energized state due to equipment design or operational limitations.

Less Than 50 Volts. Energized electrical conductors and circuit parts that operate at less than 50 volts to ground shall not be required to be de-energized where the capacity of the source and any over-current protection between the energy source and the worker are considered and it is determined that there will be no increased exposure to electrical burns or to explosion due to electric arcs.

Energized Electrical Work Permit.

When working on energized electrical conductors or circuit parts that are not placed in an electrically safe work condition, work to be performed shall be considered energized electrical work and shall be performed by written permit only.

Elements of Work Permit. The energized electrical work permit shall include, but not be limited to, the following items:

- A description of the circuit and equipment to be worked on and their location
- Justification for why the work must be performed in an energized condition
- A description of the safe work practices to be employed
- Results of the shock hazard analysis
- Determination of shock protection boundaries
- Results of the arc flash hazard analysis
- The arc flash protection boundary
- The necessary personal protective equipment to safely perform the assigned task
- Means employed to restrict the access of unqualified persons from the work area
- Evidence of completion of a job briefing, including a discussion of any job-specific hazards
- Energized work approval signature: authorizing or responsible management, safety officer, or owner, etc.

Exemptions to Work Permit.

Work performed within the Limited Approach Boundary of energized electrical conductors or circuit parts by qualified persons related to tasks such as testing, troubleshooting, voltage measuring, etc., shall be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and personal protective equipment are provided and used.

If the purpose of crossing the Limited Approach Boundary is only for visual inspection and the Restricted Approach Boundary will not be crossed, then an energized electrical work permit shall not be required.

19.1.8 Personal and Other Protective Equipment.

General.

Employees working in areas where electrical hazards are present shall be provided with, and shall use, protective equipment that is designed and constructed for the specific part of the body to be protected and for the work to be performed.

The PPE requirements are intended to protect a person from arc flash and shock hazards.

Burns to the skin, even with the protection selected, should be reduced and survivable.

Due to the explosive effect of some arc events, physical trauma injuries could occur.

When incident energy exceeds 40 Cal/cm², greater emphasis may be necessary with respect to de-energizing before working within the Limited Approach Boundary.

Care of Equipment.

Protective equipment shall be maintained in a safe, reliable condition.

The protective equipment shall be visually inspected before each use.

Protective equipment shall be stored in a manner to prevent damage from physically damaging conditions and from moisture, dust, or other deteriorating agents.

Maintenance and Use.

Electrical and personal protective equipment (such as the following) shall be maintained in a safe and reliable working condition:

Grounding equipment

Hot sticks

Rubber gloves, sleeves, and leather protectors

Voltage test indicators

Blanket and similar insulating equipment

Insulating mats and similar insulating equipment

Protective barriers

External circuit breaker rack-out devices

Portable lighting units

Safety grounding equipment

Dielectric footwear

Protective clothing

Bypass jumpers

Insulated and insulating hand tools

Inspections and Testing

Insulating equipment shall be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of having caused damage.

Insulating gloves shall be given an air test, along with the inspection.

Electrical protective equipment shall be subjected to periodic electrical tests. Test voltages and maximum intervals between tests shall be in accordance with Table 4.

Inspection and Testing of Protective Equipment and Protective Tools.

Visual

Safety and protective equipment and protective tools shall be visually inspected for damage and defects before initial use and at intervals thereafter, as service conditions require, but in no case shall the interval exceed 1 year

Testing.

The insulation of protective equipment and protective tools shall be verified by the appropriate test and visual inspection to ascertain that insulating capability has been retained before initial use, and at intervals thereafter, as service conditions and applicable standards and instructions require,

Personal Protective Equipment, PPE.

General.

When an employee is working within the Arc Flash Protection Boundary he or she shall wear protective clothing and other personal protective equipment.

All parts of the body inside the Arc Flash Protection Boundary shall be protected.

Selection of Personal Protective Equipment When Required for Various Tasks.

Where selected in lieu of the incident energy analysis Table 3 shall be used to determine the hazard/risk category and requirements for use of rubber insulating gloves and insulated and insulating hand tools for a task.

The assumed short-circuit current maximum capacities and maximum fault clearing times for various tasks are listed in the notes to Table 3.

For tasks not listed, or for power systems with greater than the assumed maximum short circuit current capacity or with longer than the assumed maximum fault clearing times, an arc flash hazard analysis shall be required.

Movement and Visibility.

When flame-resistant (FR) clothing is worn to protect an employee, it shall cover all ignitable clothing and shall allow for movement and visibility.

Head, Face, Neck, and Chin (Head Area) Protection.

Employees shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with energized electrical conductors or circuit parts or from flying objects resulting from electrical explosion.

Employees shall wear nonconductive protective equipment for the face, neck, and chin whenever there is a danger of injury from exposure to electric arcs or flashes or from flying objects resulting from electrical explosion.

If employees use hairnets and/or beard nets, these items must be non-melting and flame resistant.

Eye Protection.

Employees shall wear protective equipment for the eyes whenever there is danger of injury from electric arcs, flashes, or from flying objects resulting from electrical explosion.

Body Protection.

Employees shall wear FR clothing wherever there is possible exposure to an electric arc flash above the threshold incident-energy level for a second degree burn (1.2 Cal/cm²).

Such clothing can be provided as an arc flash suit jacket and arc flash suit pants, shirts and pants, or as coveralls, or as a combination of jacket and pants, or, for increased protection, as coveralls with jacket and pants.

Various weight fabrics are available. Generally, the higher degree of protection is provided by heavier weight fabrics and/or by layering combinations of one or more layers of FR clothing.

Hand and Arm Protection.

Hand and arm protection shall be provided in accordance with below.

Shock Protection.

Employees shall wear rubber insulating gloves with leather protectors where there is a danger of hand injury from electric shock due to contact with energized electrical conductors or circuit parts.

Employees shall wear rubber insulating gloves with leather protectors and rubber insulating sleeves where there is a danger of hand and arm injury from electric shock due to contact with energized electrical conductors or circuit parts.

Rubber insulating gloves shall be rated for the voltage for which the gloves will be exposed.

Exception: Where it is necessary to use rubber insulating gloves without leather protectors, the requirements of ASTM F 496, Standard Specification for In-Service Care of Insulating Gloves and Sleeves, shall be met.

Arc Flash Protection.

Hand and arm protection shall be worn where there is possible exposure to arc flash burn.

Leather or FR gloves shall be required for protection of hands from burns.

Foot Protection.

Where insulated footwear is used as protection against step and touch potential, dielectric overshoes shall be required.

Insulated soles shall not be used as primary electrical protection.

Factors in Selection of Protective Clothing.

Protective clothing includes shirts, pants, coveralls, jackets, and parkas worn routinely by workers who, under normal working conditions, are exposed to momentary electric arc and related thermal hazards. Flame-resistant rainwear worn in inclement weather is included in this category of clothing.

Clothing and equipment that provide worker protection from shock and arc flash hazards shall be utilized.

Clothing and equipment required for the degree of exposure shall be permitted to be worn alone or integrated with flammable, non-melting apparel. If FR clothing is required, it shall cover associated parts of the body as well as all flammable apparel while allowing movement and visibility.

All personal protective equipment shall be maintained in a sanitary and functionally effective condition.

Personal protective equipment items will normally be used in conjunction with one another as a system to provide the appropriate level of protection.

Layering.

Non-melting, flammable fiber garments shall be permitted to be used as under-layers in conjunction with FR garments in a layered system for added protection.

If non-melting, flammable fiber garments are used as under-layers, the system arc rating shall be sufficient to prevent break-open of the innermost FR layer at the expected arc exposure incident energy level to prevent ignition of flammable under-layers.

A typical layering system might include cotton underwear, a cotton shirt and trouser, and a FR coverall. Specific tasks might call for additional FR layers to achieve the required protection level.

Outer Layers.

Garments worn as outer layers over FR clothing, such as jackets or rainwear, shall also be made from FR material.

Under-layers.

Fibers such as acetate, nylon, polyester, polypropylene, and spandex which melt shall not be permitted in fabric under-layers (underwear) next to the skin. Exception: An incidental amount of elastic used on non-melting fabric underwear or socks shall be permitted.

FR garments (e.g., shirts, trousers, and coveralls) worn as under-layers that neither ignite nor melt and drip in the course of an exposure to electric arc and related thermal hazards generally provide a higher system arc rating than non-melting, flammable fiber under-layers.

FR underwear or undergarments used as under-layers generally provide a higher system arc rating than non-melting, flammable fiber underwear or undergarments used as under-layers.

Coverage.

Clothing shall cover potentially exposed areas as completely as possible. Shirt sleeves shall be fastened at the wrists, and shirts and jackets shall be closed at the neck.

Fit.

Tight-fitting clothing shall be avoided. Loose-fitting clothing provides additional thermal insulation because of air spaces. FR apparel shall fit properly such that it does not interfere with the work task.

Interference.

The garment selected shall result in the least interference with the task but still provide the necessary protection. The work method, location, and task could influence the protective equipment selected.

Arc Flash Protective Equipment.

Arc Flash Suits.

Arc flash suit design shall permit easy and rapid removal by the wearer. The entire arc flash suit, including the hood's face shield, shall have an arc rating that is suitable for the arc flash exposure.

When exterior air is supplied into the hood, the air hoses and pump housing shall be either covered by FR materials or constructed of non-melting and nonflammable materials.

Face Protection.

Face shields shall have an arc rating suitable for the arc flash exposure.

Face shields without an arc rating shall not be used.

Eye protection (safety glasses or goggles) shall always be worn under face shields or hoods.

Face shields made with energy-absorbing formulations that can provide higher levels of protection from the radiant energy of an arc flash are available, but these shields are tinted and can reduce visual acuity and color perception. Additional illumination of the task area might be necessary when these types of arc-protective face shields are used.

Hand Protection.

Leather or FR gloves shall be worn where required for arc flash protection.

Where insulating rubber gloves are used for shock protection, leather protectors shall be worn over the rubber gloves.

Insulating rubber gloves and gloves made from layers of flame-resistant material provide hand protection against the arc flash hazard.

Heavy-duty leather (e.g., greater than 12 oz./yd²) gloves provide protection suitable up to Hazard/Risk Category 2.

The leather protectors worn over insulating rubber gloves provide additional arc flash protection for the hands. During high arc flash exposures leather can shrink and cause a decrease in protection.

Foot Protection. .

Heavy-duty leather work shoes provide some arc flash protection to the feet and shall be used in all tasks in Hazard/Risk Category 2.

Clothing Material Characteristics.

Clothing made from flammable synthetic materials that melt at temperatures below 600°F, such as acetate, acrylic, nylon, polyester, polyethylene, polypropylene, and spandex, either alone or in blends, shall not be used.

Clothing and other apparel (such as hard hat liners and hair nets) made from materials that do not meet the melting or flammability requirements shall not be permitted to be worn.

Some flame-resistant fabrics, such as nondurable flame-retardant treatments of cotton, are not recommended for industrial electrical or utility applications.

Other Protective Equipment.

Insulated Tools and Equipment.

Employees shall use insulated tools and/or handling equipment when working inside the Limited Approach Boundary of exposed energized electrical conductors or circuit parts where tools or handling equipment might make accidental contact.

Table 3 provides further information for tasks that require insulated and insulating hand tools.

Insulated tools shall be protected from damage to the insulating material.

Requirements for Insulated Tools.

The following requirements shall apply to insulated tools:

Insulated tools shall be rated for the voltages on which they are used.

Insulated tools shall be designed and constructed for the environment to which they are exposed and the manner in which they are used.

Insulated tools and equipment shall be inspected prior to each use.

The inspection shall look for damage to the insulation or damage that may limit the tool from performing its intended function or could increase the potential for an incident (e.g., damaged tip on a screwdriver).

Fuse or Fuse Holding Equipment.

Fuse or fuse holder handling equipment, insulated for the circuit voltage, shall be used to remove or install a fuse if the fuse terminals are energized.

Ropes and Hand lines.

Ropes and hand lines used within the Limited Approach Boundary of exposed energized electrical conductors or circuit parts operating at 50 volts or more, or used where an electrical hazard exists, shall be nonconductive.

Fiberglass-Reinforced Plastic Rods.

Fiberglass reinforced plastic rod and tube used for live line tools shall meet the requirements of applicable portions of electrical codes and standards dealing with electrical installation requirements.

Portable Ladders.

Portable ladders shall have nonconductive side rails if they are used where the employee or ladder could contact exposed energized electrical conductors or circuit parts operating at 50 volts or more or where an electrical hazard exists. Nonconductive ladders shall meet the requirements of ANSI standards for ladders listed in Table 5.

Protective Shields.

Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working within the Limited Approach Boundary of energized conductors or circuit parts that might be accidentally contacted or where dangerous electric heating or arcing might occur.

When normally enclosed energized conductors or circuit parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the energized conductors or circuit parts.

Rubber Insulating Equipment.

Rubber insulating equipment used for protection from accidental contact with energized conductors or circuit parts shall meet the requirements of the ASTM standards listed in Table 5.

Voltage-Rated Plastic Guard Equipment.

Plastic guard equipment for protection of employees from accidental contact with energized conductors or circuit parts, or for protection of employees or energized equipment or material from contact with ground, shall meet the requirements of the ASTM standards listed in Table 5.

Physical or Mechanical Barriers.

Physical or mechanical (field-fabricated) barriers shall be installed no closer than the Restricted Approach Boundary distance given in Table 6.

While the barrier is being installed, the Restricted Approach Boundary distance specified in Table 6 shall be maintained, or the energized conductors or circuit parts

19.1.9 Alerting Techniques.

Safety Signs and Tags.

Safety signs, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards that might endanger them.

Barricades.

Barricades shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas containing energized conductors or circuit parts.

Conductive barricades shall not be used where it might cause an electrical hazard.

Barricades shall be placed no closer than the Limited Approach Boundary given in Table 6.

Attendants.

If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees.

The primary duty and responsibility of an attendant providing manual signaling and alerting shall be to keep unqualified employees outside a work area where the unqualified employee might be exposed to electrical hazards.

An attendant shall remain in the area as long as there is a potential for employees to be exposed to the electrical hazards.

Look-Alike Equipment.

Where work performed on equipment that is de-energized and placed in an electrically safe condition exists in a work area with other energized equipment that is similar in size, shape, and construction, identification shall be provided to prevent the worker from entering look-a-like equipment

The use of Table 19-2 is a simplified approach to provide minimum PPE for electrical workers within facilities with large and diverse electrical systems. The clothing listed in Table 19-2 fulfills the minimum arc- rated clothing requirements of Tables 19-11, 19-12, and 19-13 and Table 19-5.

The clothing systems listed in this table should be used with the other PPE appropriate for the arc flash PPE category, see Table 19-5.

The notes to Tables 19-11, 19-12, and 19-13, must apply as shown in those tables.

Table 19 - 2 Simplified Two-Category, Arc-Rated Clothing System	
Clothing ^a	Applicable Tasks
Everyday Work Clothing Arc-rated long-sleeve shirt with arc-rated pants (minimum arc rating of 8) or Arc-rated coveralls (minimum arc rating of 8)	All arc flash PPE category 1 and arc flash PPE category 2 tasks listed in Tables 19-11, 19-12, & 19-13
Arc Flash Suit A total clothing system consisting of arc-rated shirt and pants and/or arc-rated coveralls and/or arc flash coat and pants (clothing system minimum arc rating of 40)	All arc flash PPE category 3 and arc flash PPE category 4 tasks listed in Tables 19-11, 19-12, & 19-13
^a Note that other PPE listed in Table 19-5 which include arc-rated face shields or arc flash suit hoods, arc-rated hard hat liners, safety glasses or safety goggles, hard hats, hearing protection, heavy-duty leather gloves, rubber insulating gloves, and leather protectors, could be required. The arc rating for a garment is expressed in Cal/cm². ^b The estimated available short-circuit current capacities and fault clearing times or arcing durations are listed in the text of Table 19-12 and Table 19-13). Various tasks are listed in Table 19-11 For tasks not listed or for power systems with greater than the estimated available short-circuit capacity or with longer than the assumed fault clearing times or arcing durations, an arc flash risk assessment is required. NFPA 70E -2015 Annex H Table H.2	

Table 19-3 provides a summary of specific sections within the NFPA 70E standard describing PPE for electrical hazards which may be referred to for additional information as needed.

Table 19 - 3 Summary of Specific Sections Describing PPE for Electrical Hazards Where Additional Information can be Found in NFPA 70E - 2015	
Shock Hazard PPE	Applicable NFPA 70E (2015) Section(s)
Rubber insulating gloves and leather protectors (unless the requirements of ASTM F 496 are met)	130.7(C)(7)(a)
Rubber insulating sleeves (as needed)	130.7(C)(7)(a)
Class G or E hard hat (as needed)	130.7(C)(3)
Safety glasses or goggles (as needed)	130.7(C)(4)
Dielectric overshoes (as needed)	130.7(C)(8)
Arc Flash Hazard PPE	Applicable NFPA 70E (2015) Section(s)
<i>Incident energy exposures up to 1.2 Cal/cm²</i>	
Clothing: non-melting or untreated natural fiber long-sleeve shirt and long pants or coverall	130.7(C)(1); 130.7(C)(9)(d)
Gloves: heavy-duty leather	130.7(C)(7)(b); 130.7(C)(10)(d)
Hard hat: class G or E	130.7(C)(3)
Face shield: covers the face, neck, and chin (as needed)	130.7(C)(3)
Safety glasses or goggles	130.7(C)(4); 130.7(C)(10)(c)
Hearing protection	130.7(C)(5)
Footwear: heavy-duty leather (as needed)	130.7(C)(10)(e)
<i>Incident Energy Exposures ≥ 1.2 Cal/cm²</i>	
Clothing: arc-rated clothing system with an arc rating appropriate to the anticipated incident energy exposure	130.7(C)(1); 130.7(C)(2); 130.7(C)(6); 130.7(C)(9)(d)
Clothing underlayers (when used): arc-rated or non-melting untreated natural fiber	130.7(C)(9)(c); 130.7(C)(11); 130.7(C)(12)
Gloves: Exposures ≥ 1.2 Cal/cm ² and ≤ 8 Cal/cm ² : heavy-duty leather gloves	130.7(C)(7)(b); 130.7(C)(10)(d)

Table 19 - 3 Summary of Specific Sections Describing PPE for Electrical Hazards Where Additional Information can be Found in NFPA 70E - 2015	
Exposures > 8 Cal/cm ² : rubber insulating gloves with their leather protectors; or arc-rated gloves	
Hard hat: class G or E 130.7(C)(1); 130.7(C)(3)	
Face shield: Exposures >1.2 Cal/cm ² and 12 Cal/cm ² : arc-rated face shield that covers the face, neck, and chin and an arc-rated balaclava or an arc-rated arc flash suit hood Exposures >12 Cal/cm ² : arc-rated arc flash suit hood	130.7(C)(1); 130.7(C)(3); 130.7(C)(10)(a); 130.7(C)(10)(b); 130.7(C)(10)(c)
Safety glasses or goggles	130.7(C)(4); 130.7(C)(10)(c)
Hearing protection	130.7(C)(5)
Footwear: Exposures <4 Cal/cm ² : heavy-duty leather footwear (as needed) Exposures > 4 Cal/cm ² : heavy-duty leather footwear	130.7(C)(10)(e)
Notes: NFPA 70E – 2015: Table H.3(a)	

Table 19-4 provides guidance on the selection of arc-rated and other PPE for users who determine the incident energy exposure in Cal/cm², or when there is an arc flash label provided with the incident energy listed.

Arc flash labels shall only list the incident energy and NOT incident energy and PPE Category. They should also list the minimum required PPE for the specific site

Table 19 - 4 Guidance on Selection of Arc-Rated Clothing and Other PPE for Use When Incident Energy Exposure Is Determined	
Incident Energy Exposure	Protective Clothing and PPE
≤ 1.2 Cal/cm²	
Protective clothing, nonmelting (in accordance with ASTM F 1506) or untreated natural fiber	Shirt (long sleeve) and pants (long) or coverall
Other PPE	- Face shield for projectile protection (AN) - Safety glasses or safety goggles (SR) - Hearing protection - Heavy-duty leather gloves or rubber insulating gloves with leather protectors (AN)
1.2 to 12 Cal/cm²	
Arc-rated clothing and equipment with an arc rating equal to or greater than the determined incident energy (See Note 3.)	Arc-rated long-sleeve shirt and arc-rated pants or arc-rated coverall or arc flash suit (SR) (See Note 3.) Arc-rated face shield and arc-rated balaclava or arc flash suit hood (SR) (See Note 1.) Arc-rated jacket, parka, or rainwear (AN)
Other PPE	Hard hat Arc-rated hard hat liner (AN) Safety glasses or safety goggles (SR) Hearing protection Heavy-duty leather gloves or rubber insulating gloves with leather protectors (SR) (See Note 4.) Leather footwear
> 12 Cal/cm²	

Table 19 - 4 Guidance on Selection of Arc-Rated Clothing and Other PPE for Use When Incident Energy Exposure Is Determined

Incident Energy Exposure	Protective Clothing and PPE
Arc-rated clothing and equipment with an arc rating equal to or greater than the determined incident energy (See Note 3.)	Arc-rated long-sleeve shirt and arc-rated pants or arc-rated coverall and/or arc flash suit (SR) Arc-rated arc flash suit hood Arc-rated gloves Arc-rated jacket, parka, or rainwear (AN)
Other PPE	Hard hat Arc-rated hard hat liner (AN) Safety glasses or safety goggles (SR) Hearing protection Arc-rated gloves or rubber insulating gloves with leather protectors (SR) (See Note 4.) Leather footwear
AN: As needed [in addition to the protective clothing and PPE required above] SR: Selection of one in group is required	
Notes: 1. Face shields with a wrap-around guarding to protect the face, chin, forehead, ears, and neck area are required, for full head and neck protection, use a balaclava or an arc flash hood. 2. All items not designated “AN” are required 3. Arc ratings can be for a single layer, such as an arc-rated shirt and pants or a coverall, or for an arc flash suit or a multi-layer system consisting of a combination of arc-rated shirt and pants, coverall, and arc flash suit. 4. Rubber insulating gloves with leather protectors provide arc flash protection in addition to shock protection. Higher class rubber insulating gloves with leather protectors, due to their increased material thickness, provide increased arc flash protection. 5. NFPA 70E – 2015; Table H.3(b)	

Table 19 - 5 Personal Protective Equipment (PPE)

PPE Category	PPE
1	Arc-Rated Clothing, Minimum Arc Rating of 4 Cal/cm2 (see Note 1) Arc-rated long-sleeve shirt and pants or arc-rated coverall Arc-rated face shield (see Note 2) or arc flash suit hood Arc-rated jacket, parka, rainwear, or hard hat liner (AN) Protective Equipment Hard hat Safety glasses or safety goggles (SR) Hearing protection (ear canal inserts) Heavy duty leather gloves (see Note 3) Leather footwear (AN)
2	Arc-Rated Clothing, Minimum Arc Rating of 8 Cal/cm2 (see Note 1) Arc-rated long-sleeve shirt and pants or arc-rated coverall Arc-rated flash suit hood or arc-rated face shield (see Note 2) and arc-rated balaclava Arc-rated jacket, parka, rainwear, or hard hat liner (AN) Protective Equipment Hard hat Safety glasses or safety goggles (SR) Hearing protection (ear canal inserts) Heavy duty leather gloves (see Note 3) Leather footwear
3	Arc-Rated Clothing Selected so That the System Arc Rating Meets the Required Minimum Arc Rating of 25 Cal/cm2 (see Note 1) Arc-rated long-sleeve shirt (AR) Arc-rated pants (AR) Arc-rated coverall (AR)

Table 19 - 5 Personal Protective Equipment (PPE)	
PPE Category	PPE
	Arc-rated arc flash suit jacket (AR) Arc-rated arc flash suit pants (AR) Arc-rated arc flash suit hood Arc-rated gloves (see Note 1) Arc-rated jacket, parka, rainwear, or hard hat liner (AN) Protective Equipment Hard hat Safety glasses or safety goggles (SR) Hearing protection (ear canal inserts) Leather footwear
4	Arc-Rated Clothing Selected so That the System Arc Rating Meets the Required Minimum Arc Rating of 40 Cal/cm² (see Note 1) Arc-rated long-sleeve shirt (AR) Arc-rated pants (AR) Arc-rated coverall (AR) Arc-rated arc flash suit jacket (AR) Arc-rated arc flash suit pants (AR) Arc-rated arc flash suit hood Arc-rated gloves (see Note 1) Arc-rated jacket, parka, rainwear, or hard hat liner (AN) Protective Equipment Hard hat Safety glasses or safety goggles (SR) Hearing protection (ear canal inserts) Leather footwear
AN: as needed (optional). AR: as required. SR: selection required. Notes: (1) Arc rating is defined in Article 100. (2) Face shields are to have wrap-around guarding to protect not only the face but also the forehead, ears, and neck, or, alternatively, an arc-rated arc flash suit hood is required to be worn. (3) If rubber insulating gloves with leather protectors are used, additional leather or arc-rated gloves are not required. The combination of rubber insulating gloves with leather protectors satisfies the arc flash protection requirement. (4) NFPA 70E – 2015; Table 130.7(C)(16)	

Table 19 - 6 Protective Clothing Characteristics			
PPE Category	Clothing Description	Required Minimum Arc Rating of PPE	
		J/cm ²	Cal/cm ²
N/A	Non-melting materials (i.e., untreated cotton, wool, rayon, or silk, or blends of these materials) with a fabric weight at least 4.5 oz./yd ²	N/A	N/A
1	Arc-rated FR shirt and FR pants or FR coverall	16.74	4
2	Arc-rated FR shirt and FR pants or FR coverall	33.47	8
3	Arc-rated FR shirt and pants or FR coverall, and arc flash suit selected so that the system arc rating meets the required minimum	104.6	25
4	Arc-rated FR shirt and pants or FR coverall, and arc flash suit selected so that the system arc rating meets the required minimum	167.36	40
Note: Arc rating can be either ATPV or EBT. ATPV is defined in ASTM F 1959, Standard Test Method for Determining the Arc Thermal Performance Value of Materials for Clothing, as the incident energy on a material or a multilayer system of materials that results in a 50% probability that sufficient heat transfer through the tested specimen is predicted to cause the onset of a second-degree skin burn injury based on the Stoll curve, Cal/cm².			

Table 19 - 6 Protective Clothing Characteristics		
PPE Category	Clothing Description	Required Minimum Arc Rating of PPE
		J/cm ² Cal/cm ²
<i>EBT is defined in ASTM F 1959 as the incident energy on a material or material system that results in a 50% probability of break-open. Arc rating is reported as either ATPV or EBT, whichever is the lower value</i>		

Table 19 - 7 Standards on Protective Equipment		
Subject	Document Title	Document #
Apparel-Arc Rated	Standard Performance Specification for Flame Resistant and Arc Rated Textile Materials for Wearing Apparel for Use by Electrical Workers Exposed to Momentary Electric Arc and Related Thermal Hazards	ASTM F1506
	Standard Guide for Industrial Laundering of Flame, Thermal, and Arc Resistant Clothing	ASTM F1449
	Standard Guide for Home Laundering Care and Maintenance of Flame, Thermal and Arc Resistant Clothing	ASTM F2757
Aprons-Insulating	Standard Specification for Electrically Insulating Aprons	ASTM F2677
Blankets	Standard Specification for Rubber Insulating Blankets, 2005	ASTM D 1048,
	Standard Specification for In-Service Care of Insulating Blankets, 2006	ASTM F 479,
Covers	Standard Specification for Rubber Covers, 1998 (R 2002)	ASTM D 1049
Eye and Face Protection-General	Practice for Occupational and Educational Eye and Face Protection	ANSI Z87.1
Face-Arc Rated	Standard Test Method for Determining the Arc Rating and Standard Specification for Eye or Face Protective Products	ASTM F2178
Fall Protection	Standard Specification for Personal Climbing Equipment	ASTM F887
Fiberglass tools/ladders	Standard Specification for Fiberglass-Reinforced Plastic (FRP) Rod and Tube Used in Line Tools, 2002 (R 2007)	ASTM F 711
Footwear-Dielectric Specification	Standard Specification for Dielectric Footwear	ASTM F1117
Footwear-Dielectric Test Method	Standard Test Method for Determining Dielectric Strength of Dielectric Footwear	ASTM F1116
Footwear-Standard Performance Specification	Standard Specification for Performance Requirements for Protective (Safety) Toe Cap Footwear	ASTM F2413
Footwear-Standard Test Method	Standard Test Methods for Foot Protections	ASTM F2412
Gloves-Leather Protectors	Standard Specification for Leather Protectors for Rubber Insulating Gloves and Mittens	ASTM F696
Gloves-Rubber Insulating	Standard Specification for Rubber Insulating Gloves	ASTM D120
Gloves and Sleeves –In-Service Care	Standard Specification for In-Service Care of Insulating Gloves and Sleeves	ASTM F496
Hand tools, Insulated	Standard Specification for Insulated and Insulating Hand Tools, 2007	ASTM F 1505
Head Protection-Hard Hats	Requirements for Protective Headwear for Industrial Workers	ANSI Z89.1
Ladders	Safety Requirements for Portable Wood Ladders, 2000	ANSI A14.1
	Safety Requirements for Fixed Ladders, 2002	ANSI A14.3
	Safety Requirements for Job-Made Ladders, 2002	ANSI A14.4
	Safety Requirement for Portable Reinforced Plastic Ladders, 2000	ANSI A14.5
Line hoses and covers	Standard Specification for Rubber Insulating Line Hoses, 2005	ASTM D 1050
	Standard Specification for In-Service Care of Insulating Line Hose and Covers, 1999 (R 2007)	ASTM F 478
Plastic guards	Standard Test Methods and Specifications for Electrically Insulating Plastic Guard Equipment for Protection of Workers, 2006	ASTM F 712
Rainwear-Arc Rated	Standard Specification for Arc and Flame Resistant Rainwear	ASTM F1891
Rubber Protective Products-Visual Inspection	Standard Guide for Visual Inspection of Electrical Protective Rubber Products	ASTM F1236
Safety signs and tags	Series of Standards for Safety Signs and Tags, 2006	ANSI Z535,

Table 19 - 7 Standards on Protective Equipment		
Subject	Document Title	Document #
Sleeves-Insulating	Standard Specification for Rubber Insulating Sleeves	ASTM D1051
Temporary grounding	Standard Specification for Temporary Protective Grounds to Be Used on De-Energized Electric Power Lines and Equipment, 2004	ASTM F 855
Notes: NFPA 70E – 2015: Table 130.7(C)(14)		

Table 19 - 8 Rubber Insulating Equipment, Maximum Test Intervals		
Rubber Insulating Equipment	When to Test	Governing Standard* for Test Voltage
Blankets	Before first issue; every 12 months thereafter†	ASTM F 479
Covers	If insulating value is suspect	ASTM F 478
Gloves	Before first issue; every 6 months thereafter†	ASTM F 496
Line hose	If insulating value is suspect	ASTM F 478
Sleeves	Before first issue; every 12 months thereafter	ASTM F 496
Specific Notes (as referenced in the table): *ASTM F 478, <i>Standard Specification for In-Service Care of Insulating Line Hose and Covers</i> ; ASTM F 479, <i>Standard Specification for In-Service Care of Insulating Blankets</i> ; ASTM F 496, <i>Standard Specification</i> †If the insulating equipment has been electrically tested but not issued for service, it may not be placed into service unless it has been electrically tested within the previous 12 months.		

Table 19 - 9 Approach Boundaries to Energized Electrical Conductors/Circuit Parts for Shock Protection for Alternating-Current Systems			
(All dimensions are distance from energized electrical conductor or circuit part to employee.)			
1	2		4
Nominal System Voltage Range, Phase to Phase ^a	Limited Approach Boundary ^b		Restricted Approach Boundary ^b ; Includes Inadvertent Movement Adder
	Exposed Movable Conductor ^c	Exposed Fixed Circuit Part	
<50 V	Not specified	Not specified	Not specified
50 V–150 V ^d	3.0 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	Avoid Contact
151 V–750 V	3.0 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	0.3 m (1 ft 0 in.)
751 V–15 kV	3.0 m (10 ft 0 in.)	1.5 m (5 ft 0 in.)	0.7 m (2 ft 2 in.)
15.1 kV–36 kV	3.0 m (10 ft 0 in.)	1.8 m (6 ft 0 in.)	0.8 m (2 ft 7 in.)
36.1 kV–46 kV	3.0 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	0.8 m (2 ft 9 in.)
46.1 kV–72.5 kV	3.0 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	1.0 m (3 ft 3 in.)
72.6 kV–121 kV	3.3 m (10 ft 8 in.)	2.5 m (8 ft 0 in.)	1.0 m (3 ft 4 in.)
138 kV–145 kV	3.4 m (11 ft 0 in.)	3.0 m (10 ft 0 in.)	1.2 m (3 ft 10 in.)
161 kV–169 kV	3.6 m (11 ft 8 in.)	3.6 m (11 ft 8 in.)	1.3 m (4 ft 3 in.)
230 kV–242 kV	4.0 m (13 ft 0 in.)	4.0 m (13 ft 0 in.)	1.7 m (5 ft 8 in.)
345 kV–362 kV	4.7 m (15 ft 4 in.)	4.7 m (15 ft 4 in.)	2.8 m (9 ft 2 in.)
500 kV–550 kV	5.8 m (19 ft 0 in.)	5.8 m (19 ft 0 in.)	3.6 m (11 ft 10 in.)
765 kV–800 kV	7.2 m (23 ft 9 in.)	7.2 m (23 ft 9 in.)	4.9 m (15 ft 11 in.)
Notes: - All dimensions are distance from exposed energized electrical conductors or circuit part to employee. - For Arc Flash Protection Boundary - When an arc flash hazard exists, an approach limit at a distance from a prospective arc source within which a person could receive a second degree burn if an electrical arc flash were to occur. (1) Voltage Levels Between 50 Volts and 600 Volts. In those cases, where detailed arc flash hazard analysis calculations are not performed for systems that are between 50 volts and 600 volts, the Arc Flash Protection Boundary shall be 4.0 ft., based on the product of clearing time of 2 cycles (0.033 sec) and the available bolted fault current of 50 kA or any combination not exceeding 100 kA cycles (1667 ampere seconds). When the product of clearing times and bolted fault current exceeds 100 kA cycles, the Arc Flash Protection Boundary shall be calculated.			

Table 19 - 9 Approach Boundaries to Energized Electrical Conductors/Circuit Parts for Shock Protection for Alternating-Current Systems			
(All dimensions are distance from energized electrical conductor or circuit part to employee.)			
1	2	3	4
Nominal System Voltage Range, Phase to Phase ^a	Limited Approach Boundary ^b		Restricted Approach Boundary ^b ; Includes Inadvertent Movement Adder
	Exposed Movable Conductor ^c	Exposed Fixed Circuit Part	
(2) Voltage Levels Above 600 Volts. At voltage levels above 600 volts, the Arc Flash Protection Boundary shall be the distance at which the incident energy equals 1.2 Cal/cm ² . For situations where fault-clearing time is equal to or less than 0.1 sec, the Arc Flash Protection Boundary shall be the distance at which the incident energy level equals 1.5 Cal/cm ² .			
• NFPA 70E - 2015; Table 130.4(D)(a)			
a. For single-phase systems above 250V, select the range that is equal to the system's maximum phase-to-ground voltage multiplied by 1.732.			
b. Limited Approach Boundary -An approach limit at a distance from an exposed energized electrical conductor or circuit part within which a shock hazard exists. Restricted Approach Boundary - An approach limit at a distance from an exposed energized electrical conductor or circuit part within which there is an increased risk of shock, due to electrical arc over combined with inadvertent movement, for personnel working in close proximity to the energized electrical conductor or circuit part			
c. <i>Exposed movable conductors</i> describes a condition in which the distance between the conductor and a person is not under the control of the person. The term is normally applied to overhead line conductors supported by poles.			
d. This includes circuits where the exposure does not exceed 120V.			

