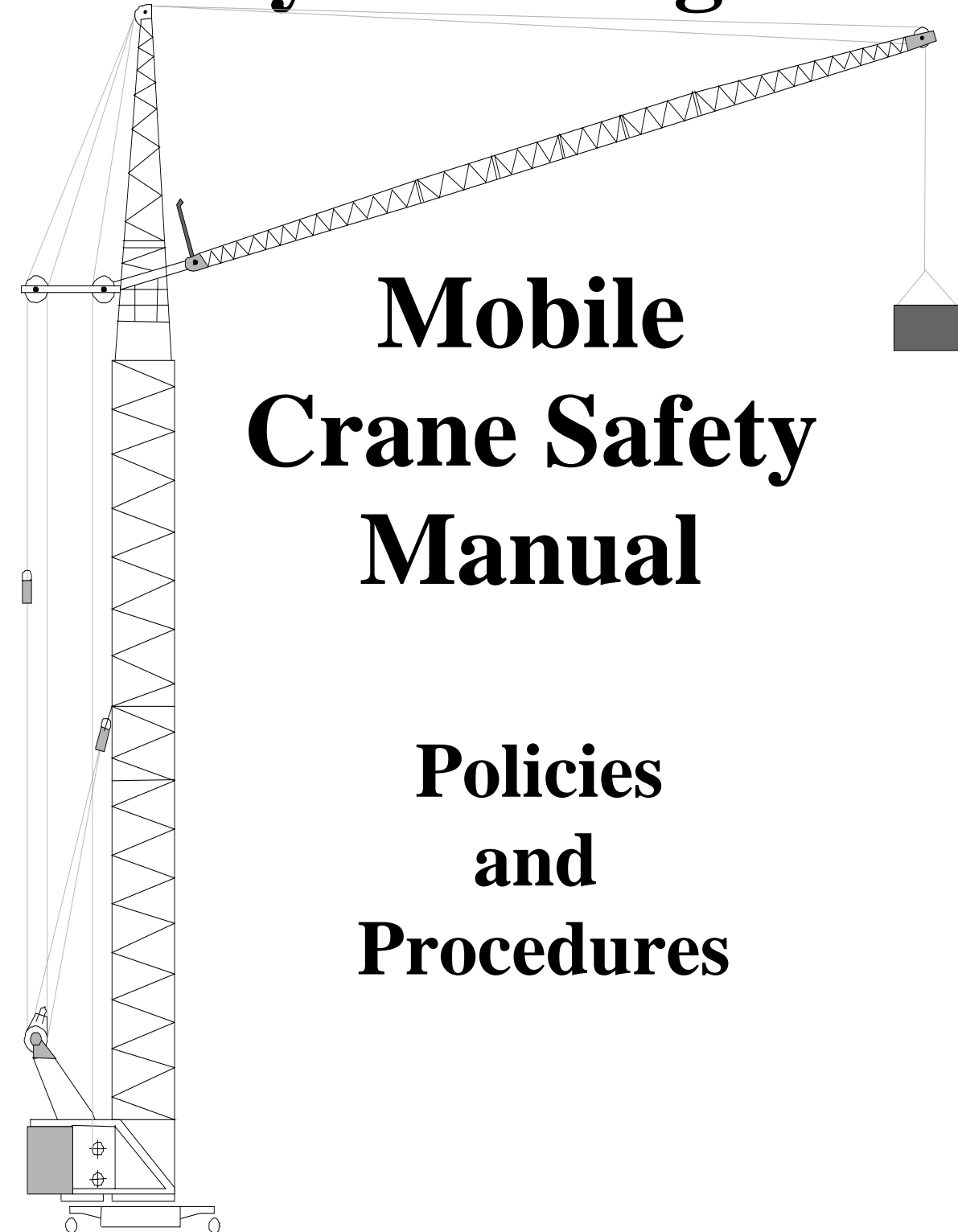


Snyder Langston



Mobile Crane Safety Manual

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PURPOSE

The purpose of these policies and procedures is to provide a safe working environment for crane operators and all site personnel. In addition, surveys of the crane equipment and the operation of the crane has proven to be advantageous to the flow and expediency of work performed during any crane operation on construction sites.

SCOPE

These crane procedures shall be followed on all Snyder Langston projects by all Snyder Langston employees, subcontractors, subcontractor's employees, crane rental companies, crane operators, crane users, and any other persons, organizations, or contractors entering or operating crane equipment on any Snyder Langston job site. These crane procedures will provide a method by which all cranes 14 1/2 ton capacity or greater shall be surveyed. However, all cranes shall be *operated* in accordance with all applicable regulations during use on Snyder Langston projects. Prior to use on all projects, each 14 1/2 ton capacity or greater crane shall be surveyed by a qualified person, designated by Snyder Langston. Further, Snyder Langston may require *any* crane of any capacity to be subject to these requirements at its discretion. The survey will include an inspection of the crane components, accessory gear, below the hook lifting devices, the assembly and setup of the crane each time a crane enters the project. The Surveyor shall review each crane operator's credentials prior to allowing the crane to be operated. Additionally, the surveyor shall monitor the crane operation and identify any procedures considered an unsafe operating practice. These procedures should assist the subcontractor and crane company in maintaining a safe working environment when cranes are used on Snyder Langston projects.

It should be recognized that it is not feasible to address every possible issue, situation, and circumstance that may arise or be encountered on a project. Therefore, if there are conflicts or an unsafe condition that occurs which is not addressed in this manual for a particular crane operation matter, the Snyder Langston safety manager and Snyder Langston's crane safety consultant shall be contacted immediately, prior to commencement of the crane operation.

AUTHORITIES

The criteria and standards for the safe operation of cranes shall include the following:

1. Manufacturer's recommendations and requirements
2. American National Standards Institute (ANSI)
3. American Society of Mechanical Engineers (ASME)
4. Occupational Safety and Health Administration (OSHA)

Note: Where the project is located in a state that has its own regulatory agency such as California's Division of Occupational Safety and Health Administration (Cal-OSHA), the crane equipment must meet the requirements of the state agency.

These criteria are the minimum standards that must be met in all crane operations on all Snyder Langston projects. This crane safety procedure manual does not purport to restate all of these regulations, but should be used for clarification and additional criteria to be adhered to while operating crane equipment on Snyder Langston projects.

RESPONSIBILITIES

Snyder Langston

The Project Superintendent shall be responsible for scheduling of the surveyor 48 hours prior to the arrival of each crane unit. The Project Superintendent has complete authority to cease any crane activity or operation on the project which does not comply with this manual and these policies and procedures. Based upon the information provided by the crane surveyor, the superintendent may also refuse to allow any crane to proceed to operate until such time that the unsafe condition can be eliminated. Where a crane operator declines to make a lift based on any safety concerns, Snyder Langston and its Project Superintendent will provide full support to eliminate the unsafe condition. Upon notification of any

safety deficiency, the Project Superintendent will discuss a plan of action with the surveyor, subcontractor and crane crew to eliminate the safety deficiency.

Subcontractor

The subcontractor shall be responsible for providing Snyder Langston's Project Superintendent with the scheduled crane arrival time, general crane information such as type, size, and owner, anticipated lifts, and any critical lift plans a minimum of 72 hours prior to scheduled arrival date of the crane. Each subcontractor of Snyder Langston shall comply with this crane safety manual and these policies and procedures. The subcontractor shall be responsible for providing each crane owner and all operators with the crane safety criteria prior to bidding and/or arrival on any Snyder Langston project. Prior to scheduling a crane, the subcontractor shall provide Snyder Langston with a completed "*Pre-Erection Hazard Analysis*" form with a plan of action for items requiring corrective measures. The subcontractor shall ensure that each item requiring corrective measures are corrected prior to the arrival of the crane equipment. The subcontractor shall ensure that the crane and its crew are working within the guidelines set forth by the governing authorities and Snyder Langston at all times. Any delays or down time due to the determination or correction of any crane safety deficiency shall be at the subcontractor's expense. The subcontractor shall ensure that the crane company has provided Snyder Langston's management with a "certificate of insurance" and acceptable endorsement naming Snyder Langston & the project owner & the subcontractor as additional insured on its general liability coverage 24 hours prior to the arrival of any crane equipment to the job site.

Crane Surveyor

Snyder Langston retains the surveyor as a third party, independent crane safety consultant who is a qualified person. He or she will provide the Project Superintendent, subcontractor and safety manager with the results and findings of each crane safety survey. The crane surveyor shall ensure that the requirements of this crane safety manual are followed by the subcontractors, crane crews, and crane owners. The crane surveyor may serve as the liaison between the crane users and the project superintendent. Upon identification of any safety deficiency that can not be eliminated prior to commencement of the crane work, the surveyor shall report the deficiency to the subcontractor's foreman along with recommended plan of action. The surveyor shall inform Snyder Langston's Safety Manager, Snyder Langston's Project Superintendent, and the crane owner respectively if discrepancies are identified during the survey process that may affect the safe operation of the crane. If an imminent danger exists by continued operation the crane operation shall cease immediately and appropriate action shall be taken consistent with the reporting procedures set forth in this document.

Crane Owner

Each crane owner shall comply with this crane safety manual and these policies and procedures. Crane owners providing equipment that is operated and maintained by personnel under their employ shall be responsible for the training and qualifications of the operator. The crane owner shall provide all required documentation such as manufacturers load charts, manufacturer's maintenance criteria, and proof of safety certifications consistent with the state and/or federal requirements for inspection by the crane surveyor, Snyder Langston, the Project Superintendent, and/or the subcontractor. Where a safety deficiency or unsafe operation is found, the crane owner shall provide the subcontractor and/or Snyder Langston with a proposed plan of action to eliminate the safety deficiency. Any delays due to operations or equipment that are adverse to these requirements shall be at the crane owner's expense. Crane owners shall provide Snyder Langston's management with a "certificate of insurance" and an acceptable endorsement naming Snyder Langston & the project owner & the subcontractor as additional insured on its general liability and excess coverage 24 hours prior to the arrival of any crane equipment to the job site. Snyder Langston shall provide the crane owner with evidence of builder's risk insurance upon request. Further, the crane owner shall be provided with the following Snyder Langston crane safety documents:

1. Mobile Crane Safety Manual
2. Pre-Erection Hazard Analysis forms

3. Crane Operation Safety Survey forms
4. Crane Safety Survey *Procedure* Flow Chart
5. Crane Safety Survey *Process* Flow Chart

It is the responsibility of the crane owner to ensure that these procedures are read and understood prior to submitting a bid or estimate to any subcontractor or Snyder Langston for crane work.

Crane Operator

Effective June 1, 2000, Snyder Langston requires all crane operators to be certified under the NCCCO, or an equivalent program that has been reviewed by an independent assessment service (e.g. Buros Institute) accepted by the Snyder Langston's Safety Manager. All crane operators shall be experienced, trained, and qualified to operate the size of crane, type of crane, and type of work to be performed on the Snyder Langston project. The operator shall provide proof of any training certificate or licenses possessed attesting to his or her crane operation knowledge, skill, and experience for review by the surveyor or Snyder Langston Management. Each crane operator shall comply with this crane safety manual and these policies and procedures. The crane operator shall work directly with the crane surveyor and provide the surveyor with the information required on all Snyder Langston crane survey forms. The crane operator will work with the crane surveyor in an effort to correct any safety deficiencies found during the survey. Any crane operator, who determines that a lift is unsafe to be performed, shall refuse to continue operation of the crane with the full support of Snyder Langston in eliminating the safety deficiency. Upon finding an unsafe condition, crane operator shall consult with the Snyder Langston superintendent and/or the crane surveyor in order to create a safe plan of action.

Crane Oiler

An oiler shall not operate any crane equipment unless he possesses the qualifications of a bona fide crane operator as defined above. This limitation does not include positioning of the crane during relocation, assembly, or disassembly. Further, the oiler may operate the crane as required during routine maintenance in the performance of his or her general duties. Any crane oiler, who determines that a lift is unsafe to be performed, shall notify the operator immediately and consult with the Snyder Langston superintendent and/or the crane surveyor in order to create a safe plan of action.

DEFINITIONS¹

Accessory Gear

A secondary part of the crane or crane component which contributes to the overall function of the crane which includes but is not limited to jibs, jib assemblies, outriggers, sheave assemblies, and counter weights.

Anti Two-Blocking Device

A warning or damage prevention feature which alerts the operator before the load block or ball assembly makes contact with upper boom sheave assembly².

Below-the-Hook Lifting Device

Rigging used in conjunction with the crane to attach the load to be lifted to the crane hook assembly which includes but is not limited to such items as wire rope slings, lifting beams, skookum blocks, shackles, and web slings.