Table 19 - 10 Approach Boundaries to Energized Electrical Conductors or Circuit Parts for Shock Protection, Direct-Current Voltage Systems			
1	2	3	4
Nominal System Voltage Range, Phase to Phase ^a	Limited Approach Boundary ^b		Restricted Approach Boundary ^b ; Includes Inadvertent Movement Adder
	Exposed Movable Conductor ^c	Exposed Fixed Circuit Part	
<100 V	Not specified	Not specified	Not specified
100 V–300 V	3.0 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	Avoid contact
301 V–1 kV	3.0 m (10 ft 0 in.)	1.0 m (3 ft 6 in.)	0.3 m (1 ft 0 in.)
1.1 kV–5 kV	3.0 m (10 ft 0 in.)	1.5 m (5 ft 0 in.)	0.5 m (1 ft 5 in.)
5 kV–15 kV	3.0 m (10 ft 0 in.)	1.5 m (5 ft 0 in.)	0.7 m (2 ft 2 in.)
15.1 kV–45 kV	3.0 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	0.8 m (2 ft 9 in.)
45.1 kV– 75 kV	3.0 m (10 ft 0 in.)	2.5 m (8 ft 0 in.)	1.0 m (3 ft 2 in.)
75.1 kV–150 kV	3.3 m (10 ft 8 in.)	3.0 m (10 ft 0 in.)	1.2 m (4 ft 0 in.)
150.1 kV–250 kV	3.6 m (11 ft 8 in.)	3.6 m (11 ft 8 in.)	1.6 m (5 ft 3 in.)
250.1 kV–500 kV	6.0 m (20 ft 0 in.)	6.0 m (20 ft 0 in.)	3.5 m (11 ft 6 in.)
500.1 kV–800 kV	8.0 m (26 ft 0 in.)	8.0 m (26 ft 0 in.)	5.0 m (16 ft 5 in.)
Notes: - All dimensions are distance from exposed energized electrical conductors or circuit parts to worker. * <i>Exposed movable conductor</i> describes a condition in which the distance between the conductor and a person is not under the control of the person. The term is normally applied to overhead line conductors supported by poles. - Improper or inadequate maintenance can result in increased opening time of the overcurrent protective device, thus increasing the incident energy. Where equipment is not properly installed or maintained, PPE selection based on incident energy analysis or the PPE category method may not provide adequate protection from arc flash hazards. - Both larger and smaller available short-circuit currents could result in higher available arc flash energies. If the available short-circuit current increases without a decrease in the opening time of the overcurrent protective device, the arc flash energy will increase. If the available short-circuit current decreases, resulting in a longer opening time for the overcurrent protective device, arc flash energies could also increase. - The occurrence of an arcing fault inside an enclosure produces a variety of physical phenomena very different from a bolted fault. For example, the arc energy resulting from an arc developed in the air will cause a sudden pressure increase and localized overheating. Equipment and design practices are available to minimize the energy levels and the number of procedures that could expose an employee to high levels of incident energy. Proven designs such as arc-resistant switchgear, remote racking (insertion or removal), remote opening and closing of switching devices, high-resistance grounding of low-voltage and 5000 volts (nominal) systems, current limitation, and specification of covered			

Table 19 - 10 Approach Boundaries to Energized Electrical Conductors or Circuit Parts for Shock Protection, Direct-Current Voltage Systems

1	2	3	4
Nominal System Voltage Range, Phase to Phase ^a	Limited Approach Boundary ^b		Restricted Approach Boundary ^b ; Includes Inadvertent Movement Adder
	Exposed Movable Conductor ^c	Exposed Fixed Circuit Part	
bus or covered conductors within equipment are available to reduce the risk associated with an arc flash incident. See NFPA 70E 2015 - Informative Annex O for Safety-Related Design Requirements. - For additional direction for performing maintenance on overcurrent protective devices, see Chapter 2, Safety-Related Maintenance Requirements. - See IEEE 1584, Guide for Performing Arc Flash Calculations, for more information regarding arc flash hazards for three-phase systems. - NFPA 70E – 2015: Table 130.4(D)(b)			

Table 19 - 11 Arc Flash Hazard Identification for Alternating Current (ac) and Direct Current (dc) Systems

Code	Task	Equipment Condition	Arc Flash PPE Required
N/A	Reading a panel meter while operating a meter switch	Any	No
E,C	Normal operation of a circuit breaker (CB), switch, contactor, or starter	All of the following: The equipment is properly installed The equipment is properly maintained All equipment doors are closed and secured All equipment covers are in place and secured There is no evidence of impending failure	No
		1 or more of the following: The equipment is not properly installed The equipment is not properly maintained Equipment doors are open or not secured Equipment covers are off or not secured There is evidence of impending failure	Yes
E,C	For ac systems: Work on energized electrical conductors and circuit parts, including voltage testing	Any	Yes
E,C	For dc systems: Work on energized electrical conductors and circuit parts of series-connected battery cells, including voltage testing	Any	Yes
E,C	Voltage testing on individual battery cells or individual multi-cell units	All of the following: The equipment is properly installed The equipment is properly maintained Covers for all other equipment are in place and secured There is no evidence of impending failure	No
		1 or more of the following: The equipment is not properly installed The equipment is not properly maintained Equipment doors are open or not secured Equipment covers are off or not secured There is evidence of impending failure	Yes
C	Removal or installation of CBs or switches	Any	Yes
E,C	Removal or installation of covers for equipment such as wireways, junction boxes, and cable trays that does not expose bare energized electrical conductors and circuit parts	All of the following: The equipment is properly installed The equipment is properly maintained There is no evidence of impending failure	No
		Any of the following:	Yes

Table 19 - 11 Arc Flash Hazard Identification for Alternating Current (ac) and Direct Current (dc) Systems			
Code	Task	Equipment Condition	Arc Flash PPE Required
		The equipment is not properly installed The equipment is not properly maintained There is evidence of impending failure	
C	Removal of bolted covers (to expose bare energized electrical conductors and circuit parts). For dc systems, this includes bolted covers, such as battery terminal covers.	Any	Yes
C	Removal of battery intercell connector covers	All of the following: The equipment is properly installed. The equipment is properly maintained Covers for all other equipment are in place and secured There is no evidence of impending failure	No
		1 or more of the following: The equipment is not properly installed The equipment is not properly maintained Equipment doors are open or not secured Equipment covers are off or not secured There is evidence of impending failure	Yes
E,C	Opening hinged door(s) or cover(s) (to expose bare energized electrical conductors and circuit parts)	Any	Yes
E,C	Perform infrared thermography and other noncontact inspections outside the restricted approach boundary. This activity does not include opening of doors or covers.	Any	No
C	Application of temporary protective grounding equipment after voltage test	Any	Yes
E,C	Work on control circuits with exposed energized electrical conductors and circuit parts, 120 volts or below without any other exposed energized equipment over 120 V including opening of hinged covers to gain access	Any	No
E,C	Work on control circuits with exposed energized electrical conductors and circuit parts, greater than 120 V	Any	Yes
C	Insertion or removal of individual starter buckets from motor control center (MCC)	Any	Yes
C	Insertion or removal (racking) of CBs or starters from cubicles, doors open or closed	Any	Yes
C	Insertion or removal of plug-in devices into or from busways	Any	Yes
E,C	Insulated cable examination with no manipulation of cable	Any	No
E,C	Insulated cable examination with manipulation of cable	Any	Yes
E,C	Work on exposed energized electrical conductors and circuit parts of equipment directly supplied by a panelboard or motor control center	Any	Yes
C	Insertion and removal of revenue meters (kW-hour, at primary voltage and current)	Any	Yes
C	For dc systems, insertion or removal of individual cells or multi-cell units of a battery system in an enclosure	Any	Yes

Table 19 - 11 Arc Flash Hazard Identification for Alternating Current (ac) and Direct Current (dc) Systems			
Code	Task	Equipment Condition	Arc Flash PPE Required
C	For dc systems, insertion or removal of individual cells or multi-cell units of a battery system in an open rack	Any	No
C	For dc systems, maintenance on a single cell of a battery system or multi-cell units in an open rack	Any	No
E,C	For dc systems, work on exposed energized electrical conductors and circuit parts of utilization equipment directly supplied by a dc source	Any	Yes
C	Arc-resistant switchgear Type 1 or 2 (for clearing times of <0.5 sec with a prospective fault current not to exceed the arc-resistant rating of the equipment) and metal enclosed interrupter switchgear, fused or unfused of arc resistant type construction, tested in accordance with IEEE C37.20.7: Insertion or removal (racking) of CBs from cubicles Insertion or removal (racking) of ground and test device Insertion or removal (racking) of voltage transformers on or off the bus	All of the following: The equipment is properly installed The equipment is properly maintained All equipment doors are closed and secured All equipment covers are in place and secured There is no evidence of impending failure	No
		1 or more of the following: The equipment is not properly installed The equipment is not properly maintained Equipment doors are open or not secured Equipment covers are off or not secured There is evidence of impending failure	Yes
E,C	Opening voltage transformer or control power transformer compartments	Any	Yes
C	Outdoor disconnect switch operation (hookstick operated) at 1 kV through 15 kV	Any	Yes
C	Outdoor disconnect switch operation (gang-operated, from grade) at 1 kV through 15 kV	Any	Yes
BMcd Qualified Person CODE: N/A-Not Applicable; E- Engineering; C-Commissioning Notes: - Hazard identification is one component of risk assessment. Risk assessment involves a determination of the likelihood of occurrence of an incident, resulting from a hazard that could cause injury or damage to health. The assessment of the likelihood of occurrence contained in this table does not cover every possible condition or situation. Where this table indicates that arc flash PPE is not required, an arc flash is not likely to occur. *The phrase <i>properly installed</i>, as used in this table, means that the equipment is installed in accordance with applicable industry codes and standards and the manufacturer's recommendations. The phrase <i>properly maintained</i>, as used in this table, means that the equipment has been maintained in accordance with the manufacturer's recommendations and applicable industry codes and standards. The phrase <i>evidence of impending failure</i>, as used in this table, means that there is evidence of arcing, overheating, loose or bound equipment parts, visible damage, deterioration, or other damage - NFPA 70E – 2015: Table 130.7(C)(15)(A)(a)			

Table 19 - 12 Arc-Flash Hazard PPE Categories for Alternating Current (ac) Systems

Equipment	Arc Flash PPE Category	Arc-Flash Boundary	
		m. meters	In., ft.
Panelboards or other equipment rated 240 V and below Parameters: Maximum of 25 kA short-circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)	1	485 mm	19 in.
Panelboards or other equipment rated >240 V and up to 600 V Parameters: Maximum of 25 kA short-circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)	2	900 mm	3 ft.
600-V class motor control centers (MCCs) Parameters: Maximum of 65 kA short-circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)	2	1.5 m	5 ft.
600-V class motor control centers (MCCs) Parameters: Maximum of 42 kA short-circuit current available; maximum of 0.33 sec (20 cycles) fault clearing time; working distance 455 mm (18 in.)	4	4.3 m	14 ft.
600-V class switchgear (with power circuit breakers or fused switches) and 600 V class switchboards Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.5 sec (30 cycles) fault clearing time; working distance 455 mm (18 in.)	4	6 m	20 ft.
Other 600-V class (277 V through 600 V, nominal) equipment Parameters: Maximum of 65 kA short circuit current available; maximum of 0.03 sec (2 cycles) fault clearing time; working distance 455 mm (18 in.)	2	1.5 m	5 ft.
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	4	12 m	40 ft.
Metal-clad switchgear, 1 kV through 15 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	4	12 m	40 ft.
Arc-resistant switchgear Type 1 or 2 [for clearing times of < 0.5 sec (30 cycles) with a perspective fault current not to exceed the arc-resistant rating of the equipment], and metal-enclosed interrupter switchgear, fused or unfused of arc-resistant-type construction, tested in accordance with IEEE C37.20.7, 1 kV through 15 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	N/A (doors closed)	N/A (doors closed)	
	4 (doors open)	12 m	40 ft.
Other equipment 1 kV through 15 kV Parameters: Maximum of 35 kA short-circuit current available; maximum of up to 0.24 sec (15 cycles) fault clearing time; working distance 910 mm (36 in.)	4	12 m	40 ft.

Note:

- For equipment rated 600 volts and below, and protected by upstream current-limiting fuses or current-limiting circuit breakers sized at 200 amperes or less, the arc flash PPE category can be reduced by one number but not below arc flash PPE category 1.
- NFPA 70E – 2015; Table 130.7(C)(15)(A)(b)

Table 19 - 13 Arc-Flash Hazard PPE Categories for Direct Current (dc) Systems

Equipment	Arc Flash PPE Category	Arc-Flash Boundary
Storage batteries, dc switchboards, and other dc supply sources 100 V > Voltage < 250 V Parameters: Voltage: 250 V; Maximum arc duration and working distance: 2 sec @ 455 mm (18 in.)		
Short-circuit current < 4 kA	1	900 mm (3 ft)
4 kA ≤ short-circuit current < 7 kA	2	1.2 m (4 ft)
7 kA ≤ short-circuit current < 15 kA	3	1.8 m (6 ft)
Storage batteries, dc switchboards, and other dc supply sources 250 V ≤ Voltage ≤ 600 V Parameters: Voltage: 600 V; Maximum arc duration and working distance: 2 sec @ 455 mm (18 in.)		
Short-circuit current 1.5 kA	1	900 mm (3 ft)
1.5 kA ≤ short-circuit current < 3 kA	2	1.2 m (4 ft)
3 kA ≤ short-circuit current < 7 kA	3	1.8 m (6 ft.)
7 kA ≤ short-circuit current < 10 kA	4	2.5 m (8 ft)
Note: - Apparel that can be expected to be exposed to electrolyte must meet both following conditions: - Be evaluated for electrolyte protection in accordance with ASTM F1296, <i>Standard Guide for Evaluating Chemical Protective Clothing</i> - Be arc-rated in accordance with ASTM F1891, <i>Standard Specification for Arc Rated and Flame Resistant Rainwear</i>, or equivalent - NFPA 70E – 2015; Table 130.7(C)(15)(B)		

Table of Contents

20 Demolition

Preparatory Operations

Starting Demolition Operations
Damaged Structure
Utilities
Temporarily Relocated Utilities
Hazardous Chemicals
Fragmentation of Glass
Wall Openings
Floor Openings, Dropped Debris
Floor Openings, Not Used as Material Drops
Begin Structure Demolition
Worker Entrances

Stairs, Passageways, and Ladders

Means of Access
Inspection
Illumination

Chutes

Drops Outside of Exterior Walls
Chute Enclosure
Gates
Area around the End of a Chute
Guard Rail
Mechanical Equipment
Impact of Materials
Removal of Materials through Floor Openings

Removal of Walls, Masonry Sections, and Chimneys

Falling Masonry
Wall Condition
Weather Conditions
Cutting of Structural or Load-Supporting Members
Floor Openings
Skeleton-Steel Construction
Walkways or Ladders
Walls Supporting Earth
Debris Pile

Manual Removal of Floors

Openings Cut in a Floor
Planks
Walking on Exposed Beams
Stringers
Overlapping Planks
Starting Demolition of Floor Arches
Clearing Debris before Demolition

Removal of Walls, Floors, and Material with Equipment**Mechanical Equipment****Floor Openings****Mechanical Equipment Requirements****Storage****Floor Loads****Flooring Boards****Floor Beams****Floor Arches****Storage Areas****Removal of Steel Construction****Planking Shall****Hoisting Equipment****Dismantling Steel Construction****Overstressed Structural Member****Mechanical Demolition****Workers Permitted in the Area****Demolition Ball Shall****Crane Boom and Load-line****Connection****Pulling Over Walls****Ornamental Stonework Shall****During Demolition****Selective Demolition by Explosive**

20.1 Preparatory Operations

20.1.1 General

Before and demolition occurs elements (a) through (k) shall be evaluated by a competent person. Documentation of this shall be submitted via Burns & McDonnell "Demolition Preparatory Checklist" Safety Form T-1.

Demolition - Prior to starting demolition operations, a competent person shall determine the possibility of unplanned collapse of any portion of the structure or adjacent structures.

Damaged Structure - When workers are required within a structure which has been damaged, the walls or floor shall be shored or braced.

Utilities - All utilities shall be shut off outside the building line and utility companies shall be notified before demolition work is started.

Temporarily Relocated Utilities - If it is necessary to maintain any utilities during demolition, utilities shall be temporarily relocated, and protected.

Hazardous Chemicals - If the presence of hazardous chemicals is determined the hazard shall be eliminated before demolition is started.

Fragmentation of Glass - Where a hazard exists from fragmentation of glass, such hazards shall be removed.

Wall openings shall be protected with appropriate fall protection.

Floor Openings & Dropped Debris - If debris is dropped through holes in the floor without chutes, the drop area shall be barricaded. Warning signs shall be posted at each level, and removal shall not be permitted in this lower area until debris handling ceases above.

Floor Openings which are not Used As Material Drops - All floor openings, not used as material drops, shall be covered with material that can support the weight of any load which may be imposed and properly secured to prevent its accidental movement.

Begin Structure Demolition - Demolition shall begin at the top of the structure and proceed downward.

Worker entrances shall be protected from falling materials.

20.1.2 Hazardous Materials

Prior to starting demolition, a building asbestos survey must be completed and a demolition notification, identifying locations and types of asbestos, must be provided to the state. Other hazardous building materials, such as lead paint, also needs to be identified in a pre-demolition survey. Locations of hazardous materials, as identified in a building survey report, need to be provided to any contractors working in the vicinity of existing hazardous materials and if hazardous materials are to be disturbed, work plans need to be developed that comply with OSHA requirements and describe protective measures and controls to be taken.

Table of Contents

21 Steel Erection**Site Layout, Site Specific Erection Plan and Construction Sequence**[Approval to Begin Steel Erection](#)[Commencement of Steel Erection](#)[Site Layout](#)[Pre-Planning of Overhead Hoisting Operations](#)**Hoisting and Rigging**[General](#)[Working Under Loads](#)[Multiple Lift Rigging Procedure](#)**Structural Steel Assembly**[Structural Stability](#)[Additional Requirements](#)[Walking/Working Surfaces](#)[Plumbing-Up](#)[Metal Decking](#)**Column Anchorage**[General Requirements for Erection Stability](#)[Repair, Replacement or Field Modification](#)**Beams and Columns**[General](#)[Diagonal Bracing](#)[Double Connections](#)[Column Splices](#)[Perimeter Columns](#)**Open Web Steel Joists**[General](#)[Attachment of Steel Joists and Steel Joist Girders](#)[Erection of Steel Joists](#)[Erection Bridging](#)[Landing and Placing Loads](#)**Systems-Engineered Metal Buildings**[Structural Stability Requirements of This Chapter](#)[Additional Requirements Structural Column](#)[Rigid Frames](#)[Construction Loads](#)[Metal Decking in Girt and Eave Strut-to-Frame Connections](#)[Ends Of All Steel Joists or Cold-Formed Joists](#)[Purlins and Girts Tie Off](#)[Purlins Walking/Working Surface](#)[Construction Loads](#)

Falling Object Protection**Securing Loose Items Aloft****Protection from Falling Objects Other Than Materials Being Hoisted****Training****Training Personnel****Fall Hazard Training****Special Training Programs**

DRAFT

21.1 Site Layout, Site Specific Erection Plan and Construction Sequence

21.1.1 Approval to Begin Steel Erection

Approval to Begin Steel Erection - Before authorizing the commencement of steel erection, the controlling contractor shall ensure that the steel erector has been notified by Burns & McDonnell Safety Form U-1 "Concrete and Anchor Bolt Release" that :

Any repairs, replacements and modifications to the anchor bolts were conducted with the approval of the project structural engineer of record Burns & McDonnell "Discrepancy Report" QF-005.

21.1.2 Commencement of Steel Erection

Commencement of Steel Erection - A steel erection contractor shall not erect steel unless it has received written notification by Burns & McDonnell "Approval to Begin Steel Erection" Safety Form U-3.

21.1.3 Site-Specific Erection Plan

Burns & McDonnell Safety Form U-2 "Site-Specific Steel Erection Plan" shall be developed by a qualified person and submitted to Burns & McDonnell.

21.2 Hoisting and Rigging

21.2.1 Multiple Lift

Multiple Lift Rigging Procedure or "Christmas treeing" – may only be performed by permission of the Burns & McDonnell Director of Corporate Health & Safety, and then a multiple lift shall only be performed if the following criteria are met:

- A multiple lift rigging assembly is used;
- A maximum of five members are hoisted per lift;
- Only beams and similar structural members are lifted; and
- All workers engaged in the multiple lift have been trained in these procedures.

No crane is permitted to be used for a multiple lift where such use is contrary to the manufacturer's specifications and limitations.

Components of the multiple lift rigging assembly shall be assembled with a maximum capacity for total assembly and each individual attachment point.

The total load shall not exceed:

- The rated capacity of the hoisting equipment specified in the hoisting equipment load charts;
- The rigging capacity specified in the rigging rating chart.

The multiple lift rigging assembly shall be rigged with members:

- Attached at their center of gravity and maintained reasonably level;
- Rigged from top down; and

Rigged at least 7 feet apart.

The members on the multiple lift rigging assembly shall be set from the bottom up.

Controlled load lowering shall be used whenever the load is over the connectors.

21.3 Structural Steel Assembly

21.3.1 Metal Decking

[Covering roof and floor openings](#)

All covers shall be marked with Burns & McDonnell “Hole Cover” Safety Form D-6.

DRAFT

Table of Contents

22 Fall Protection

General
Guardrail Systems
Safety Net Systems
Personal Fall Arrest Systems
Positioning Device Systems
Warning Line Systems
Controlled Access Zones
Safety Monitoring Systems
Covers
Protection from Falling Objects
Fall Protection Plan

DRAFT

22.1 General

Each worker on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest system.

22.2 Personal Fall Arrest Systems

Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two. Documentation of the design, installation and approval process shall be transmitted to Burns & McDonnell refer to Burns & McDonnell Health & Safety Form C-20 "Safety Submittals"

Inspections of the Horizontal Lifeline shall be documented using the Burns & McDonnell Safety Form V-2 "Fall Protection Equipment Inspection".

22.3 Controlled Access Zones

On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

Table of Contents

23 Concrete and Masonry Construction

Scope, Application, and Definitions Applicable to this Chapter

[Scope and Application](#)[Definitions](#)

General Requirements

[Construction Loads](#)[Reinforcing Steel](#)[Post-Tensioning Operations](#)[Riding Concrete Buckets](#)[Working Under Loads](#)[Personal Protective Equipment](#)

Equipment and Tools

[Bulk Cement Storage](#)[Concrete Mixers](#)[Power Concrete Trowels](#)[Concrete Buggies](#)[Concrete Pumping Systems](#)[Concrete Buckets](#)[Tremies](#)[Bull Floats](#)[Masonry Saws](#)[Lockout/Tagout Procedures](#)

Cast-In-Place Concrete

[General Requirements for Formwork](#)[Shoring and Re-Shoring](#)[Vertical Slip Forms](#)[Reinforcing Steel](#)[Removal of Formwork](#)Appendix A [Pre-Cast Concrete](#)Appendix B [Lift-Slab Operations](#)Appendix C [Requirements for Masonry Construction](#)

23.1 Appendix A Pre-Cast Concrete

No worker shall be permitted under pre-cast concrete members.

23.2 Appendix B Lift-Slab Operations

No worker, except those essential to the jacking operation, shall be permitted in the building/structure while any jacking operation is taking place.

Under no circumstances, shall any worker who is not essential to the jacking operation be permitted immediately beneath a slab while it is being lifted.

DRAFT

Table of Contents

24 Machine and Guarding**Machine Guarding**[Machine Guarding](#)[Anchoring Fixed Machinery](#)**Abrasive Wheel Machinery**[General Requirements](#)[Guarding Of Abrasive Wheel Machinery](#)[Flanges](#)[Mounting](#)

DRAFT

Table of Contents

25 Blasting and Explosives

General Provisions
Blaster Qualifications
Surface Transportation of Explosives
Underground Transportation of Explosives
Storage of Explosives and Blasting Agents
Loading of Explosives or Blasting Agents
Initiation of Explosive Charges - Electric Blasting
Use of Safety Fuses
Use of Detonating Cord
Firing the Blast
Inspection after Blasting
Misfires
Underwater Blasting
Blasting in Excavation Work under Compressed Air
Definitions Applicable to This Chapter

DRAFT

Table of Contents

26 Hazard Communication

SDS Master List

Hazard Communication Program

Introduction

Material Safety Data Sheets (SDS)

Labeling

Training

Emergencies

Hazardous Material Identification System (HMIS)

NFPA 704 Labeling System

HAZCOM Appendix

Asbestos

Scope and Application

Definitions

Permissible Exposure Limits

Multi-Employer Worksites

Regulated Areas

Exposure Assessment and Monitoring

Engineering Controls and Work Practices

Respiratory Protection

Protective Clothing

Hygiene Facilities and Practices

Communication of Hazards

Housekeeping

Medical Surveillance

Recordkeeping

Competent Person

Arsenic (Inorganic)

Scope and Application

Definitions

Permissible Exposure Level

Exposure Monitoring

Regulated Area

Methods of Compliance

Respiratory Protection

Protective Work Clothing and Equipment

Housekeeping

Reserved

Hygiene Facilities and Practices

Medical Surveillance

Worker Information and Training

Recordkeeping

Benzene Appendix 2004

Cadmium

Scope
Definitions
Permissible Exposure Limits, PEL
Exposure Assessment and Monitoring
Regulated Areas
Engineering Controls and Work Practices
Respirator Protection
Emergency Situations
Protective Clothing
Hygiene Areas and Practices
Housekeeping
Medical Surveillance
Communication of Hazards
Recordkeeping
Observation of Monitoring

Chromium VI

Scope
Action Level
Permissible Exposure Limit
Exposure Assessment and Monitoring
Regulated Areas
Engineering Controls and Work Practices
Respiratory Protection
Protective Clothing
Hygiene Areas
Housekeeping
Medical Surveillance
Communication of Hazards
Recordkeeping
Exhibit A – Available Engineering Controls and Work Practices

Formaldehyde

Scope
Action Level
Permissible Exposure Level, PEL
Exposure Monitoring
Regulated Areas
Methods of Compliance
Respiratory Protection
Personal Protective Equipment, PPE
Hygiene Protection
Housekeeping
Emergencies
Medical Surveillance
Hazard Communication
Worker Information and Training
Recordkeeping

Lead

Scope
Action Level
Permissible Exposure Limit
Exposure Assessment and Monitoring
Engineering and Work Practice Controls
Respiratory Protection
Protective Work Clothing and Equipment
Housekeeping
Hygiene Facilities
Medical Surveillance
Medical Removal Program
Worker Information and Training
Signs
Recordkeeping
Observations of Monitoring

Silica

Scope and application.
Definitions
Specified Exposure Control Methods.
Alternative exposure control methods
Exposure Assessment
Methods of Compliance
Respiratory Protection
Housekeeping
Written Exposure Control Plan
Medical Surveillance
Communication of Respirable Crystalline Silica Hazards to Employees
Recordkeeping
Appendix A – Methods of Sample analysis
Appendix B – Medical Surveillance Guidelines

Bloodborne Pathogens

Scope and Application
Definitions
Exposure Control
Methods of Compliance
HIV and HBV Research Laboratories and Production Facilities
Hepatitis B Vaccination and Post-exposure Evaluation and Follow
Communication of Hazards to Workers
Recordkeeping
Appendix A Sample – Hepatitis B Vaccination Declination Statement

26.1 Hazard Communication Program

26.1.1 Hazard Communication Program

The purpose of the Hazard Communication Program (HAZCOM) is to safeguard the health of workers by providing a guide for safe compliance, and information concerning health and physical hazards of the chemical materials in use at the work place.

Burns & McDonnell is committed to performing work in the safest manner possible while providing the safest possible working conditions for all employees. It is the policy of Burns & McDonnell that employees receive training on their company's Hazard Communication Program and agree to abide by all its requirements.

26.1.2 Introduction

Chemicals are often used during project work and some of these chemicals may pose a hazard to health and can cause physical harm if used improperly or carelessly. These chemicals can be used safely with proper knowledge and recognition of the hazards.

While risks of exposure to chemical hazards exist, they can be minimized and controlled. Each potentially exposed employee should have chemical hazard training, and access to HAZCOM information and the material's Safety Data Sheets (SDS).

Burns & McDonnell employee owners should comply with the Burns & McDonnell Hazard Communication Program contained in the Corporate Policy Manual, Chapter 8. All Burns & McDonnell employee owner questions or inquiries regarding the program or chemicals used by company personnel should be directed to the Corporate Health & Safety Department.

The project manager will inform independent contractors who are retained by Burns & McDonnell of the presence of hazardous chemicals known to be in the areas where the contractor will be working. This information will be provided before they begin work.

On projects where multiple employers are contracted by Burns & McDonnell, a master SDS compilation along with a chemical inventory list (see Burns and McDonnell Chemical Inventory List Safety Form Z-1) for the project shall be kept. The list identifies each chemical or mixture and the conditions in which the chemical or mixture is stored or used. The list is updated as hazardous chemicals or mixtures are removed from or introduced to the project.

At the time of the pre-construction meeting, Subcontractors to Burns & McDonnell are informed that all chemicals and products brought onto the project by the Subcontractor shall have a copy of the SDS submitted to Burns & McDonnell at the time of arrival for that chemical. This responsibility shall be to the Subcontractor to notify Burns & McDonnell. A SDS compilation of all chemicals or products submitted to Burns & McDonnell shall be kept along with a title sheet listing these chemicals. All workers on site shall be made aware of this requirement, the location of the SDS compilation and all workers shall be granted free access to the SDS compilation.

26.1.3 Safety Data Sheets (SDS)

Project management will keep on file a Safety Data Sheet (SDS for each hazardous chemical brought onto the project site.

If workers cannot read English, a special effort will be undertaken to explain the necessary information verbally to them in their language. Bilingual supervision and instructors could be utilized if it is needed.

SDSs will be accessible during normal work hours in the project management trailer/office. Applicable SDSs are also to be maintained and available at each subcontractor's project site office.

26.1.4 Labeling

All containers of hazardous chemicals brought onto the project site are to be labeled. The labels should identify the hazardous chemicals with the appropriate hazard warnings associated with its exposure. The labels shall be in English, legible and prominently displayed on the container. Employees should be careful not to deface or remove warning labels from containers of hazardous chemicals. The labels must remain on the containers and remain legible at all times. Employees who deface hazardous warning labels are subject to disciplinary action.

Burns & McDonnell uses the Hazardous Material Identification System (HMIS) on containers used for storing transferred hazardous chemicals. Burns & McDonnell also uses the HMIS to identify specific hazards in buildings and on projects sites.

In addition, any employee owner transferring a hazardous chemical from a labeled container to an unlabeled container (e.g., a can, bucket or bottle) must affix the appropriate label on the new container. The chemical should never be left unattended in an unlabeled container. Those found will be disposed of properly to avoid potential exposure to an unknown chemical. Chemicals found in unlabeled containers should Not be Used.

26.1.5 Training

All employees who may be potentially exposed to hazardous chemicals under normal operating conditions, while performing non-routine tasks, or under foreseeable emergencies, will receive training on how to safely use any hazardous chemicals present in their work areas.

All new and transferred employees will receive training before performing duties in work areas or on projects where hazardous chemicals are present, whenever a new chemical hazard is introduced into their work area, or when a changed process alters the threat of chemical exposure.

26.1.6 Emergencies

If a chemical emergency occurs, the Emergency Action Plan (refer to Burns & McDonnell Safety Form E1 – EAP and Fire Prevention Plan) will go into effect. Burns & McDonnell will notify all appropriate personnel and contractors, and provide support during the notification of local authorities, evacuation, spill response, clean up and return to operations. The designated person indicated in the Emergency Action Plan is responsible for directing and coordinating all relief efforts.

If an employee comes in contact with a hazardous chemical and needs medical treatment, a copy of the chemical's SDS should be forwarded to the hospital immediately upon request.

26.1.7 Hazardous Material Identification System (HMIS)

The HMIS (Hazardous Material Identification System) helps satisfy the hazard communication standard (HCS) requirements by providing a format for hazard determinations, offering a basic written hazard communication program, and simplifying the worker training and information process. The HMIS provides clear, recognizable information to workers by standardizing the presentation of chemical information. This is accomplished by the use of color bar system and color codes corresponding to the hazards of a product, assigned numeric ratings indicating the degree of hazard, and alphabetical codes designating appropriate personal protective equipment (PPE) workers should wear while handling the material.

Table 26- 1 HMIS Protective Equipment Examples

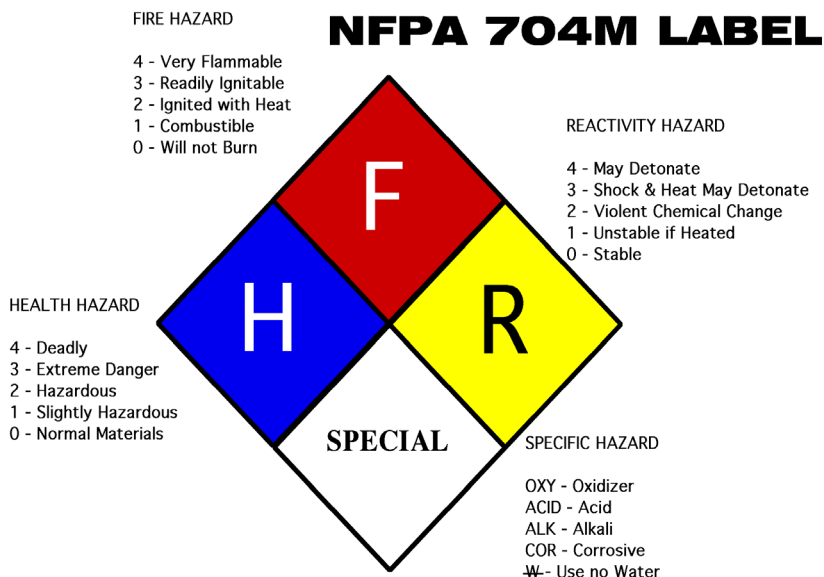
Chemical Name		Protective Equipment Examples	
Health	0	A	Safety Glasses
Flammability	0	B	Safety Glasses and Gloves
Physical Hazards	0	C	Safety Glasses, Gloves and an Apron
Personal Protection	0	D	Face Shield, Gloves and an Apron
		E	Safety Glasses, Gloves and a Dust Respirator
		F	Safety Glasses, Gloves, Apron and a Dust Respirator
		G	Safety Glasses, a Vapor Respirator
		H	Splash Goggles, Gloves, Apron and a Vapor Respirator
		I	Safety Glasses, Gloves and a Dust/Vapor Respirator
		J	Splash Goggles, Gloves, Apron and a Dust/Vapor Respirator
		K	Airline Hood or Mask, Gloves, Full Suit and Boots
L-Z Custom PPE Specified by Employer		N	Splash Goggles
		O	Face Shield & Eye Protection (Safety glasses)
		P	Gloves
		Q	Boots
		R	Apron
		S	Full Body Suit
		T	Dust Mask
		U	Vapor Respirator (APR)
		W	Combination Dust & Vapor Respirator
		Y	Full Face Respirator
		Z	Airline Hood or Mask (Supplied Air)
Notes:		• This lettering system indicates the level of PPE to be worn to work safely with a material. • Each of the individual PPE icons has been designated with a corresponding letter of the alphabet ranging from 'm' through 'z'. • An employer can list appropriate letters to customize the PPE required for handling a specific material. • HMIS allows an "*" to designate a material as a carcinogen or for materials known to have an adverse effect given chronic exposure. This designation would appear next to the numerical ranking within the blue health bar.	

26.1.8 NFPA 704 Labeling System

The "NFPA 704: Standard System for the Identification of the Hazards of Materials for Emergency Response" is a standard maintained and revised by the National Fire Protection Association. It defines the "fire diamond" used by emergency personnel to quickly and easily identify the risks posed by hazardous materials. This helps determine what, if any, special equipment should be used, procedures followed, or precautions taken during the initial stages of an emergency response.

The four divisions are typically color-coded, with blue indicating level of health hazard, red indicating flammability, yellow (chemical) reactivity, and white containing special codes for unique hazards. Each of health, flammability and reactivity is rated on a scale from 0 (no hazard; normal substance) to 4 (severe risk). See the latest version of NFPA 704 for the specifications of each classification.

Figure 26 - 1 NFPA 704M Label



26.1.9 OSHA Required Labeling for GHS

The following figure is a sample of the new GHS style labeling using Sulfuric Acid as the material. There are six required information areas meeting the requirements previously mentioned:

Product Identifier - One of the new label categories is Product Identifier. This represents the name or number used for a hazardous chemical on a label or in the Safety Data Sheet. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label, and the Safety Data Sheet.

Pictograms - One of the new label categories is Pictograms. A pictogram means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color intended to convey specific information about the hazards of a chemical.

There are Nine (9) pictograms designated under the Hazard Communication Standard for application to a hazard category.

As of June 1, 2015, the Hazard Communication Standard will require pictograms on labels to alert users of chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard. The pictogram on the label is determined by the chemical hazard classification.

Signal word - The signal word means a word used to indicate the relative severity of the hazard and it is used on the label to alert the reader to a potential hazard. The signal words used in this category are "Danger" and "Warning." "Danger" is used for more severe hazards, while "Warning" is used for less severe hazards

Hazard Statements - The Hazard Statement means a statement assigned to a hazard class and category describing the nature of the hazard of a chemical, including - where appropriate - the degree of hazard.

Precautionary Statements - Precautionary Statements mean a phrase describing the recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling.

Supplier Information - Supplier Information is another new label. The chemical manufacturer, importer, or distributor shall ensure information provided is in accordance with the Hazard Communication Standard - Appendix C. For each hazard class and associated hazard category for the hazardous chemical, the information must be prominently displayed and in English (other languages may also be included if appropriate).

Signal words, hazard statements, and pictograms have all been harmonized, and assigned to each hazard class and category in the Globally Harmonized System.

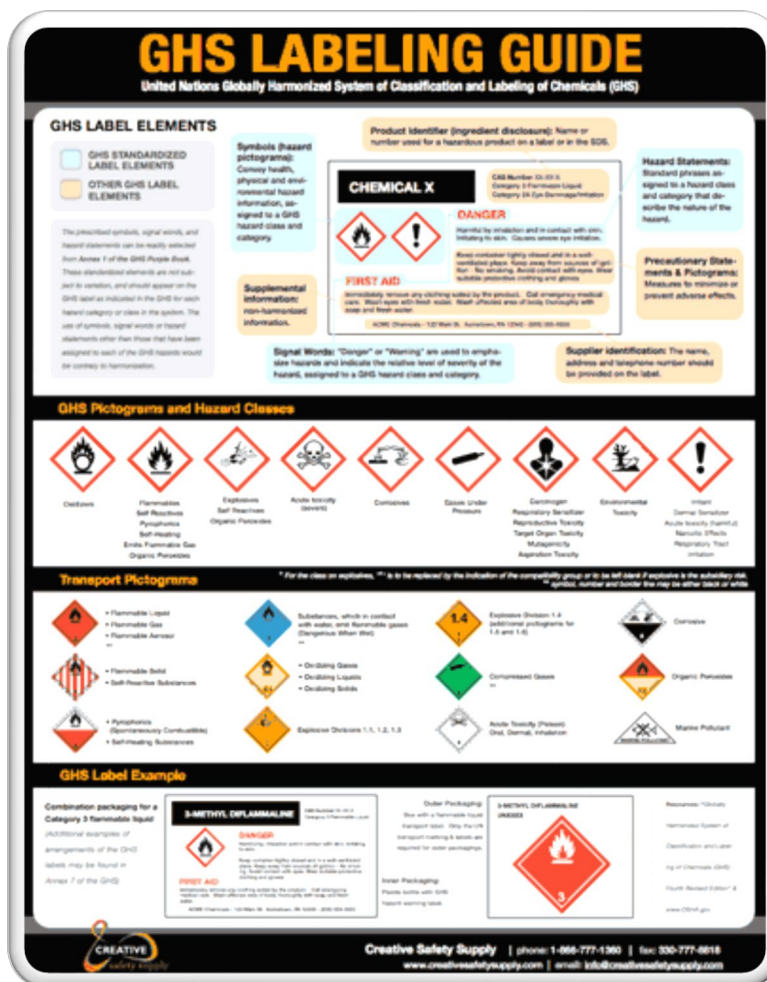
Once a chemical has been classified, the relevant harmonized information can be found in HAZCOM 2012, Appendix C.

Figure 26 - 2 Required Label Information

2	1 Sulfuric Acid	2
	3 Danger! May be harmful if swallowed. 4 Causes severe skin burns and eye damage. Fatal if inhaled. Harmful to aquatic life.	
	Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.	
5	5 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.	
	In case of fire Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.	
	See Material Safety Data Sheet for further details regarding safe use of this product.	
	6 Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA Telephone : +18003255832	
1	4	
2	5	
3	6	
Product Identifier	Hazard Statements	
Pictograms	Precautionary Statements	
Signal word, "Danger!"	Supplier Information	

The Globally Harmonized System of Classification provides standardized criteria for Hazard Classification using the categories of Physical, Health, and Environment. OSHA has added the category for Hazards not Elsewhere Classified. The system also requires hazard communication for employees using standardized labels, pictograms, and Safety Data Sheets.

Figure 26 - 3 GHS Labeling Guide



26.2 Silica Dust in Construction

26.2.1 General

This section addresses the control of employee exposures to respirable dust containing crystalline silica, which is known to cause silicosis, a serious lung disease, as well as increase the risk of lung cancer and other systemic diseases.