¹ A complete list of definitions may be found in ANSI B30.5 § 0.2 and in the state or federal O.S.H.A. standards.

² A crane lifting personnel on a suspended work platform shall be equipped with a positive acting anti two-block device that prevents damage to crane components.

Certified Agent

The manufacturer, or a person who is currently registered as a professional civil, mechanical, or structural engineer by the state in which the Snyder Langston project is located and is knowledgeable in the structure and use of the equipment.

Certification of Crane Operators (CCO)

The National Commission for the Certification of Crane Operators (CCO) is an independent not-for-profit corporation formed to establish and administer a nationwide program of certification of operators. This organization establishes set standards for measuring the knowledge and proficiency for the safe operation of crane equipment.

Functional

A safety device shall be in use and operating while the crane is in use. Functional *does not* mean merely “capable of performing” for purposes of these safety requirements.

Jib

An extension attached to the boom point to provide added boom length for lifting specified loads.

On-Rubber Pick and Carry

A lift made in conjunction with the manufacturer’s load chart without the use of outriggers in which the load is lifted and moved under the power of the crane unit.

Rolling Outriggers

An accessory component that is attached to the outrigger assembly in lieu of outrigger pads which allow for pick and carry with the outriggers extended. Use of this equipment requires that the component and load chart is approved by the manufacturer or certified agent.

Qualified Person

A person who, by possession of a recognized degree or certificate of professional standing, or who, by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve problems relating to the subject matter and work.

PROCEDURES

Bid Procedures

1. Each subcontractor shall submit in its bid set, a declaration that all crane equipment utilized on Snyder Langston projects will meet the criteria required in the bid specifications for safe crane operation.
2. Each subcontractor will receive the *Crane Safety Manual: Policies and Procedures*, *Crane Operation Survey*, and a *Pre-Erection Hazard Analysis* form upon award of contract.
3. The subcontractor shall provide copies of the *Crane Safety Manual with Policies and Procedures*, *Crane Operation Survey*, and a *Pre-Erection Hazard Analysis* form for each crane rental company who plans to provide crane equipment for use on Snyder Langston projects prior to a pre-job conference.

Subcontractor Safety Start-up Meeting

Each subcontractor, along with a representative of the crane provider, shall attend a pre-job start-up meeting with *Pre-Erection Hazard Analysis* form completed.

Crane Survey Procedure

1. The subcontractor shall notify the Snyder Langston Project Superintendent at least 72 hours in advance of a scheduled crane arrival. The notification shall include the following information:
 - 1.1. On-site subcontractor contact name
 - 1.2. Crane type (Hydraulic, conventional, crawler, etc.)
 - 1.3. Crane capacity
 - 1.4. Arrival time for crane assembly
 - 1.5. Work start time
 - 1.6. Crane owner / rental company name
 - 1.7. Type of work to be performed (tilt-up panels, steel erection, set air-conditioning unit, etc.)
 - 1.8. Copy of pre-authorized critical lift plan as needed
2. The Snyder Langston Project Superintendent shall schedule the crane surveyor within 48 hours for arrival at the job site concurrent with the arrival time of the crane equipment for viewing of the assembly crane equipment.
3. Upon approval by Snyder Langston's Project Superintendent, the equipment survey portion of this procedure may be conducted at the crane owner's location 24 hours prior to the crane equipment's arrival at the job site.
4. Each survey shall commence at "build up" of the crane. Crane owners should plan for ½ hour of additional "build up" time for the survey.
5. Upon arrival at the job site, the crane surveyor shall report directly to the Snyder Langston office, then proceed to the location of the crane assembly area.
6. The crane surveyor shall introduce himself or herself to the subcontractor and crane crew giving a brief explanation of the survey procedure.
7. Where a deficiency requires repairs, replacement of equipment, or additional testing which may result in down time and additional expenses, the crane owner shall be afforded the opportunity to determine the method of correction which is acceptable to Snyder Langston, the crane surveyor, and the subcontractor.
8. The crane survey shall include the inspection of the crane, accessory equipment to be used on the project, and below-the-hook lifting devices that will be used for lifts on the project.
9. The surveyor shall record all information required on the *Crane Operation Safety Survey* form and identify any safety deficiencies noted as follows:
 - 9.1. Note deficiency on report along with plan of action for correction (crane crew corrected, crane company replacing component, etc.)
 - 9.2. Report deficiency to the crane operator or oiler for initial correction.
 - 9.3. Where a deficiency can not be corrected prior to scheduled work time, a verbal and written report shall be provided to the Snyder Langston Project Superintendent which includes the following information:
 - 9.3.1.1. Persons notified of deficiency (operator, oiler, subcontractor, etc.)
 - 9.3.1.2. Severity of deficiency.
 - 9.3.1.3. Recommended plan of action.
10. The crane surveyor shall view the set up of the crane and operation of the crane in order to evaluate the safe operation and use of the crane equipment.
11. Upon surveying the assembly, set up, and operation of the crane equipment, the survey report, along with all deficiencies noted and recommended plans of action shall be provided to the Snyder Langston Project Superintendent.

12. Under most circumstances, the survey is completed on site between 1 and 3 hours.
 - 12.1. If on site time is expected to exceed 4 hours, the surveyor should notify the Project Superintendent.
 - 12.2. If on site time is expected to exceed 8 hours, the surveyor should notify the Snyder Langston Safety Manager.
- Note:** *Failure to notify the persons specified above shall result in the reduction or nonpayment of the surveyor's charges that exceed the said time periods.*

CRANE SAFETY REQUIREMENTS

1. Report any unsafe conditions to the subcontractor foreman or Project Superintendent immediately.
2. Access for entry and assembly of the crane shall be free from obstructions, underground hazards, and overhead power lines.
3. All crane equipment and operation of crane equipment shall meet the requirements of the manufacturer, ANSI, ASME, and OSHA.
4. Crane equipment shall have the required inspection and proofload testing certificates current and available upon arrival at the job site.
5. Lifting beams (commonly known as "spreader bars") shall conform to ANSI B30.20, 1985 regulations which requires the following permanent markings:
 - 5.1. Manufacturer's name
 - 5.2. Serial number (ID #)
 - 5.3. Weight of the bar if over 100 lbs.
 - 5.4. Rated load
 - 5.5. Initial Proofload testing at 125% of the lifting beam's capacity.
6. Proof of initial load testing shall be provided for all lifting beams. Load test shall not exceed 125% of the rated load.
7. Engineering data shall be provided to Snyder Langston Management on all specialized below-the-hook lifting devices.
8. No crane shall be operated near high voltage as follows:

■ 0 to 50 kV	10 feet
■ over 50 to 200 kV	15 feet
■ over 200 to 350 kV	20 feet
■ over 350 to 500 kV	25 feet
■ over 500 to 750 kV	35 feet
■ over 750 to 1000 kV	45 feet
9. Crane shall travel with no load and the boom or mast lowered near high voltage as follows:

■ over 0 to 50 kV	6 feet
■ over 50 to 345 kV	10 feet
■ over 345 to 750 kV	16 feet
■ over 750 to 1000 kV	20 feet
10. No loads shall be lifted over personnel.
11. No one shall place their hands or any other portion of the body under a load suspended by the crane.
12. No unauthorized personnel shall be working within the lifting area³ of the crane.
13. Yellow caution tape shall be used to prevent personnel from entering the crane rotation area.
14. All personnel shall be clear of crawler tracks while the crane is moving.
15. All personnel except for the operator and oiler shall be clear of the crane rotating area during its operation.
16. A designated signal person shall provide direction to the operator using the standard hand signals or radio communications that are common to the industry.

³ The lifting area encompasses that area where the boom is likely to swing over during the lift. This area should be clear of any person who is not directly involved with the lifts being performed.

17. Operation of crane equipment by persons designated as the oiler shall be conducted under the direct supervision of an experienced operator during non-critical lifts. Where such lifts are conducted, notice shall be given to all employees working with the crane equipment.
Note: *Direct supervision requires the experienced operator to be present at the operator's station during all lifts.*
18. No lifts shall exceed 75% of the manufacturer's load rating unless a written critical lift plan has been submitted and pre approved. Where tilt-panels panels are being lifted, no lifts shall exceed 85% of the manufacturer's load rating unless a written critical lift plan has been submitted and pre approved.
19. The manufacturer's load chart shall be affixed to the crane or located in the operator's cab accessible to the operator.
20. All lifts and crane configurations shall be consistent with the manufacturer's requirements and load charts.
21. When pick and carry operations occur, the ground shall be smooth, level, and compacted, free from obstructions, underground hazards, and overhead power lines.
22. No cribbing shall be placed under the crane axle, frame, or out rigger extension beams.
23. Jib and boom shall be free from structural damage that exceeds the manufacturer's maximum allowable tolerances.
24. Anti two-blocking device shall be functional and operational on all cranes equipped with such device.
(All cranes that are operated in states where anti-two blocking devices are required shall be equipped in accordance with that state's standards)
25. A load indicator shall be on all load lines in use on mobile cranes that exceed 50 tons rated capacity or 200 feet of boom.
26. An electronic boom angle indicator shall be provided on all hydraulic cranes exceeding 15 tons rated capacity or a 60 feet boom length.
27. No crane shall be operated in wind speeds that exceed 35 mph or the manufacturer's recommendations which ever is the lesser wind speed.
 - 27.1. Where surface area of material being lifted creates a sail affect, the crane may be required to cease operating at lower wind speeds than stated.
28. Wind speed indicators shall be provided by Snyder Langston at each site location and affixed to a pole or structure at the highest point possible above the ground level.
 - 28.1. Where possible, the wind indicator shall be properly affixed to the crane boom.
29. No person shall disable or circumvent a safety device while the crane is performing lifting service.

INSPECTION OF CRANE EQUIPMENT

California Projects

All cranes assembled or operated on Snyder Langston Projects located in California shall have a current annual certificate of inspection and a current quadrennial certificate of inspection and proofload test issued by a crane surveyor licensed and accredited by the California Division of Occupational Safety and Health Administration (Cal-OSHA). Copies of these certifications shall be located on the crane upon its arrival at the job site and provided for inspection by a qualified Snyder Langston representative prior to operation of the crane on any project. If either certificate expires while in operation on a project, the crane shall cease its operation until such time the crane is inspected, tested, and a current certificate has been issued by a licensed crane surveyor.

Other States

No crane shall be operated or assembled prior to providing proof of an annual safety inspection performed by a qualified person. The inspection criteria and document shall be consistent with Federal Occupational Safety and Health Administration, Department of Labor regulations and regulatory agency of the governing state that the project is located. Proof of such inspection shall be located on the crane upon its arrival at the job site and provided for inspection by a qualified Snyder Langston representative prior to operation of the crane on any project.

LOAD TESTING OF JIBS AND ROLLING OUTRIGGERS

This section applies to all California projects and other states that require proofload testing of crane equipment

All cranes that perform lifts with the jib attachment or rolling outriggers on Snyder Langston projects shall have a current certification⁴ stating that the jib and rolling outriggers have been proofload tested by a qualified person. Proof load tests shall be performed during the initial proofload testing and every four years thereafter, unless a structural repair has been performed on the crane. If a structural repair has been performed (even if the jib was not damaged) a load test shall be performed prior to placing the crane back into service. No proof load test of the jib or rolling outriggers is required during the annual certification as long as proof load testing of these components has been performed in accordance with the requirements specified above. Where the crane owner elects not to test the jib or rolling outriggers, it shall be noted on the certificate and the jib or rolling outriggers shall not be used until load testing has been successfully completed. These requirements apply equally to telescopic and lattice boom cranes.

ANTI TWO-BLOCK DEVICES

This section is a minimum requirement for projects in all states.

Cranes manufactured after February 28, 1992

Telescopic boom cranes operated on Snyder Langston projects shall be equipped with a functional anti two-block damage *prevention* feature. Lattice boom cranes operated on Snyder Langston projects shall be equipped with a functional anti two-block damage *warning* feature.

Cranes manufactured before February 28, 1992

All cranes equipped with an anti two-blocking device shall be operated with the device fully functional during all lifts conducted on Snyder Langston projects.

LOAD RATING CHARTS

This section is a minimum requirement for projects in all states.

A durable load chart with clearly legible letters and figures provided by the crane manufacturer or a certified agent experienced and familiar with the characteristics of the crane equipment shall be securely fixed (where the manufacturer's load chart is provided in a binder or other book form, the chart shall be located in the operator's cab) to the crane in a location clearly visible to the operator or within reach of the operator while at the control station. The chart shall contain a full and complete range of crane load ratings, consistent with the manufacturer's' recommendations, at all stated operating radii or boom angles and for all permissible boom lengths, jib lengths and angles, also alternate ratings for use and non-use of optional equipment on the mobile crane, such as outriggers and counterweights which affect ratings. The chart shall also contain essential precautionary or warning notes relative to limitations on equipment and operating procedures, including indication of the least stable position. In addition, no crane shall be rerated unless such rating changes are approved by the certified agent. Load ratings shall be expressed in terms related to method of measuring boom angle and length or lifting radius.

⁴ Cal-O.S.H.A. Title 8, plate V or equivalent proof for cranes located in states outside of California. See attachment 1 for example.

Interpretation

Where the *actual* boom angle does not match the values shown on the load chart, the value used must be the next *lower* boom angle number. Where the *actual* load radius does not match the values shown on the load chart, the value used must be the next *higher* radius number.

Example

The load is to be placed at a 55-ft radius at 47° boom angle. The load chart values are shown for 50-ft. radius at 55° boom angle with the next value at 60-ft. radius at 45° boom angle. The capacity reflected at the 60-ft. radius at 45° boom angle must be used for this example since no capacity values are given for the actual load radius and boom angle.

CRITICAL LIFTS

A critical lift is established where any one of the following conditions are created:

1. Where in the crane's current configuration at any point during the lift, a gross load weight exceeds 75% of the capacity of the crane, or 85% of the capacity of the crane where tilt-up panels are erected.
2. A single lift that two or more cranes are used including tandem lifts and tailing cranes.
3. Lifts made in close proximity of power lines as defined by the voltage clearance specifications described above.
4. Lifts involving specialized or unique and complex rigging equipment.
5. Hoisting of suspended work platforms.
6. Static tower crane erection and dismantlement.
7. Making lifts below the ground level where the crane is positioned.

Note: *Where the below the ground lift is minimal, a critical lift plan may not be required.*

Critical Lift Plan

Where a critical lift will be performed, a written critical lift plan shall be submitted to Snyder Langston prior to commencing with the lift. The written plan shall include the following:

1. Crane manufacturer, capacity, and all specifications for the configuration to be used for the lift.
2. Load chart data for the crane to be used to make the lift.
3. Total calculated weight of the load to be lifted including all rigging and other deductions consistent with the manufacturer's load chart.
4. Diagrams of the lift that provides geometrical conditions of the load, rigging, and all crane positions during the lift. The drawing shall provide the following:
 - A. Locations of all components to be lifted prior, during and after the lift is completed.
 - B. Radius points.
 - C. Swing patterns.
 - D. In the event that the lift must be aborted, positions where the load may be safely landed.
 - E. Areas where any personnel, public, and vehicles must be evacuated during the lift.
5. Potential ground loading for each point of contact by the crane in selected locations in which the crane will perform the critical lift.

6. Soil and subsurface data and information pertaining to the location on which the crane used for the critical lift will be positioned. This information shall be procured from an authoritative source such as a geotechnical engineer or a professional civil engineer registered in the state where the project is located.
This information may be available from Snyder Langston for selected locations on some projects.
7. An engineer shall use the data provided in #5 and #6 above to verify and confirm the following:
 - A. That the soil and subsurface conditions are capable of supporting all loads imposed during the critical lift.
 - B. That the designs of cribbing and other supports used under the crane load points are appropriate to safely transfer such loads.
8. Signature and stamp on the plan by a registered professional engineer licensed in the state in which the project is located, evidencing review of the plan as meeting the requirements set forth in this manual and that all loads and load information and calculations contained in the plan are approved, acceptable and safe to perform.
9. Operator qualifications.
10. Method by which communication will be provided to the crane operator. (Designated signal person, two-way radio, hard wire phone system, etc.)
11. A critical lift hazard analysis which identifies the particular hazards associated with the lift and the means and methods to reduce, mitigate, or eliminate the hazards.
12. Emergency action plan.

The written plan shall be submitted 72 hours prior to any critical lift for review by Snyder Langston's job superintendent and crane surveyor. No critical lifts shall be conducted prior to such approval.

CRANE SUSPENDED WORK PLATFORMS

The use of a crane or derrick to hoist employees 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. If a crane suspended work platform is used, its use shall be conducted in accordance California Code of Regulations, Title 8, § 5002. Where work is conducted outside of California, Federal O.S.H.A., 29 C.F.R. 1926 § 550(g) shall be followed unless the regulations of the state where the project is located exceed these requirements.

QUALIFICATIONS OF CRANE OPERATORS AND SURVEYORS

All persons who perform crane safety surveys or operate crane equipment on Snyder Langston projects shall be adequately trained and experienced on the type of crane and lifts that are to be performed. Effective June 1, 2000, Snyder Langston requires all crane operators to be certified under the CCO or an equivalent program that has been reviewed by an independent assessment service (e.g. Buros Institute) accepted by the Snyder Langston's Safety Manager. Proof of CCO certification or its equivalent (as defined under Crane Operator) shall be provided to Snyder Langston's qualified crane surveyor or Project Superintendent prior to commencing any crane operations. It shall be the responsibility of the subcontractor to ensure that all operators hired or contracted with are qualified, trained, and experienced prior to commencing with lifts on Snyder Langston projects. In addition, all crane surveyors shall be required to complete CCO testing.

INTENT

The intent of this Mobile Crane Safety Policy and Procedure Manual is to provide guidance and clarity to existing regulations and requirements for the safe operation of crane equipment. The requirements set forth above shall be followed by all subcontractors who own or hire crane equipment to work on Snyder Langston projects.