Quartz is the most common form of crystalline silica. In fact, it is the second most common surface material accounting for almost 12% by volume of the earth's crust. Quartz is present in many materials in the construction industry, such as brick and mortar, concrete, slate, dimensional stone (granite, sandstone), stone aggregate, tile, and sand used for blasting. Other construction materials that contain crystalline silica are asphalt filler, roofing granules, plastic composites, soils, and to a lesser extent, some wallboard joint compounds, paint, plaster, caulking and putty.

Construction sites often involve many operations occurring simultaneously that can generate respirable silica dust. Therefore, it is important and necessary to utilize effective controls (such as wet methods and/or

vacuum dust collection) in order to minimize total exposures to silica-exposed tool operators or potential exposures to other employees.

The types of materials where Silica can be found.

- | | | |
|-------------------------|-----------------------------------|----------------------------------|
| • Asphalt | • Gunit/Shotcrete | • Roof Tile - Concrete |
| • Brick | • Mortar | • Roof Tile – Ceramic/Brick/Clay |
| • Cement | • Paints containing silica | • Sand |
| • Concrete | • Plaster | • Soil - Fill |
| • Concrete Block | • Refractory - Mortar | • Soil – Top |
| • Drywall | • Refractory - Castable Materials | • Stone *** |
| • Fiber Cement Products | • Refractory Units | • Stucco/EIF |
| • Grout | • Rock | • Terrazzo |

***including: granite, limestone, quartzite, sandstone, shale, slate, cultured, etc.

Types of operations where Silica dust is generated.

- | | | |
|--------------------------|--------------------|------------------------|
| • Abrasive blasting | • Grinding | • Sanding |
| • Bush hammering | • Jackhammering | • Scabbling |
| • Cutting/sawing | • Milling | • Scarifying |
| • Demolishing/disturbing | • Mixing/pouring | • Scraping |
| • Drilling/coring | • Polishing | • Sweeping/cleaning up |
| • Earthmoving | • Sacking/patching | |

The OSHA permissible exposure limit (PEL) limits worker exposures to 50 micrograms of respirable crystalline silica per cubic meter of air ($\mu\text{g}/\text{m}^3$), averaged over an eight-hour day. The OSHA Action Level for silica is set at 25 $\mu\text{g}/\text{m}^3$, averaged over an 8-hour day.

26.2.2 Silica Exposure Control Plan (SECP)

Subcontractors shall develop a documented Silica Exposure Control Plan (SECP) for their scope of work. The objective of the SECP is to prevent, avoid or eliminate any risk of exposure to silica for employees. In order to achieve this, an effective program must be established. The SECP will include the following:

- (1) Objectives of the SECP.
- (2) Coordination of work activities, including a description of tasks in the workplace that involve exposure to respirable crystalline silica.
- (3) Appointing an SECP administrator, and a Competent Person for silica hazard control.
- (4) Risk identification, assessment, workplace walk through survey of exposed areas, and non-exposed areas.
- (5) Education and training.
- (6) Work procedures, including a description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task; description of housekeeping measures to limit employee exposure to respirable crystalline silica; and, a description of the procedures used to restrict access to work areas to minimize the number of employees exposed.
- (7) Hygiene Facilities and Decontamination Procedures.
- (8) Health Monitoring.
- (9) Documentation.
- (10) SECP annual review.

The written exposure control plan must be available for examination and copying by each employee. Copies may be available electronically or physically, depending on location needs and requirements.

The written exposure control plan must be evaluated at least once per year and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents.

26.2.3 ECP Training

A training program shall be provided for all employees who are exposed to action level respirable crystalline silica. The training shall ensure that employees covered by the written exposure control plan can demonstrate knowledge and understanding of the health hazards associated with respirable crystalline silica, the specific tasks in the workplace that could result in exposure to respirable crystalline silica, the specific measures taken to protect employees from exposure to crystalline silica, the contents of the respirable crystalline silica rule, and the purpose of the medical surveillance program

26.2.4 Silica Exposure Controls

Following the hierarchy of controls Employers must first use engineering controls, then work practices as the primary way keep exposures at or below the PEL and use PPE / Respirators as the last line of defense..

(1) Engineering controls include:

- (i) wetting down work operations or
- (ii) using local exhaust ventilation (such as vacuums) to keep silica-containing dust out of the air and out of workers' lungs.
- (iii) enclosing an operation ("process isolation").

(2) Work practices to control silica exposures include:

- (i) wetting down dust before sweeping it up or
- (ii) using the water flow rate recommended by the manufacturer for a tool with water controls.

(3) Respirators are only allowed when engineering and work practice controls cannot maintain exposures at or below the PEL.

- (i) When required to maintain respirable Silica dust exposure levels at or below the PEL, respirators will be provided to those employees that are exposed to the respirable crystalline silica.

For construction Table 26-2 includes a list of common construction tasks along with exposure control methods and work practices that work well for those tasks and can be used to comply with the requirements of the standard.

26.2.5 Silica Dust Control Measures

Visible and Respirable Dust

Visible dust contains large particles that are easy to see. The tiny, respirable-sized particles (those that can get into the deep lung) containing silica pose the greatest hazard and are not visible. Most dust-generating construction activities produce a mixture of visible and respirable particles.

Do use visible dust as a general guide for improving dust suppression efforts. If you see visible dust being generated, emissions of respirable silica are probably too high. Measures that control tool-generated dust at the source usually reduce all types of particle emissions, including respirable particles.

Do not rely only on visible dust to assess the extent of the silica hazard. There may be airborne respirable dust present that is not visible to the naked eye.

Wet Cutting

Most stationary saws come equipped with a water basin that typically holds several gallons of water and a pump for recycling water for wet cutting. If a saw's water supply system is not currently operating, the manufacturer may be able to supply the necessary accessories to reactivate wet cutting capability. Most suppliers stock these accessories since water cooling prolongs the life of the saw blade and tool. Wet cutting is the most effective method for controlling silica dust generated during sawing because it controls the exposure at its source. Dust that is wet is less able to become or remain airborne.

Maintenance. To minimize dust emissions from saws equipped for wet cutting, keep pumps, hoses and nozzles in excellent operating condition. Regular saw maintenance reduces silica exposures and ensures optimal operation of the equipment. Saws and dust control devices should be on a routine maintenance schedule.

Electrical Safety. Use ground-fault circuit interrupters (GFCIs) and watertight, sealable electrical connectors for electric tools and equipment on construction sites

Vacuum Dust Collection Systems

When wet methods cannot be implemented, one alternative is the use of vacuum dust collection (VDC) systems. Stationary masonry saws with VDC systems are commercially available and have the ability to capture a substantial amount of dust. With these systems, a vacuum pulls dust from the cutting point through special fittings connected directly to the saw (fixed-blade saws) or, alternatively, through a dust collection device connected to the back of the saw (plunge-cut saws) (Croteau, 2000). A dust collector (exterior hood) mounted to the back of a saw requires a high exhaust airflow to ensure good dust capture between the saw blade and dust collector.

With any type of vacuum system, employee protection from respirable dust is only as good as the filter in the vacuum. The less efficient the filter, the more respirable dust will pass through with the vacuum exhaust air. Locating the vacuums far from employees as possible is one way to help limit exposure. For optimal dust collection, the following measures are recommended:

- (1) Keep the vacuum hose clear and free of debris, kinks and tight bends. Maintain the vacuum at peak performance to ensure adequate airflow through the dust collector and vacuum hoses.
- (2) On vacuums with manual back-pulse filter cleaning systems, activate the system frequently (several times per day). Empty collection bags and vacuums as frequently as necessary. Dispose of collected dust in a way that prevents it from becoming re-suspended in the air.
- (3) For best results, set up a regular schedule for filter cleaning and maintenance. For example, institute a rule to clean the filter or change the bag at each break. This will prevent pressure loss and ensure that exhaust airflow stays constant on the VDC system.
- (4) Remember, the absence of visible dust does not necessarily mean that employees are adequately protected from silica exposure.

Adjustments in work methods and equipment.

Adjustments in work methods and equipment, when possible, can lower exposure levels. For example, the use of jigs to increase the distance between the employee and the point of work can reduce exposure levels. Modifications in construction work methods for pouring, casting, finishing and installing concrete can reduce the amount of grinding required, which, in turn, can lower exposures.

Employee Positioning

Where possible, exposures can be reduced if employees work at a greater distance from the grinding point.

Grinding Wheel Size

Whenever possible, use a smaller rather than a larger wheel, and use the least aggressive tool that will do the job.

Construction Work Methods

Where practical, employers can reduce employees' silica exposures by utilizing construction methods and techniques that minimize the amount of grinding required. Examples include

- (1) taking steps to minimize pouring/casting flaws and defects by ensuring tighter fitting forms,
- (2) improved finishing, grinding on pre-cast panels outdoors before installation inside,
- (3) using factory installed chase and grooves on pre-cast structural concrete
- (4) grinding is done while the concrete is still "green"
- (5) use a hammer and chisel or power chipping equipment to remove most of the mass before using a grinder to smooth the surface.

The use of compressed air to clean surfaces or clothing is strongly discouraged. Using compressed air to clean work surfaces or clothing can significantly increase employee exposure, especially in enclosed and semi-enclosed spaces. Cleaning should be performed with a HEPA-filtered vacuum or by wet methods.

26.2.6 Construction – Specified Exposure Control Methods

Table 26-2 is a flexible compliance option that effectively protects workers from silica exposures. It identifies 18 common construction tasks that generate high exposures to respirable crystalline silica and for each task, specifies engineering controls, work practices, and respiratory protection that effectively protect workers. Employers who fully and properly implement the engineering controls, work practices, and respiratory protection specified for a task on Table 26-2 are not required to measure respirable crystalline silica exposures to verify that levels are at or below the PEL for workers engaged in the Table 26-2 task(s).

- (1) Table 26-2 in the construction standard matches 18 tasks with effective dust control methods and, in some cases, respirator requirements.
- (2) Employers that fully and properly implement controls on Table 26-2 do not have to:
 - (ii) Comply with the PEL
 - (iii) Conduct exposure assessments for employees engaged in those tasks

Table 26- 2 Exposure Control Tasks and Protection			
Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum APF	
		≤ 4 hour/shift	> 4 hour/shift
Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
		None	None

Table 26- 2 Exposure Control Tasks and Protection

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum APF	
		≤ 4 hour/shift	> 4 hour/shift
Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturers' instruction to minimize dust		
	• When used outdoors	None	APF 10
	• When used indoors or in an enclosed area	APF 10	APF 10
Handheld power saws for fiber cement board	For tasks performed outdoors only: • Use saw equipped with commercially available dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.		
	• When used outdoors	None	None
Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	• When used outdoors.	None	None
	• When used indoors or in an enclosed area.	APF 10	APF 10
Drivable saws	For tasks performed outdoors only: • Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
		None	None
Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
		None	None
Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowl with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.		
		None	None
	For tasks performed outdoors only:		

Table 26- 2 Exposure Control Tasks and Protection

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum APF	
		≤ 4 hour/shift	> 4 hour/shift
Dowel drilling rigs for concrete	- Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. - Use a HEPA-filtered vacuum when cleaning holes.		
		APF 10	APF 10
Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.		
		None	None
	Operate from within an enclosed cab and use water for dust suppression on drill bit.		
		None	None
Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.		
	When used outdoors.	None	None
	When used indoors or in an enclosed area	APF 10	APF 10
Jackhammers and handheld powered chipping tools	Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.		
	When used outdoors.	None	None
	When used indoors or in an enclosed area	APF 10	APF 10
Handheld grinders for mortar removal (i.e., tuck pointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.		
	When used	APF 10	APF 25
Handheld grinders for other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	When using water	None	None
	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		

Table 26- 2 Exposure Control Tasks and Protection

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum APF	
		≤ 4 hour/shift	> 4 hour/shift
	Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.		
	When used outdoors.	None	None
	When used indoors or in an enclosed area.	None	APF 10
Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	When using water	None	None
	Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.		
	When using vacuum	None	None
Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.		
		None	None
Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: - Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. - Operate and maintain machine to minimize dust emissions. - For cuts of four inches in depth or less on any substrate: - Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.		
		None	None
	Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.		
		None	None
Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers,	None	None

Table 26- 2 Exposure Control Tasks and Protection

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum APF	
		≤ 4 hour/shift	> 4 hour/shift
	conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.		
Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab.	None	None
	When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
	When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None	None
NOTE 1: When implementing the control measures specified in Table 1, each employer shall: (i) For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust; (ii) For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust; (iii) For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth: (A) Is maintained as free as practicable from settled dust; (B) Has door seals and closing mechanisms that work properly; (C) Has gaskets and seals that are in good condition and working properly; (D) Is under positive pressure maintained through continuous delivery of fresh air; (E) Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and (F) Has heating and cooling capabilities.			
NOTE 2: Where an employee performs more than one task on Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks			

Table 26- 2 Exposure Control Tasks and Protection

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum APF	
		≤ 4 hour/shift	> 4 hour/shift
on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.			

Fully and Properly Implementing Controls Specified on Table 26-2. The presence of controls is not sufficient.

- (1) Employers are required to ensure that:
 - (i) Controls are present and maintained
 - (ii) Employees understand the proper use of those controls and use them accordingly
- (2) Employees Engaged in Table 26-2 Tasks
 - (i) Employees are “engaged in the task” when operating the listed equipment, assisting with the task, or have some responsibility for the completion of the task
 - (ii) Employees are not “engaged in the task” if they are only in the vicinity of a task

Respiratory Protection Requirements on Table 26-2

- (1) Respirators required where exposures above the PEL are likely to persist despite full and proper implementation of the specified engineering and work practice controls
- (2) Where respirators required, they must be used by all employees engaged in the task for the entire duration of the task
- (3) Provisions specify how to determine when respirators are required for an employee engaged in more than one task

Alternative Exposure Control Methods – Methods of Compliance - (Hierarchy of Controls)

Alternative exposure control methods. For tasks not listed in Table 1, or where the employer does not fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 26-2:

- (1) Permissible exposure limit (PEL). The employer shall ensure that no employee is exposed to an airborne concentration of respirable crystalline silica in excess of 50 µg/m³, calculated as an 8-hour TWA.
- (2) Exposure assessment—
 - (i) General. The employer shall assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level in accordance with either the performance option in paragraph (d)(2)(ii) or the scheduled monitoring option in paragraph (d)(2)(iii) below of this section.
 - (ii) Performance option. The employer shall assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to respirable crystalline silica.
 - (iii) Scheduled monitoring option. (A) The employer shall perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, in each work area. Where several employees perform the same tasks on the same shift and in the same work area, the employer may sample a representative fraction of these employees in order to meet this requirement. In representative sampling, the employer shall sample the employee(s) who are expected to have the highest exposure to respirable crystalline silica.

- a. If initial monitoring indicates that employee exposures are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.
 - b. Where the most recent exposure monitoring indicates that employee exposures are at or above the action level but at or below the PEL, the employer shall repeat such monitoring within six months of the most recent monitoring.
 - c. Where the most recent exposure monitoring indicates that employee exposures are above the PEL, the employer shall repeat such monitoring within three months of the most recent monitoring.
 - d. Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the action level, the employer shall repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken seven or more days apart, are below the action level, at which time the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring, except as otherwise provided in paragraph (d)(2)(iv) of this section.
- (3) Reassessment of exposures.
- (i) The employer shall reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level, or when the employer has any reason to believe that new or additional exposures at or above the action level have occurred.

Abrasive Blasting

Adequate ventilation shall be provided

Medical Surveillance

For general industry, a medical surveillance program must be established for employees who are exposed to the action level of 8-hour TWA of 25µg/m³ of respirable crystalline silica.

A baseline medical assessment must be available to exposed employees within 30 days of initial assignment unless they have previously received a suitable medical examination in the past three years.

For construction, a medical surveillance program must be established for employees who would be required to wear a respirator more than 30 days per year due to the silica standard. A suitable prescreen that meets the same requirements is also acceptable.

Recordkeeping

Accurate records of all air monitoring data, objective data, and medical surveillance shall be maintained as required by the regulation.

Respiratory Protection

Refer to Chapter 9

27 Appendix A – Safety Forms

Link	Form No.	Form Name
 Standard Subcontract Safety	n/a	Standard Subcontract =Safety
 B-01 Violation_Notice.doc	B-01	Violation Notice
 B 2 Daily Field Safety Health Report.doc	B-02	Daily Field Safety & Health Report
 B 3 Subcontractor Verification.doc	B-03	Subcontractor Verification Form
 B 7 Classification of Injury.docx	B-07	Classification of Injury
 C 2 Incident Investigation EO CWK	C-02	BMCD Incident Investigation for Burns & McDonnell Employees
 C 2 Near Miss Report Only Form.doc	C-02	Near Miss / Report Only Form
 C 2 Incident Investigation Subs For	C-02S	Subcontractor Incident Investigation
 C 3 Subcontractor Work Hour and Incide	C-03	Weekly and Monthly Workhour Report
 C 4 Regulatory Contact.doc	C-04	Regulatory Contact Report
 C 6 Confined Space Entry Request.doc	C-06	Confined Space Entry Request Form
 C 6A Confined Space Host – Contractor Inf	C-06A	Confined Space Host – Contractor Information Transfer
 C 6B Confined Space Hazard Assessment.d	C-06B	Confined Space Hazard Assessment

Link	Form No.	Form Name
 C 7 Work Permit.docx	C-07	Safe Work Permit
 C 8 Orientation.docx	C-08	Project Orientation Training Record
 C-09 Certification_of_Trainir	C-09	Certification of Training
 C10 PreTask Analysis (PTA).doc	C-10	Pre-Task Hazard Analysis
 C10 AE PTA.docx	C-10A&E	Pre-Task Hazard Analysis for Architects & Engineers
 C10 ESP PTA Final.docx	C-10 ESP	Pre-Task Hazard Analysis for Environmental Studies and Permitting - GP
 C10 OPR PTA Final.docx	C-10 OPR	Pre-Task Hazard Analysis for Operations - GP
 C10 Pnl PTA Final.docx	C-10 OGC	Pre-Task Hazard Analysis for Oil, Gas & Chemical - GP
 C10 TnD PTA Final.docx	C-10 T&D	Pre-Task Hazard Analysis for Transmission & Distribution - GP
 C10 TRN PTA Final.docx	C-10 TRN	Pre-Task Hazard Analysis for Transportation - GP
 C11 Weekly Work Area Assessment.doc	C-11	Weekly Work Area Assessment
 C11A1 Weekly Work Area Action Items.doc	C-11A	Weekly Work Area Assessment Action Items Report
 C12 Activity Hazard Analysis.docx	C-12	Activity Hazard Analysis
 C13 Weekly Toolbox Safety Training.doc	C-13	Weekly Toolbox Safety Talk

Link	Form No.	Form Name
 C14 Amendment Form.doc	C-14	Safety Plan Amendment Form
 C-15 S_H_Violation_Log.xls	C-15	Safety & Health Violation Log
 C16 Visitor Sign-in Sheet Updated.doc	C-16	Visitor Sign In Sheet
 C17 Competent Person Designation R	C-17	Competent Person Designation
 C18 Site Access Drug Screening Screen.docx	C-18	Site Access Drug Screening
 C19 Substance Abuse Reasonable Cause.do	C-19	Substance Abuse Reasonable Cause
 C20 Safety Submittals.docx	C-20	Safety Form Submittal Requirements List
 C21 OSHA Required Training.doc	C-21	OSHA Required Training
 C24 Corrective Action Completion Log.docx	C-24	Corrective Action Completion Log
 C25 Work Related Injury and Illness Case	C-25	Work Related Injury and Illness Case Management Plan
 C-26 Confined Space Hazard Assessment.d	C-26	Confined Space Hazard Assessment
 C-27 Confined Space Log.xlsx	C-27	Confined Space Log
 D 1 Floor Grating and Guardrail Removal	D-01	Floor Grating and Guardrail Removal Permit

Link	Form No.	Form Name
 D-02 Perimeter_Guardrail_Ir	D-02 / D-03	Perimeter Guardrail Inspection & Turnover
 D 4 Ladder Inspection.doc	D-04	Ladder Inspection Form
 D 5 JobMade Ladders CheckList.doc	D-05	Job Made Ladder Checklist
 D-06 Hole Cover Safety Label.doc	D-06	Hole Cover Safety Label
 E-01 Emergency_Action_and	E-01	Emergency Action Plan
 F 1 Aerial Platform Inspection.doc	F-01	Aerial Lift Equipment Inspection Checklist
 G 1 Lockout Tagout Procedure.doc	G-01	Lockout Tagout Procedure
 G 2 LOTO Periodic Inspection Checklist.doc	G-02	Lockout Tagout Periodic Inspections
 G 3 Lockout Lock Removal Authorization	G-03	Lockout Tagout Lockout Lock Removal
 G 4 Lockout Tagout Procedures Submittal	G-04	Lockout Tagout Procedure Submittal
 G 5 Lockout Tagout Training Record Form	G-05	Lockout Tagout Training Record
 G-06 Confined Space Flow Chart.docx	G-06	Confined Space Decision Flowchart
 G-08 Portable_Gas_Monitor	G-08	Portable Gas Monitor Bump Test Log
 G-09 Portable_Gas_Monitor	G-09	Portable Gas Monitor Calibration Test Log

Link	Form No.	Form Name
 G-10 LOTO Log.doc	G-10	Lockout Log
 G-11 Tagging_Authority_Lis	G-11	Tagging Authority List
 G-12 LOTO_Permit_to_Work	G-12	LOTO permit to Work
 G-13 Isolation_Record.doc	G-13	LOTO Isolation Record
 G-14 Do_Not_Operate_Tag.	G-14	Do Not Operate Tag
 G-15 Caution_System_Unde	G-15	Caution System Under Test Tag
 G-16 Caution_System_Unde	G-16	Caution System Under Operation Tag
 G-17 SystemTurnoverAccep	G-17	System Turnover Acceptance Certificate
 G-27 PID or Single-Gas Monitor C.	G-27	PID or Single-Gas Monitor Calibration Log
 I-01 Respirator_Training_R	I-01	Respirator Training Report Form
 I-02 Respirator_Monthly_Ir	I-02	Respirator Monthly Inspection Record
 I 3 SCBA Monthly Inspection Log.doc	I-03	SCBA Monthly Inspection Record
 I-05 Respirator_Not_Requi	I-05	Respirator Not Required Waiver Release Form
 J-01 Site_Specific_Excavatic	J-01	Site Specific Excavation Plan
 J-02 Excavation_Inspection	J-02	Daily Excavation Inspection Form
 J 3 Soil Classification.doc	J-03	Soil Classification Decision Form

Link	Form No.	Form Name
 J 4 Intrusive Activities Checklist.doc	J-04	Intrusive Activities Checklist
 J 5 Protective System Decision Flowchart.do	J-05	Excavation Protective System Decision Flowchart
 J 6 Confined Space Permit Flow Chart.doc	J-06	Confined Space Permit Decision Flowchart
 K-01 Incident_Accident_Injuri	K-01	Injury/Illness Incident/Accident Log
 K 2 Weekly First Aid Kit Inspection.doc	K-02	Weekly First Aid Kit Inspection
 L-01 Fire_Extinguisher_Insp	L-01	Portable Fire Extinguisher Monthly Inspection Report
 L-02 Above_Ground_Tank_I	L-02	Initial Installation Checklist for Aboveground Flammable and Combustible Liquid Tanks
 L-03 Above_Ground_Storaç	L-03	Aboveground Storage And Dispensing Tanks Monthly Inspection Checklist
 N 1A Daily Rubber Tire and Hydraulic Tru	N-01A	Daily RT and Hydraulic Truck Crane Inspection Checklist
 N-1B Daily_Crawler_Crane_C	N-01B	Daily Crawler Crane Inspection Checklist
 N 1C Daily Crane Inspection.docx	N-01C	Daily Crane Inspection
 N 1W Wire Rope Inspection.docx	N-01W	Wire Rope Inspection
 N-02 Critical_Lift.doc	N-02	Crane Critical Lift Plan
 N-03 Suspended_Personnel	N-03	Suspended Personnel Basket/Platform Checklist

Link	Form No.	Form Name
 N 4 Crane Signals.doc	N-04	Crane Hand Signals
 N-05 Daily_Forklift_PreInspe	N-05	Daily Forklift Pre-Use Inspection
 N 6 Rigging Inspection Record.doc	N-06	Rigging Inspection Report
 N-07 Helicopter_Critical_Lift	N-07	Helicopter Critical Lift Plan
 N-08 Daily_construction_vef	N-08	Daily Construction Vehicle Pre-Use Inspection Checklist
 O-01 Vehicle Inspection Checklist.doc	O-01	Motor Vehicle Inspection Checklist
 O-03 Motor_Vehicle_Accident_Report.doc	O-03	Motor Vehicle Accident Report Form
 P 1 Hand and Power Tools Inspection Chec	P-01	Power and Hand Tool Inspection
 Q 1 Welding Machine Inspection.docx	Q-01	Welding Machine Inspection
 R 1 Daily Job Briefing Form.doc	R-01	Daily Job Briefing
 R2 Pole And Bucket Skill Proficiency Rating	R-02	Pole and Bucket Skill Proficiency Rating Sheet
 R-03 Boom_Truck_Inspectio	R-03	Safety Inspection - Hydraulic Boom Trucks/Cranes
 R-04 Prelift_Crane_Permit.d	R-04	Pre-Lift Crane Permit
 R-05 PreLift_Safety_Checklis	R-05	Pre-Lift Inspection Checklist
 R-10 Host – Contractor Informatio	R-10	Host – Contractor Information Transfer

Link	Form No.	Form Name
 S-01 GFCI_Testing_Log.doc	S-01	GFCI Testing Log
 T-01 Demolition_Preparato	T-01	Demolition Preparatory Checklist
 U-01 Concrete_and_Anchor	U-01	Concrete and Anchor Bolt Release
 U-02 Site_Specific_Steel_Ere	U-02	Site Specific Steel Erection Plan
 U-3 Approval_to_Begin_Stt	U-03	Approval to begin Steel Erection
 V-01 Competent_Climber.d	V-01	Competent Climber
 V-02 Fall_Protection_Equipr	V-02	Fall Protection Equipment Inspection
 V-03 Fall_Protection_Harr	V-03	Fall Protection Harness Agreement
 Z1 Chemical Inventory List.docx	Z-1	Chemical Inventory List
 Z-01 Chemical_Inventory_Li	Z-01	Chemical Inventory List
 Z-02 BMCD_ Exposure_Control_Plai	Z-02	BBP Exposure Control Plan
 Silica Dust Exposure Assessment Form.doc	Z-03	Silica Dust Exposure Assessment
 Silica Dust Exposure Control Plan.docx	Z-04	Silica Dust Exposure Control Plan



APPENDIX D

SUBCONTRACTOR INFORMATION

C AND C POWER LINE, INC.

12035 PALM LAKE DRIVE
 JACKSONVILLE, FL 32218
 Office No: 904-751-6020
 Fax No: 904-757-0964

CONSTRUCTION PROJECTS
 OVERHEAD TRANSMISSION LINE & DISTRIBUTION LINE

TYPICAL CONTRACTS - Overhead Transmission/Distribution

Project Title	Contract No	Customer Name	Contact Name	Contact Phone No	Contact Email	Start Date	Completion Date
Duke Morgan Road Transmission Line / Substation Construction	FL2876-T-CON-001	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	12/16/19	Current
Duke Hancock-Montverde / Montverde-Winter Garden Transmission Line	400767.73.0602.1	Overland Contracting (BV)	Luis Cabreriza	407-419-3500	CabrerizaLA@bv.com	10/21/19	Current
BES Kings Road Transmission Relocation, Bid No 1617-16	037629	Beaches Energy, Jacksonville Beach	Matt Campbell	904-233-9253	Mcampbell@beachesenergy.com	06/04/18	Open
BES Ft Diego Bypass Switch / Structure 804-1 Replacement (1617-12)	037520	Beaches Energy, Jacksonville Beach	Matt Campbell	904-233-9253	Mcampbell@beachesenergy.com	06/18/18	Open
Circuit 909, Phase 2, Transmission Line w/Distribution Underbuilt (IFB: 027-20)	177765	JEA	Sebastian Chmist	904-665-7016	chmism@jea.com	06/22/20	05/25/21
Circuit 909, Phase 1, Transmission Line w/Distribution Underbuilt (IFB: 122-18)	189789	JEA	Sebastian Chmist	904-665-7016	chmism@jea.com	05/21/19	05/27/21
Duke Energy Transmission Construction, Tier II MSA Unit Based Contract (6yrs)	22140,23838, 24184	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	07/06/14	05/31/20
Duke Columbia Solar Switching Station 69kV T-Line Box/Reconfig	401722.73.0602.1 (Rev 3)	Overland Contracting (BV)	Luis Cabreriza	407-419-3500	CabrerizaLA@bv.com	12/16/19	03/31/20
Duke Lake Placid North Solar 69kV Transmission Line Construction	401541.73.0602.1	Overland Contracting (BV)	Luis Cabreriza	407-419-3500	CabrerizaLA@bv.com	09/16/19	10/15/19
Duke Trenton Temp Box Connections (Wilcox-Ginnie & Trenton CFEC-Newberry)	400970.73.0602.1	Overland Contracting (BV)	Luis Cabreriza	407-419-3500	CabrerizaLA@bv.com	07/29/19	12/31/19
Duke Debary 115kV Box & Terminal Reconfiguration	401722.73.0602.1	Overland Contracting (BV)	Luis Cabreriza	407-419-3500	CabrerizaLA@bv.com	05/13/19	12/31/19
Duke Hamilton Solar SW 115kV Transmission Line Cut-In (Design/Build)	199137.73.0602	Overland Contracting (BV)	Luis Cabreriza	407-419-3500	CabrerizaLA@bv.com	11/12/18	12/14/18
Westlake 230kV Transmission Line (T14420 / T16191)	2000277613 / 2000277614	Florida Power & Light	Jim Coughlin	772-595-1222	Jim.P.Coughlin@fpl.com	08/20/18	05/31/19
Rice-Roberts 500kV Insulator Replacements (T18566)	2000276850	Florida Power & Light	John Kopplin	561-904-3548	john.kopplin@fpl.com	11/01/18	04/30/19
Martin-Poinsett 500kV Insulator Replacements (T18564)	2000276849	Florida Power & Light	John Kopplin	561-904-3548	john.kopplin@fpl.com	10/22/18	04/30/19
Andytown-Martin 500kV Insulator Replacements (T18563)	2000276848	Florida Power & Light	John Kopplin	561-904-3548	john.kopplin@fpl.com	12/01/19	12/20/19
Bennett Shores Phase 2, Distribution Line 4kV to 26kV Conversion	N69450-17-C-7222	S&W Sales & Service	Drew Rogers	478-225-9048	drew@sandwsales.com	10/01/17	06/30/18
Bennett Shores Phase 1, Distribution Line 4kV to 26kV Conversion	N69450-16-D-5628-0001	S&W Sales & Service	Drew Rogers	478-225-9048	drew@sandwsales.com	03/06/17	09/25/17
Hollywood-Port Everglades 138kV Pole Changeout IO T8181 / T9623	2000171993	Florida Power & Light	Jim Coughlin	772-595-1222	Jim.P.Coughlin@fpl.com	06/01/15	03/31/16
Proctor Tap to Cara Tap 69kV Line Rebuild	742267, 1789T4-3000009	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	09/21/15	01/04/16
Emerson-Fellsmere 230kV Pole Replacements	2000157880, T10031	Florida Power & Light	Jim Coughlin	772-595-1222	Jim.P.Coughlin@fpl.com	12/08/14	12/23/15
LMP 69kV Pole Replacements (46)	742267, 0316T1-30000206	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	10/12/15	12/18/15
SYS-IO4 to IO340 Fiber (OPGW) 69kV Dunnellon Town-Adams Tap	742267, 2694T1-30000395	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	09/18/15	12/18/15
FL Turnpike - Sunrise Blvd Relocation 138kV/230kV	2000179343, T9898	Florida Power & Light	Jim Coughlin	772-595-1222	Jim.P.Coughlin@fpl.com	07/23/15	09/15/15
Rio Pinar to Narcoossee 69kV Line Rebuild	742267,1991T1,20093911	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	01/19/15	05/08/15
SSC LiDAR 115kV (Suwannee Swift Creek) w/Dist Underbuilt	2446T9-20104498	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	04/28/14	11/21/14
Shield Wire Replacement 822/854, 853, 663, 673 IFB No: 069-14	137317 / 139155	JEA	Garry Moore	904-665-6131	Rineja@jea.com	09/29/14	10/30/14
JQ LiDAR Energized (Jasper to Quincy 115kV Transmission Line) - Energized	20098377, 2439T8	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	08/01/13	04/08/14
DWB/DWDS Deland West to DeLeon Springs 115kV Rebuild (energized)	20082642, 1016T4	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	04/04/13	09/30/13
Otter Creek to Cedar Key 69kV Pole Replacement (Energized) - SECI	195891-00038	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	05/15/13	09/30/13
Installation of Duval to Jax Heights 230kV Ckt 954 Addition (T&D)	119157	JEA	Jason Rinehart	904-665-7380	Rineja@jea.com	03/01/12	02/15/13
Frontenac to McDonnell Relocation 115kV (T&D)	2000055034 Trans 4600011955 Dist	Florida Power & Light	Larry Patterson Chip Fankhauser	561-662-1525	larry.patterson@fpl.com	07/27/12	10/01/12
Reddick to Proctor 69kV Rebuild, Distribution Under Built (T&D)	195891-00033	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	01/11/12	06/28/12
CF (Newberry to Ft White) 230kV Pole Replacement	195891-00034	Duke Energy Florida	Donna Harrington	407-942-9384	donna.harrington@duke-energy.com	03/28/12	06/08/12
Brevard-Cape Canaveral 230kV	2000055034	Florida Power & Light	Larry Patterson	561-662-1525	larry.patterson@fpl.com	11/07/11	01/26/12
JEA Installation of Transmission Ckt 841-829 to Starratt Substation	109198	JEA	Jason Rinehart	904-665-7380	Rineja@jea.com	12/29/10	10/31/11
Atlantic Bv Distribution OH (Mayport Rd to 3rd St)	999808	Beaches Energy	Robert Alip	904-247-6280	Ralip@beachesenergy.com	08/24/09	11/09/09
FPL Hobe-Sandpiper 138kV, Cove Road Relocation	4500528781	Florida Power & Light	Lawrence Howell	561-694-3454	larry.patterson@fpl.com	09/02/09	11/01/09
Installation of Circuit 856 Imeson to Ancheuser Busch, Distribution Under Built	94749	JEA	Jason Rinehart	904-665-7380	Rineja@jea.com	01/15/09	04/30/09
FPL Bunnell-Matanzas 115kV Loop to Pellicer Substation	4500466057	Florida Power & Light	Jim Coughlin	772-595-1222	Jim.P.Coughlin@fpl.com	12/15/08	02/25/09

Statement of Experience

1. C and C Power Line, Inc. has been engaged in the business under its present name for 30 years.
2. Experience in work of a nature similar in type and magnitude to that set forth in the Request for Proposal extends over a period of 30 years.
3. All awarded contracts have been satisfactorily completed.

Rick Sprenger

Vice President

Employment

C AND C POWER LINE, INC.

VICE-PRESIDENT, 1998 - PRESENT

Project Management of Overhead Transmission & Distribution, Underground Distribution Projects, Fiber-Optic and Telecommunication, including Cell Tower.

Olson Electric

PROJECT MANAGER, 1985 - 1998

Electrical Estimator/Project Manager, 1985 - 1998

Employment with Olson Electric involved Estimating & Management of Major Electrical Projects for Transmission, Distribution, Substation, Fiber-optic and Telecommunications.

EDUCATION:

NECA Estimating School - 1991

NCCER Safety Course

Crestcom Manager Training

Travis Colley, PMP®

tcolley@ccpowerline.com | (904) 524-0835

PROJECT EXPERIENCE/ACCOMPLISHMENTS:

❖ Columbia, Twin Rivers and Santa Fe Solar Field Transmission Line Tie in's February 2019 through March 2021

- o These projects were to tie the new solar fields at the various sites into the transmission grid. These projects were completed as part of the Duke Energy Major Projects Program.
- o These projects required extensive outage coordination, scheduling, and planning to complete within the extremely tight outage windows that were given to C and C.
- o Overall Contract Cost: \$5M

❖ Clermont East to Boggy Marsh 69kV Transmission Line (CEB 2 and CEB 3 Circuits) October 2019 through December 2019

- o (2) Segments of 69kV rebuild was a project to install transmission power line poles to replace the aging wood poles that were installed in the 60's. These poles would be susceptible to failure if a major wind/rain event were to occur causing power outages.
- o I prepared the estimate, managed the expenses, prepared the monthly billings, finalized the final billing, and prepared and sent in the final drawing documents as to complete the contract.
- o Overall Project Cost: \$1.4M

❖ Anclote Substation Sept 2016 through November 2018

- o This project was the rebuilding of an aging generation plant substation that was required for the increased ampacity that was needed for the population growth in the state of Florida.
- o I prepared the estimate, managed the expenses, prepared the monthly billings, finalized the final billing, and prepared and sent in the final drawing documents as to complete the contract.
- o Overall Project Cost: \$2.5M

❖ Duke Energy MSA contract for Unitized Work January 2014 through December 2019

- o Contract Duration: 5 years
- o This contract included Transmission, Distribution, Substation, and Telecommunication projects for Duke throughout the state of Florida. Over 100 various projects were completed during this contract. I prepared the estimates, managed the projects, prepared all billings, and completed all required documentation for all projects worked under the contract.
- o Overall Contract Cost: \$120M+

❖ Hurricane Restoration 2014 through 2018

- o As a result of the Hurricanes Irma, Michael, Mathew, and various other storms hitting the state of Florida from 2016 through 2018. I was involved with the planning, coordinating, scheduling of work, and project billing.

Travis Colley, PMP®

tcolley@ccpowerline.com | (904) 524-0835

WORK EXPERIENCE:

❖ C and C Power Line, Inc. – Jacksonville, FL

March 2014 - Present

Project Manager / Estimator

- o Interface with Senior and Executive Management, on major project reporting
- o Develop detailed project plans, including project schedules, cash flows, procurement strategies, and communications plans.
- o Monitor and track monthly/yearly cost projections for all projects and/or programs, for reporting purposes.
- o Primary point of contact with Utility customers, for work to be carried out on their system.
- o Coordinate resources to carry out scheduled project work.
- o Provide pricing estimates for projects in Transmission, Distribution, Telecommunications and Substation construction projects.

❖ Terracon Consultants Inc.– Winter Park, FL

March 2008 – March 2014

Assistant Lab Manager / Field Technician – Geotechnical Engineering and Testing FL

- o Lab testing for materials used in construction including but not limited to Asphalt, Concrete, and Soils for compaction, strength, and composition.
- o Assistant Manager of Corporate lab for entire state of Florida
- o Interface with Senior and Executive Management, on major project reporting
- o Coordinate with multiple groups (Work Management, Maintenance, Engineering, Asset Performance) to carry out desired work scope plans.
- o Primary point of contact with contract resources to carry out scheduled projectwork.