Printed name

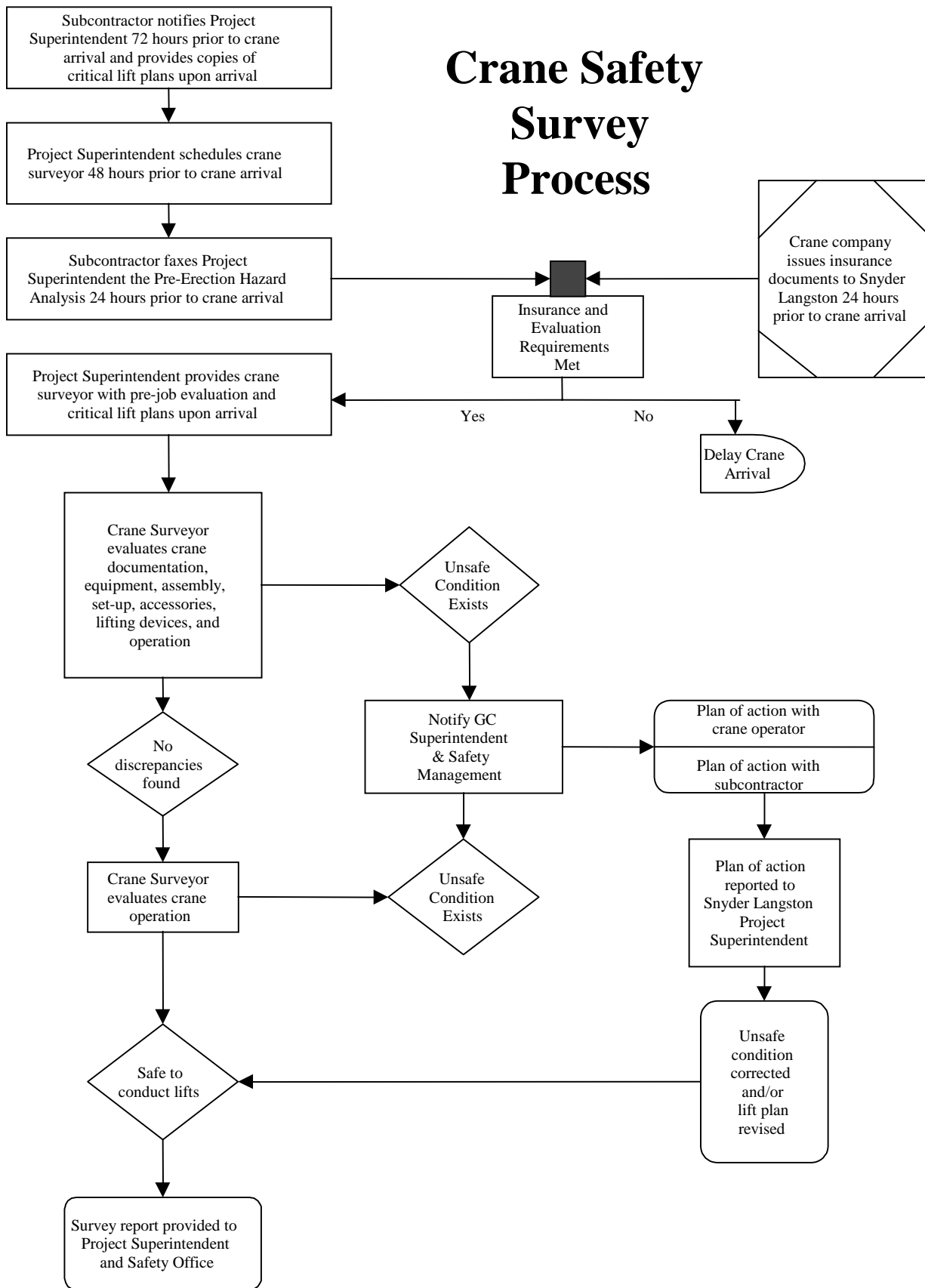
Signed

Title

Company

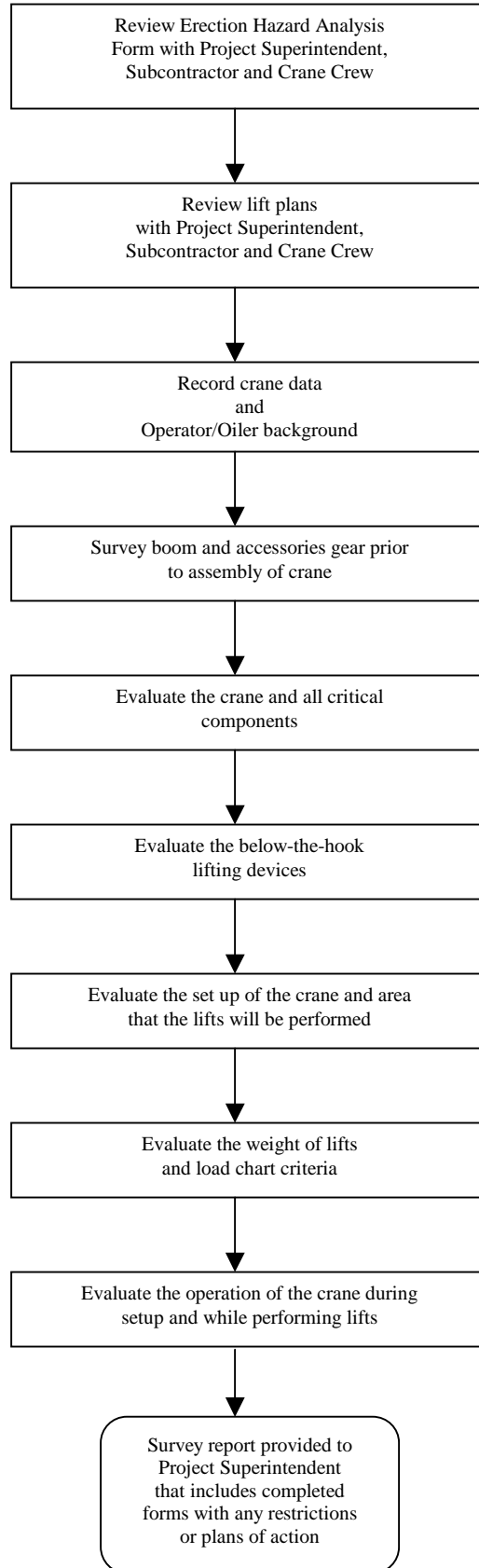
Date

Crane Safety Survey Process



Crane Safety Survey Procedure

SURVEYOR WILL



PRE-ERECTION HAZARD ANALYSIS FOR GENERAL CONTRACTOR

→ Required 72 Hours Prior to Crane Arrival ←

Subcontractor _____ Contact: _____
 Project Name: _____ Phone: _____
 Project Location: _____ Job No.: _____
 Date: _____

I have read and understand the Snyder Langston crane safety policies and procedures.

Yes No

Crane Equipment					
Type of work	Tilt – up panel <input type="checkbox"/>	Steel erection <input type="checkbox"/>	Other _____		
Crane capacity:	_____	Boom length:	_____		
Maximum pick radius on this project	_____	Maximum pick weight on this project	_____		
Crane Type:	Telescoping Boom <input type="checkbox"/>	Lattice Boom <input type="checkbox"/>	Rough Terrain <input type="checkbox"/>		
	Truck mounted <input type="checkbox"/>	Crawler Mounted <input type="checkbox"/>	Other: _____		
Accessory gear:	Rolling outriggers <input type="checkbox"/>	Jib <input type="checkbox"/>	Other: _____		
Lift Analysis					
Will any lifts exceed 75% of the crane's rated capacity?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
If yes, have you submitted a written critical lift plan?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
Will any lifts require on rubber pick and carry operation?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
Pre-Erection Hazard Analysis					
A. Access for cranes, trucks, and other erection Equipment:					
1. Haul road for cranes and trucks	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
2. Adequate entrance into and out of project	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
3. Use of public access requiring traffic control or permits	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
4. Adequate area for crane assembly	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
5. Adequate area for crane disassembly	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
6. Existing structures on site	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
7. Truck staging area available	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
8. Access outside of structure	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
B. Ground Conditions					
1. Level	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
2. Compaction to support crane loads	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
3. Ramps - - gradability	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
4. Crane restrictions (excavations, shoring, underground structures)	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
5. Slab thickness will support crane	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
C. Utilities					
1. Overhead wires (provide method used to maintain clearance in notes section)	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
2. Underground vaults, sewer, gas, fiber optics, etc.	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
3. Airport clearance	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
4. Airport flag or light	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		
D. Other condition not addressed above:	OK <input type="checkbox"/>	N/A <input type="checkbox"/>	See Notes <input type="checkbox"/>		

Information provided by: _____
Print

 Signature

PRE-ERECTION HAZARD ANALYSIS NOTES

Subcontractor
Name _____
Job Name: _____
Job Location: _____

Subcontractor
Contact: _____
Subcontractor
Phone: _____
Job No.: _____

Item No.	Description and Plan of action
C-1	(Example) Crane must be operated near high voltage power lines for the erection of east corner of building
Plan of action	Crane company has installed a swing warning device that will sound an alarm before the crane has swung into the restricted zone of the power lines. The alarm increases its sound as the crane nears the zone.

Subcontractor Name _____

Subcontractor _____

Contact Name _____
Print

Subcontractor _____

Contact's signature _____

Surveyor Assignment No.: _____
 Date of survey: _____
 Survey Form No. _____

CRANE OPERATION SAFETY SURVEY

Attention: SURVEY IS BASED ON THE CONDITION OF CRANE AT THE TIME OF SURVEY.
 CORRECTIONS AND CHANGES MADE AS A RESULT OF THIS SURVEY SHALL BE WRITTEN ON THE
 SURVEY NOTES FORM.

Subcontractor _____ Project Name: _____ Project Location: _____ SL's Job Number: _____ Superintendent: _____	Subcontractor Contact Name: _____ Subcontractor Phone Number: _____ Crane Owner Name: _____ Crane Owner Phone Number: _____ On Site Survey Time: Begin: _____ End: _____
--	---

Crane Identification

Crane Configuration at Time of Survey:

Crane Configuration Upon Surveyor's Arrival:				Crane Assembled: <input type="checkbox"/>				Crane Disassembled: <input type="checkbox"/>					
Manufacturer:	_____						Unit Number:	_____					
Model Number:	_____						Serial Number:	_____					
Boom Length:	_____				Jib Length:	_____			Crane Capacity:	_____			
Boom Section Identification Numbers:	Base	Tip	Mid	Insert 1	Insert 2	Insert 3	Insert 4	Insert 5	Insert 6	Jib	Jib		
	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____		
Crane Type:	Telescoping Boom <input type="checkbox"/>				Lattice Boom <input type="checkbox"/>			Rough Terrain <input type="checkbox"/>					
	Truck Mounted <input type="checkbox"/>				Crawler Mounted <input type="checkbox"/>			Mobile Tower <input type="checkbox"/>					
Accessory gear:	Rolling Outriggers <input type="checkbox"/>				Jib <input type="checkbox"/>			Jib Configuration: _____					
Counter Weight Configuration:	_____				Jib Length:				_____				

Surveyor Assignment No.: _____

Date of survey: _____

Survey Form No. _____

Crane Evaluation						
1.0 Documentation						
1.1 Annual certification (attach copy)	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
1.2 Quadrennial certification (attach copy)	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
1.3 Manufacture's load chart accessible on the crane to the operator	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
1.4 Operator's manual on the crane	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
1.5 Pre-Erection Hazard Analysis completed (attach copy)	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
1.6 Other: _____	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
2.0 Safety Devices						
2.1 Load moment indicator is functioning and accurate	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
2.2 Anti two-block device is functioning and operational	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
2.3 Boom angle indicator is functioning and accurate	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
2.4 Other: _____	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
3.0 Structural Integrity						
3.1 Boom sections	OK	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
3.2 Jib assembly	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
3.3 Outrigger supports	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
3.4 Main frame	OK	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
3.5 Other: _____	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
4.0 General Components						
4.1 Main load line	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
4.2 Auxiliary load line	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
4.3 Boom hoist line	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
4.4 Outriggers extend and deploy	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
4.5 Manufacturer's counter weights installed in accordance with the load chart	OK	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
4.6 Sheaves and drums checked for excessive wear and damage	OK	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
4.7 Tire condition for on rubber picks	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
4.8 Other: _____	OK	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>

Surveyor Assignment No.: _____

Date of survey: _____

Survey Form No. _____

Operator and Oiler History

5.0 Operator												
Name:		Emergency contact person:										
		Emergency phone number:										
5.1 How many years experience operating on this type of crane?								_____ Years				
5.2 How many years of experience with the type of lifts on this Job? (tilt-up panel work, steel erection, etc)								_____ Years				
5.3 Has the operator received a copy of General Contractor's crane safety policy and procedures?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		
5.4 Does the operator use and understand the load-rating chart on this crane?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		
5.5 Has the operator been instructed that he should not continue with any lift that creates an unsafe condition?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		
5.6 Does the operator have the Certified Crane Operator's (C.C.O.) certificate?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		
5.6.1 C.C.O. Number:				Issued:			Expires:					
5.7 Does the operator have any other crane operator's certificates?							YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
5.8 Number of certificates:				Issued By:			Issue Date:			Expires:		
6.0 Oiler												
Name:				Emergency contact person:								
				Emergency phone number:								
6.1 How many years experience oiling on this type of crane?								_____ Years				
6.2 How many years of experience with the type of lifts on this Job? (tilt-up panel work, steel erection, etc)								_____ Years				
6.3 Has the oiler received a copy of General Contractor's crane safety policy and procedures?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		
6.4 Does the operator use and understand the load-rating chart on this crane?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		
6.5 Has the oiler been informed that he should notify the operator of any unsafe condition?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		
6.6 Has this Oiler been informed of the General Contractor provision restricting operation of crane equipment to qualified operators only?							YES	<input type="checkbox"/>	See Notes	<input type="checkbox"/>		