EDUCATION:

❖ Florida State University – Tallahassee, FL

- o Associate of Arts: ***June 2000***

PROFESSIONAL/SOFTWARE/SKILLS:

- ❖ ***Certifications:*** PMP® Certified as of April 2021
- ❖ ***Software:*** Microsoft Office

References: Available upon request

JUAN C. GUERRA

jguerra@ccpowerline.com | (904) 588-2712

PROJECT EXPERIENCE/ACCOMPLISHMENTS:

❖ Suwannee River 230/115kV & 115/13kV Substations

- New greenfield 230/115kV, and separate 115/13kV substations in Suwannee County, replacing (2) separate antiquated substations of same voltage
- Project Duration: Q4 2015 – Q3 2018 (exp.); 80% complete to date
- Overall Project Cost: \$104M

❖ Central Region 230kV Rebuild Portfolio (NLP & NLSX Circuits)

- (4) Segments of 230kV rebuilds in the Central Orlando area, consisting of 4 miles Double Circuit 230kV, and 10 miles of single circuit 230kV, in existing R/W. Rebuilds included upgrades to (4) area 230/69kV Substations to 3000A Capable Equipment
- Project Duration: Q4 2014 – Q2 2019 (exp.); 60% complete to date
- Overall Project Cost: \$64M

❖ Wood Pole Replacement Program

- Replacement of Deteriorated State 4 and 5 (most critical) Wood Poles System-wide in Florida, with new Light Duty Steel Poles; 1750 poles replaced in 2015
- Project Duration: 1 year (2015)
- Overall Project Cost: \$68M

❖ Ft. Lauderdale International Airport (FLL) Expansion

- Expansion of FLL required extensive relocation, rerouting, and refeed of FPL Distribution equipment. These included duct/manhole 13/23kV facilities, overhead 13/23kV pole lines, and new service feeds including switch cabinets, vaults, and padmounted transformers
- Project Involvement: Q1 2000 – Q1 2003 (ongoing beyond departure of group)
- Overall Project Cost: \$8-11M

❖ Hurricane Restoration 2004 & 2005

- As a result of 8 Hurricanes in 2004 and 2005, substantial field supervision was required with out of state contract resources. Led multiple teams of Distribution crews and Vegetation crews, along several different regions of Florida, dependent on storm and year
- Project involvement: 2004 & 2005

❖ Project Development Process

- As a result of an increase in funding and project workload in Florida, the need for a separate Project Development Team was identified. Helped create the Development (aka Initiation) process and led the team as its Project Manager. Served as the single point of contact for all new Transmission projects, for scoping, estimating, and Initiate Gate approvals
- Project Involvement: Q3 2008 – Q1 2012

WORK EXPERIENCE:

❖ C and C Power Line, Inc. – Jacksonville, FL

February 2018 - Present

Senior Project Manager

- Interface with Senior and Executive Management, on major project reporting
- Develop detailed project plans, including project schedules, cash flows, procurement strategies, and communications plans
- Monitor and track monthly/yearly cost projections for all projects and/or programs, for reporting purposes
- Primary point of contact with Utility customers, for work to be carried out on their system
- Coordinate resources to carry out scheduled project work

❖ Duke Energy – Lake Mary, FL

May 2016 – February 2018

Senior Project Manager - Transmission FL

- Project Management on Large-scale, high visibility and complexity projects
- Region lead over (8) Direct Report Project Managers and Site Construction Managers
- Interface with Senior and Executive Management, on major project reporting
- Cradle to grave responsibility for execution of Transmission projects, including engineering, construction, and closeout
- Develop detailed project plans, including project schedules, risk registers, cash flows, procurement strategies, and communications plans
- Monitor and track monthly/yearly cost projections for all assigned projects and/or programs, including variances for reporting purposes
- Coordinate with multiple groups (Work Management, Maintenance, Engineering, Asset Performance) to carry out desired sponsor schedules
- Primary point of contact with contract resources to carry out scheduled project work

❖ Duke Energy – Lake Mary, FL

July 2006 – May 2016

Project Manager II – Transmission FL

- Primarily in charge of Maintenance/Reliability Programs, along with mid-scale complex projects
- Similar project-related functions as most recent position, within mid-scale projects and programs
- Created Project Development process, and served as PM over that team; this involved creation of scoping documents, preliminary estimates and drawings, and initial approval on all Transmission projects (Planning and Maintenance)
- Formal mentorship over newer Project Managers, external job shadowing candidates, and College Interns

❖ **Florida Power & Light – Plantation, FL**

Jan 2003 – July 2006

Senior Project Manager – Distribution System Expansion

- Coordinate System Expansion projects from planning to construction stages, including design approval, project authorizations, and construction resource allocation; this included multiple regions in SE and SW Florida
- Perform design functions on projects in which design resources were not allocated or available
- Adhere to strict project-level, and department-level budgets
- Coordinate permitting and regulatory compliance with internal and external entities; these included several local and Federal jurisdictions (i.e. FDEP, FDOT, FAA, Port Authority, etc.)
- Develop and distribute Customer Outreach on all new projects, including but not limited to, mailings, phone contact, and on-site meetings with outside customers and entities
- Contract resource supervisor during 2004 and 2005 Hurricane seasons, overseeing out-of-state Line Construction and Tree Trimming crews; 8-9 major named storms/hurricanes

❖ **Florida Power & Light – Ft Lauderdale, FL**

July 1998 – Jan 2003

Customer Project Manager & Engineering Design- Distribution

- Project Manager for Distribution, geographically assigned to East Ft. Lauderdale, including Ft. Lauderdale/Hollywood International Airport & Port Everglades
- Plan and design of complex overhead and underground power distribution systems. Projects include commercial and residential customers, system maintenance, and road relocation projects
- Manage projects through completion including complete design, contract negotiations, cost estimates, permitting, design, easement securing, and construction scheduling
- Interact with all customers and parties involved in these projects

EDUCATION:

❖ **Florida International University – Miami, FL**

- Master of Business Administration: ***April 2003***
- Bachelor of Science – Industrial & Systems Engineering: ***April 1998***

PROFESSIONAL/SOFTWARE/SKILLS:

- ❖ ***Certifications:*** PMP ® Certified as of December 2010
- ❖ ***Languages:*** English and Spanish (fluent)
- ❖ ***Software:*** Microsoft Office, Primavera, Maximo, AutoCAD

References: Available upon request

David V. Ippolito

Employment:

C AND C POWER LINE, INC.

Foreman	Present – 1998
Journeyman Lineman	1998-1992
Overhead Distribution/Transmission	
Florida, Georgia, North Carolina, Louisiana, Texas	

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS

Journeyman Lineman	1998 - 1987
Overhead Distribution/Transmission	
Worked with various union power line contractors	
within I.B.E.W. jurisdiction	

SELCAT Apprentice Lineman

Completed SELCAT Apprenticeship School	1987 - 1984
while working with union power line contractors	

Instructor:

SELCAT Instructor

Instructor for Apprenticeship Training	2002 - 2004
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Continuing Education:

- Live Line Bare Hand Training
- OSHA Safety Class
- Lock Out / Tag Out Procedures
- Certified First Aid / CPR
- Blood Borne Pathogens Training
- DDC Professional Truck Driver
- 10hr Safety Orientation
- Leadership Training
- SELCAT Apprentice Instructor

Thomas E. Stratton

Employment:

C AND C POWER LINE, INC.

Foreman	Present – 2005
Journeyman Lineman	2003-2005
Apprentice Lineman	1999-2003
Overhead Distribution/Transmission	

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS

Journeyman Lineman / Foreman
Overhead Distribution/Transmission

SELCAT Apprentice Lineman

Completed SELCAT Apprenticeship School	1999 - 2003
--	-------------

Continuing Education:

Live Line Bare Hand
OSHA Safety Class
Lock Out / Tag Out Procedures
Certified First Aid / CPR
Blood Bourne Pathogens Training
DDC Professional Truck Driver
10hr Safety Orientation
Leadership Training
Hot Stick Training
Substation Safety Training
IBEW Code of Excellence
CSX On-Track Safety Training

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2020



U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
<u>0</u>	<u>10</u>
(K)	(L)

Injury and Illness Types

Total number of...			
(M)			
(1) Injury	<u>2</u>	(4) Poisoning	<u>0</u>
(2) Skin Disorder	<u>0</u>	(5) Hearing Loss	<u>0</u>
(3) Respiratory Condition	<u>0</u>	(6) All Other Illnesses	<u>0</u>

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name C and C Power Line, Inc.

Street 12035 Palm Lake Drive

City Jacksonville State Florida Zip 32218

Industry description (e.g., Manufacture of motor truck trailers)

Powerline Construction

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

OR North American Industrial Classification (NAICS), if known (e.g., 336212)

2 3 7 1 3 0

Employment information

Annual average number of employees 106

Total hours worked by all employees last year 274,903

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Jim B. Colley
Company executive

President
Title

386-333-6441

Phone

1-26-21
Date

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	0	0	1
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
0	0
(K)	(L)

Injury and Illness Types

Total number of...			
(M)			
(1) Injury	1	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N 3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Year 2019



U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-012

Establishment information

Your establishment name C and C Power Line, Inc.
Street 12035 Palm Lake Drive
City Jacksonville State FL Zip 32218
Industry description (e.g., Manufacture of motor truck trailers)
Powerline Construction
Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

OR North American Industrial Classification (NAICS), if known (e.g., 336212)

2 3 7 1 3 0

Employment information

Annual average number of employees 118
Total hours worked by all employees last year 289,292

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

[Signature]
Company executive
386-333-6441
Phone

President
Title
1/31/2020
Date

Summary of Work-Related Injuries and Illnesses

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	0	0	1
(G)	(H)	(I)	(J)

Total number of days away from work	Total number of days of job transfer or restriction
0 (K)	0 (L)

Total number of... (M)			
(1) Injury	<u>1</u>	(4) Poisoning	<u>0</u>
(2) Skin Disorder	<u>0</u>	(5) Hearing Loss	<u>0</u>
(3) Respiratory Condition	<u>0</u>	(6) All Other Illnesses	<u>0</u>

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspect of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave. NW, Washington, DC 20210. Do not send the completed forms to this office.



Form approved OMB no. 1218-0176

Your establishment name Cand C Power Line, Inc

Street 12035 Palm Lake Drive

City Jacksonville State Florida Zip 32218

Industry description (e.g., Manufacture of motor truck trailers)
Powerline Construction

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

R North American Industrial Classification (NAICS), if known (e.g., 336212)

2 3 7 1 3 0

Annual average number of employees	<u>102</u>
Total hours worked by all employees last year	<u>249,484</u>

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

<u>John J. Carney</u>	<u>President</u>
<u>Company executive</u>	<u>Title</u>
<u>386-333-6441</u>	<u>1/31/19</u>
<u>Phone</u>	<u>Date</u>



January 4, 2021

C and C Power Line, Inc.
12035 Palm Lake DR
Jacksonville, FL 32218

RE: Workers Compensation
Experience Modification Rate

To Whom It May Concern,

This letter will verify the workers compensation Experience Modification Rate for the past (4) years as follows:

Effective 1/1/2021 - .72
Effective 1/1/2020 - .94
Effective 1/1/2019 - .87
Effective 1/1/2018 - .85

Sincerely,

Johnson and Company

A handwritten signature in black ink, appearing to read "J.D. Johnson", written over the printed name and title.

Joseph D. Johnson
Authorized Representative



APPENDIX E

RELEVANT EXPERIENCE

SAMPSON SUBSTATION AUTOTRANSFORMER #2 REPLACEMENT EPC PROJECT

St. Johns, Florida



Sampson Substation is a 230/138kV substation located in St. Johns, Florida. Beaches Energy Services realized that their autotransformer #2 was having internal problems therefore decided to replace this transformer under an EPC format.

Burns & McDonnell was engaged to perform all design aspects of the transformer replacement, as well as five (5) disconnect switch replacements. The project team performed all civil, structural, electrical and protection and controls design.

Beaches Energy Services procured the new autotransformer and disconnect switches, while Burns & McDonnell procured the balance of materials. This included relay panel cutouts, SSVTs, steel structures, insulators, bus, cable and control cables.

Burns & McDonnell partnered with a local subcontractor to perform all construction activities including foundations, equipment installation, cable pulling and miscellaneous upgrades.

CLIENT

- ▶ Beaches Energy Services
- ▶ Mr. Allen Putnam, Director
1460 Shetter Ave.
Jacksonville Beach, FL 32250

KEY DATES

- ▶ Engineering: Spring 2020
- ▶ Construction: Summer-Fall 2020

PROJECT TEAM

- ▶ PM: Esteban Martinez, PE
- ▶ Civil Engineer: Todd Deason
- ▶ Substation Engineer: Ross Heffley

SERVICES

- ▶ Engineering, Procurement,
Construction



TERREBONNE TO BAYOU VISTA EPC PROJECT

Arkansas, Louisiana and Texas

The Terrebonne to Bayou Vista project is a unique collaborative effort between Entergy Louisiana and CLECO Power, LLC (formerly Central Louisiana Electric Company) to replace aging power infrastructure with all new facilities that are hardened to withstand extreme weather events such as hurricanes that occasionally hit the Gulf Coast region. The total project spanned 36 miles with the Entergy portion beginning at the preexisting Terrebonne substation at the eastern point. Entergy's portion runs 24 miles through the heart of Louisiana's bayou system to a point at Bayou Boeuf near Amelia, La., where it dead-ends at the CLECO utility structures. CLECO's portion of the project will include building the remaining 12 miles of new 230-kV transmission line, along with related interconnection work, eventually connecting at CLECO's Bayou Vista substation.

When Entergy awarded the project to Burns & McDonnell as part of a comprehensive system-wide capital program to improve reliability throughout southeast Louisiana, the project team knew immediately they would face challenges unlike any they had ever encountered. The project ran through the heart of the bayous of Southern Louisiana, which are among the most ecologically diverse and fragile ecosystems in North America. Home to a broad and unique array of wildlife, pristine wetlands, cypress forests and fantastic array of plant species, the transmission construction project required planning and management with the utmost care and sensitivity.

As program manager and EPC contractor for the project, the first item for Burns & McDonnell was a detailed environmental assessment. This formed the foundation of a plan to minimize disturbance of the tightly interwoven ecosystems in Louisiana's bayou country.



CLIENT

- ▶ Entergy Services
- ▶ Mr. Mario Ceravolo, Manager
639 Loyola Avenue
New Orleans, LA 70113
504.576.5081 | mceravo@entergy.com

KEY DATES

- ▶ Start: Summer 2016
- ▶ End: Summer 2022

PROJECT TEAM

- ▶ PM: Stacy Price, PE

SERVICES

- ▶ Engineering, Procurement, Construction



CHINA TO AMELIA NEW 230KV EPC PROJECT

China, Texas

We provided engineering, procurement, and construction services for this project. There are four transmission scopes, which consist of a new one-mile 230kV transmission line from China to Amelia North, a 230kV tie line from Amelia to Amelia North, 230kV cut into Amelia North from the existing Amelia to Cypress transmission line and raising the China to Jacinto-Batistie transmission line just outside of the China substation. The construction execution method requires engineering in phases to match the construction work schedule of each scope.



CLIENT

- ▶ Entergy Services
- ▶ Mr. Mario Ceravolo, Manager
639 Loyola Avenue
New Orleans, LA 70113
504.576.5081 | mceravo@entergy.com

KEY DATES

- ▶ Start: Summer 2016
- ▶ End: Spring 2017

PROJECT TEAM

- ▶ PM: Stacy Price, PE

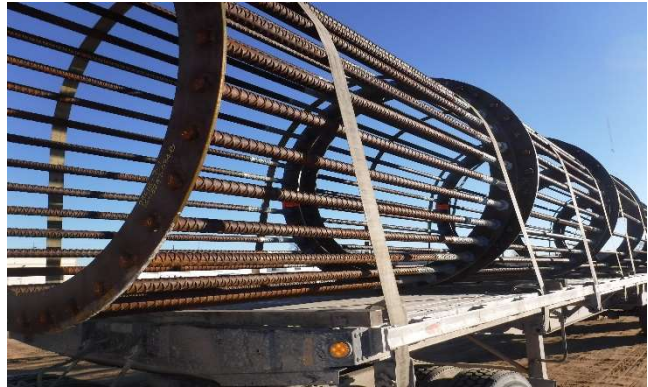
SERVICES

- ▶ Engineering, Procurement, Construction



GRAY TO ALLEN CREEK TRANSMISSION PROJECT

Lefors, Texas



Our team was selected to provide engineering, procurement and construction services for the Gray to Allen Creek transmission line project. The project consisted of approximately 24-miles of single circuit 345kV transmission line running from the existing Gray substation to the new Allen Creek substation located southwest of Lefors, Texas. Due to the amount pipelines in the area, our team coordinated with multiple pipeline owners and companies in the planning of the haul roads. Adjacent to the construction site, our team coordinated with wind farms that share the same haul roads.

We performed in-shop supplier quality source inspection on the structures as well as confirmed the quality of fabrication, adherence to the design, engineering specifications and mitigated potential field rework that would have caused major project delays.

The project location was in an extremely windy area (averages above 13 mph wind and gusts up to 60 mph). Lifts were scheduled for calmer times of the day and were adjusted based on the weather to minimize safety/constructability issues.

Our procurement team was able to manage the supplier quality and expediting of material delivery well in advance of the construction schedule. The project was completed on-time in August 2016.

CLIENT

- ▶ Cross Texas Transmission
- ▶ Contact: Cameron Fredkin
400 Chesterfield Center
Suite 105
St. Louis, MO 63017
(636) 534-3310

KEY DATES

- ▶ Complete: August 2016

PROJECT TEAM

- ▶ PM: Dustin Giles

SERVICES

- ▶ Engineering
- ▶ Procurement
- ▶ Construction



RAILHEAD SUBSTATION

White Deer, Texas



Burns & McDonnell provided engineering, procurement and construction services for the initial Railhead substation and the transmission line to interconnect the existing Gray to Alibates transmission line with the new Railhead substation located in White Deer, Texas.

The Railhead substation was a greenfield substation required to connect Pattern Entergy's Panhandle 1 and Panhandle 2 Wind Farms to the 345kV system. The initial design of the substation consisted of three 345kV breakers in a ring configuration to accommodate two 345kV transmission lines and a 345kV tie to the Pattern Energy Collector Substation. The ultimate substation design was four rungs of breaker-and-a-half configuration. A control building was designed for the ultimate substation layout. The substation design included connection to CTT's OC-48 Sonet Ring. The primary AC station power was sourced from power voltage transformers from a 345kV bus with an emergency backup from the local utility via a step-down transformer. The ultimate substation site and access road were developed during the initial phase.

The final transmission line design consisted of two single circuit monopole lines bringing two circuits from the existing double circuit transmission line into the north side of the substation and back out of the south side of the substation. The transmission line design used the same conductor, hardware and generic structure designs developed for the existing Gray to Alibates transmission line.

Burns & McDonnell prepared the site grading plan and detailed drawings with the supporting calculations. The original and final contours of the access road and site, drainage facilities, oil containment and surfacing requirements were completed by Burns & McDonnell. There are two 20-foot gated entries to the substation. Additionally, the foundation plan, foundation detailed drawings, and supporting calculations were prepared by Burns & McDonnell. The foundations were designed to support the substation structures, all equipment and the control building. Burns & McDonnell prepared the structure geometry and loading drawings for steel design. Detailed design and fabrication were based on the design criteria and the plan and section drawings. All applicable loads, mounting holes, material and finished requirements and dimensions were shown.

The SWPPP documents for permitting were prepared by Burns & McDonnell, in addition to a spill prevention and counter measure plan. The Railhead substation and Gray to Alibates transmission line projects were completed on time, and within budget, with no recordable incidents. The project consisted of six planned clearances, all of which were met.

CLIENT

- ▶ Cross Texas Transmission (CTT)
- ▶ Mr. Brad C. Fredkin, Sr. VP
LS Power Development (Parent Co.)
16150 Main Circle Drive, Suite 310
Chesterfield, MO 63017
- ▶ 636.532.2200
- ▶ cfredkin@lspower.com

KEY DATES

- ▶ Complete: 2014

COST

- ▶ Cost: \$21 Million

SERVICES

- ▶ Engineering, Procurement & Construction
- ▶ Foundation Design
- ▶ SWPPP
- ▶ Site Grading
- ▶ Steel Structure Design

FORT HOOD EAST SUBSTATION EPC PROJECT

Fort Hood Military Base, Texas



Burns & McDonnell executed the engineering, procurement, construction and permitting for Dominion's Fort Hood East Substation EPC Project.

The Fort Hood East Substation EPC Project increases reliability and capacity to the Fort Hood, Texas area by installing a new 138/12-kV substation to be built in the clear. The substation consists of two 25 MVA transformer banks and eight 12-kV feeder breakers in a main and transfer operating configuration.

The project was a challenging one from many perspectives. This project represents the first construction project for the newly formed Dominion Privatization Texas entity inside of the ERCOT Independent System Operator. Burns & McDonnell was chosen to execute this project due to our familiarity with both ERCOT and Dominion.

In order to meet the financial drivers set by DPT, Burns & McDonnell was required to develop a First-of-a-Kind engineering arrangement for the substation. This arrangement utilized a cantilevered distribution bus arrangement in order to gain significant cost efficiencies, but the design maintained enough of Dominion's standard designs as to not increase the complexity of their maintenance or operation by Dominion's local personnel.

CLIENT

- ▶ Dominion Privatization Texas (DPT)
- ▶ Contact: Kevin Mann, Base Privatization Manager
kevin.m.mann@dominionenergy.com
254.226.9912

KEY DATES

- ▶ Design Start: March 2018
- ▶ Design Complete: October 2018
- ▶ Construction Start: October 2018
- ▶ Construction Complete: May 2019

COST

- ▶ Cost: \$7.9 Million

PROJECT TEAM

- ▶ PM: Brandon Graves, PE
- ▶ CM: Chase Herrmann
- ▶ Engineering Manager: Nikesh Regmi, PE

SERVICES

- ▶ Permitting
- ▶ Engineering, Procurement & Construction
- ▶ Construction Management



SHARYLAND UTILITIES EPC PROJECTS

Midland, Texas



Relationship Overview

Since 2012, Sharyland Utilities, L.P. (SU) has relied on Burns & McDonnell to provide engineering, procurement, construction, and testing and commissioning services for 40+ substation and transmission projects in the Midland, Texas area. These projects include upgrades to existing 138/25-kV substations; development of greenfield 138-kV and 345-kV substations and switchyards; the rebuild of existing 138-kV transmission lines; the addition of OPGW to existing 138-kV lines; and building new 138-kV and 345-kV transmission lines.

SU trusts Burns & McDonnell to provide effective project management – resulting in safe, high-quality project delivery; optimized project cost; and mitigation of schedule risks.

Notable Projects

Driver Substation Project

The first project Burns & McDonnell executed for SU included a 138-kV six breaker ring bus substation with two distribution power transformer bays. From engineering to energization, this lump sum project was completed in seven months. **By optimizing the substation layout, Burns & McDonnell provided SU with cost savings – crediting approximately 5% of the awarded project cost.**

SPP - ERCOT Migration

In early 2013, SU engaged Burns & McDonnell to assist in the construction of facilities needed to develop interconnections to the ERCOT electric grid in preparation for migrating system load from the Southwest Power Pool (SPP) to ERCOT. The project timeline

CLIENT

- ▶ Sharyland Utilities, L.P.
- ▶ Contact: Mark Meyer, Vice President
1807 Ross Avenue, Suite 460
Dallas, Texas 75201
(956) 279-6902

KEY DATES

- ▶ 2012 - Present

COST

- ▶ \$250+ Million

PROJECT TEAM

- ▶ Account Manager/EPC Program Manager: Mahmoud Khalifa
- ▶ Assistant Program Manager: Adam Matthiesen, PE
- ▶ Construction PM: Ben Greek, PE
- ▶ Transmission PM: Chris Catania, PE
- ▶ Substation PM: Brett Jernigan, PE

SERVICES

- ▶ Substation engineering
- ▶ Transmission engineering
- ▶ Communication/SCADA
- ▶ System planning
- ▶ Environmental studies
- ▶ Relay settings
- ▶ Procurement management
- ▶ Construction management

was very aggressive, as separation from the SPP was to be completed by 12/31/2013. The project included the construction of three points of interconnection into the ERCOT grid; five new substations; three transmission capacitor bank projects (at 138-kV voltage); and the upgrading of two other substations. Since migrating load into the ERCOT grid, line outages had to be scheduled through ERCOT. This not only required schedule flexibility, but also high levels of project management. *By using a flexible approach that accommodated the schedule shifts required to accelerate construction activities to hit the construction window specified by ERCOT, Burns & McDonnell met SU's cost and schedule needs – achieving project delivery on-time and under-budget.*



“Sharyland has engaged with Burns & McDonnell via EPC contracts. This has worked out very well. One of the greatest strengths demonstrated has been project management. Regularly, we have been alerted to actions needed on our part to ensure that the project stays on schedule.”

John Holmes
Sharyland Utilities

Telephone Road 345/138-kV Switchyard

In 2015, Burns & McDonnell executed a major project for SU – serving as the EPC contractor for a 345/138-kV switchyard. The project provided an additional tie between Sharyland and the ERCOT grid, and established another tie between Oncor's electric grid in Midland, Texas and their grid in Andrews, Texas. The new switchyard was installed in place of an old 230-kV switchyard. The scope included the installation of six breaker 345-kV ring bus switchyard with one 708-MVA 345/138-kV auto-transformer; the installation of two 345-kV tie-in lines to Oncor 345-kV switchyard; and the installation of OPGW on an existing 33-mile of 345-kV transmission line. SU's schedule required that the project be completed before the summer peak of 2015 – requiring detailed and efficient coordination and communication between the two utilities and different agencies. *Through effective project management and an optimized layout of the new switchyard and transmission lines, Burns & McDonnell delivered this project on-time (energized in June 2015) and 15% under-budget.*

Sale – Glass 138-kV Transmission Line

In the third quarter of 2014, SU engaged Burns & McDonnell to assist in the construction of a 7-mile transmission line needed to provide power to a new substation. SU required the new substation in order to meet the load demand of a new process plant being built nearby. The process plant had an aggressive schedule and was set to come online by July 2015. Efficient project management, coordination, and execution were crucial to achieving success – as delays in completing this project would be costly to both parties.

Burns & McDonnell assisted SU in routing the line that would be the most cost-effective and quickest to construct, while also taking into account potential landowner concerns that could possibly delay the entire project during the CCN application. Through coordination with SU's real estate group and legal group during the application process, Burns & McDonnell met all crucial deadlines and the CCN was filed on-time.

Due to the speed of the project, design was not able to wait for the route to be approved and Burns & McDonnell was required to start working on the design before the final route was filed with the CCN. This was accomplished by designing flexibility into the structures in order to account for possible route shifts. This flexible approach was paramount in the project success, as shifts in the alignment were encountered and effectively accommodated by the project team.

Burns & McDonnell was also able to leverage strong relationships with large vendors to support the project schedule and expedite the majority of the material needed. This provided a couple weeks of float for construction, which ultimately proved beneficial as the drilling process was slowed due to unexpected rock. The team also worked diligently through the bid process to secure a qualified subcontractor for this job. The subcontractor was selected based on safety record, previous

experience, proposed schedule, and cost. Once the subcontractor was selected, Burns & McDonnell maintained oversight of all aspects of construction, via the on-site safety manager and site superintendent.

Through effective and flexible project management, execution, and coordination, Burns & McDonnell met SU's project needs and delivered this project with zero safety incidents, ahead of schedule, and under-budget.

Project History

- ▶ Brown Substation: Rebuild of a 138-kV single bus substation
- ▶ Grady Substation: Six breaker, 138-kV substation
- ▶ Carterville Substation: Four breaker, ring bus substation
- ▶ Blue Acre Substation: Six breaker, 138-kV substation
- ▶ Natural Dam Substation: Four breaker, ring bus substation
- ▶ Bulldog – Saltmine, 138-kV transmission line: rebuild of a 26 mile, 138-kV single-circuit transmission line
- ▶ Brown – Vealmoor, 138-kV transmission line: rebuild of a 15 mile, 138-kV single-circuit transmission line
- ▶ Einstein 345-kV Switchyard: Ring bus, 345-kV switchyard with six breaker, ring bus substation
- ▶ Telephone Pole Road 345-kV Switchyard: Breaker-and-a-half 345-kV switchyard
- ▶ Clearfork 345-kV Switchyard: 345-kV, ring bus switchyard
- ▶ Sale – Glass 138-kV Transmission Line: 6.5 miles 138-kV, single-circuit transmission line
- ▶ Telephone Road – Clearfork OPGW: Installation of 33 miles of OPGW on existing 345-kV line
- ▶ Vealmoor – Longdraw OPGW: Installation of 11 miles of OPGW on existing 345-kV Line
- ▶ Sale Ranch Substation: Three rungs of 138-kV breakers in a breaker-and-a-half configuration
- ▶ Glass Ranch Substation: Six breaker, 138-kV, ring bus substation with two 28-MVARs 138-kV capacitor banks
- ▶ Tall City Substation: Six breaker 138-kV ring bus substation
- ▶ Vealmoor 345/138-kV Substation: Upgrade of a 230-kV switchyard to 345-kV and upgrade of a 138-kV bus
- ▶ Carterville Substation: Four breaker 138-kV substation
- ▶ Grady Substation: Replace existing single bus substation with six breaker ring bus substation
- ▶ Driver Substation: Six breaker 138-kV ring bus substation
- ▶ Buffalo Substation: Breaker-and-a-half, 138-kV bus substation
- ▶ Eiland Substation: Six breaker, 138-kV, ring bus substation
- ▶ East Stiles Substation: Four breaker, 138-kV, ring bus substation
- ▶ Telephone Pole Road 138-kV Substation: Four breaker, 138-kV, ring bus substation
- ▶ Skywest Substation: Addition of primary metering to two 138-kV positions
- ▶ Pembroke Substation: Addition of two 138-kV capacitor bank positions
- ▶ Stiles Substation: Addition of two 138-kV capacitor bank positions
- ▶ St. Lawrence Substation: Addition of two 138-kV capacitor bank positions and two 138-kV line positions
- ▶ Pecan Grove Substation: Addition of 138-kV single-bus with two line positions and upgrade of existing 25-kV bus
- ▶ Triangle Substation: Addition of a 138-kV single bus with two line positions
- ▶ Rebel Substation: Four breaker, 138-kV, ring bus substation
- ▶ Luther Substation: Four breaker 138-kV, ring bus substation
- ▶ Airport Road Substation: Four breaker, 138-kV, ring bus substation
- ▶ Miscellaneous telecom and transformer upgrade projects



In summary, Burns & McDonnell has consistently performed to such a high-level of performance that they have earned our business and our trust. I have every confidence in their abilities and commitment to successful project completion.

John Holmes

Sharyland Utilities



APPENDIX F

REQUIRED FORMS

FORM 1

PROPOSAL TENDER FORM (page 1 of 2)

RFP NUMBER: **04-2021**
TITLE: **Design-Build Contract for Transmission Line Repair**

TO: THE CITY OF JACKSONVILLE BEACH, FLORIDA DATE: June 23, 2021

All services shall be provided meeting, and in compliance with this RFP document and the most current versions of all local, state, and federal laws, rules, regulations, policies, guidelines.

NOTE: Respondent is solely responsible for developing / determining / verifying for this project all plans / all methods / all quantities / all measurements and all manufacturers' requirements / recommendations necessary to provide a satisfactory fully completed project under the provisions of the RFP, to the CITY's satisfaction, to include costs for all labor, all equipment, all materials, all rental / leasing / purchasing of equipment and materials, all preparations, all repairs, all safety work, all quality control work, all disposal work, all mobilization and demobilization work, all sub-contractor work, all taxes, all insurance, all bonding if required, all inspection work, all verification work, all warranty work, all permitting at all levels of government, all contractor overhead, all contractor profit, and any / all other project related work and/or cost/expense that is not listed, and all of which shall be the basis for the respondent's proposal for this RFP.

I hereby certify that I have read and understand the requirements of **RFP #: 04-2021 Design-Build Contract for Transmission Line Repair**, and as the respondent will comply with all requirements, and that I am duly authorized to execute this proposal document and any Contract(s) and/or other transactions required by award of this RFP.

SUBMITTED BY: Richard D. Mahaley, PE
Printed Name of Authorized Submitter

COMPANY NAME: Burns & McDonnell Engineering Company, Inc.

ADDRESS: 2301 Maitland Center Parkway, Suite 400

CITY, STATE & ZIP: Maitland, Florida 32751

TELEPHONE NUMBER: 321.401.6125

EMAIL ADDRESS: rmahale@burnsmcd.com

LICENSE NUMBER: CGC15111517

By:  Vice President
Signature of Authorized Submitter Title (typed or neatly printed)

FORM 1

PROPOSAL TENDER FORM (page 2 of 2)

PROPOSAL DOCUMENT TURN-IN CHECKLIST

The following documents are to be completed, signed and submitted as part of the Submittal Package in response to this RFP. Failure to provide the listed documents may be cause for the CITY to consider rejection of the submitted proposal. This consideration will be at the sole discretion of the CITY.

INITIAL Check-Off	#	SECTION TITLE
[x]	1.	Title Page
[x]	2.	Table of Contents
[x]	3.	Letter of Transmittal
[x]	4.	FORM 1: PROPOSAL TENDER FORM (completed pages 71-72)
[x]	5.	FORM 2: RFP AWARD NOTICE FORM – (completed page 73)
[x]	6.	FORM 3: REQUIRED DISCLOSURE FORM (completed page 74)
[x]	7.	FORM 4: DRUG-FREE WORKPLACE COMPLIANCE FORM (completed page 75)
[x]	8.	FORM 5: NONCOLLUSION AFFIDAVIT (completed page 76)
[x]	9.	FORM 6: Non-Bankruptcy Affidavit (page 77)
[x]	10.	W-9 FORM (attach completed and signed form, which can be obtained from www.irs.gov)

NOTE: Please INITIAL Check-Off of each *document / activity / requirement* that is attached to the Proposal Tender Form and/or is required by the RFP and/or Addenda.

ADDENDA RECEIPT VERIFICATION

Respondent shall acknowledge receipt of all addenda, if any, to the RFP, by filling in Addenda Numbers and dates below.

Addendum #: <u> 1 </u> Dated: <u> June 11, 2021 </u>	Addendum #: <u> </u> Dated: <u> </u>
Addendum #: <u> </u> Dated: <u> </u>	Addendum #: <u> </u> Dated: <u> </u>
Addendum #: <u> </u> Dated: <u> </u>	Addendum #: <u> </u> Dated: <u> </u>

ADDENDUM No. 1

RFP No.: 04-2021
Title: Design Build Contract for Transmission Line Repair

The purpose of Addendum No. 1 to RFP No. 04-2021 Design Build Contract for Transmission Line Repair is to answer the following questions:

Question 1:

Does the City require bidders to be pre-qualified and vetted to bid and, if successful, be awarded the Work?

Answer 1:

There are no pre-qualification requirements for this advertisement. Respondents are asked to review the Evaluation Procedures and Submittal Requirements identified in the RFP.

Question 2:

Your RFP document outlines the evaluation criteria for the bid, which does not look like it includes any pricing. Is the intention of this RFP to short list several contractors to get pricing from?

Answer 2:

The intention of the RFP is to rank the responding design-build firms and to negotiate a contract with the highest rated respondent. If an agreement cannot be reached with the highest rated respondent, the City reserves the right to negotiate and recommend award to the next ranked respondent or subsequent respondents, until an agreement is reached.

Question 3:

The RFP highlights a specific scope of work. Is that scope of work, what the short-listed contractors will eventually put pricing on, or is that just a sample of the type of work you will require from a contract? If so, what is the overall intention of having a design and build contractor on the property. Are you looking for a maintenance contractor on an as needed basis, or full-time crew, or just for the scope outlined?

Answer 3:

The RFP is mainly for the Scope of Work outlined in *Section C Technical Provisions 1. Scope of Work*. However, the scope of work provided was developed using limited inspection and engineering support. The selected design-build firm will have to perform its own inspection/engineering and complete its own specifications, materials procurement and construction for the identified scope of work.

City of Jacksonville Beach
Beaches Energy
Date: 06/11/2021

RFP #: 04-2021
Design Build Contract for Transmission Line Repair

COMPANY NAME: Burns & McDonnell Engineering Company, Inc.

ADDRESS: 2301 Maitland Center Parkway, Suite 400

CITY, STATE & ZIP: Maitland, FL 32751

SUBMITTED BY: Richard D. Mahaley, PE TITLE: Vice President / Executive Sponsor
Printed name of authorized submitter

SIGNATURE:  DATE: June 22, 2021

FORM 2

RFP AWARD NOTICE

City of Jacksonville Beach

1460A Shetter Avenue, Jacksonville Beach, FL 32250, (904) 247-6229

NOTICE: Items 1 to 6 are to be completed by the respondent. The respondent is to submit the form to the CITY along with the Proposal Tender Form and other required documents.

1. Company Name: Burns & McDonnell Engineering Company, Inc.
2. Address: 2301 Maitland Center Parkway, Suite 400
3. City, State & Zip: Maitland, Florida 32751
4. Attention: Richard D. Mahaley, PE, Vice President
5. Phone: 321-401-6125 Fax: 321-280-5809
6. E-mail address: rmahale@burnsmcd.com

PLEASE PRINT CLEARLY

ITEMS BELOW TO BE COMPLETED BY THE CITY OF JACKSONVILLE BEACH

Proposals were received and evaluated, and the following recommendation will be presented to the City Manager for award of **RFP No. 04-2021** per the attached Proposal Tabulation form(s).

A written notice of intent to file a protest must be filed with the Property and Procurement Officer within three (3) days after receipt by the respondent of the Notice of Intent to Submit RFP for Approval and Award by City Council from the Property and Procurement Officer in accordance with the procedures set forth in Section XII K., City of Jacksonville Beach Purchasing Manual.

If awarded RFP, please do not proceed with any work prior to receiving an official City of Jacksonville Beach Purchase Order and/or Notice-to-Proceed letter.

Thank you for your proposal.
Sincerely,

CITY OF JACKSONVILLE BEACH
/s/Luis F. Flores
Property and Procurement Division

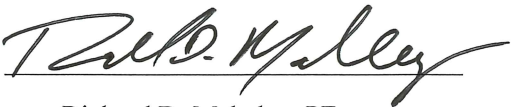
FORM 3

REQUIRED DISCLOSURE

The following disclosure is of all material facts pertaining to any felony conviction or any pending felony charges in the last three (3) years in this State or any other state or the United States against (1) respondent, (2) any business entity related to or affiliated with respondent, or (3) any present or former owner of respondent or of any such related or affiliated entity. This disclosure shall not apply to any person or entity which is only a stockholder, which person or entity owns twenty (20) percent or less of the outstanding shares of a respondent whose stock is publicly owned and traded:

No felony convictions or pending felony charges in the last three years.

Signed:



Title: Vice President

Contractor: Richard D, Mahaley, PE

FORM 4

DRUG-FREE WORKPLACE COMPLIANCE

IDENTICAL TIE PROPOSALS - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals, which are equal with respect to price, quality and service, are received by the State or by any political subdivision for the procurement of commodities or contractual services, a proposal received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie proposals will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
- 3) Give each employee engaged in providing the commodities or contractual services that are under contract a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under contract, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
- 5) Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.


Vendor's Signature

FORM 5

NON-COLLUSION AFFIDAVIT

Richard D. Mahaley, PE

, being first duly sworn deposes and says that:

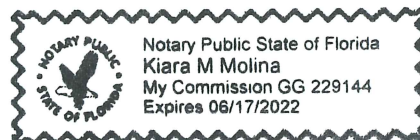
1. He (it) is the _____ Vice President _____, of Burns & McDonnell Engineering the respondent that has submitted the attached proposal; Company, Inc.
2. He is fully informed respecting the preparation and contents of the attached proposal and of all pertinent circumstances respecting such proposal;
3. Such proposal is genuine and is not a collusive or sham proposal;
4. Neither the said respondent nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affidavit, have in any way, colluded, conspired, connived or agreed, directly or indirectly, with any other respondent, firm or person to submit a collusive or sham proposal in connection with the Contract for which the attached proposal has been submitted; or to refrain from responding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion or communication, or conference with any respondent firm, or person to fix the price or prices in the attached proposal or of any other respondent or to fix any overhead, profit, or cost elements of the proposal price or the proposal price of any other respondent, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against other Respondents, or any person interested in the proposed Contract;
5. The price or prices quoted in the attached proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the respondent or any other of its agents, representatives, owners, employees or parties in interest, including his affidavit.

By: *Richard D. Mahaley*

Sworn and subscribed to before me this 21 day of June, 2021,
in the State of Florida, County of orange.

Kiara M. Molina Notary Public

My Commission Expires: 06/17/2022



FORM 6

NON-BANKRUPTCY AFFIDAVIT

STATE OF Florida)

COUNTY OF Orange)

Richard D. Mahaley, PE is an officer and member of the firm of
Burns & McDonnell Engineering Company, Inc., being first duly sworn, deposes and states that;

1. The subsequent certification statement is a true and accurate statement as of the date shown below.
2. The affiant understands that the intentional inclusion of false, deceptive or fraudulent statements on this Non-Bankruptcy Affidavit constitutes fraud; and, that the City of Jacksonville Beach, Florida, considers such action on the part of the affiant to constitute good cause for denial, suspension, revocation, disqualification, or rejection of affiant's participation in **RFP #: 04-2021**.
3. Certification Statement: This is to certify that the aforementioned firm has not filed for bankruptcy in the past seven (7) years ~~and that no owner/officer or principal of the aforementioned firm has filed for bankruptcy personally in the past seven (7) years or has been an owner/officer or principal of a firm which has filed for bankruptcy in the past seven (7) years.~~

Please see Assumptions, Exceptions & Clarifications section on page 28.

Richard D. Mahaley
Affiant Signature

Sworn to before me this 2021 day of June, 2021 by Rich D. Mahaley
(Name of affiant)

He/She is personally known to me or has produced _____ as identification.

Kiara M. Molina
Signature of Notary

Kiara M. Molina
Notary's Printed Name

06/17/2022
Expiration of Notary's Commission

Affix Seal Here:



Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

► Go to www.irs.gov/FormW9 for instructions and the latest information.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
BURNS & MCDONNELL ENGINEERING COMPANY, INC.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC

☐ C Corporation

☒ S Corporation

☐ Partnership

☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ►

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
9400 WARD PARKWAY

6 City, state, and ZIP code
KANSAS CITY, MO 64114

7 List account number(s) here (optional)

8 Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			-			-					
--	--	--	---	--	--	---	--	--	--	--	--

or

Employer identification number

4	3	-	0	9	5	6	1	4	2
---	---	---	---	---	---	---	---	---	---

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here

Signature of U.S. person ► 

Date ► 1/4/2021

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

12/1/2021

11/19/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000	CONTACT NAME:	FAX (A/C, No):	
	PHONE (A/C, No, Ext):	E-MAIL ADDRESS:	
INSURED 1334934 BURNS & MCDONNELL ENGINEERING COMPANY, INC. ATTN: LYNDA LEVAN PO BOX 419173 KANSAS CITY MO 64141-6173 HANKEL, LEANN	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: Liberty Mutual Fire Insurance Company		23035
	INSURER B: Westchester Fire Insurance Company		10030
	INSURER C: Steadfast Insurance Company		26387
	INSURER D:		
	INSURER E:		
INSURER F:			

COVERAGES * **CERTIFICATE NUMBER:** 11073386 **REVISION NUMBER:** XXXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC ☐ OTHER:	N	N	TB2-641-432888-030	12/1/2020	12/1/2021	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY	N	N	AS2-641-432888-040	12/1/2020	12/1/2021	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$ XXXXXXXX
B	☐ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☐ RETENTION \$	N	N	G21986410016	12/1/2020	12/1/2021	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000 \$ XXXXXXXX
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N ☒ N	N/A	WC2-641-432888-010	12/1/2020	12/1/2021	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	PROFESSIONAL LIABILITY	N	N	EOC 7042179-00	12/1/2020	12/1/2021	\$1,000,000 PER CLAIM; \$1,000,000 AGGREGATE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
FOR INFORMATIONAL PURPOSES ONLY.

CERTIFICATE HOLDER

11073386
SAMPLE

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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**STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION**

CONSTRUCTION INDUSTRY LICENSING BOARD
2601 BLAIR STONE ROAD
TALLAHASSEE FL 32399-0783

(850) 487-1395

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

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STATE OF FLORIDA DEPARTMENT
OF BUSINESS AND PROFESSIONAL
REGULATION

CGC1511517
CERTIFIED GENERAL CONTRACTOR
BLACKBURN, TY CLIFF
BURNS & MCDONNELL ENGINEERING COMP

ISSUED: 05/29/2020

Signature
LICENSED UNDER CHAPTER 489, FLORIDA STATUTES
EXPIRATION DATE: AUGUST 31, 2022

Ron DeSantis, Governor

Halsey Beshears, Secretary

**STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD**

LICENSE NUMBER: CGC1511517

EXPIRATION DATE: AUGUST 31, 2022

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

BLACKBURN, TY CLIFF
BURNS & MCDONNELL ENGINEERING COMPANY INC
9400 WARD PARKWAY
KANSAS CITY MO 64114



ISSUED: 05/29/2020

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

State of Florida

Department of State

I certify from the records of this office that BURNS & MCDONNELL ENGINEERING COMPANY, INC. is a Missouri corporation authorized to transact business in the State of Florida, qualified on December 16, 1970.

The document number of this corporation is 825496.

I further certify that said corporation has paid all fees due this office through December 31, 2020, that its most recent annual report/uniform business report was filed on October 26, 2020, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

*Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the First day of March, 2021*



Ronald R. Lee
Secretary of State

Tracking Number: 0778587318CU

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

<https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication>

December 1, 2020

Ms. LeAnn Hankel
Insurance Manager
Burns & McDonnell Engineering Co., Inc.
9400 Ward Parkway
Kansas City, MO 64114

Re: Experience Modification Factors

Dear LeAnn:

The NCCI experience modifications for Burns & McDonnell Engineering Co., Inc. are as noted below.

Rating Effective Date	Mod Factor
December 1, 2020	.57
December 1, 2019	.58
December 1, 2018	.57
March 1, 2018	.49*
December 1, 2017	.46
December 12, 2016	.48**
December 1, 2016	.36

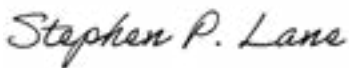
* Effective March 1, 2018, Burns & McDonnell, Inc. acquired Ref-Chem L.P.

** Effective December 12, 2016, Burns & McDonnell, Inc. acquired AZCO INC.

If you need any further information, please let me know.

Kind Regards,

LOCKTON COMPANIES



Stephen Lane, MBA
AVP, Account Executive



CREATE AMAZING.

2301 Maitland Center Parkway, Suite 400
Maitland, FL 32751
burnsmcd.com

City of
Jacksonville Beach
Property and
Procurement Division
1460A Shetter Avenue
Jacksonville Beach
FL 32250
Phone: 904.247.6229
Email: purchasing@jaxbchfl.net
www.jacksonvillebeach.org

This is the only recommendation notice you will receive. If there are other representatives in your firm working on this project, please forward to their attention.

NOTICE OF INTENT TO SUBMIT RFP FOR APPROVAL AND AWARD BY CITY COUNCIL

Date: July 2, 2021
From: Luis F. Flores, Property and Procurement Officer
RE: **RFP No. 04-2021 Design-Build Contract for Transmission Line Repair**

Recommendation will be presented to the City Manager for:

RFP Number: 04-2021
Title: Design-Build Contract for Transmission Line Repair

Negotiate with: ***Burns & McDonnell Engineering***

Attached is the Selection Committee Collective Summary.

In accordance with the procedures set forth in Section XII K., of the City of Jacksonville Beach Purchasing Manual, a written notice of intent to file a protest must be filed with the Property and Procurement Officer within three (3) business days, Monday through Friday, 8:00 AM – 4:00 PM, after receipt by the respondent of the Notice of Intent to Submit RFP for Approval and Award By City Council from the Property and Procurement Officer.

The City reserves the right to further negotiate any proposal, including price, with the highest rated respondent. If an agreement cannot be reached with the highest rated respondent, the City reserves the right to negotiate and recommend award to the next ranked respondent or subsequent respondents, until an agreement is reached.

If awarded, please do not proceed with any work prior to receiving an official City of Jacksonville Beach Purchase Order and/or Notice-to-Proceed letter.

We would like to thank each respondent for their submittal.

Luis F. Flores

Luis F. Flores, Property and Procurement Officer
1460A Shetter Avenue, Jacksonville Beach, FL 32250



Criteria 1 - Quality (10 Points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	9	9	9	9

Criteria 2 - Key Personnel (10 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	10	10	10	10

Criteria - 3 Material Management (5 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	4	5	4	4.333333333

Criteria - 4 Safety (10 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	10	10	10	10

Criteria - 5 Execution Plan (30 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	27	25	26	26

Criteria - 6 Relevant Experience (20 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	20	18	20	19.33333333

Criteria - 7 Subcontractor Utilization Plan (10 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	9	10	10	9.666666667

Criteria - 8 Proximity (5 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Burns & McDonnell	5	4	4	4.333333333

VENDOR	SCORE	Rank
Burns & McDonnell	92.6666667	1



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Michael J. Staffopoulos, City Manager
FROM:	Allen Putnam, Director of Beaches Energy Services
DATE:	01/18/2022
SUBJECT:	RFP No. 08-2021 Installation of Underground Infrastructure

BACKGROUND

RFP No. 08-2021 was advertised from August 18, 2021 through September 15, 2021, and was emailed to approximately 20 different companies/contractors. The purpose of RFP No. 08-2021 is to seek experienced and qualified contractors to install underground facilities on an as-needed basis. The work is for the installation and replacement of new and existing underground electric facilities. The contractors will also be used to assist Beaches Energy Services staff in the restoration of services during emergency situations.

Although this RFP was publicly advertised and emailed to approximately 20 different companies/contractors, only one company submitted a proposal. This one proposal from Heart Utilities of Jacksonville was reviewed and scored by the Selection Committee. The Selection Committee recommends the award of this RFP to Heart Utilities of Jacksonville, Inc. Heart Utilities has performed contract services for BES in the past to the satisfaction of the City.

Respondent agrees and understands that the Contract shall not be construed as an exclusive arrangement and further agrees that the City may, at any time, secure similar or identical services at its sole option. Staff recommends that the City Council authorizes the City Manager to sign a contract with Heart Utilities of Jacksonville and to negotiate lower unit prices as the prices of materials stabilize.

To review RFP No. 08-2021, click [here](#).

FINANCIAL IMPACT

The Beaches Energy Services Capital Improvement Plan includes funding for these services in the following projects: Major Replacement Projects and Annual projects such as conversion of overhead lines to underground, and the cable replacement plan.

REQUESTED ACTION

Award/Reject RFP No. 08-2021 Installation of Underground Infrastructure to Heart Utilities of Jacksonville, Inc., and authorize the Mayor and City Manager to execute the final contract

ATTACHMENTS

1. Heart Utilities of Jacksonville, Inc.'s Response to RFP No. 08-2021
2. RFP No. 08-2021 Notice of Intent to Submit RFP for Approval and Award by City Council



City of Jacksonville Beach

Property and Procurement Division
1460A Shetter Ave., Jacksonville Beach, FL 32250
Tel: 904-247-6229



REQUEST FOR PROPOSALS

RFP Number:	08-2021
RFP Title:	Installation of Underground Infrastructure

Submittal Deadline	
Day:	Wednesday
Date:	September 15, 2021
Time:	2:00 P.M.
Location:	Property and Procurement
Address:	1460A Shetter Ave., Jacksonville Beach, FL 32250

ANTICIPATED TIME LINE: The **anticipated** schedule for this RFP is as follows:

RFP Advertised	18-August-2021
Deadline to Submit Questions	3-September-2021
Addendum (if necessary) Issued	8-September-2021
Submission Deadline	15-September-2021
RFP Opened	15-September-2021

TABLE OF CONTENTS

	<u>Page(s)</u>
SECTION A: OVERVIEW	4 – 6
1. Overview and Purpose of the Project	5
2. RFP Due Date	5
3. Questions and Requests for Clarification	5
4. Eligibility	5
5. Contract Term	5 - 6
6. Contract Award	6
7. Submittal Requirements	6
SECTION B: GENERAL PROVISIONS	7 – 19
SECTION C: SPECIAL PROVISIONS	20 – 25
1. Contract Definitions	21 - 22
2. Authority of Engineer	22
3. Inferior Work or Materials	22 - 23
4. Material Safety Data Sheet	23
5. Billing and Payment	23 - 24
6. Changes in the Work	24
7. Guarantee	24
8. Approval Drawings	24 - 25
9. Ability to Perform Work	25
SECTION D: EVALUATION PROCEDURES	26 - 27
SECTION E: SUBMITTAL REQUIREMENTS	28 - 29
SECTION F: FORMS	30 – 47
Form 1: Proposal Tender Form	31 – 41
Form 2: RFP Award Notice	42
Form 3: Required Disclosure	43
Form 4: Drug-Free Workplace Compliance	44
Form 5: Non-Collusion Affidavit	45
Form 6: Non-Bankruptcy Affidavit	46
Form 7: Subcontractor Listing	47

APPENDIX A: TECHNICAL SPECIFICATIONS **48 - 60**

1	Installation of Underground Conduit, Manholes, Cables and Boxes	49 – 54
2	High Density Polyethylene (HDPE), Smoothwall, Coilable Conduit	54 – 55
3	Bore-Gard Trenchless Raceway Systems - Product Specifications	55 – 56
4	Precast Manholes	57 – 58
5	Manhole Access Cover Grade Adjustment	58 – 59
6	Paving - Pavement Removal and Replacement	59 - 60
7	Sidewalk and Curbing	60

APPENDIX B: TECHNICAL DRAWINGS **61 – 75**

1	"D1" Vault and Manhole Cover Specs	62
2	"D2" Vault and Manhole Cover Specs	63
3	Sectionalizing Cabinet Pad Detail	64
4	Three Phase Junction Cabinet Pad Detail	65
5	Single Phase Junction Cabinet Pad Detail	66
6	Single Phase Pad Mounted Transformer Pad Detail	67
7	Three Phase Pad Mounted Transformer Pad Detail (150-1000 kVa)	68
8	Large Pad Mounted Switch Pad Detail	69
9	Small Pad Mounted Switch Pad Detail	70
10	3-Phase, Open Delta Pad Mounted Transformer Pad Detail	71
11	Steel Bollard (Bumper Post) Detail	72
12	Splice Cabinet Pad Detail	73
13	Single Phase Transformer Maxi-Pad Detail	74
14	Three Phase Transformer Pad Detail (1500 – 3750 kVa)	75

Transmittal Letter



September 14, 2021

Heart Utilities of Jacksonville, Inc.

1180 Lane Avenue South
Jacksonville, FL 32205
Phone: 904-695-3383
Fax: 904-695-3385

To:

City of Jacksonville Beach
1460A Shetter Ave.
Jacksonville Beach, FL 32250

Attention: Procurement

Re: Bid

Job Number: 08-2021

We are sending you

☒ Attached	☐ Under Separate Cover via: the following:		
☐ Shop Drawings	☐ Prints	☐ Plans	☐ Other:
☐ Copy of Letter	☐ Change Order	☐ Samples	
☐ Total Quantity	☐ Reproducible	☐ Specification	

Submittal	Quantity	Date	DWG. #	Description
Bid 08-2021	3	3/14/2021		1-Original, 3-Copies, 1-USB

These are transmitted as checked below

- | | | |
|---|---|---|
| ☐ For Approval | ☐ Approved as Submitted | ☐ Resubmit copies for approval |
| ☐ For Your Use | ☐ Approved as Noted | ☐ Submit [#] copies for distribution |
| ☒ As Requested | ☐ Returned for Corrections | ☐ Return [#] corrected prints |
| ☐ For Review and Comment ☐ Revise and Resubmit/Work May Not Proceed | | |
| ☐ FOR BIDS DUE: [Type text here] | | ☐ PRINTS RETURNED AFTER LOAN |

Comments:

Copy to:

Heart Office

Signature

FORM 1

PROPOSAL TENDER FORM (page 1 of 11)

RFP NUMBER: **08-2021**
TITLE: **Installation of Underground Infrastructure**

TO: THE CITY OF JACKSONVILLE BEACH, FLORIDA DATE: 9/14/2021

All services shall be provided meeting, and in compliance with this RFP document and the most current versions of all local, state, and federal laws, rules, regulations, policies, guidelines.

NOTE: Respondent is solely responsible for developing / determining / verifying for this project all plans / all methods / all quantities / all measurements and all manufacturers' requirements / recommendations necessary to provide a satisfactory fully completed project under the provisions of the RFP, to the CITY's satisfaction, to include costs for all labor, all equipment, all materials, all rental / leasing / purchasing of equipment and materials, all preparations, all repairs, all safety work, all quality control work, all disposal work, all mobilization and demobilization work, all sub-contractor work, all taxes, all insurance, all bonding if required, all inspection work, all verification work, all warranty work, all permitting at all levels of government, all contractor overhead, all contractor profit, and any / all other project related work and/or cost/expense that is not listed, and all of which shall be the basis for the respondent's proposal for this RFP.

The undersigned proposes to furnish and install the following items as defined in Appendix A and B, at the prices listed herein on a per unit basis as follows unless otherwise noted:

1. Concrete Manhole

A. Type D-1	\$ <u>14,402.40</u> /Ea
B. Type D-2	\$ <u>17,258.40</u> /Ea

2. Trenching for conduit to be installed.

Work includes trenching, backfilling, compaction, providing and installing 6" wide PVC plastic caution tape, grading and cleanup:

A. 36" Deep Trench for 30" Min. Cover (24" width)	\$ <u>10.88</u> /LF
B. 54" Deep Trench for 48" Min. Cover (24" width)	\$ <u>16.32</u> /LF

Note: Ducts used for high voltage cables require 48" minimum cover; ducts used for low voltage conductors require 30" minimum cover; caution tape 14" minimum cover. Backfill shall be placed and compacted in lifts. Lifts shall be 12" maximum.

FORM 1

PROPOSAL TENDER FORM (page 2 of 11)

3. Underground Electric Duct Lines (NEMA TC-2 Schedule 40 PVC "belled end" duct)

A. 1" Duct	\$ 1.72 /LF
B. 2" Duct	\$ 2.96 /LF
C. 2 1/2" Duct	\$ 3.06 /LF
D. 3" Duct	\$ 4.60 /LF
E. 4" Duct	\$ 5.58 /LF
F. 5" Duct	\$ 5.44 /LF
G. 6" Duct	\$ 9.48 /LF

4. Directional Boring

Contractor to supply all equipment and material for HDPE duct. All connections with HDPE duct shall use long line HDPE to PVC couplings and approved epoxy for bonding.

A. 2" First Duct (SDR 11)	\$ 14.67 /LF
B. 3" First Duct (SDR 13.5)	\$ 18.07 /LF
C. 4" First Duct (SDR 13.5)	\$ 22.02 /LF
D. 5" First Duct (SDR 13.5)	\$ 29.92 /LF
E. 6" First Duct (SDR 13.5)	\$ 40.10 /LF

Additional Duct Adders

F. Additional 2"	\$ 6.17 /LF
G. Additional 3"	\$ 8.48 /LF
H. Additional 4"	\$ 11.82 /LF
I. Additional 5"	\$ 18.36 /LF
J. Additional 6"	\$ 26.50 /LF

5. Directional Boring

Contractor to supply all equipment and material (Schedule 40 BORE-GARD duct). All connections with PVC duct shall use long line PVC couplings and proper PVC cement for bonding.

A. 3" First Duct	\$ 18.29 /LF
B. 4" First Duct	\$ 22.10 /LF
C. 5" First Duct	\$ 31.01 /LF
D. 6" First Duct	\$ 39.44 /LF

Additional Duct Adders

E. Additional 3"	\$ 8.70 /LF
F. Additional 4"	\$ 11.90 /LF
G. Additional 5"	\$ 20.13 /LF
H. Additional 6"	\$ 25.84 /LF

FORM 1

PROPOSAL TENDER FORM (page 3 of 11)

6. Ground Wire (City furnished)

- A. Install City furnished Ground Wire in existing trench. \$ 0.68 /Ea

7. Ground Rods

- A. Install City furnished Ground Rods, (24 ft. deep, 3 ea. 5/8"x8'; Sectional type with 2 couplings and 1 ground rod clamp. Note: These 3 rods are one unit for unit prices.)
(City Furnished) \$ 68.00 /Ea

8. Duct Plugs

- | | |
|--------------|--------------------|
| A. 1-inch | \$ <u>0.68</u> /Ea |
| B. 2-inch | \$ <u>1.36</u> /Ea |
| C. 2 ½ -inch | \$ <u>1.70</u> /Ea |
| D. 3-inch | \$ <u>2.04</u> /Ea |
| E. 4-inch | \$ <u>2.72</u> /Ea |
| F. 5-inch | \$ <u>3.40</u> /Ea |
| G. 6-inch | \$ <u>4.08</u> /Ea |

9. Manhole Connection

- A. Connect New Duct Bank to existing manhole. Provide up to 24 x 24 opening in existing manhole knockout. Properly install new duct bank. Re-grout and seal to restore watertight integrity. \$ 952.00 /Ea
- B. Connect Duct to an existing manhole knockout. Re-grout and seal to restore water-tight integrity. \$ 40.80 /Ea
- C. Core Bore into Existing Manhole for PVC Conduit (6"). Re-grout and seal to restore water-tight integrity. \$ 108.80 /Ea

10. Epoxy HDPE Connection

An epoxy connection to fuse HDPE conduit to PVC fittings. The manufacturer of the epoxy shall be approved in advance by owner. Contractor shall provide all epoxy including disposable materials and labor for this item.

- A. Epoxy Connection \$ 13.60 /Ea

FORM 1

PROPOSAL TENDER FORM (page 4 of 11)

11. Straight long line PVC Couplings (labeled "NEMA TC-2")

A. 1" PVC Schedule 40, 6" long	\$ 2.33 /Ea
B. 2" PVC Schedule 40, 6" long	\$ 4.44 /Ea
C. 2 ½" PVC Schedule 40, 6" long	\$ 5.44 /Ea
D. 3" PVC Schedule 40, 8" long	\$ 12.44 /Ea
E. 4" PVC Schedule 40, 8" long	\$ 18.37 /Ea
F. 5" PVC Schedule 40, 12" long	\$ 20.40 /Ea
G. 6" PVC Schedule 40, 12" long	\$ 31.83 /Ea

12. 90-degree Sweep 48" Radius Ells

(Labeled "NEMA TC-2" Schedule 40 PVC "belled end" fittings)

A. 1" PVC Schedule 40	\$ 36.27 /Ea
B. 2" PVC Schedule 40	\$ 59.58 /Ea
C. 2 ½" PVC Schedule 40	\$ 68.00 /Ea
D. 3" PVC Schedule 40	\$ 98.76 /Ea
E. 4" PVC Schedule 40	\$ 150.43 /Ea
F. 5" PVC Schedule 40	\$ 176.80 /Ea
G. 6" PVC Schedule 40	\$ 230.27 /Ea

13. 90-degree Sweep 36" Radius Ells

(Labeled "NEMA TC-2" Schedule 40 PVC "belled end" duct)

A. 1" PVC Schedule 40	\$ 22.67 /Ea
B. 2" PVC Schedule 40	\$ 40.01 /Ea
C. 2 ½" PVC Schedule 40	\$ 47.60 /Ea
D. 3" PVC Schedule 40	\$ 72.98 /Ea
E. 4" PVC Schedule 40	\$ 110.58 /Ea
F. 5" PVC Schedule 40	\$ 136.00 /Ea
G. 6" PVC Schedule 40	\$ 188.13 /Ea

14. 45-degree Sweep 36" Radius Ells

(Labeled "NEMA TC-2" Schedule 40 PVC "belled end" duct)

A. 1" PVC Schedule 40	\$ 15.62 /Ea
B. 2" PVC Schedule 40	\$ 23.45 /Ea
C. 2 ½" PVC Schedule 40	\$ 27.20 /Ea
D. 3" PVC Schedule 40	\$ 44.87 /Ea
E. 4" PVC Schedule 40	\$ 66.66 /Ea
F. 5" PVC Schedule 40	\$ 108.80 /Ea
G. 6" PVC Schedule 40	\$ 156.35 /Ea

FORM 1

PROPOSAL TENDER FORM (page 5 of 11)

15. End Bells

(Labeled "NEMA TC-2")

A. 1" PVC Schedule 40	\$ 6.80 /Ea
B. 2" PVC Schedule 40	\$ 20.40 /Ea
C. 2 ½" PVC Schedule 40	\$ 27.20 /Ea
D. 3" PVC Schedule 40	\$ 34.00 /Ea
E. 4" PVC Schedule 40	\$ 47.60 /Ea
F. 5" PVC Schedule 40	\$ 54.40 /Ea
G. 6" PVC Schedule 40	\$ 61.20 /Ea

16. Service Connection Box – (City furnished)

A. 12"x20" Concrete Box (1" SCB)	\$ 95.20 /Ea
B. 13"x24" Concrete Box (1 ½ "SCB)	\$ 95.20 /Ea
C. 17"x30" Concrete Box (2" SCB)	\$ 102.00 /Ea
D. Service Connection Pedestal	\$ 102.00 /Ea

17. Install Concrete

A. 4" thick	\$ 13.60 /SF
B. 6" thick	\$ 16.32 /SF

18. Remove Concrete (with disposal at an authorized location)

A. 4" thick	\$ 6.80 /SF
B. 6" thick	\$ 8.16 /SF

19. Install Asphalt

A. 4" thick	\$ 9.52 /SF
B. 6" thick	\$ 10.88 /SF

20. Remove Asphalt (with disposal at an authorized location)

A. 4" thick	\$ 4.76 /SF
B. 6" thick	\$ 5.44 /SF

21. Install Curb and Gutter

A. Standard type	\$ 18.90 /LF
B. Miami type	\$ 18.90 /LF

FORM 1

PROPOSAL TENDER FORM (page 6 of 11)

22. Remove Curb and Gutter (with disposal at an authorized location)

- | | | | |
|------------------|----|------|-----|
| A. Standard Type | \$ | 3.56 | /LF |
| B. Miami Type | \$ | 4.45 | /LF |

23. Compaction Test \$ 87.04 /Ea

24. Cable Pulling - No. 1/0 AWG Alum. 28kV Cable (City furnished)

- | | | | |
|------------------------------|----|------|-----|
| A. One 1/0 Cable per duct | \$ | 1.36 | /LF |
| B. Two 1/0 Cables per duct | \$ | 1.71 | /LF |
| C. Three 1/0 Cables per duct | \$ | 2.16 | /LF |

25. Cable Pulling - No. 4/0 AWG Alum. 28kV Cable (City furnished)

- | | | | |
|------------------------------|----|------|-----|
| A. One 4/0 Cable per duct | \$ | 1.50 | /LF |
| B. Two 4/0 Cables per duct | \$ | 1.94 | /LF |
| C. Three 4/0 Cables per duct | \$ | 2.46 | /LF |

26. Cable Pulling - 350 kCM Alum. 28kV Cable (City furnished)

- | | | | |
|----------------------------------|----|------|-----|
| A. One 350 kCM Cable per duct | \$ | 1.86 | /LF |
| B. Two 350 kCM Cables per duct | \$ | 2.09 | /LF |
| C. Three 350 kCM Cables per duct | \$ | 2.84 | /LF |

27. Cable Pulling - 1000 kCM Alum. Jacketed 28kV Cable (City furnished)*

- | | | | |
|-----------------------------------|----|------|-----|
| A. One 1000 kCM Cable per duct | \$ | 2.58 | /LF |
| B. Two 1000 kCM Cables per duct | \$ | 3.67 | /LF |
| C. Three 1000 kCM Cables per duct | \$ | 4.96 | /LF |
- *up to 2,500' reel

28. Cable Pulling - Alum. 4/0 AWG USE 600 Volt Triplex Cable (City furnished)

- | | | | |
|-----------------------------------|----|------|-----|
| A. One 4/0 Triplex Cable per duct | \$ | 1.20 | /LF |
| B. One 4/0 Single Cable per duct | \$ | 0.97 | /LF |

29. Cable Pulling - 350 kCM USE 600 Volt Alum. Triplex Cable (City furnished)

- | | | | |
|---------------------------------------|----|------|-----|
| A. One 350 kCM Triplex Cable per duct | \$ | 1.35 | /LF |
| B. One 350 kCM Single Cable per duct | \$ | 1.12 | /LF |

FORM 1

PROPOSAL TENDER FORM (page 7 of 11)

30. Cable Pulling - 350 kCM USE Volt Alum. Quadruplex Cable (City furnished)

A. One 350 kCM Quad Cable per duct \$ 1.56 /LF

31. Dead Front Connections (City furnished)

A. 1/0 AWG 25 kV Load Break Elbow \$ 46.24 /Ea
B. 4/0 AWG 25 kV Load Break Elbow \$ 46.24 /Ea
C. 350 kCM 25 kV T-Body \$ 102.00 /Ea
D. 1000 kCM 25 kV T-Body \$ 102.00 /Ea

32. Molded Rubber Terminators (City furnished)

A. 1/0 AWG 25 kV \$ 46.24 /Ea
B. 4/0 AWG 25 kV \$ 46.24 /Ea
C. 350 kCM 25 kV \$ 102.00 /Ea
D. 1000 kCM 25 kV \$ 102.00 /Ea

33. Cable Splices (City furnished)

A. 1/0 AWG 25 kV \$ 69.36 /Ea
B. 4/0 AWG 25 kV \$ 69.36 /Ea
C. 350 kCM 25 kV \$ 129.20 /Ea
D. 1000 kCM 25 kV \$ 129.20 /Ea

34. Concrete Foundations

A. Single-phase concrete transformer pads \$ 1,237.60 /Ea
B. Three-phase concrete transformer pads (150-1000 kVa) \$ 2,407.20 /Ea
C. Large switch pad (120" x 96") \$ 10,254.40 /Ea
D. Small switch pad (84" x 63") \$ 7,588.80 /Ea
E. 3-phase junction cabinet \$ 2,665.60 /Ea
F. 1-phase junction cabinet \$ 2,475.20 /Ea
G. Sectionalizing cabinet pad \$ 2,012.80 /Ea
H. Open delta pad \$ 2,339.20 /Ea
I. Splice cabinet pad \$ 9,615.20 /Ea
J. Single phase transformer maxi-pad \$ 1,237.60 /Ea
K. Three phase transformer pad (1500-3750 kVa) \$ 8,595.20 /Ea

35. Bollard Posts

A. 6" Galvanized Rigid Steel, 8' long, concrete-filled,
painted yellow and imbedded in concrete \$ 408.00 /Ea

FORM 1

PROPOSAL TENDER FORM (page 8 of 11)

36. Sodding

- A. Furnish and install sod, as directed by Owner
(Grass type varies) \$ 1.63 /SF

37. Dewatering

- A. Provide trench dewatering via well point method for 40 LF of trench. Includes pump, fuel, headers, hoses, points, pipes, etc., complete and operating. Cost to install and remove points only will be paid under "LEM" units.

\$ 17.27 /Hr

- B. Provide additional trench dewatering by adding headers, points, hoses, etc., (excluding group 37.A, above) for each additional 20 LF of trench. Costs to install and remove points only will be paid under "LEM" units.

\$ 6.12 /Hr

38. Duct Cleaning

Units to include furnishing all pulling lines, labor, equipment and accessories, and leave nylon line in each approved conduit and secured on each end for future cable pulling.

- | | |
|-----------------------|--------------------|
| A. 2-inch diameter | \$ <u>0.41</u> /LF |
| B. 2 ½ -inch diameter | \$ <u>0.41</u> /LF |
| C. 3-inch diameter | \$ <u>0.41</u> /LF |
| D. 4-inch diameter | \$ <u>0.41</u> /LF |
| E. 5-inch diameter | \$ <u>0.41</u> /LF |
| F. 6-inch diameter | \$ <u>0.41</u> /LF |

Labor, Equipment and Materials (LEM)

Work under this group is only for make-up of units not covered elsewhere in this proposal. Each unit is for one person or one piece of equipment. Any additional fraction of an hour will be rounded to the next higher one-quarter (1/4) hour. All overhead costs are included in the units.

39. Labor

- | | |
|-------------------|---------------------|
| A. Foreman | \$ <u>68.00</u> /Hr |
| B. Skilled Worker | \$ <u>54.40</u> /Hr |
| C. Laborer/Helper | \$ <u>34.00</u> /Hr |

FORM 1

PROPOSAL TENDER FORM (page 9 of 11)

40. Equipment including all operating expenses, insurance, tools, etc.

A. Truck, ½-ton pickup	\$ 13.60 /Hr
B. Truck, 1-ton pickup	\$ 17.68 /Hr
C. Truck, 2-ton flatbed	\$ 34.00 /Hr
D. Air Compressor	\$ 12.92 /Hr
E. Pump, portable, rated at least 4000 GPH @ 0-discharge head and 10-foot lift	\$ 14.96 /Hr
F. Trailer, for 1-48" dia. Cable reel	\$ 10.88 /Hr
G. Trailer, for 3-48" dia. Cable reel	\$ 16.32 /Hr
H. Backhoe/loader with 600 lbs. Loader bucket capacity. Backhoe w/300 lbs. Minimum capacity with flat bottom Depth capacity of 8 feet and 18 feet overall reach from Rear axle centerline.	\$ 29.92 /Hr

41. Materials and Services

Any materials or services required that is not covered under any unit prices, and pre-approved by the City, shall be paid for on a cost plus ten percent (10%) basis. Original receipts shall be provided by Contractor.

42. DEEP DIRECTIONAL BORING MULTIPLIER

All directional bore installations the OWNER requests to be installed greater than ten feet deep will be subject to the following multipliers applied to Items four and five, plus the directional bore Items.

A. 11 feet to 20 feet	20 %
B. 21 feet to 30 feet	40 %
C. 31 feet to 40 feet	60 %
D. 41 feet to 50 feet	80 %

FORM 1: PROPOSAL TENDER FORM (page 10 of 11)

A. Work Unit (WU)

The work units shown on items 1 through 42 represent an associated cost assigned by the City of Jacksonville Beach.

B. Construction Cost Factor (CCF):

A single factor that is submitted by the Contractor. These factors shall remain valid for the length of the Contract (36 months) in annual increments. This factor will be multiplied by each Proposal Item work unit to determine its respective unit price.

1st YEAR CCF = 1.20

2nd YEAR CCF = 1.25

3rd YEAR CCF = 1.30

C. Unit Price:

Unit Price = (CCF) X (WU)

NOTE: Respondent is solely responsible for developing / determining / verifying for this project all plans / all methods / all quantities / all measurements and all manufacturers' requirements / recommendations necessary to provide a satisfactory fully completed project under the provisions of the proposal, to the CITY's satisfaction, to include costs for all labor, all equipment, all materials, all rental / leasing / purchasing of equipment and materials, all preparations, all repairs, all safety work, all quality control work, all disposal work, all mobilization and demobilization work, all sub-contractor work, all taxes, all insurance, all bonding if required, all inspection work, all verification work, all warranty work, all permitting at all levels of government, all contractor overhead, all contractor profit, and any / all other project related work and/or cost/expense that is not listed, and all of which shall be the basis for the Respondent's submittal for this RFP.

I hereby certify that I have read and understand the requirements of **RFP #: 08-2021 Installation of Underground Infrastructure**, and as the respondent will comply with all requirements, and that I am duly authorized to execute this proposal document and any Contract(s) and/or other transactions required by award of this RFP.

SUBMITTED BY: EDWARD YOUNG SR.

Printed Name of Authorized Submitter

COMPANY NAME: HEART UTILITIES OF JACKSONVILLE INC.

ADDRESS: 1180 LANE AVE S.

CITY, STATE & ZIP: JACKSONVILLE, FL 32205

By: [Signature]
Signature of Authorized Submitter

PRESIDENT
Title (typed or neatly printed)

FORM 1

PROPOSAL TENDER FORM (page 11 of 11)

PROPOSAL DOCUMENT TURN-IN CHECKLIST

The following documents are to be completed, signed and submitted as part of the Submittal Package in response to this RFP. Failure to provide the listed documents may be cause for the CITY to consider rejection of the submitted proposal. This consideration will be at the sole discretion of the CITY.

INITIAL Check-Off	#	SECTION TITLE
[SB]	1.	Title Page
[SB]	2.	Table of Contents
[SB]	3.	Letter of Transmittal
[SB]	4.	FORM 1: PROPOSAL TENDER FORM
[SB]	5.	FORM 2: RFP AWARD NOTICE FORM
[SB]	6.	FORM 3: REQUIRED DISCLOSURE FORM
[SB]	7.	FORM 4: DRUG-FREE WORKPLACE COMPLIANCE FORM
[SB]	8.	FORM 5: NONCOLLUSION AFFIDAVIT
[SB]	9.	FORM 6: Non-Bankruptcy Affidavit
[SB]	10.	FORM 7: Subcontractor Listing
[SB]	11.	W-9 FORM (attach completed and signed form, which can be obtained from www.irs.gov)

NOTE: Please INITIAL Check-Off of each *document / activity / requirement* that is attached to the Proposal Tender Form and/or is required by the RFP and/or Addenda.

ADDENDA RECEIPT VERIFICATION

Respondent shall acknowledge receipt of all addenda, if any, to the RFP, by filling in Addenda Numbers and dates below.

Addendum #: _____ Dated: _____	Addendum #: _____ Dated: _____
Addendum #: _____ Dated: _____	Addendum #: _____ Dated: _____
Addendum #: _____ Dated: _____	Addendum #: _____ Dated: _____

FORM 2

RFP AWARD NOTICE

City of Jacksonville Beach

1460A Shetter Avenue, Jacksonville Beach, FL 32250, (904) 247-6229

NOTICE: Items 1 to 6 are to be completed by the respondent. The respondent is to submit the form to the CITY along with the Proposal Tender Form and other required documents.

1. Company Name: HEART UTILITIES OF JACKSONVILLE, INC.
2. Address: 1180 LANE AVE S.
3. City, State & Zip: JACKSONVILLE FL 32205
4. Attention: SCOTT BARRY
5. Phone: 904 695-3383 Fax: 904 695-3385
6. E-mail address: SCOTT.BARRY@HEARTUTILITIES.COM

PLEASE PRINT CLEARLY

ITEMS BELOW TO BE COMPLETED BY THE CITY OF JACKSONVILLE BEACH

Proposals were received and evaluated, and the following recommendation will be presented to the City Manager for award of RFP No. 08-2021 per the attached Proposal Tabulation form(s).

A written notice of intent to file a protest must be filed with the Property and Procurement Officer within three (3) days after receipt by the respondent of the Notice of Intent to Submit RFP for Approval and Award by City Council from the Property and Procurement Officer in accordance with the procedures set forth in Section XII K., City of Jacksonville Beach Purchasing Manual.

If awarded RFP, please do not proceed with any work prior to receiving an official City of Jacksonville Beach Purchase Order and/or Notice-to-Proceed letter.

Thank you for your proposal.
Sincerely,

CITY OF JACKSONVILLE BEACH
/s/Luis F. Flores
Property and Procurement Division

FORM 3

REQUIRED DISCLOSURE

The following disclosure is of all material facts pertaining to any felony conviction or any pending felony charges in the last three (3) years in this State or any other state or the United States against (1) respondent, (2) any business entity related to or affiliated with respondent, or (3) any present or former owner of respondent or of any such related or affiliated entity. This disclosure shall not apply to any person or entity which is only a stockholder, which person or entity owns twenty (20) percent or less of the outstanding shares of a respondent whose stock is publicly owned and traded:

NONE

Signed: _____

Title: _____

Contractor: _____

HEART UTILITIES OF JACKSONVILLE, INC.

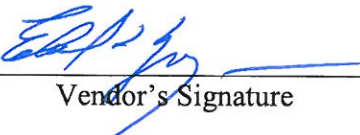
FORM 4

DRUG-FREE WORKPLACE COMPLIANCE

IDENTICAL TIE PROPOSALS - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals, which are equal with respect to price, quality and service, are received by the State or by any political subdivision for the procurement of commodities or contractual services, a proposal received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie proposals will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
- 3) Give each employee engaged in providing the commodities or contractual services that are under contract a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under contract, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
- 5) Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.



Vendor's Signature

FORM 5

NON-COLLUSION AFFIDAVIT

EDWARD L. YOUNG, SR, being first duly sworn deposes and says that:

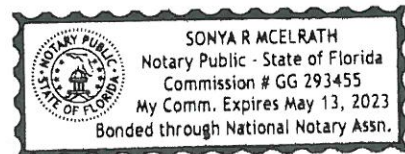
1. He (it) is the PRESIDENT, of HEART UTILITY the respondent that has submitted the attached proposal;
2. He is fully informed respecting the preparation and contents of the attached proposal and of all pertinent circumstances respecting such proposal;
3. Such proposal is genuine and is not a collusive or sham proposal;
4. Neither the said respondent nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affidavit, have in any way, colluded, conspired, connived or agreed, directly or indirectly, with any other respondent, firm or person to submit a collusive or sham proposal in connection with the Contract for which the attached proposal has been submitted; or to refrain from responding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion or communication, or conference with any respondent firm, or person to fix the price or prices in the attached proposal or of any other respondent or to fix any overhead, profit, or cost elements of the proposal price or the proposal price of any other respondent, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against other Respondents, or any person interested in the proposed Contract;
5. The price or prices quoted in the attached proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the respondent or any other of its agents, representatives, owners, employees or parties in interest, including his affidavit.

By: [Signature]

Sworn and subscribed to before me this 14th day of Sept, 2021,
in the State of Florida, County of Duval.

[Signature] Notary Public

My Commission Expires: May 13, 2023



FORM 6

NON-BANKRUPTCY AFFIDAVIT

STATE OF Florida)

COUNTY OF Duval)

Edward L. Young, Sr. is an officer and member of the firm of
Heart Utilities of Jacksonville, Inc. being first duly sworn, deposes and states that;

1. The subsequent certification statement is a true and accurate statement as of the date shown below.
2. The affiant understands that the intentional inclusion of false, deceptive or fraudulent statements on this Non-Bankruptcy Affidavit constitutes fraud; and, that the City of Jacksonville Beach, Florida, considers such action on the part of the affiant to constitute good cause for denial, suspension, revocation, disqualification, or rejection of affiant's participation in **RFP#: 08-2021**.
3. Certification Statement: This is to certify that the aforementioned firm has not filed for bankruptcy in the past seven (7) years and that no owner/officer or principal of the aforementioned firm has filed for bankruptcy personally in the past seven (7) years or has been an owner/officer or principal of a firm which has filed for bankruptcy in the past seven (7) years.

[Signature]
Affiant Signature

Sworn to before me this 14th day of September, 20 21 by Edward L. Young, Sr.
(Name of affiant)

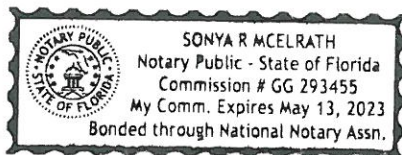
He/She is personally known to me or has produced _____ as identification.

[Signature]
Signature of Notary

Sonya McElrath
Notary's Printed Name

May 13, 2023
Expiration of Notary's Commission

Affix Seal Here:



FORM 7:

SUBCONTRACTOR LISTING

The Respondent has fully investigated each subcontractor listed and has in his files evidence each subcontractor has engaged successfully in his line of work for a reasonable period of time, that he maintains a fully equipped organization capable, technically and financially, of performing the work required, and that he has made similar installations in a satisfactory manner.

1. Subcontractor: N/A
Type(s) of Work: _____
2. Subcontractor: _____
Type(s) of Work: _____
3. Subcontractor: _____
Type(s) of Work: _____

SUBMITTED BY: EDWARD L. YOUNG, SR
Printed Name of Authorized Submitter

COMPANY NAME: HEART UTILITIES OF JACKSONVILLE, INC

ADDRESS: 1180 LANE AVE S.

CITY, STATE & ZIP: JACKSONVILLE, FL 32205

TELEPHONE NUMBER: 904 695-3383

EMAIL ADDRESS: SCOTT BARRY @ HEARTUTILITIES.COM

By: 
Signature of Authorized Submitter

PRESIDENT
Title (typed or neatly printed)

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

Name (as shown on your income tax return)
Heart Utilities of Jacksonville, Inc.

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☒ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ ☐ Exempt payee
☐ Other (see instructions) ▶

Address (number, street, and apt. or suite no.)
1180 Lane Avenue South

City, state, and ZIP code
Jacksonville, FL 32205

List account number(s) here (optional)

Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number								
			-					

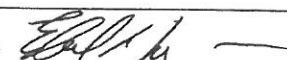
Employer identification number									
2	0	-	4	7	1	7	4	0	3

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here Signature of U.S. person ▶ 

Date ▶ 9/2/21

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

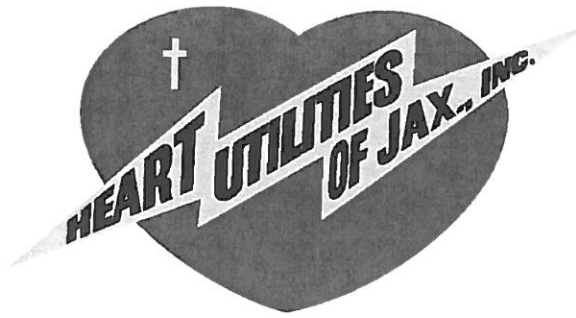
- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.



Heart Utilities of Jacksonville, Inc.

Experience and Capability & Underground Distribution Experience

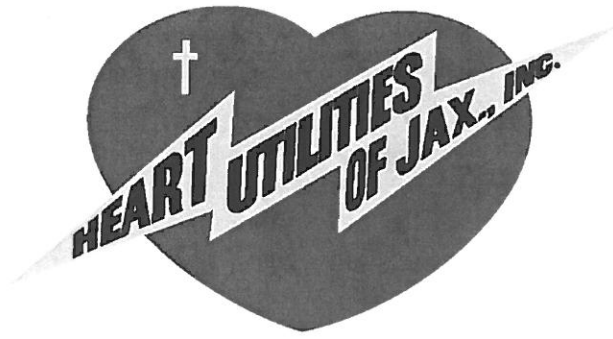
Heart Utilities of Jacksonville has a very successful history and specific expertise in Underground Infrastructure installations and maintenance. We currently have long term contracts with various municipalities within Florida to perform this type of work dating back to 2007. Our Supervision and workforce have many years of experience in performing this type of work.

- 1.) **Project Name:** Electrical Unit Price Maintenance & Construction Contract
Project Description: Overhead to underground conversions of 26KV electrical. This includes installations of transformers up to 500KVA and SF6 switch gear.
Customer: City of Winter Park
401 Park Ave. S., Winter Park, FL
Contact: Dan D' Alessandro 407 643-1664

10/07 – Ongoing
- 2.) **Project Name:** Electrical Unit Price Maintenance & Construction Contract
Project Description: Installation of underground electric conduit, manholes, cable, transformers and switch gear.
Customer: Beaches Energy Services
11 3rd St N Jacksonville Beach, FL 32250
Contact: Don Cuevas 904 270-1686

2/10 – Ongoing
- 3.) **Project Name:** JEA Underground Distribution Unit Price Construction and Maintenance
Project Description: Installation of underground electric conduit, manholes, cable, transformers and switch gear.
Customer: Jacksonville Electric Authority
21 West Church Street Jacksonville, FL 32202
Contact: Josh Gordon 904 655-5149

2/20 – Ongoing



Heart Utilities of Jacksonville, Inc.

Headquarter Location

Heart Utilities of Jacksonville is headquartered in Jacksonville Florida. Our headquarters are located off of Lane Avenue in Jacksonville FL. We are located within 30 minutes of Jacksonville Beach FL. We have a total of 110,000 square foot of Warehouse, Office, Mechanic Shop, and Storage buildings on eight acres to assist in serving our client's needs.

City of
Jacksonville Beach
Property and
Procurement Division
1460A Shetter Avenue
Jacksonville Beach
FL 32250
Phone: 904.247.6229
Email: purchasing@jaxbchfl.net
www.jacksonvillebeach.org

This is the only recommendation notice you will receive. If there are other representatives in your firm working on this project, please forward to their attention.

NOTICE OF INTENT TO SUBMIT RFP FOR APPROVAL AND AWARD BY CITY COUNCIL

Date: October 5, 2021
From: Luis F. Flores, Property and Procurement Officer
RE: **RFP No. 08-2021**

Recommendation will be presented to the City Manager for:

RFP Number: 08-2021
Title: Installation of Underground Infrastructure

Award to: ***Heart Utilities of Jacksonville, Inc.***

Attached is the Selection Committee Collective Summary.

In accordance with the procedures set forth in Section XII K., of the City of Jacksonville Beach Purchasing Manual, a written notice of intent to file a protest must be filed with the Property and Procurement Officer within three (3) business days, Monday through Friday, 8:00 AM – 4:00 PM, after receipt by the respondent of the Notice of Intent to Submit RFP for Approval and Award By City Council from the Property and Procurement Officer.

The City reserves the right to further negotiate any proposal, including price, with the highest rated respondent. If an agreement cannot be reached with the highest rated respondent, the City reserves the right to negotiate and recommend award to the next ranked respondent or subsequent respondents, until an agreement is reached.

If awarded, please do not proceed with any work prior to receiving an official City of Jacksonville Beach Purchase Order and/or Notice-to-Proceed letter.

We would like to thank each respondent for their submittal.

Luis F. Flores

Luis F. Flores, Property and Procurement Officer
1460A Shetter Avenue, Jacksonville Beach, FL 32250



Criteria 1 - Price (25 Points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Heart Utilities of Jacksonville, Inc.	22	23	20	21.66666667

Criteria 2 - Experience and Capability (25 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Heart Utilities of Jacksonville, Inc.	23	24	25	24

Criteria - 3 Similar Projects and References (25 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Heart Utilities of Jacksonville, Inc.	23	24	20	22.33333333

Criteria - 4 Location of Firm (25 points)				
VENDOR	Member 1	Member 2	Member 3	SCORE
Heart Utilities of Jacksonville, Inc.	23	25	25	24.33333333

VENDOR	SCORE	Rank
Heart Utilities of Jacksonville, Inc.	92.333333	1



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Mayor and City Council
FROM:	Sandra R. Robinson, City Attorney
DATE:	02/11/2022
SUBJECT:	Contract for Special Magistrate Services

BACKGROUND

The City entered into a contract with Lewis, Longman & Walker, P.A. for primary and alternate Special Magistrate services for Code Enforcement on March 2, 2020. That contract allows for annual one-year extensions, to be executed by City Council adoption of a resolution. The City Council approved the first one-year extension on April 19, 2021 via Resolution Number 2083-2021 retroactive to March 2, 2021. That extension expires on March 1, 2022. The City is satisfied with the services being provided, and both parties wish to continue this contractual relationship. This will mark the second extension to the contract.

FINANCIAL IMPACT

Sufficient funds are budgeted through the remainder of FY22 to support extension of this contract.

REQUESTED ACTION

Adopt/Deny Resolution No. 2103-2022 extending the contract with Lewis, Longman, & Walker for Special Magistrate services

ATTACHMENTS

1. Resolution No. 2103-2022 Extension of Contract for Special Magistrate Services

Introduced by: _____
Adopted: _____

RESOLUTION NO. 2103-2022

A RESOLUTION OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, EXTENDING THE CONTRACT BETWEEN THE CITY OF JACKSONVILLE BEACH AND LEWIS, LONGMAN & WALKER, P.A., FOR PRIMARY AND ALTERNATE SPECIAL MAGISTRATE SERVICES FOR CODE ENFORCEMENT FOR A ONE YEAR TERM; PROVIDING FOR ADOPTION OF RECITALS, REPEAL OF PRIOR INCONSISTENT RESOLUTIONS AND COUNCIL DECISIONS, SEVERABILITY, AND AN EFFECTIVE DATE.

WHEREAS, upon approval by the City Council, on March 2, 2020, the City of Jacksonville Beach ("City") and the law firm of Lewis, Longman & Walker, P.A., entered into a Contract for Primary and Alternate Special Magistrate Services for Code Enforcement (the "Contract"); and

WHEREAS, Section 2 of the Contract provides that the term of the Contract is effective as of the Effective Date (March 2, 2020) and shall continue for one year, and that the term may be extended annually upon a resolution of the City Council provided each term extension may not exceed one year; and

WHEREAS, the City Council approved the first one-year extension of the Contract on April 29, 2021 via Resolution No. 2083-2021; and

WHEREAS, the City and Lewis, Longman & Walker, P.A., agree that it is mutually beneficial to extend the Contract with no amendments for an additional one year term; and

WHEREAS, the City Council hereby finds that this resolution serves a legitimate government purpose, it is a permissible exercise of the City's powers and authority, and benefits the public health, safety, and welfare of the citizens, residents, and guests of the City of Jacksonville Beach.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, THAT:

SECTION 1. Adoption of Recitals. The foregoing recitals are deemed true and material parts of this resolution and are fully incorporated herein by reference.

SECTION 2. Extension of Contract for Primary and Alternate Special Magistrate Services for Code Enforcement. The terms of the Contract Between the City Of Jacksonville Beach and Lewis, Longman & Walker, P.A., for Primary and Alternate Special Magistrate Services For Code Enforcement entered into on March 2, 2020 and attached hereto as Exhibit A are hereby extended for a second one-year term commencing March 2, 2022, and expiring on March 1, 2023. All other conditions, requirements, and provisions of the Contract remain unchanged and in full force and effect.

SECTION 3. Repeal of Prior Inconsistent Resolutions and Council Decisions. All prior resolutions or parts of resolutions in conflict herewith are hereby repealed to the extent of the conflict.

SECTION 4. Severability. If any section, sentence, clause, or phrase of this resolution should be held invalid, unlawful, or unconstitutional, said determination shall not be held to invalidate or impair the validity, force, or effect of any other section, sentence, phrase, or portion of this resolution not otherwise determined to be invalid, unlawful, or unconstitutional.

SECTION 5. Effective Date. This resolution shall become effective immediately upon passage and adoption by City Council.

AUTHENTICATED this ____ day of _____, 2022.

Christine H. Hoffman, Mayor

Sheri Gosselin, City Clerk

Approved as to form and content:

Sandra R. Robinson, City Attorney

**CONTRACT BETWEEN THE CITY OF JACKSONVILLE BEACH AND LEWIS,
LONGMAN & WALKER, P.A. FOR PRIMARY AND ALTERNATE SPECIAL
MAGISTRATE SERVICES FOR CODE ENFORCEMENT**

This CONTRACT is made and entered into on the 2ND day of March, 2020 (“Effective Date”), by and between the City of Jacksonville Beach, a public body politic and municipal corporation organized and existing under the Laws of Florida, whose address is: City of Jacksonville Beach, 11 North Third Street, Jacksonville Beach, Florida, 32250 (“CITY”), and Lewis, Longman & Walker, P.A., a Florida professional service corporation, FEIN 65-0500793, whose address is 245 Riverside Avenue, Suite 510, Jacksonville, Florida 32202 (“CONTRACTOR”), collectively (the “Parties”) who hereby agree as follows:

WITNESSETH

WHEREAS, the City Council of the CITY determined there exists the need for Primary and Alternate Special Magistrate Services for Code Enforcement in the City of Jacksonville Beach (hereinafter collectively “Special Magistrate Services”); and

WHEREAS, the CITY has designated a regular schedule of the fourth Wednesday at 2:00 p.m., each month, to conduct Special Magistrate hearings in City Council Chambers, which the CITY is determined to maintain for the benefit of the public and City departments; and

WHEREAS, the City Council and the City Attorney determined that the best arrangement for provision of the Special Magistrate Services would be to have a single law firm with multiple qualified attorneys to provide Primary and Alternate Special Magistrate Services for the regular scheduled hearings and any special scheduled hearings; and

WHEREAS, the CONTRACTOR submitted a proposal to the CITY for provision of Primary and Alternate Special Magistrate Services for Code Enforcement; and

WHEREAS, the City Council selects the CONTRACTOR to provide the CITY with Special Magistrate Services; and

NOW THEREFORE, in consideration of the mutual benefits to the CITY and CONTRACTOR, the following covenants and contracts are set forth to which the Parties agree as follows:

SECTION 1. SCOPE OF WORK.

The Parties agree the CONTRACTOR will provide Primary and Alternate/Backup Special Magistrate Services to the CITY in accordance with the City of Jacksonville Beach Code of Ordinances, Chapter 2, Article VI, and Chapter 162, Florida Statutes. CONTRACTOR agrees that Wayne E. Flowers, Esq., will serve as Primary Special Magistrate for Code Enforcement for the CITY and that during the term of this Contract Wayne E. Flowers will not serve as a Special Magistrate for another city or hold another “office” that would violate the dual office holding prohibition contained in Article II, section 5(a) of the Florida Constitution. The CONTRACTOR will also provide several qualified Florida licensed attorneys to serve as alternate Special Magistrate in the event that the Primary Special Magistrate is unable to attend any hearing. The Parties’ intention is that there will always be a qualified Special Magistrate to attend regular scheduled hearings on the fourth Wednesday at 2:00 p.m., each month, and any special scheduled hearings. The Special Magistrate may rely on the City Clerk’s office to provide notice of hearings and to assist with coordination and planning of hearings.

SECTION 2. TERM.

The term of this Contract shall become effective on the Effective Date stated above and continue for one (1) year. The term may be extended annually upon a Resolution of the City Council, provided each term extension may not exceed one (1) year.

SECTION 3. STANDARD OF CARE.

a. The CONTRACTOR has represented to the CITY that it possesses a level of knowledge, experience, and expertise that is commensurate with firms in the areas of practice required for the services to be provided. By executing this Contract, the CONTRACTOR agrees that the CONTRACTOR will exercise that degree of care, knowledge, skill and the ability as any other similarly situated contractor possessing the degree of skill, knowledge, experience, and expertise within the local area, working on similar activities. The CONTRACTOR shall perform the services requested in an efficient manner, consistent with the CITY's stated Scope of Services and industry standards.

b. The CONTRACTOR covenants and agrees that it and its employees, agents, subcontractors, representatives, volunteers, and the like, shall be bound by the same standards of conduct as stated above.

SECTION 4. COMPENSATION.

a. The CONTRACTOR agrees, for the consideration herein, to the following compensation:

- (i) The professional Special Magistrate Services fee shall be based on the number of hearings conducted/presided over by CONTRACTOR. If two (2) or fewer hearings are held in a month, hearings will be billed at Five Hundred Dollars (\$500.00) each. If more than two hearings are held in a month, but less than six, the total fee will be Two Thousand Dollars \$2,000 for the month. If more than five hearings are held in a month, in addition to the \$2,000 fee, any hearing above five (5) will be billed at Five Hundred Dollars (\$500.00) each.
- (ii) CONTRACTOR and CITY agree that in September, 2020, the City Manager and CONTRACTOR shall review this compensation for fairness to the City and Contractor.

b. Compensation for services completed by the CONTRACTOR will be paid in accordance with Florida's Prompt Payment Act, Section 218.70, et seq., Florida Statutes.

c. Services to be performed in accordance with this Contract are subject to the annual appropriation of funds by the CITY. In the event sufficient budgeted funds are not available for a new fiscal period, the CITY will notify the CONTRACTOR of such occurrence and this Contract will terminate on the last day of the current fiscal period without penalty or expense to the CITY. In its sole discretion, the CITY reserves the right to forgo use of the CONTRACTOR for any project which may fall within the Scope of Services listed in this Contract. In the event the CITY is not satisfied with the services provided by the CONTRACTOR, the CITY will hold any amounts due until such time as the CONTRACTOR has appropriately addressed the problem.

d. The CONTRACTOR shall submit invoices once a month, in the month following code enforcement hearings held by the Special Magistrate, to the City of Jacksonville Beach for services performed, including the expenses or other charges accounted for under this Contract during the month immediately preceding said invoice. The CONTRACTOR will pay all sales, employment, and other applicable taxes that arise or may arise from the services performed under this Contract.

SECTION 5. TERMINATION AND FORCE MAJEURE.

- a. Termination. The CONTRACTOR shall serve at the pleasure of the City Council and may be removed from service at any time with or without cause upon resolution approved by a majority vote of the City Council present and voting. Such termination shall be effective upon thirty (30) days' written notice to CONTRACTOR. The CONTRACTOR may terminate this Contract with or without cause upon sixty (60) days' written notice to the CITY. In the event the Contract is terminated by the CONTRACTOR or is terminated by the CITY for reasons unrelated to the quality of work provided by the CONTRACTOR, the CITY shall pay the CONTRACTOR in full for all work actually performed prior to the date of termination. This payment shall be the sole financial obligation or responsibility of the CITY for compensation under this Contract in the event of termination. Upon termination of this Contract, however terminated, the CONTRACTOR shall turn over to the CITY all work product completed, or partially completed, up to the date of termination. The CITY will have full right to use such work product in any manner, in the sole discretion of the CITY.
- b. Force Majeure. Neither Party to this Contract will be liable for its failure to perform under the Contract due to any circumstances beyond its reasonable control such as act of God, wars, riots, national emergencies, sabotage, strikes, labor disputes, accidents, and governmental laws, ordinances, rules, or regulations. The CONTRACTOR or CITY may suspend its performance under this Contract as a result of Force Majeure without being in default of the Contract, but upon removal of such Force Majeure the CONTRACTOR or CITY will resume its performance as soon as reasonably possible.

SECTION 6. INSURANCE.

The CONTRACTOR shall maintain such insurance as specified in **Exhibit A** (Insurance Requirements) to protect the CITY from any or all claims for property damage, personal injury, and bodily injury including death, which may arise from operations under this CONTRACT. Certificates of such insurance shall be provided to the CITY within fifteen (15) days of execution of this Contract and shall also be subject to its approval for adequacy of protection. The CITY shall be named as an additional insured under all policies, except CONTRACTOR's malpractice insurance.

SECTION 7. APPLICABLE LAW, VENUE, JURY TRIAL.

The laws of the State of Florida shall govern all aspects of this Contract. In the event it is necessary for either party to initiate legal action regarding this Contract, venue will lie in Duval County, Florida. The Parties hereby waive their right to trial by jury in any action, proceeding or claim, arising out of this Contract, which may be brought by either of the Parties.

SECTION 8. INDEPENDENT CONTRACTOR.

This Contract does not create an employee/employer relationship between the Parties. It is the Parties' intention that the CONTRACTOR, its employees, subcontractors, representatives, volunteers, and the like, will be an independent contractor and not an employee of the CITY for all purposes, including, but not limited to, the application of the following, as amended: the Fair Labor Standards Act minimum wage and overtime payments, the Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the State of Florida revenue and taxation laws, the State of Florida workers' compensation laws, the State of Florida unemployment insurance laws, and the Florida Retirement System benefits. The CONTRACTOR will retain sole and absolute discretion in the judgment on the manner and means of carrying out the CONTRACTOR's activities and responsibilities under this Contract.

SECTION 9. APPLICABLE LICENSING.

The CONTRACTOR, at its sole expense, shall obtain all required federal, state, and local licenses, occupational and otherwise, required to successfully provide the services set forth herein.

SECTION 10. COMPLIANCE WITH ALL LAWS.

The CONTRACTOR, at its sole expense, shall comply with all laws, ordinances, judicial decisions, orders, and regulations of federal, state, county, and CITY, as well as their respective departments, commissions, boards, and officers, which are in effect at the time of execution of this Contract or are adopted at any time following the execution of this Contract.

SECTION 11. INDEMNIFICATION.

The CONTRACTOR agrees to be liable for any and all damages, losses, and expenses incurred, by the CITY, caused by the negligent acts and/or omissions of the CONTRACTOR, or any of its employees, agents, sub- contractors, representatives, volunteers, or the like. The CONTRACTOR agrees to indemnify, defend and hold the CITY harmless for any and all claims, suits, judgments, or damages, losses and expenses, including but not limited to, court costs, expert witnesses, consultation services and attorney's fees, arising from any and all negligent acts and/or omissions of the CONTRACTOR, or any of its employees, agents, subcontractors, representatives, volunteers, or the like. Indemnification, defense, and hold harmless actions shall not be limited by any insurance amounts required in this Contract. This provision shall survive termination of this Contract.

SECTION 12. SOVEREIGN IMMUNITY.

The CITY expressly retains all rights, benefits and immunities of sovereign immunity in accordance with Section 768.28, Florida Statutes. Notwithstanding anything set forth in any section, article or paragraph of this Contract to the contrary, which may have been adopted by the Florida Legislature or may be adopted by the Florida Legislature, the cap on the amount and liability of the CITY for damages, attorney's fees and costs, regardless of the number or nature of claims in tort, equity or contract, must not exceed the dollar amount set by the Florida Legislature for tort. Nothing in this Contract shall inure to the benefit of any third party for the purpose of allowing any claim against the CITY which would otherwise be barred under the doctrine of sovereign immunity or operation of law.

SECTION 13. BANKRUPTCY OR INSOLVENCY.

If the CONTRACTOR shall file a petition in bankruptcy, or if the same shall be adjudged bankrupt or insolvent by any court, or if a receiver of the property of the CONTRACTOR shall be appointed in any proceeding brought by or against the CONTRACTOR, or if the CONTRACTOR shall make an assignment for the benefit of creditors, or proceedings shall be commenced on or against the CONTRACTOR's operations, the CITY may terminate this Contract immediately notwithstanding the notice requirements of Section 5.

SECTION 14. BINDING EFFECT.

This Contract shall be binding upon and inure to the benefit of the Parties hereto, their heirs, personal representatives, successors, and/or assigns.

SECTION 15. ASSIGNMENT.

This Contract is assignable by the CONTRACTOR only with express written consent of CITY.

SECTION 16. SEVERABILITY.

All clauses found herein shall act independently of each other. If a clause is found to be illegal

or unenforceable, it will have no effect on any other provision of this Contract. It is understood by the Parties that if any part, term, or provision of this Contract is by the courts held to be illegal or in conflict with any law of the State of Florida, or the United States, the validity of the remaining portions or provisions will not be affected, and the rights and obligations of the Parties will be construed and enforced as if the Contract did not contain the particular part, term, or provision held to be invalid.

SECTION 17. WAIVER.

Failure of the Parties to insist upon strict performance of any of the covenants, terms, provisions, or conditions, of this Contract, or to exercise any right or option contained in this Contract will not be construed as a waiver or a relinquishment for the future of any such covenant, term, provision, condition, or right of election, which will continue to remain in full force and effect.

SECTION 18. MODIFICATION.

The covenants, terms, and provisions of this Contract may be modified by way of a written instrument, mutually accepted by the Parties hereto, pursuant to approval by the City Council. In the event of a conflict between the covenants, terms, and/or provisions of this Contract and any written amendment(s), the provisions of the latest executed instrument shall take precedence.

SECTION 19. HEADINGS.

All headings of the sections, exhibits, and attachments contained in this Contract are for the purpose of convenience only and do not expand, limit or change the provisions contained in such sections, exhibits, and attachments.

SECTION 20. JOINT AUTHORSHIP.

This Contract results from joint negotiation and authorship. No part of this Contract will be construed as the product of any one of the Parties hereto.

SECTION 21. EQUAL OPPORTUNITY EMPLOYER.

The CONTRACTOR is an Equal Opportunity Employer and will comply with all equal opportunity employment laws. The CONTRACTOR will further ensure that all subcontractors it utilizes in providing the services required hereunder will comply with all equal opportunity employment laws.

SECTION 22. PUBLIC RECORDS.

The CONTRACTOR agrees to comply with the Florida Public Records Act, as applicable, including, but not limited to Section 119.0701 of the Florida Statutes. Documents which are considered public records herein under Florida law may include, but are not limited to: records related to the entry, management and implementation of this Contract itself; emails/correspondence between the CITY and the CONTRACTOR related to this Contract; emails or correspondence from all other entities related to this Contract (i.e., subcontractors, suppliers, vendors, etc.); billing and related documents; plans or other documents that may be necessary, reports, etc.; subcontracts; and all vendor invoices. The CONTRACTOR agrees, to the extent required by law, to:

- a. Keep and maintain public records that ordinarily and necessarily would be required by the public agency in performing the services of the Contract;
- b. Provide the public with access to the public records under the same terms and conditions that

the CITY would provide the records and at a cost that does not exceed the cost provided for by law;

c. Ensure that the public records that are exempt or confidential, and exempt from public record disclosure requirements, are not disclosed, except as authorized by law; and

d. Meet all requirements for public records and transfer, at no cost, to the CITY, all public records in possession of the CONTRACTOR, upon termination or completion of the Contract and destroy any duplicate public records that are exempt or confidential, or exempt from public record disclosure requirements.

Furthermore, the CONTRACTOR agrees that all records stored electronically shall be provided to the CITY in a format that is compatible with the information technology systems of the CITY. The CONTRACTOR shall promptly provide the CITY with a copy of any request to inspect or copy public records that the CONTRACTOR receives and a copy of the CONTRACTOR's response to each request. The CONTRACTOR understands and agrees that failure to provide access to the public records shall be a material breach of this Contract and grounds for termination.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (904) 247- 6268, LAURIE SCOTT at lscott@jaxbchfl.net, AND CITY HALL, 11 NORTH THIRD STREET, JACKSONVILLE BEACH, FL 32250.

THE CONTRACTOR ACKNOWLEDGES THAT THE CITY OF JACKSONVILLE BEACH CANNOT AND WILL NOT PROVIDE LEGAL OR BUSINESS ADVICE TO THE CONTRACTOR WITH RESPECT TO ITS OBLIGATIONS PURSUANT TO THIS SECTION RELATED TO PUBLIC RECORDS. THE CONTRACTOR ACKNOWLEDGES THAT IT WILL NOT RELY ON THE CITY OF JACKSONVILLE BEACH OR ITS CITY ATTORNEY TO PROVIDE SUCH BUSINESS OR LEGAL ADVICE AND THAT CONTRACTOR HAS BEEN ADVISED TO SEEK PROFESSIONAL ADVICE WITH REGARD TO PUBLIC RECORDS MATTERS ADDRESSED BY THIS CONTRACT.

SECTION 23. NOTICE.

All notices required to be given to the CITY or CONTRACTOR will be sent by (a) registered or certified mail, and notice is deemed to have been given on the date of acceptance; or (b) delivery (i.e., courier or other hand delivery), overnight delivery, or email, and notice is deemed to have been given on the day of delivery or transmission. If the day of notice is a Saturday, Sunday, or legal holiday, notice is deemed to have been given on the first calendar day thereafter which is not a Saturday, Sunday, or legal holiday.

All notices required to be given to the CITY shall be made to the CITY at:

City of Jacksonville Beach
Attention: City Manager
11 North Third Street
Jacksonville Beach, FL 32250
Phone: (904) 247-6268
Email: mstaffopoulos@jaxbchfl.net

With a copy to:

City Clerk

City of Jacksonville Beach 11 North Third Street

Jacksonville Beach, FL 32250

Phone: (904) 247-6268

Email: lscott@jaxbchfl.net

Or to such other address or facsimile number as the CITY may direct from time to time by written notice forwarded to the CONTRACTOR as provided above.

All notices required to be given to CONTRACTOR hereunder shall be sent to CONTRACTOR

at: Lewis, Longman & Walker, P.A.

Attention: Wayne E. Flowers, Esq.

245 Riverside Avenue, Suite 510

Jacksonville, FL 32202

Phone: (904) 353-6410

Fax: (904) 353-7619

Email: wflowers@llw-law.com

or to such address as the CONTRACTOR may direct from time to time by written notice forwarded to the CITY as provided above. E-mail transmittal of notices are considered delivered as of the date of electronic transmission. Both Parties will supplement emailed notices with a formal version of the notice as outlined above.

SECTION 24. MISCELLANEOUS.

1. CONTRACTOR has been made aware of the Florida Public Entity Crimes Act, § 287.133, Florida Statutes, and the CITY's requirement that the CONTRACTOR has complied with it in all respects prior to and will comply with it in all respects during the term of this Contract.
2. CONTRACTOR and any Subcontractors understand and will comply with Section 20.055(5) of the Florida Statutes and thereby agree to cooperate with the inspector general in any investigation, audit, inspection, review, or hearing pursuant to said Section.
3. The Parties represent and warrant that they have entered into this Contract relying wholly upon their own judgment, belief and knowledge of the nature, extent, effect and duration of any actions, damages and liability therefore. The Parties represent that they enter into this Contract without relying upon any statement or representation of the other party other than what has been set forth in writing in this Contract. The Parties represent that they have had the opportunity to discuss this matter with counsel of their choosing and are satisfied with its counsel and the advice received. The Parties understand this Contract's contents and agree that this Contract will not be construed more strongly against any party hereto, regardless of who is responsible for its preparation or drafting. The Parties further declare and represent that no promise, inducement, agreement or understanding not expressed in this Contract has been made to an adverse party and that the terms of this Contract are contractual and not a mere recital.
4. All words used herein in the singular shall extend to and include the plural, and the use of any gender shall extend to and include all genders. The term "including" is not limiting.
5. This Contract shall be executed by the respective duly authorized officials, and shall take effect as of the day and year first above written.

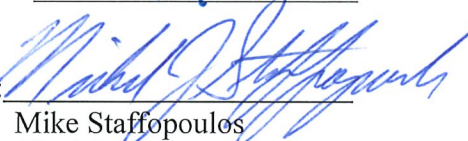
IN WITNESS WHEREOF, the City and Contractor have signed this Contract.

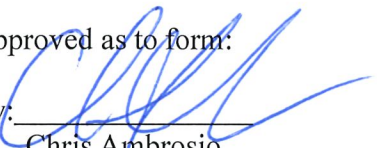
CITY OF JACKSONVILLE BEACH

By: 
William C. Latham, Mayor

Date: 3/6/20

Attest: 
Laurie Scott
City Clerk

By: 
Mike Staffopoulos
City Manager
Date: 03/06/2020

Approved as to form:
By: 
Chris Ambrosio
City Attorney

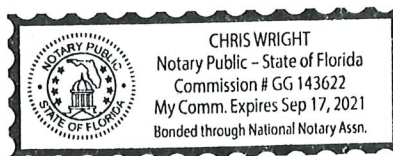
LEWIS, LONGMAN & WALKER, P.A.

By: _____
Print: _____
Shareholder
Date: _____

STATE OF FLORIDA)
)
COUNTY OF DUVAL)

The foregoing instrument was acknowledged before me by means of ☒ physical presence or
☐ online notarization, this 6th day of March 2020, by March (name of person
acknowledging), who is personally known to me or has produced _____ (type of
identification) as identification.

NOTARY PUBLIC:
Sign: 
Print: Chris Wright
My Commission Expires:



IN WITNESS WHEREOF, the City and Contractor have signed this Contract.

CITY OF JACKSONVILLE BEACH

By: _____

William C. Latham, Mayor

Date: _____

Attest: _____

Laurie Scott
City Clerk

By: _____

Mike Staffopoulos
City Manager

Date: _____

Approved as to form:

By: _____

Chris Ambrosio
City Attorney

LEWIS, LONGMAN & WALKER, P.A.

By: Wayne E. Flowers

Print: Wayne E. Flowers
Shareholder

Date: 3-12-20

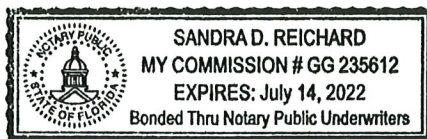
The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 12th day of March 2020, by Wayne Flowers (name of person acknowledging), who is personally known to me or has produced _____ (type of identification) as identification.

NOTARY PUBLIC:

Sign: Sandra D. Reichard

Print: _____

My Commission Expires: _____





CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

02/10/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Marsh & McLennan Agency - Tequesta 218 S US Hwy 1, Ste 300 Tequesta FL 33469	CONTACT Norma Forbes NAME: PHONE (561) 746-4546 FAX (561) 746-9599 (A/C, No, Ext): E-MAIL: nforbes@mmla-fl.com ADDRESS:														
INSURED Lewis, Longman & Walker, PA 515 North Flagler Drive Suite 1500 West Palm Beach FL 33401	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">INSURER(S) AFFORDING COVERAGE</th> <th style="text-align: center;">NAIC #</th> </tr> <tr> <td>INSURER A : Hartford Casualty Insurance Co.</td> <td></td> </tr> <tr> <td>INSURER B : Hartford Underwriters Ins. Co</td> <td></td> </tr> <tr> <td>INSURER C : Indian Harbor Insurance Company</td> <td></td> </tr> <tr> <td>INSURER D :</td> <td></td> </tr> <tr> <td>INSURER E :</td> <td></td> </tr> <tr> <td>INSURER F :</td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : Hartford Casualty Insurance Co.		INSURER B : Hartford Underwriters Ins. Co		INSURER C : Indian Harbor Insurance Company		INSURER D :		INSURER E :		INSURER F :	
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COVERAGES

CERTIFICATE NUMBER: CL1961019845

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	☒ COMMERCIAL GENERAL LIABILITY	Y		21SBQBX4304	07/01/2019	07/01/2020	EACH OCCURRENCE	\$ 1,000,000
	☐ CLAIMS-MADE ☒ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 300,000
							MED EXP (Any one person)	\$ 10,000
							PERSONAL & ADV INJURY	\$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	\$ 2,000,000
	☒ POLICY ☐ PROJECT ☐ LOC						PRODUCTS - COMP/OP AGG	\$ 2,000,000
	OTHER:							\$
A	☐ AUTOMOBILE LIABILITY			21SBQBX4304	07/01/2019	07/01/2020	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
	☐ ANY AUTO						BODILY INJURY (Per person)	\$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	\$
	☒ HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	\$
								\$
	☒ UMBRELLA LIAB ☒ OCCUR			21SBQBX4304	07/01/2019	07/01/2020	EACH OCCURRENCE	\$ 5,000,000
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	\$ 5,000,000
	☐ DED ☐ RETENTION \$							\$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	N/A		21WEQAP2400	07/01/2019	07/01/2020	☒ PER STATUTE ☐ OTHER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT	\$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	\$ 1,000,000
C	Lawyers Professional Liability			LPN903909800 / LX800102	07/01/2019	07/01/2020	Each Claim	\$5,000,000
	Evanston Excess Professional Liability						Excess over \$5M	\$5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

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City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Mayor and City Council Members
FROM:	Michael J. Staffopoulos, City Manager
DATE:	01/21/2022
SUBJECT:	Ordinance No. 2022-8171 Amendments to the Charter of the City of Jacksonville Beach

BACKGROUND

Beginning in April 2021 and ending in January 2022 with the assistance of Attorney Cliff Shepard, the City Council studied and reviewed the City of Jacksonville Beach Charter (the "Charter") in multiple public meetings and received public input regarding proposed amendments to the Charter. As a result, the City Council has determined that the Charter should be updated and revised in various sections to clarify and modernize the language in a manner consistent with state law and current practice.

Ordinance No. 2022-8171 embodies the totality of the proposed amendments to the City's Charter that the City wishes the electorate to consider at the next election on November 8, 2022. The proposed amendments, the ballot title, and the wording of the substance of the proposed amendments to the Charter as the City wishes them to appear on the ballot (in the form of questions) are affixed to the Ordinance as Composite Exhibit 1.

FINANCIAL IMPACT

None.

REQUESTED ACTION

Approve/Disapprove Ordinance No. 2022-8171 regarding amendments to the Charter of the City of Jacksonville Beach on the first reading and schedule a second reading for March 7, 2022

ATTACHMENTS

1. Ordinance No. 2022-8171 Charter Amendments
2. Composite Ex. 1 - Proposed Amendments

Introduced by: _____
1st Reading: _____
2nd Reading: _____

ORDINANCE NO. 2022-8171

AN ORDINANCE OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, SUBMITTING TO THE ELECTORS OF JACKSONVILLE BEACH PROPOSED AMENDMENTS TO THE CHARTER OF THE CITY OF JACKSONVILLE BEACH; PROVIDING BALLOT TITLES, SUMMARIES AND TEXT FOR THE PROPOSED AMENDMENTS; PROVIDING DIRECTIONS TO THE CITY CLERK; PROVIDING FOR SEVERABILITY; PROVIDING FOR AN EFFECTIVE DATE FOR APPROVED AMENDMENTS; PROVIDING FOR AN EFFECTIVE DATE FOR THE ORDINANCE.

WHEREAS, the members of the City of Jacksonville Beach City Council have, in public meetings, studied and reviewed the City of Jacksonville Beach Charter (the "Charter") and received public input regarding proposed amendments to the Charter; and

WHEREAS, the City Council has determined that the Charter should be updated and revised in various sections; and

WHEREAS, Section 166.031, Florida Statutes, provides that the governing body of a municipality may, by ordinance, submit to the electors of said municipality proposed amendments to its charter, which amendments may be to any part or to all of its charter except that part describing the boundaries of such municipality; and

WHEREAS, the City Council held a series of public meetings over several months, beginning on April 22, 2021, and ending on January 20, 2022; and

WHEREAS, the City Council has reviewed the entire Charter over that time period and considered a number of changes which, if adopted by the electorate, would serve to clarify and modernize the language of the Charter in a manner consistent with state law and current practice; and

WHEREAS, the City Council finds it to be in the best interests of its citizens to submit said proposed Charter amendments to the voters at the municipal election on November 8, 2022.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JACKSONVILLE BEACH, FLORIDA:

Section 1. The City Council of the City of Jacksonville Beach, pursuant to Section 166.031, Florida Statutes, hereby proposes and approves amendments to the Charter of the City of Jacksonville Beach to be submitted to the electorate for consideration, which proposed amendments and the complete text thereof, as amended, are set forth in Section 3 below. Additions are shown with underlining, deletions are shown with ~~strike through~~ type, and asterisks (***) indicate an omission from the existing text which is intended to remain unchanged.

Section 2. Such election shall be held in conformity with the laws of the State of Florida and the Charter and ordinances of the City of Jacksonville Beach now in force relating to elections in the City of Jacksonville Beach. The Supervisor of Elections of Duval County is hereby requested to coordinate all matters to said referendum election with the City Clerk. The proposed charter amendments shall be submitted to the voters at the November 8, 2022 election.

Section 3. The proposed amendments, the ballot title, and the wording of the substance of the proposed amendments to the Charter, as contained in this Ordinance, shall appear on the ballot in the form of questions affixed to this Ordinance as Composite Exhibit 1.

Section 4. The City Clerk is hereby directed to ensure that all advertising, translation, and notice requirements are complied with and to coordinate all activities necessary to conduct the referendum election called for in Section 2 of this Ordinance with the Supervisor of Elections for Duval County.

Section 5. If any section, subsection, sentence, clause, phrase, or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portion hereto. Further, the lack of approval by a majority of electors of one or more separate amendments to this Charter, as set forth in Section 3 herein, shall not be deemed to affect the validity of any amendments that may be approved by a majority of the electors.

Section 6. All ordinances and Charter provisions, or parts of ordinances and Charter provisions in conflict herewith are hereby repealed.

Section 7. This Ordinance shall take effect immediately and pursuant to the City's Charter. The revised Charter provisions proposed for approval in this Ordinance shall become effective upon their approval at a referendum election of the electors of the City of Jacksonville Beach in accordance with Section 166.031, Florida Statutes. If the electors reject an amendment, the rejected amendment shall not take effect.

AUTHENTICATED THIS _____ DAY OF _____, A.D., 2022.

Christine Hoffman, Mayor

Sheri Gosselin, City Clerk

94 **COMPOSITE EXHIBIT 1**

95
96 **Explanation, Ballot Title, Question, Summary, and Text References**

97
98 **Question 1 - Gender Neutrality**

99
100 **A. Explanation.**

101
102 This Charter amendment would remove or make neutral all gender specific references in
103 the City Charter.

104
105 **B. Ballot Proposal:** The ballot title, question and summary for Question #1 are as follows:

106
107 REMOVING OR MAKING NEUTRAL ALL GENDER
108 SPECIFIC REFERENCES IN THE CITY CHARTER

109
110 Amending the Charter by removing or making neutral all gender specific
111 references contained in the City Charter.

112
113 _____ Yes

114
115 _____ No

116
117 **C. Text References:** Chapter 1, Sections 3(a), 4, 5, and 6; Chapter 3, Sections 15,
118 18, 19, and 24; Chapter 5, Sections 26, 28, 29, 31, and 33; Chapter 6, Section 37;
119 all of the City of Jacksonville Beach Charter to be amended as set forth in those
120 sections in the "All Proposed Changes" document below. (Underline text is added
121 to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

122
123 **Question 2 - Elimination of Obsolete Provisions and Correcting Grammar and Punctuation**

124
125 **A. Explanation.**

126
127 This Charter amendment would eliminate and/or correct several obsolete and outdated
128 provisions that are inconsistent with current government laws and practices and corrects
129 grammatical and punctuation errors.

130
131 **B. Ballot Proposal:** The ballot title and question for Question #2 are as follows:

132
133 ELIMINATING/CORRECTING OBSOLETE AND
134 OUTDATED CHARTER PROVISIONS AND
135 MAKING GRAMMATICAL AND PUNCTUATION
136 CORRECTIONS

137
138 Amending the Charter by eliminating/correcting obsolete and outdated provisions
139 and making grammatical and punctuation corrections.

140
141 _____ Yes

142
143 _____ No

145 **C. Text References:** Chapter 1, Sections 3, 4, 5, 6, 7, 8, 9, 10, 11; Chapter 2,
146 Sections 12, 13, 14; Chapter 3, Sections 15, 16, 19, 20; Chapter 5, Sections 26,
147 27, 28, 31, 33; Chapter 6, Sections 34, 37; Chapter 7, Sections 38, 39, 42, 45;
148 Chapter 8, Sections 48, 49; Chapter 9, Sections 51, 53, 57, 59; Chapter 10,
149 Sections 63, 66; all of the City of Jacksonville Beach Charter to be amended as
150 set forth in those sections in the “All Proposed Changes” document below.
151 (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text
152 is existing).

153
154 **Question 3 – Calculation of Full Terms**

155
156 **A. Explanation.**

157
158 This Charter amendment clarifies what constitutes a full term when applying the term limits
159 contained in the Charter.

160
161 **B. Ballot Proposal:** The ballot title and question for Question #3 are as follows:

162
163 CLARIFYING WHAT CONSTITUTES A FULL
164 TERM WHEN APPLYING TERM LIMITS UNDER
165 THE CHARTER

166
167 Amending the Charter by clarifying that an elected official serving two (2) or more
168 years of a first four (4)-year term and any portion of a second consecutive term
169 would be term limited from running for that position for a third consecutive time.

170
171 _____ Yes

172
173 _____ No

174
175 **C. Text References:** Chapter 1, Section 3(a) of the City of Jacksonville Beach
176 Charter to be amended as set forth in those sections in the “All Proposed Changes”
177 document below. (Underline text is added to the Charter; ~~strikethrough~~ text is
178 deleted; unmarked text is existing).

179
180 **Question 4 – Clarifying that Certain Provisions and Powers are Limited by**
181 **Florida Law**

182
183 **A. Explanation.**

184
185 This Charter amendment clarifies that certain Charter provisions and powers are granted
186 and limited by Florida law.

187
188 **B. Ballot Proposal:** The ballot title and question for Question #4 are as follows:

189
190 CLARIFYING THAT CERTAIN CHARTER
191 PROVISIONS AND POWERS ARE GRANTED AND
192 LIMITED BY FLORIDA LAW

193
194 Amending the Charter by clarifying that certain provisions and powers are granted
195 and limited by Florida law.

_____ Yes

_____ No

- C. Text References:** Chapter 1, Sections 3(b), 8, 9; Chapter 7, Section 42; Chapter 8, Section 48; Chapter 9, Sections 51, 53; all of the City of Jacksonville Beach Charter to be amended as set forth in those sections in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

Question 5 – Clarifying Regular Meetings and how Special Meetings are Called

A. Explanation.

This Charter amendment clarifies that regular meetings of the City Council will be held at least monthly and the procedure by which special meetings of City Council are called.

- B. Ballot Proposal:** The ballot title and question for Question #5 are as follows:

CLARIFYING REGULAR MEETING SCHEDULE
AND PROCEDURE TO CALL SPECIAL MEETINGS
OF CITY COUNCIL

Amending the Charter by clarifying the regular meeting schedule of City Council and the procedure for calling special meetings of City Council.

_____ Yes

_____ No

- C. Text References:** Chapter 1, Section 6, of the City of Jacksonville Beach Charter to be amended as set forth in that section in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

Question 6 – Eliminating Compelled Meeting Attendance by Council Members and Acknowledging Supermajority requirements

A. Explanation.

This Charter amendment eliminates compelled meeting attendance by council members and acknowledges the requirement for supermajority votes in certain situations.

- B. Ballot Proposal:** The ballot title and question for Question #6 are as follows:

ELIMINATING COMPELLED MEETING
ATTENDANCE BY COUNCIL MEMBERS AND
ACKNOWLEDGING SUPERMAJORITY
REQUIREMENTS

Amending the Charter by eliminating compelled meeting attendance by council members and acknowledging the requirement for supermajority votes in certain situations.

_____ Yes

_____ No

- C. Text References:** Chapter 1, Section 8, of the City of Jacksonville Beach Charter to be amended as set forth in that section in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

Question 7 – Establishing Procedure for Runoff Elections after Primary Elections and Procedure for Breaking Ties after General Elections

A. Explanation.

This Charter amendment establishes runoff elections after any primary in which no candidate for a particular seat receives a majority of votes and establishes a tie-breaking procedure in the event of a tie after a general election.

- B. Ballot Proposal:** The ballot title and question for Question #7 are as follows:

ESTABLISHING PRIMARY RUNOFF ELECTIONS
AND TIE-BREAKING PROCEDURE AFTER
GENERAL ELECTIONS

Amending the Charter by establishing runoff elections after any primary in which no candidate for a particular seat receives a majority of votes and establishing a tie-breaking procedure in the event of a tie after a general election.

_____ Yes

_____ No

- C. Text References:** Chapter 3, Sections 15 and 18 of the City of Jacksonville Beach Charter to be amended as set forth in those sections in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

Question 8 – Recognizing that Rules and Regulations for the Use of Voting Equipment for Municipal Elections shall be Established by the Supervisor of Elections for Duval County

A. Explanation.

This Charter amendment recognizes that Rules and Regulations for the use of voting equipment for municipal elections shall be established by the Supervisor of Elections for

Duval County.

B. Ballot Proposal: The ballot title and question for Question #8 are as follows:

RECOGNIZING DUVAL SUPERVISOR OF
ELECTIONS AUTHORITY TO ESTABLISH RULES
FOR USE OF VOTING EQUIPMENT

Amending the Charter by recognizing that rules and regulations for the use of voting equipment for municipal elections shall be established by the Office of Supervisor of Elections for Duval County.

_____ Yes

_____ No

C. Text References: Chapter 3, Section 17, of the City of Jacksonville Beach Charter to be amended as set forth in that section in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

Question 9 – Detailing the Amount of the Filing Fee and Election Assessment for Candidates for Office

A. Explanation.

This Charter amendment updates the filing fee amounts and election assessment amounts for City offices based upon percentages of the annual salary for the office being sought.

B. Ballot Proposal: The ballot title and question for Question #9 are as follows:

ESTABLISHING FILING FEES AND ELECTIONS
ASSESSMENTS FOR CANDIDATES BASED
UPON PERCENTAGE OF OFFICE ANNUAL
SALARY

Amending the Charter by setting filing fees and election assessments for candidates for city offices based upon a filing fee of 3% percent and an election assessment of 1 % of the annual salary for the office being sought.

_____ Yes

_____ No

C. Text References: Chapter 3, Section 19, of the City of Jacksonville Beach Charter to be amended as set forth in that section in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

349
350 **Question 10 – Changing the Effective Date and Procedures for Removal of the**
351 **City Manager**
352

353 **A. Explanation.**
354

355 This Charter amendment shortens from 30 to 14 the minimum number of days before
356 initial action to remove the City Manager may become effective, eliminates the public
357 hearing provision, requires a supermajority vote for final approval and provides a time limit
358 (3 months) during which final action must be taken or the removal fails.
359

360 **B. Ballot Proposal:** The ballot title and question for Question #10 are as follows:
361

362 AMENDING CITY MANAGER REMOVAL
363 PROCEDURES, ESTABLISHING DEADLINE FOR
364 FINAL ACTION APPROVING REMOVAL
365

366 Amending the Charter by shortening from 30 to 14 the minimum number of days
367 before initial action to remove the City Manager may become effective, eliminating
368 the City Manager's public hearing option, requiring a supermajority vote for final
369 approval, and providing a time limit (3 months) during which final action must be
370 taken or the removal fails.
371

372 _____ Yes

373
374 _____ No
375

376
377 **C. Text References:** Chapter 5, Section 27, of the City of Jacksonville Beach Charter
378 to be amended as set forth in that section in the "All Proposed Changes" document
379 below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted;
380 unmarked text is existing).
381

382 **Question 11 – Making Failure to Cooperate with a City Council or City Manager**
383 **Investigation Grounds for Termination unless Superseded by Law or Contract**
384

385 **A. Explanation.**
386

387 This Charter amendment makes the failure of a city employee to cooperate with any City
388 Council or City Manager investigation grounds for termination unless superseded by law
389 or contract.
390

391 **B. Ballot Proposal:** The ballot title and question for Question #11 are as follows:
392

393 MAKING FAILURE TO COOPERATE IN COUNCIL
394 OR MANAGER INVESTIGATIONS GROUNDS
395 FOR TERMINATION, PROVIDING EXCEPTIONS
396

397 Amending the Charter by making the failure of a city employee to cooperate with
398 any City Council or City Manager investigation grounds for termination unless
399 superseded by law or contract.

_____ Yes

_____ No

- C. Text References:** Chapter 5, Section 33, of the City of Jacksonville Beach Charter to be amended as set forth in that section in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

Question 12 – Changing the Effective Date and Procedures for Removal of the City Attorney

A. Explanation.

This Charter amendment shortens from 30 to 14 the minimum number of days before initial action to remove the City Attorney may become effective, eliminates the public hearing provision, requires a supermajority vote for final approval and provides a time limit (3 months) during which final action must be taken or the removal fails.

- B. Ballot Proposal:** The ballot title and question for Question #12 are as follows:

AMENDING CITY ATTORNEY REMOVAL
PROCEDURES, ESTABLISHING DEADLINE FOR
FINAL ACTION APPROVING REMOVAL

Amending the Charter by shortening from 30 to 14 the minimum number of days before initial action to remove the City Attorney may become effective, eliminating the City Attorney’s public hearing option, requiring a supermajority vote for final approval, and providing a time limit (3 months) during which final action must be taken or the removal fails.

_____ Yes

_____ No

- C. Text References:** Chapter 6, Section 34, of the City of Jacksonville Beach Charter to be amended as set forth in that section in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted; unmarked text is existing).

Question 13 – Amending City Attorney’s Compensation from Retainer to Salary and Benefits to be Fixed by Contract

A. Explanation.

This Charter amendment changes the City Attorney’s method of compensation from retainer to salary and benefits to be fixed by contract.

451 **B. Ballot Proposal:** The ballot title and question for Question #13 are as follows:

452
453 CHANGING CITY ATTORNEY COMPENSATION
454 TO SALARY AND BENEFITS TO BE SET BY
455 CONTRACT
456

457 Amending the Charter by changing the method of compensation for the City
458 Attorney from retainer to salary and benefits to be fixed by City Council in the City
459 Attorney's contract.
460

461 _____ Yes

462
463 _____ No
464

465
466 **C. Text References:** Chapter 6, Section 36, of the City of Jacksonville Beach Charter
467 to be amended as set forth in that section in the "All Proposed Changes" document
468 below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted;
469 unmarked text is existing).
470

471 **Question 14 – Adding Ordinances and Resolutions to the list of Documents to**
472 **be Reviewed by the City Attorney**
473

474 **A. Explanation.**

475
476 This Charter amendment adds ordinances and resolutions to the list of documents the City
477 Attorney must review on behalf of the city.
478

479 **B. Ballot Proposal:** The ballot title and question for Question #14 are as follows:

480
481 REQUIRING THE CITY ATTORNEY TO REVIEW
482 ALL ORDINANCES AND RESOLUTIONS OF THE
483 CITY
484

485 Amending the Charter by requiring the City Attorney to review all ordinances and
486 resolutions of the city.
487

488 _____ Yes

489
490 _____ No
491

492
493 **C. Text References:** Chapter 6, Section 37, of the City of Jacksonville Beach Charter
494 to be amended as set forth in that section in the "All Proposed Changes" document
495 below. (Underline text is added to the Charter; ~~strikethrough~~ text is deleted;
496 unmarked text is existing).
497

498 **Question 15 – Adding an Initiative and Referendum Provision to the Charter**
499

500 **A. Explanation.**
501

This Charter amendment adds an Initiative and Referendum section to the Charter by which citizens can petition the City for the adoption or repeal of certain types of ordinances.

B. Ballot Proposal: The ballot title and question for Question #15 are as follows:

CREATING INITIATIVE AND REFERENDUM
PROCEDURE ALLOWING CITIZENS TO ADOPT
OR REPEAL CERTAIN TYPES OF ORDINANCES

Amending the Charter by adding an Initiative and Referendum section by which citizens can petition the City for the adoption or repeal of certain types of ordinances.

_____ Yes

_____ No

C. Text References: Chapter 3, Sections 21 and 22 of the City of Jacksonville Beach Charter to be amended as set forth in those sections in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~striketrough~~ text is deleted; unmarked text is existing).

Question 16 – Providing for Periodic Charter Reviews

A. Explanation.

This Charter amendment provides for periodic review of the City Charter.

B. Ballot Proposal: The ballot title and question for Question #16 are as follows:

PROVIDING FOR PERIODIC REVIEW OF THE
CITY CHARTER

Amending the Charter by adding a provision for periodic review of the City Charter.

_____ Yes

_____ No

C. Text References: Chapter 10, Section 63 of the City of Jacksonville Beach Charter to be amended as set forth in those sections in the “All Proposed Changes” document below. (Underline text is added to the Charter; ~~striketrough~~ text is deleted; unmarked text is existing).

City of Jacksonville Beach Charter – Proposed Amendments

(Additions underlined; deletions ~~strikethrough~~)

CHAPTER I. - GENERAL PROVISIONS

Section 3. Creation, salary and composition of council.

- A. Except as otherwise provided in this Charter, all powers of the city shall be vested in a council composed of a mayor and six (6) other members, three (3) of which shall be at-large members and three (3) of which shall be district members. The boundary for each of the three (3) districts is described in Appendix "A" of this Charter. The district boundaries shall be reapportioned every ten (10) years commencing with the 1990 Official Florida State and Federal Census. Each reapportionment shall be completed by the city council by ordinance enacted within six (6) months of the date of official publication of the most recent Official Florida State and Federal Census. District boundaries shall be reapportioned to create districts of nearly equal population. Districts shall be arranged in a logical and compact geographic pattern and shall promote fair representation. The mayor and the three (3) at-large members of the council shall be qualified electors of the city and shall be nominated and elected from the city at-large and the three (3) district council members shall be qualified electors of the city and shall also be residents of the district which they represent and shall be nominated and elected from the district they represent. The mayor and all ~~councilpersons~~council members shall be elected in the manner hereinafter provided. The term of office of the mayor and all ~~councilpersons~~council members shall be for four (4) years next following their election or until their successors are elected and qualified. A person serving as the mayor shall be limited to serving two (2) consecutive full-terms on the council. A person serving as ~~councilperson~~council member shall be limited to serving two (2) consecutive full-terms as ~~councilperson~~council member, after which they are eligible to seek qualification to run for an additional two (2) consecutive terms as mayor. The maximum number of terms a ~~councilperson~~council member moving from a city council seat to mayor may serve is a total of four (4) consecutive terms. The maximum number of terms a mayor can serve on the council is two (2) consecutive terms. An individual who has served two (2) consecutive terms as Mayor shall not seek a consecutive term as a ~~councilperson~~council member. A term shall be considered a full-term if the elector has served two or more years of their first four (4) year term and any portion of their second consecutive four (4) year term. Members of the city council and the mayor shall be bona fide residents of the City of Jacksonville Beach and, where applicable, the districts they represent and not a resident of any other city or district. Should any council member or the mayor move from the City of Jacksonville Beach, or, where applicable, the district they represent, during the term of office for which they were elected, then, in that event that office shall automatically become vacant from the date of such removal. The mayor or any member of the council ceasing to possess any of the qualifications specified in this Charter, or convicted of a felony while in office, or removed from office by recall election, shall immediately forfeit ~~his~~that office.

- B. The salary of council members, together with the manner of payment, shall be established by resolution and shall be compatible with salaries ~~as portrayed by the Florida League of Municipalities~~ for cities ~~and of~~ comparable size and form of government. No increase in salary shall become effective until the commencement of terms of members elected at the next regular city election. The council may provide that members shall receive an allowance for expenses incurred in the performance of their duties to the extent permitted by Florida law.

Section 4. Mayor; duties and powers.

There is hereby created the office of mayor of the City of Jacksonville Beach, who shall be nominated and elected as above provided. ~~He~~The mayor shall have all the powers and functions of a ~~councilman~~ council member of the City of Jacksonville Beach, and shall also have the powers and perform the duties conferred and imposed upon ~~him~~the office by this Charter and the ordinances of ~~said~~the city.

The mayor shall preside at all meetings of the council and shall have a voice and a vote in the proceedings of the council, but no veto power. ~~He~~The mayor may use the title of mayor in any case in which the execution of legal instruments or writing or other necessity arising from the City Charter or from the general laws of the state so require but this shall not be considered as conferring upon ~~him~~the mayor's office the administrative or judicial functions of mayor under the general laws of the state, except that the mayor shall have the power to perform marriage ceremonies. ~~He~~The mayor shall be recognized as the official head of the city by the courts for the purpose of serving civil processes upon the city; ~~by the government in the exercise of military law, and for all ceremonial purposes.~~

In time of public danger or emergency, the mayor ~~on his own authority~~ may, by proclamation, take command of ~~the police~~ and govern the city for a period not in ~~excess of~~ to exceed seventy-two (72) hours. If the public danger or emergency ~~should require~~requires that ~~the command of the police~~governance of the city by the mayor and ~~his government of the city by proclamation~~ should be extended, this may be authorized for a period not in ~~excess of~~ to exceed five (5) days by the affirmative vote of at least five (5) ~~councilmen~~ council members.

Section 5. Mayor pro-tem.

At its first meeting following a regular municipal election and certification by the Supervisor of Elections, the council shall choose from its membership a vice-chairman who shall have the title of mayor pro-tem. If a vacancy occurs in the office of mayor, or in case of ~~his~~ the mayor's absence or disability, the mayor pro-tem shall act as mayor for the unexpired term, or during the continuance of the absence or disability. Whenever the mayor pro-tem succeeds to the office of mayor for the remaining portion of an unexpired term, it shall create a vacancy in the council, which vacancy shall be filled in accordance with the provisions of this Charter.

Section 6. Meetings of council.

The council shall meet ~~at such times as~~ may be prescribed by ordinance or resolution, but not less frequently than once each month, ~~at regularly specified times~~. Special meetings shall be called by the clerk upon the ~~written~~ request of the mayor. A council member may request a

special meeting by ~~calling~~ contacting the city clerk, and stating the reason for ~~his~~ the request. The city clerk shall inform the city manager, who will then ~~poll~~ determine whether a majority of the other members of the council and if a majority agree to support the request of. ~~If they do,~~ the ~~council member,~~ the special meeting will be called by the clerk. At least forty-eight (48) ~~hours' previous written~~ hours' notice of all special meetings shall be given to each ~~councilperson~~ council member, but such notice may be waived by any ~~councilperson~~ council member who verbally agrees to attend such meeting. Service of such notice shall be made either electronically via email, in person, or by leaving a copy ~~thereof~~ at the usual place ~~residence of abode of the councilperson~~ council member being served. Any such notice shall state the subject to be considered at the special meeting and no other subject shall be ~~there~~ considered. All meetings of the council and of committees thereof shall be open to the public and conducted in accordance with state law and the rules of the council. The rules of the council shall provide that the public shall have a reasonable opportunity to be heard at any such meetings of the council or its committees ~~in regard to~~ regarding any matter to be considered ~~thereat~~.

Section 7. Council rules.

The council shall be the judge of the election and qualification of its members, and in such cases, shall have power to subpoena witnesses and compel the production of all pertinent ~~books, records and papers;~~ but the decision of the council in any such case shall be subject to review by the courts. The council shall determine its own rules and order of business, and require the city clerk to make up and keep ~~a journal~~ minutes of its proceedings.

Section 8. - Quorum.

A majority of the members elected to the council shall constitute a quorum to do business, ~~but a less number may adjourn from time to time and compel the attendance of absent members in such manner and under such penalties as may be prescribed by ordinance.~~ The affirmative vote of a majority of the members elected to the council shall be necessary to adopt any ordinance, resolution, or order or vote; except where a supermajority vote is required by statute, ordinance or under this Charter ~~that a vote to adjourn may be adopted by a majority of the members present.~~

Section 9. Introduction and passage of ordinances and resolutions.

Ordinances and resolutions shall be introduced into the council ~~only in written or printed form.~~ All ordinances, codifying or rearranging existing ordinances or enacting a code of ordinances, shall be confined to one subject, and the subject, or subjects, of all ordinances shall be clearly expressed in the title. No ordinance shall be passed until it has been read by title or in full on two (2) separate days unless otherwise permitted or required by state law, and ~~shall at least ten (10) days prior to final adoption, be noticed once in a newspaper of general circulation in the city until it has been properly noticed and advertised in accordance with applicable state law.~~ The yeas and nays shall be taken upon the passage of all ordinances and resolutions and ~~entered upon the journal~~ recorded in the minutes of the proceedings of the council. The enacting clause of all ordinances shall be "Be it ordained by the City Council of the City of Jacksonville Beach, Florida.".

Section 10. - When ordinances and resolutions take effect; emergency measures.

All ordinances and resolutions passed by the council shall take effect at the time indicated therein. An emergency measure is an ordinance or resolution to provide for the immediate preservation of the public peace, property, health or safety, in which the emergency is ~~claimed~~declared is set forth and defined in ~~a preamble thereto~~therein. ~~The affirmative~~A supermajority vote of at least five (5) members of ~~the~~ council shall be required to pass any ordinance or resolution as an emergency measure. No measure making or amending a grant, renewal or extension of a franchise or other special privilege or which enacts or amends a land use plan, or which rezones private real property shall ~~ever~~ be passed as an emergency measure. No ~~situation~~emergency shall be declared ~~an emergency~~ by the council except as defined in this section, and it is the intention of this Charter that ~~such definition~~this section shall be strictly construed by the courts.

Section 11. - Authentication and publication of ordinances and resolutions.

Upon ~~its~~ final passage each ordinance or resolution shall be authenticated by the signature of the mayor and city clerk, ~~and shall be placed in a book for that purpose~~. All ordinances or resolutions shall also be published or posted in accordance with any applicable state statutes.

CHAPTER II. - CITY CLERK

Section 12. – City clerk.

There shall be ~~one~~an office of city clerk. ~~Commencing at the expiration of the existing term of the city clerk in November 2000, t~~The city clerk shall be appointed by the city manager, subject to the approval of the city council. The city clerk may be removed by the city manager, but said removal shall not become effective without the approval of the city council.

Section ~~12~~13(a). - Duties and powers of clerk.

The city clerk shall be clerk of the city council, and attend all its meetings and proceedings, record and keep the minutes and records and perform the functions and duties required thereof, ~~as may now or hereafter as prescribed by law or ordinance~~. The city clerk shall is authorized to issue all warrants for offenses against the city ordinances and shall be the custodian of the seal of the city. The city clerk shall have power and authority to administer an oath to, and take affidavit of, ~~any and all~~ persons required by the Charter or ordinances of the city to make oath in connection with dealings and transactions with the city, including but not limited to the swearing in of city officials and witnesses in inquisitorial proceedings. The jurat, or certificate of proof of acknowledgment, shall be authenticated by the signature and official seal of the city. The city clerk shall keep the official files of all the city's legal documents, contracts, deeds, etc., and shall direct and supervise the Municipal Code, coordinate all municipal elections, including the registration of voters; publication of all legal notices, publications and advertisements.

Section 14. – Reserved.

CHAPTER III. - ELECTIONS

Section 15. - Municipal elections.

Beginning with the year ~~2010~~next election after adoption:

- (a) *Primary election.* When more than two candidates are running for the same elective office, a primary election shall be held:

~~When more than two candidates are running for the same elective office, the primary election shall be held only for the municipal offices that have more than two candidates running for the same seat. Such primary election date shall be set according to Florida Statutes Chapters 99.061(2) and 100.061.~~

~~If at the primary election, a candidate receives a majority of the votes cast for any particular seat or office at the primary election, he or she the candidate shall be declared elected to said seat or office and his or her that candidate's name shall not be placed on the ballot in the general election. However, if no candidate receives a majority of the votes cast for any particular seat or office at the primary election, the two (2) candidates for each seat of the council, as well as candidates for mayor, receiving the two (2) highest number of votes for that seat or for the office of mayor shall have their names placed on the ballot for that seat or office at the general election.~~

- (b) *General election.* When two candidates are running for the same elective office, the general election date shall be set according to Florida Statutes Chapters 99.061(2) and 100.061 on each even numbered year. ~~In the event that~~If a candidate does not receive a majority of the votes cast in the primary election then, the names of the candidates placing first and second shall be placed on the ballot in the general election. Should any general election result in a tie for any office, the winner of the election shall be determined by the drawing of lots.

The council may, by resolution, order a special election, fix the time for holding same, and provide all means for holding same. The polls shall open at 7:00 a.m. on the day of the election and shall be kept open until 7:00 p.m. on the same day.

- (c) All elections for the office of mayor or city council shall be conducted on a non-partisan basis without any designation of political party affiliation.

Section 16. - Regulation of elections.

The council shall make all ~~needful~~necessary rules and regulations, not inconsistent with this Charter, for the conduct of elections, for the prevention of fraud in elections, and for the recount of the ballots in case of doubt or fraud. The canvassing board responsibilities for all city elections are delegated to the Duval County Canvassing Board. After all municipal elections, the Duval County Canvassing Board, following all applicable state laws, shall issue an official Certification of Election to the City of Jacksonville Beach for adoption by the city council. ~~The mayor and~~All newly elected council members~~officials~~ shall be sworn in and assume the duties of office at the regular council meeting held on the third Monday of November, unless the election results have not been certified by the Duval County Canvassing Board, in which case the mayor

~~and council~~newly elected officials will be sworn in and assume the duties of office at the next regular council meeting following certification. Except as otherwise provided in this Charter, the municipal elections shall be conducted as nearly as practicable in conformity with the general laws governing state elections.

Section 17. - Voting equipment.

It shall be permissible for the city council to adopt and place in use at any municipal election approved/certified voting equipment as certified by the State of Florida. Rules and requirements for use of voting equipment for municipal elections shall be established by and approved through the Office of the Supervisor of Elections of Duval County.

Section 18. - Officers to be elected.

The city council shall be divided into six (6) groups or seats as follows:

Seat 1 - At-Large

Seat 2 - At-Large

Seat 3 - At-Large

Seat 4 - District 1

Seat 5 - District 2

Seat 6 - District 3

In qualifying for election to city council each candidate shall designate the seat for which ~~he or she~~the candidate intends to run on the council. One ~~city councilperson~~candidate shall be elected for each seat. Any number of candidates may qualify for any one seat, but no person shall qualify at the same time for more than one seat. Any candidate qualifying for a district seat shall be a qualified elector and a bona fide resident of that district at the time the candidate qualifies. Candidates for mayor shall also designate and qualify for their particular office.

~~If a candidate receives a majority of the votes cast for any particular seat or office at the primary election, he or she shall be declared elected to said seat or office. However, if no candidate receives a majority of the votes cast for any particular seat or office at the primary election, the two (2) candidates for each seat of the council as well as candidates for mayor receiving the two (2) highest number of votes for that seat or for the office of mayor shall have their names placed on the ballot for that seat or office at the general election.~~

Each unopposed candidate shall be declared elected to office and ~~his or her~~the candidate's name shall not be placed on the ballot.

At the general election, the candidate receiving the highest number of votes for each council seat and for the office of mayor, respectively, shall be declared elected to such representative seat of the council or the office of the mayor. In both the primary and general elections, all electors shall be instructed to vote for each separate seat or office.

Section 19. - Nominations.

Any qualified elector of the city may be nominated to be a candidate for mayor and an at-large council seat in the city by petition of any ten (10) electors of the city. Any qualified elector of the city and any resident of the district may be nominated for a district council seat from the district within which the nominee resides by petition of any ten (10) electors residing in the district in which the candidate intends to run. Any candidate qualifying for mayor or an at-large council seat must be a bona fide resident of the city for at least six (6) months prior to qualifying. Any candidate qualifying for a district seat must be a bona fide resident of the city and the district the candidate is running in for at least six (6) months prior to qualifying. A candidate seeking to qualify for nomination ~~of an election to~~ an elected office shall file his qualification papers with, and pay the qualifying fees to the city clerk at any time after noon of the first day for qualifying and no later than noon on the last day of qualifying. The dates for qualifying are set pursuant to Section 99.061, Florida Statutes. Any person nominated but not qualified, as provided for in this Charter shall not have their name printed on the ballot. The petitions shall be in the following form:

"We, the undersigned ten (10) electors and residents of District _____ of the City of Jacksonville Beach, hereby nominate _____ (name), _____ (seat number of ~~Councilperson~~ council member) to be voted for at the election to be held on the _____ day of _____ (month), A.D. _____ (year) and we individually certify that we are qualified to vote at such election.

Name	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____

ACCEPTANCE OF NOMINATION

I HEREBY ACCEPT the nomination for the office of _____ (seat number of ~~Councilperson~~ council member) and state that I am qualified to be a candidate for the office and agree to serve if elected.

(Signature of Candidate)

I HEREBY CERTIFY that the above petition was filed with me on the _____ day of _____, A.D. 20____.

City Clerk"

Simultaneously with the filing of the nomination petition and acceptance with the city clerk, the nominated candidate shall pay over to the city clerk the required filing fee, which consists of a filing fee and an election assessment. The amount of the filing fee for each elected office shall be as follows:

Office of Mayor\$400.00

Office of councilperson200.00

3 percent of the annual salary of the office. The amount of the election assessment is 1 percent of the annual salary of the office sought. Any candidate may withdraw ~~his~~their nomination not later than the ~~last day~~deadline for ~~filing nomination papers~~ qualifying by filing a notice of withdrawal with the city clerk. Any candidate who has not withdrawn ~~his~~their nomination by the ~~last day for filing nomination papers~~deadline for qualifying cannot have ~~his~~their name removed from the official ballot.

Section 20. - Qualification of electors and election duties.

(a) Qualification of electors. All electors who qualify to vote in the state and county elections of Duval County, or who may become qualified thereafter and have their place of residence within the city limits of Jacksonville Beach, Florida, are eligible to participate in all special or general elections held by the City of Jacksonville Beach, except as otherwise provided herein, and will be qualified to vote in all special or general elections held by the City of Jacksonville Beach as long as they remain qualified voters in Duval County.

(b) Who to be supervisor of elections. The person holding the office of supervisor of elections of the County of Duval is hereby constituted supervisor of elections of the City of Jacksonville Beach.

(c) Duties of supervisor of elections. The Supervisor of Elections for the City of Jacksonville Beach shall have free access to and use the registration books and lists of Duval County bearing the signatures of all those who registered within the city limits of Jacksonville Beach. The said supervisor of elections shall cause the registration books to be open at all times and remain open at all times until twenty-nine (29) days prior to the date of the primary election, or any special election, during which time no registration or change shall be accepted for such election.

~~(d) Compensation of the supervisor of elections. The Supervisor of Elections of the City of Jacksonville Beach shall receive such reasonable compensation as may be agreed upon between said city and the supervisor of elections.~~

(ed) The supervisor of elections shall have the official ballots prepared and printed in substantial conformity with the general laws of the state applicable to general elections and shall have printed thereon the names of all candidates for whom nominating petitions have been filed as herein provided, and no others.

(fe) At least twenty (20) days prior to the election, the supervisor of elections shall appoint a sufficient number of clerks and inspectors of election as may be deemed necessary to conduct the election, and at said time fix the compensation to be paid them. Such clerks and inspectors shall be qualified electors of the city, but shall not be an officer or employee of said city.

Section 21. – Initiative and ReferendumReserved.

(a) The electors of the City of Jacksonville Beach shall have the power to adopt ordinances pursuant to the procedure set forth herein. However, the electors shall not have the power to adopt any ordinance which shall pertain to the budget, taxes, capital programs, or to any matter reserved solely to the City Council by this Charter or state law.

(b) The electors of the City of Jacksonville Beach shall have the power to repeal any adopted ordinances pursuant to the procedures set forth herein. However, the electors shall not have the power to repeal any adopted ordinance which shall pertain to the budget, taxes, capital programs, or to any matter reserved solely to the City Council by this Charter or state law.

(c) Any subject matter voted upon either by initiative or referendum shall not be the subject of an initiative or referendum proceeding within the twelve (12) months following the vote.

Section 22. – Proceedings and ResultsReserved.

(a) Proceedings. Any [REDACTED] electors of the City of Jacksonville Beach may commence initiative or referendum proceedings by serving upon the mayor a letter of intent, signed by the electors. The letter of intent shall:

(1) State the names and home addresses of the [REDACTED] electors;

(2) State that all [REDACTED] electors will be responsible for circulating any initiative or referendum petition required hereunder; and

(3) Set out the proposed initiative ordinance or cite the ordinance sought to be repealed.

Upon being served with a letter of intent hereunder, the mayor shall cause the matter set forth in the letter of intent to be considered at the next regularly scheduled City Council meeting.

The electors may, upon service of the letter of intent, cause to be circulated an initiative or referendum petition, as appropriate. The initiative or referendum petition shall be on a form provided by the city and shall be assembled as one (1) instrument when served hereunder. Each page of a petition shall have attached to it when served hereunder an affidavit of the circulator thereof stating:

(i) That the circulator personally circulated the page;

(ii) The number of signatures thereon;

(iii) That the signatures were affixed in the circulator's presence;

(iv) That the circulator believes the signatures to be the genuine signatures of the persons whose names they purport to be; and

(v) That each signatory had the opportunity to read the full text of the proposed initiative ordinance, or the ordinance sought to be repealed, as appropriate.

Petitions shall contain or have attached thereto, throughout their entire circulation, the full text of the proposed initiative ordinance or the ordinance sought to be repealed, as appropriate. Each signature shall be followed by the printed name and home address of the person signing.

Petitions meeting the above requirements and signed by a minimum of [REDACTED] percent of the electors of the City of Jacksonville Beach registered to vote at the last general city election, may be served upon the mayor. Upon being served with a petition pursuant to this paragraph, the mayor shall cause the matter set forth in the petition to be considered at the next regularly scheduled City Council meeting. At that meeting, the City Council shall determine the sufficiency of any petition served hereunder.

If the petition is determined to be insufficient, the City Council shall prescribe the method by which the petition is to be corrected. If the petition is determined to be sufficient, the City Council shall promptly consider the matter set forth in the petition. If, after a determination of sufficiency, the City Council fails to adopt the proposed initiative ordinance without any change in substance within sixty (60) days of service of the petition or fails to repeal the ordinance cited in the letter of intent within sixty (60) days of service of the petition, the City Council shall submit the matter to the electors of the City of Jacksonville Beach by special election within ninety (90) days of the City Council's failure. However, should the next general election fall within one hundred eighty (180) days of the City Council's failure, the question shall be submitted at the general election.

(b) Results of Election. If a majority of the electors voting on a proposed initiative ordinance vote for adoption, it shall be considered adopted. If a majority of the electors voting on an ordinance sought to be repealed vote for repeal, it shall be considered repealed. If conflicting ordinances are approved by the electors at the same election, the one receiving the greatest number of affirmative votes shall prevail.

Section 24. – Oath of Office.

Every officer of the city shall, before entering upon the duties of ~~his~~ office, take and subscribe to the following oath or affirmation, to be filed and kept in the office of the city clerk:

"I, _____ solemnly swear (or affirm) that I will support the Constitution and will obey the laws of the United States and of the State of Florida; City of Jacksonville Beach, and will faithfully discharge the duties of the office of _____."

CHAPTER V. - CITY MANAGER

Section 26. - Qualifications; appointment; term of office.

The council shall appoint an officer whose title shall be city manager, and who shall be the chief administrative officer for the execution of the executive and administrative functions of the council under the direction and supervision of the council. The city manager shall at the time of ~~his or her~~their appointment, have graduated with a college degree from an accredited four-year college and in addition shall be chosen by the council solely on the basis of ~~his~~ executive and administrative qualifications with special reference to ~~his~~ actual experience in, or ~~his~~ knowledge

of, accepted practice in respect to the duties of his office as hereinafter outlined, without regard to his political belief. ~~he~~ The city manager need not be a resident of the city or state at the time of his appointment, but ~~he~~ shall be required to reside within the city during his tenure ~~of~~ in office. No person elected to membership on the council shall, subsequent to such election, be eligible for an appointment as city manager until one year has elapsed following the expiration of the term for which ~~he~~ the person was elected.

Section 27. - Term of appointment; procedure for removal.

The City Manager shall receive a salary for services as set by City Council and shall be appointed by affirmative vote of four (4) members of the council for an indefinite term but may only be removed by supermajority vote of five (5) members of said council. At least ~~thirty (30)~~ fourteen (14) days before such removal may become effective, the City Manager shall be furnished with a formal statement in the form of a resolution passed by a majority vote of four (4) members of the council, stating the council's intention to remove the City Manager and reasons therefor. The City Manager may reply in writing to such resolution. ~~If so requested by the Manager, the Council shall fix a time for a public hearing upon the question of the Manager's removal and the final resolution removing the Manager shall not be adopted until such public hearing has been had.~~ Upon passage of a resolution stating the council's intention to remove the City Manager, the council may suspend the City Manager from duty, but the City Manager's pay shall continue until the ~~Manager's removal shall become effective as herein described~~ city council, by a supermajority vote of five (5) members, approves the City Manager's removal at any time more than fourteen (14) days after passage of the initial resolution setting forth the council's intention to remove. Any such supermajority vote for removal shall become effective immediately upon passage. Should the council fail to take final action on the initial removal resolution within three (3) months or fail to achieve the required supermajority of five (5) votes required for passage, the removal shall fail, without prejudice to the initiation of a new removal process by the city council at any time in the future. The action of the council in removing the City Manager shall be final. In case of the absence or disability of the City Manager, the council may designate a qualified administrative officer of the City to perform the duties of the City Manager during such disability or absence.

Section 28. - Responsibility of city manager; powers of appointment and removal.

The city manager shall be responsible to the council for the proper administration of all affairs of the city placed in ~~his~~ the city manager's charge under this Charter, and to that end, and except as otherwise provided herein, ~~he~~ the city manager shall have the power to appoint and, subject to the limitations of the budget, fix the compensation of and remove all officers and employees in the administrative services of the city, provided that such action in respect to the heads of such departments of the city as may be designated by ordinance, shall be approved by vote of a majority of the members of the council before becoming effective. The city manager may authorize the head of a department, or officer responsible to ~~him~~ the city manager, to appoint and remove subordinates in such department or office. Appointments made by or under the authority of the city manager shall be on the basis of executive and administrative ability, merit, fitness and of the training and experience of such appointees in the work which they are to

perform. All such appointments shall be without definite term unless for provisional, temporary or emergency service.

Section 29. - Discharge, suspension, etc., of officers and employees.

Any officer or employee of the city may be removed, discharged, suspended, demoted, reduced in pay, or fined, by the city manager or his designee. Any fulltime regular employee working a minimum of 40 hours per week on a consistent basis (except, department directors, city attorney, city clerk or contract, temporary, probationary employees) may appeal a termination or suspension decision of the city manager or his designee by following the grievance/appeal policies as outlined in the Personnel Policies or appropriate collective bargaining contract covering the appellant's position. Terminations due to layoffs are not subject to appeal.

Section 31. – Duties of the city manager.

It shall be the duty of the city manager to act as chief conservator of the peace within the city; to supervise the administration of the affairs of the city; to see that the ordinances of the city and the laws of the state are enforced; to make such recommendations to the council concerning the affairs of the city as may seem to him desirable; to keep the council advised of the financial condition and future needs of the city; to prepare and submit to the council the annual budget estimate; to prepare and submit to the council such reports as may be required by that body; and to perform such other duties as may be prescribed by this Charter or required by him by ordinance or resolution of the council, not inconsistent with this Charter. Nothing herein shall be construed to confer or impose upon the city manager any of the powers, duties, or functions herein provided to be exercised or performed by any other elective or appointive officer of the city.

Section 33. – Investigations by city council or city manager.

A committee authorized by the city council and/or the city manager shall have the power to inquire into the conduct of any department, office, or officer of the city and to make investigations as to municipal affairs, and for that purpose may subpoena witnesses, administer oaths, and compel the production of books, papers, and other evidence. Any such subpoena is enforceable by a court of competent jurisdiction and subject to such penalties as may be deemed appropriate by such court. Failure to obey such subpoena of any city employee to cooperate with any such investigation or to produce books, papers, or other evidence as requested under the provisions of this section shall constitute a misdemeanor and shall be punishable by a fine not to exceed fifty dollars (\$50.00) or by imprisonment not to exceed thirty (30) days or both. be grounds for termination by the city manager or city council as applicable unless such termination is otherwise superseded by any contractual or collective bargaining rights enjoyed by the employee or otherwise prohibited by law. Any officer, person, or committee conducting the investigation shall report to the city council all violations or neglect of duty, or any misfeasance, malfeasance or nonfeasance in office, or improper conduct on the part of any city official that may come to his or its knowledge be discovered. No member of any investigative committee shall be an employee of the city, an elected official, or a relative of an employee or an elected official or have any personal interest in the subject being investigated.

CHAPTER VI. – CITY ATTORNEY

Section 34. – City attorney; appointment by council; removal.

There is hereby created the office of City Attorney, which said City Attorney shall be appointed by the affirmative vote of four (4) members of the city council, but may only be removed by supermajority vote of five (5) members of said council. At least ~~thirty (30)~~fourteen (14) days before such removal may become effective, the City Attorney shall be furnished with a formal statement in the form of a resolution passed by a majority vote of four (4) members of the council, stating the council's intention to remove the City Attorney and reasons therefor. The City Attorney may reply in writing to such resolution. ~~If so requested by the City Attorney, the Council shall fix a time for a public hearing upon the question of the City Attorney's removal and the final resolution removing the City Attorney shall not be adopted until such public hearing has been had.~~ Upon passage of a resolution stating the council's intention to remove the City Attorney, the council may suspend the City Attorney from duty, but the City Attorney's pay shall continue until the city Attorney's removal shall become effective as herein described council, by a supermajority vote of five (5) members, approves the City Attorney's removal at any time more than fourteen (14) days after passage of the initial resolution setting forth the council's intention to remove. Any such supermajority vote for removal shall become effective immediately upon passage. Should the council fail to take final action on the initial removal resolution within three (3) months or fail to achieve the required supermajority of five (5) votes required for passage, the removal shall fail, without prejudice to the initiation of a new removal process by the city council at any time in the future. The action of the council in removing the City Attorney shall be final. In case of the absence or disability of the City Attorney, the council may hire a qualified attorney to perform the duties of the City Attorney during such disability or absence.

Section 36. – Compensation.

The city attorney shall receive an annual ~~retainers~~salary and benefits package to be fixed by the city council in the city attorney's contract ~~and such fees for special or extraordinary services rendered to or on behalf of the city as may be specifically authorized by the city council.~~

Section 37. – Duties of city attorney.

The city attorney shall act as the legal advisor and counselor for the municipality and all of its officers in matters relating to their official duties. ~~He~~The city attorney shall prepare and review all ordinances, resolutions, contracts, bonds, and other instruments in which the municipality is concerned and shall endorse on each histhe city attorney's approval of the form and correctness thereof. When required so to do by the city council, the city attorney shall prosecute and defend, for and ~~in~~on behalf of the city, all complaints suits, controversies, and proceedings in which the city is a party. ~~He~~The city attorney shall furnish the officers or the heads of any departments of the city histhe city attorney's opinion on any question of law relating to their respective powers and duties.

CHAPTER VII. - BUDGET AND FINANCE

Section 1438(a). - City finance officer.

There shall be a city finance officer appointed by the city manager but whose appointment must be approved by the city council before it becomes effective. The city finance officer ~~shall~~ may be removed by the city manager but said removal shall not become effective without the approval of the city council. The city finance officer shall administer and be responsible for the financial affairs of the city in accordance with the provisions of this Charter and applicable ordinances. The city finance officer shall be the head of the finance department of the city which shall include accounting, treasury, and collections. The city finance officer shall receive such compensation as provided for in the city's pay plan. The city finance officer shall have graduated with a degree from an accredited four-year college; have proven administrative ability and a minimum of five (5) years experience in governmental accounting or auditing.

Section 14(a)38(b). - Custody of city money, etc.

The city finance officer shall collect, receive, have custody of and disburse all taxes, licenses, fees, and other moneys belonging to the city government, subject to the provisions of state law, the Charter and ordinances enacted thereunder; ~~all~~ All moneys received by any department or agency of the city for, or in connection with the business of the city government, shall be promptly delivered over to the city finance officer and placed into the city treasury and ~~be~~ deposited with responsible banking institutions to be designated by the city finance officer, with the approval of the council, in accordance with such regulations and subject to such requirements ~~as applicable~~ to security for deposits and interest thereon as may be established by ordinance or state statute. All interest on moneys belonging to the city shall accrue to the benefit of the various fund accounts of the city government. ~~The city finance officer shall have custody of all sinking funds, investments and invested funds of the city, or in possession of the city in a fiduciary capacity and keep a record of such investments and maintain a record of all bonds and certificates of city indebtedness.~~

The city finance officer shall have authority and shall ascertain before council approval that moneys have been duly appropriated and allotted to meet the city's financial obligations and that moneys are or will become available when the obligations have become due and payable. The city finance officer shall be required to maintain accounting control over the finances of the city government; The city finance officer shall also have authority as follows: to examine all contracts, orders, and other documents by which the city incurs financial obligations, ~~having ascertained before approval that moneys have been duly appropriated and allotted to meet such obligations and will become available when the obligations have become due and payable;~~ to audit and approve all bills, invoices, payrolls, and other evidences of claims, demands, or charges against the city government and to determine the regularity, legality, and correctness of such claims, demands or charges; to make monthly reports to the city manager of all receipts and expenditures of the city government ~~to the manager and the council and to make monthly,~~ including reports on funds, appropriations, allotments, encumbrances, and authorized payments, and to make quarterly reports on same ~~to the manager and the council;~~ and to

perform such other duties pertaining to the financial records of the city government as the council may require by ordinance.

Section 38(c). - Transfer of appropriations.

The council may, upon the recommendation of either the city manager or ~~finance director~~ city finance officer, transfer any unencumbered appropriation balance of the city government from one department or agency to another.

Section 39. - Money to be drawn from treasury in accordance with appropriation.

No money shall be drawn from the treasury of the city, nor shall any obligation for the expenditure of money be incurred, except in pursuance of the annual appropriation resolution or of such resolution when change as authorized. The city shall be prohibited from employing or appropriating the taxes and revenues of said city in any other manner than for purposes strictly municipal and local, according to the provisions of this Charter. At the close of each fiscal year, any unencumbered balance of an appropriation shall revert to the fund from which appropriated and shall be subject to reappropriation; but appropriation may be made by the council, to be paid out of the income of the current year from unrestricted and undesignated fund balances, in furtherance of improvements or other object or works which will not be completed within such year, and any such appropriation shall continue in force until the purpose for which it was made shall have been accomplished or abandoned.

Section 42. – Independent audit.~~As soon as practicable after each fiscal year~~In accordance with Florida law, an independent audit shall be made of all accounts of the city government by qualified public accountants, selected by the council, who have no personal interest directly or indirectly in the financial affairs of the city government or of any of its officers.

Section 45. – Checks, vouchers or warrantsReserved.

~~All checks, vouchers or warrants drawn against ends of the city must be duly audited before issuing same and must be signed by the city finance officer and city manager, provided that the city council may by resolution designate alternates who shall be authorized to sign checks, vouchers, or warrants above referred to in the place of and stead of any one of the foregoing who may be absent or disabled. Provided that the only exception to the above required two (2) signatures is that all individual salaried payroll checks need only be signed by the city finance officer in all other events, checks, vouchers, and warrants must be signed by two (2) persons.~~

CHAPTER VIII. - TAXATION

Section 48. – Power to gradeclassify **and fix**levy **license and occupation taxes.**

The City of Jacksonville Beach is hereby authorized to levy and enforce ~~license or occupational local business~~ taxes upon any and all occupations, businesses, or professions, and to grade classify and fix the amounts in the same manner that the Legislature of the State of accordance with Florida law~~could impose such licenses or taxes for state purposes.~~

Section 49. - Liens are negotiable.

All liens held by the City of Jacksonville Beach against land and property, ~~entered in the improvement lien book in accordance with the Charter and ordinances,~~ shall be negotiable and assignable and may be transferred and sold by the city council by ordinance, ~~as and~~ may also be used as security and for the redemption and payment of serial improvement bonds, or other obligations incurred by the city in making municipal improvements authorized to be made by Charter; ~~the~~ The city council may provide by ordinance for the acceptance of payment of all such liens in partial payments and installments of not less than an annual payment of one-twentieth (1/20) of the whole amount of the lien, together with the interest due and accruing which shall be the same rate as is specified in the issue of serial improvement bonds which such liens shall secure; or that the negotiation and sale of such liens may be absolute if so provided by the ordinance negotiating any sale thereof; that any ordinance authorizing payment of such liens in partial payment or installments shall provide that if default is made in the payment of any installment when due, the whole amount of such lien remaining due and unpaid, together with the interest thereon, shall be and become due forthwith, and payment demanded, enforced, and collected by the City of Jacksonville Beach, or if assigned in the name of such city by the assignee of any such lien or the holder of any serial improvement bond; collection shall be made in the same manner as is provided by Charter and by law for the collection of delinquent taxes, liens, and assessments due the city; all cost of collection, including reasonable fees for the services of the attorney or solicitor enforcing such lien, shall be included.

This section shall not be construed to be restrictive and the City of Jacksonville Beach shall also have the power and authority to apply ~~any and all~~ provisions of its Charter, the Constitution of the State of Florida, and the general laws governing the powers of cities and towns, in making assessments for public improvements and negotiating, securing and collecting such liens and assessments, and the issuance of certificates of indebtedness or improvement bonds.

CHAPTER IX. - ENUMERATION OF PARTICULAR POWERS

Section 51. – Additional powers.

The city shall have all powers permitted by state law, including but not limited to the power, ~~and it is hereby authorized:~~

(a) To acquire, construct, own and operate in its sole capacity, or jointly with other governmental agency or agencies, electric transmission and distribution lines within or beyond limits of the city; transportation lines or systems for the transportation of persons and property within and beyond the limits of the city; automobile parking areas, docks, wharves, boat basins, promenades, airports, athletic and recreational playgrounds and stadiums, golf course and related club house and facilities, radio and television station or broadcasting system, hotels, motels, or area for the parking of trailers and movable devices fitted for inhabitation or dwelling purposes and ~~amusement~~ recreational piers, and all such building, equipment and improvements as the city, council may deem necessary or desirable for use in connection therewith, either within or outside the limits of said city; and the city is hereby authorized and empowered to levy and collect taxes for acquiring, constructing or operating any of the aforesaid

improvements, facilities, or things, and to acquire same by purchase, lease, eminent domain or any other lawful manner, and shall have the power in its sole capacity, or jointly with other governmental agency or agencies, to operate, rent, lease or sell same with the full and lawful right in the city, or its lessees, successors, or co-owners, to receive, charge, collect and assess charges, tolls, fees, dues or rents for the uses, privileges or facilities thereof and to pledge or hypothecate the revenue derived thereby, or which may be anticipated to be produced therefrom to finance the cost of constructing, acquiring or establishing any of such improvements or any part thereof, or any combination thereof.

(b) To condemn and order to be put in a state of sound repair any and all broken, damaged or unsafe sidewalks, curbs, streets, or other public structures, and to provide and enforce penalties for failure to do so, and after giving twenty (20) days' written notice to the owner of the property adjacent to and abutting such sidewalk, curb, street, or other public structures, by posting such notice in a conspicuous place about the premises, to repair or take such steps as may be set forth in such notices to eliminate the broken, damaged or unsafe condition of such sidewalks, curbs, streets, or other public structures at the expense of the said abutting and adjacent owner, and said adjacent owner fails or refuses to comply with the requirements of said notice, then at the expiration of the time set forth in said notice the city may thereafter cause the repairs or other work set forth in the notice to be accomplished, assessing the cost thereof against said abutting property, the city to have and hold a lien thereon therefor until the cost and expenses thus incurred are discharged by payment.

(c) To prohibit the uncontrolled growth of palmetto shrubs, weeds, vines, bushes, grass, thistles or other rank or noxious vegetable growth, the placing, keeping or maintaining of encroachments or obstructions of any nature or kind upon, in or over any public street, alley, walkway or public property of every nature and description, the accumulation of stagnant water upon the surface of the ground or within any receptacle or structure deposited or erected above or below the ground without exercising necessary precaution to prevent the propagation of mosquitoes therein; to prohibit buildings, sidewalks, footways or structures which by act of God, fire, decay or other cause may become structurally dangerous, unsafe, dilapidated or unsanitary to remain in such dangerous, unsafe, dilapidated or unsanitary condition and to provide and enforce penalties for allowing, suffering or permitting any such prohibited act, occurrence or conditions and to condemn, suppress and order to be removed, demolished, abated or otherwise eliminated or corrected such prohibited acts, occurrences or conditions, and after giving twenty (20) days' written notice to the person, firm or corporation owning, occupying or having the care or custody of any lot or parcel of land upon or in connection with such prohibited act, occurrence or condition exists or is maintained by posting such notice in a conspicuous place about the premises, to order the same forthwith removed, suppressed or abated in such manner as the city council may in its discretion determine appropriate, and assess the cost of so doing, or such proportion thereof as shall not be borne by the city, against the owner or occupant of the premises involved to the end that such assessments shall be and remain liens upon the lands against which assessed until paid.

(d) To ~~license,~~ control, tax and regulate traffic and sales upon the streets, sidewalks, promenades, ocean beach and public places within the city and the use of space in such places and to regulate, suppress and prohibit hawkers, peddlers and beggars upon such streets,

sidewalks, promenades, ocean beach and public places; and to license and cause to be registered and control, tax, regulate or to prohibit in designated streets, roads, ocean beaches, or parts thereof, carriages, omnibuses, motorbuses, automobiles, cars, wagons, drays, trucks, jitney buses and other vehicles, and to license, tax and cause to be registered and control the drivers thereof; to fix just, reasonable compensatory and adequate rates and schedules to be charged and maintained for the carriage of persons and property for hire within the city; to make and promulgate regulations for traffic on the streets, roads, ocean beaches, or parts thereof during such hours and at such times as may be necessary or convenient, and to provide for parking spaces on the streets, roads, ocean beaches or on other property of the city and to at any time discontinue the right to the use of such parking spaces and to regulate, assess, and collect charges for, vacate or discontinue, the use of same; and to require all vehicles for the carriage of persons for hire to be insured as required by ordinance for the protection of passengers, property and of the public and to make such insurance inure to the benefit of persons or property which may be injured or damaged by the operation of such vehicles for hire; and to require such insurance to be furnished by all persons, firms or corporations owning or operating for hire vehicles upon the streets, roads, ocean beaches and public places of the City of Jacksonville Beach, whether such operation be wholly within the limits of said city or between said city and other cities or towns or places outside of the City of Jacksonville Beach.

Section 53. - Improvements; assessment of cost against property benefited.

The city council is hereby authorized and empowered to regulate, provide for and require the opening, widening, extending, laying, constructing, paving, repairing or improving of any street, avenue, alley, ramp, sidewalk, bulkhead, seawall, breakwater, promenade or public improvement, the drainage and filling of low places, public or private, dangerous to public health or required to promote public welfare and the construction and maintenance of water and sewer systems, and drains, and may provide for the payment of the cost of any such improvements by general taxation, or by the imposition of special assessments against the property specially benefited for the entire cost of such work, or for such portion thereof as shall not be borne by the city, such assessments to be and remain liens upon the lands against which assessed until paid, provided that in no event shall the amount of such special assessments exceed the special benefit accruing to the property assessed by reason of such improvement work. The procedures for adopting and collecting such special assessments shall be as set forth in Chapters 170 and 173, Florida Statutes. ~~In the case of streets, alleys, ramps, sidewalks, seawalls, bulkheads, breakwaters, and promenades the unit or basis for distributing the special assessment to pay the cost of such improvement shall be according to the front footage of the property fronting or abutting upon such improvement in the proportion that the particular parcel of land to be assessed bears to the total front footage of all property fronting or abutting thereon; in the case of the drainage or filling in of low places or the construction and maintenance of water and sewer systems and drains, the unit for the assessment of the share and amount of the cost to be distributed and assessed against any particular parcel of land shall be the platted lot according to the last plat thereof recorded amongst the public records at the time of commencing such work and it shall not be necessary for the city to break the assessment down as a result of any division of such lots which is not revealed by such recorded plat and each such platted lot shall bear such fair and just proportion of the cost of such work as was~~

necessarily expended in connection with the improvement or benefit accruing thereto. The city shall have a lien superior to all other claims, except taxes, against and upon the property for the amounts of the special assessment together with interest and all costs of collection.

Whenever the doing of any such thing is provided for by ordinance, the ordinance providing for the same shall be accompanied by plans and specifications therefor and shall state the estimated total cost which will in the opinion of the city council cover the total cost of the work and the proportion to be borne by the city, if any, and the estimated amount per front foot as special assessment to be levied upon abutting property, or the estimated cost to be specially assessed against the platted lot to be benefited as the case may be, and shall be published once a week for four (4) consecutive weeks in some newspaper published in Duval County, Florida, or posted for thirty (30) days at the city hall and two (2) other public places in the said city and the city council shall meet as soon as practicable after the expiration of said publication or posting at a time named in the ordinance, and permit any owner of, or other persons interested in, any property against which it is proposed to levy such special assessment, to present to the city council any objections which he may have to the enforcement of the requirement of such ordinance, and shall have power, if they deem just or right, to revise, repeal, or amend said ordinance in such manner as it may deem necessary to correct or equalize the assessment in proportion to the benefits to be bestowed upon the property assessed, but no such amendment shall increase the amount to be specially assessed against the property, nor shall the assessment against any property be in excess of the special benefits accruing to said property by reason of such work. Any person owning or interested in any property to be specially assessed, or generally taxed for said work, who shall not at such meeting present in writing to the city council his objections to said ordinance, shall be deemed to have consented to its provisions, and any person so presenting his objections to such ordinance and not satisfied with the action thereon shall have the right within thirty (30) days thereafter to present to any court of competent jurisdiction against the enforcement of said ordinance any legal objection he may have to the enforcement of such ordinance, and the court shall have power, upon proper cause shown, to grant such injunction and any person not presenting his bill for injunction within thirty (30) days, or failing to push to a successful conclusion with due diligence his application for an injunction shall be deemed to have consented to the enforcement of the ordinance, and levy and collection of the special assessment and taxes necessary thereto, and shall not thereafter be heard to defend against or question the validity of such tax or special assessment. The city council is hereby authorized to provide by ordinance for the issuance of special assessment certificates for such amounts and drawing such rates of interest and upon such terms and conditions as may be deemed necessary to enable the city to pay the cost of such work pending the collection of special assessments and taxes and to provide for the payment thereof with interest; and the city council shall, as soon as practicable and within thirty (30) days after the completion of any such work, by resolution, fix a special assessment, per front foot upon the abutting property or the special assessment against the platted lot to be benefited, as the case may be, at an amount not exceeding either the actual cost of the work, or the estimated special assessment stated in the ordinance providing for the work, which said resolution shall specify the amount of the cost of such work so assessed against the abutting or benefiting property and the fact that a lien has been assessed against such property with a breakdown of the specific amount which has been

~~assessed against each particular parcel of property to be particularly described therein and shall provide that the city clerk shall forthwith have prepared and entered in a book, which shall be prepared and kept for that purpose, and kept open to the public for inspection during reasonable office hours, labeled "IMPROVEMENT LIEN BOOK", the amount of such lien assessed against each lot, the date of the completion of the work and such other information as may be deemed advisable. The city council shall cause said resolution to be published in a newspaper published in Duval County once each week for four (4) consecutive weeks, or by posting same at the city hall and two (2) other public places in said city for a period of thirty (30) days. Any person desiring to contest in any manner the validity of any such special assessment or lien shall within thirty (30) days after the publication or posting at the city hall and two (2) other public places in said city of the resolution fixing the special assessments, institute suit to have the enforcement thereof enjoined, or its validity legally declared, and any person not instituting such suit shall not thereafter be heard to question the validity thereof, or to defend against the enforcement of the lien upon the grounds of its invalidity. Any such special assessment paid within thirty (30) days after the publication or posting of such resolution shall be accepted without interest and such assessment not paid within said time shall bear interest from the date of publication or posting of such resolution at a rate not to exceed eight (8) percent per year. The city council may, by ordinance, provide for the payment of such special assessments in installments and for the collection by enforcement of the liens by attorney or attorneys after any payment has not been made in compliance with the provisions of such ordinance. The liens for the amount of such special assessments may be enforced, and any number of liens arising under the provisions of one ordinance may be enforced in and by one proceeding in equity. The city shall have and collect a lien upon any properties affected by such special assessment for reasonable attorneys fees for the collection of unpaid special assessment after the collection thereof shall have been entrusted to an attorney by resolution of the city council.~~

Section 57. - Ocean beach.

The City of Jacksonville Beach shall have full power and authority to exercise police powers with reference to the ~~bathing and driving beach~~ adjacent to and easterly of said city and the waters of the Atlantic Ocean on and easterly thereof as far as the jurisdiction of the State of Florida extends. The city may establish and set aside safety zones or areas upon said ocean beach and prohibit ~~any and all~~ vehicles from using the area embraced therein. Any control, regulation or exercise of its police power by such city in regard to such beach and water shall be deemed and held to be solely a governmental function and no cause of action shall exist in favor of any person, nor shall the city be liable in damages, for any injury resulting to persons or property by reason of the use of such beach as a public highway, bathing beach, or otherwise, or by reason of any acts of omission or commission by the officers or employees of such city in reference thereto. Nothing herein shall be construed to require the city to maintain or keep in a safe condition for use as a public highway or bathing beach the said ocean beach or waters on and easterly thereof.

Section 59. – ~~Damage suits~~Reserved.

~~No suit shall be maintained against the city for damages unless written notice of such claim is delivered to the city as provided by state statute.~~

CHAPTER X. - MISCELLANEOUS PROVISIONS

Section 63. - Continuation of former charter provisionsCharter Review.

The City Council shall cause this charter to be reviewed no less than once every [REDACTED] years from the date of adoption of this provision by the voters of the City of Jacksonville Beach. The charter may be reviewed more often at City Council's discretion. Such review shall be by the City Council, or, at City Council's discretion, by an *ad hoc* committee of citizens chosen by the City Council in such manner as the City Council shall determine. If City Council appoints an *ad hoc* committee of citizens to conduct such charter review, the committee shall not have final decision-making authority as to what questions will be submitted to the voters but will instead prepare a report of its review and recommendations to City Council for consideration. The report of the *ad hoc* committee shall be presented to City Council within four (4) weeks of the completion of the *ad hoc* committee's review.~~All provisions of Chapter 18623, Laws of Florida (the former Charter) as amended by special law or otherwise which are not embraced herein and which are not inconsistent with this Charter shall become ordinances of the city subject to modification or repeal in the same manner as other ordinances of the city.~~

Section 66. – Pending mattersReserved.

~~All rights, claims, actions, orders, contracts, and legal or administrative proceedings involving the city shall continue except as modified pursuant to the provisions of this Charter.~~



City of Jacksonville Beach • 11 North Third Street • Jacksonville Beach FL 32250

CITY COUNCIL AGENDA ITEM	
TO:	Mayor and City Council Members
FROM:	Sandra R. Robinson, City Attorney
DATE:	01/26/2022
SUBJECT:	Ordinance No. 2022-8172 Amending City Code of Ordinances Chapter 2, Article II, Division 3, Section 2-51 "Enacting clause"

BACKGROUND

During the course of conducting regular business and during the City's Charter review, it came to the attention of the City Attorney that there is an error in the enacting clause in both City Charter Chapter 1 "General Provisions," Section 9 "Instruction and passage of ordinances and resolutions" and in the City Code of Ordinances Chapter 2, "Administration," Article II, "City Council," Division 3 "Procedures for adoption of ordinances and resolutions," Section 2-51 "Enacting clause" such that both clauses fail to state the City Council as the enacting body.

While the language in the City Charter will likely be corrected via the upcoming referendum making amendments to correct several obsolete and outdated provisions that are inconsistent with current government laws and practices and to correct grammatical and punctuation errors, an ordinance is necessary to correct the language in the City Code.

FINANCIAL IMPACT

None.

REQUESTED ACTION

Approve/Disapprove Ordinance No. 2022-8172 amending City Code of Ordinances Chapter 2, Article II, Division 3, Section 2-51 "Enacting clause" on the first reading and schedule a second reading for March 7, 2022

ATTACHMENTS

1. Ordinance No. 2022-8172 Amending Sec. 2-51 Enacting Clause

Introduced by: _____
1st Reading: _____
2nd Reading: _____

ORDINANCE NO. 2022-8172

AN ORDINANCE OF THE CITY OF JACKSONVILLE BEACH, FLORIDA, TO AMEND CODE OF ORDINANCES CHAPTER 2 "ADMINISTRATION," ARTICLE II "CITY COUNCIL," DIVISION 3 "PROCEDURES FOR ADOPTION OF ORDINANCES AND RESOLUTIONS," SECTION 2-51 "ENACTING CLAUSE," PROVIDING FOR ADOPTION OF RECITALS AND LEGISLATIVE FINDINGS, REPEAL OF CONFLICTING ORDINANCES, SEVERABILITY, CODIFICATION, AND AN EFFECTIVE DATE.

WHEREAS, the City of Jacksonville Beach ("City") has the authority to adopt this Ordinance pursuant to Article VIII of the Constitution of the State of Florida and Chapter 166, Florida Statutes; and

WHEREAS, during the course of conducting regular business and during the City's Charter review, it came to the attention of the City Attorney that there is an error in the enacting clause in both City Charter Chapter 1 "General Provisions," Section 9 "Instruction and passage of ordinances and resolutions" and in the City Code of Ordinances Chapter 2, "Administration," Article II, "City Council," Division 3 "Procedures for adoption of ordinances and resolutions," Section 2-51 "Enacting clause" such that both clauses fail to state the City Council as the enacting body; and

WHEREAS, while the language in the City Charter will likely be corrected via the upcoming referendum making amendments to correct several obsolete and outdated provisions that are inconsistent with current government laws and practices and to correct grammatical and punctuation errors, an ordinance is necessary to correct the language in the City Code; and

WHEREAS, the City Council hereby finds that this ordinance serves a legitimate government purpose and is a permissible exercise of the City's powers and authority.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY OF JACKSONVILLE BEACH, FLORIDA:

SECTION 1. RECITALS AND LEGISLATIVE FINDINGS. The above recitals and legislative findings are ratified, correct, and made a part of this ordinance.

SECTION 2. CHAPTER 2, ARTICLE II, DIVISION 3, SECTION 2-51 OF THE CODE OF ORDINANCES, CITY OF JACKSONVILLE BEACH, FLORIDA, IS HEREBY AMENDED TO READ AS FOLLOWS:¹

Sec. 2-51. – Enacting clause.

The enacting clause of all ordinances shall be "Be it ordained by the City Council of the City of Jacksonville Beach, Florida."

¹ ~~Strikethrough~~ text indicates deletions, underline text indicates additions.

SECTION 3. CONFLICTING ORDINANCES. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed.

SECTION 4. SEVERABILITY. It is the intention of the City Council that if any section, subsection, clause, or provision of this ordinance is deemed invalid or unconstitutional by a court of competent jurisdiction, such portion will become a separate provision and will not affect the remaining provisions of this ordinance.

SECTION 5. CODIFICATION. The City Council intends that this ordinance will be made a part of the City of Jacksonville Beach Code of Ordinances, and it shall replace the current Chapter 2, Article II, Division 3, Section 2-51 in the City Code.

SECTION 6. EFFECTIVE DATE. This ordinance shall take effect upon final reading and approval by the City Council for the City of Jacksonville Beach.

AUTHENTICATED THIS _____ DAY OF _____, A.D., 2022.

Christine H. Hoffman, Mayor

Sheri Gosselin, City Clerk

Approved as to form and legal sufficiency:

Sandra R. Robinson, City Attorney