Surveyor Assignment No.: _____

Date of survey: _____

Survey Form No. _____

Below-the-Hook Lifting Devices

7.0 Lifting Beams (ANSI B30.20)						
7.1 Manufacture's name permanently marked on bar	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
7.2 Serial Number (ID #) permanently marked on bar	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
7.3 Weight of bar (if over 100 lbs.) permanently marked on bar	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
7.4 Rated load capacity permanently marked on bar	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
7.5 Proof of rated load test not exceeding 125% capacity of the bar	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
7.6 Other: _____	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>

Set Up and Operation

8.0 Lift Information						
The following lift information provided by:	Name:	_____	Company	_____		
8.1 What is the heaviest lift to be lifted with this crane? At what radius?			Weight _____ Lbs.			
			Radius _____ Ft.			
8.2 What is the maximum radius this crane will be lifting? Weight of lift?			Radius _____ Ft.			
			Weight _____ Lbs.			
8.3 What is the maximum load for pick and carry lifts Maximum radius for pick and carry lifts?			Weight _____ Lbs.			
			Radius _____ Ft.			
8.4 Does this crane have an approved load chart for on rubber picks?	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
8.5 Does this crane have an approved load chart for rolling out riggers?	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
8.6 All lifting procedures conform with the load chart requirements	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
8.7 All lifts will be performed without exceeding 80% of the rated capacity	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
8.8 Written plans provided to General Contractor Safety Management for critical lifts	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
8.9 The Critical lift plan has been provided by:		Company: _____				
		Name: _____				
		Title: _____				
		Date: _____				
8.10 Wind speed limitation specified by the manufacturer ____ M.P.H					See Notes	<input type="checkbox"/>
8.11 Other: _____	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>

Surveyor Assignment No.: _____

Date of survey: _____

Survey Form No. _____

9.0 Set up						
9.1 Crane is level	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
9.2 Ground compacted and stable	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
9.3 Properly cribbed under outrigger pads only	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
9.4 Crane configuration is compatible with manufacture's requirements	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
9.5 Area of travel is level, clear, and stable for pick and carry	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
9.6 Area has be checked for underground utilities in crane area	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
9.7 Outriggers are fully extended deployed with the tires off the ground or used in compliance with manufacturer's specifications	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
9.8 Airport Flag is properly attached to boom Tip	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
9.9 Other: _____	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
10.0 Operation						
10.1 Pre lift meeting held with crane and rigging crew	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
10.2 Designated signal man	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
10.3 Operation of crane conducted in a smooth and safe manner	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
10.4 Lifting sequence and plan is known and followed by the operator	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
10.5 The crane is operated the required distance from overhead power lines	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
10.6 Tag lines are used on loads	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
10.7 Other: _____	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
Assessment						
11.0 Results						
11.4 This crane may proceed with lifts as scheduled	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
11.5 This operator may proceed with lifts as scheduled	YES	<input type="checkbox"/>			See Notes	<input type="checkbox"/>
11.6 The accessory gear may be used as scheduled	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
11.7 The below-the-hook lifting devices may be used as scheduled	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>
11.9 Other: _____	YES	<input type="checkbox"/>	N/A	<input type="checkbox"/>	See Notes	<input type="checkbox"/>

Subcontractor's Name _____ Surveyor's Name _____
Print Print

Subcontractor's signature _____ Surveyor's Signature _____

Date _____
Page One of ____

CRANE OPERATION SURVEY NOTES

THESE NOTES APPLY TO ITEMS IDENTIFIED ON
CRANE OPERATIONS SAFETY SURVEY FORM NUMBER: _____

Job Name: _____	Job No.: _____
Crane Owner: _____	Manufacturer: _____
Model Number: _____	Serial Number: _____
	Unit Number: _____

Item No.	Description and Plan of action
1.1	(Example) No annual certification on the crane
Plan of action:	Crane owner will fax copy to Snyder Langston job office prior to crane going to work.

Subcontractor Name _____

Subcontractor Contact Name _____
Print

Subcontractor Contact's signature _____

Surveyor's Name _____

Surveyor's Signature _____

Continued from Page One...

Item No.	Description and Plan of action

Subcontractor's Initials: _____

Surveyor's Initials: _____

MOBILE CRANE SAFETY BID SPECIFICATIONS

1.1 RELATED DOCUMENTS

- A. Crane Manufacturer's recommendations and requirements.
- B. American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) B30 codes.
- C. Department of Labor, Occupational Safety and Health Administration (Fed-OSHA) 29 CFR Parts 1910 and 1926.
- D. California, Occupational Safety and Health Administration (Cal-OSHA) Title 8, Group 13 regulations OR applicable state regulations for job site location.
- E. *Snyder Langston Mobile Crane Safety Manual*
- F. *Snyder Langston Pre-Erection Hazard Analysis* forms
- G. *Snyder Langston Crane Operation Safety Survey* forms
 - 1. Documents identified in E, F, and G above are available upon request.

2.1 SUMMARY

- A. These safety specifications shall apply to all mobile cranes exceeding 3 tons rated capacity utilized for lifting of materials or personnel on all Snyder Langston projects.
- B. Cranes with a rated capacity of 14.5 tons or more shall under go the Safety surveys identified in section 6.1 of these specifications.

3.1 RESPONSIBILITIES

- A. The Snyder Langston Project Superintendent has complete authority to cease any crane activity or operation on the project.
- B. The subcontractor shall ensure that mobile crane lifting operations are performed within the guidelines set forth by the governing authorities and Snyder Langston at all times. Any delays or down time due to the determination or correction of any crane safety deficiency shall be at the subcontractor's own expense.
- C. The surveyor shall inform Snyder Langston's Safety Manager, Snyder Langston's Job Superintendent, and the crane owner respectively if discrepancies are identified during the survey process that may affect the safe operation of the crane and propose a plan of action to assist in the elimination of the deficiency.
- D. The crane owner shall provide all required documentation such as manufacturers load charts, manufacturer's maintenance criteria, and proof of safety certifications consistent with the state and federal requirements for inspection by the crane surveyor, Snyder Langston, the project superintendent, and the subcontractor. The crane owner shall provide Snyder Langston's management with a "certificate of insurance" and acceptable endorsement naming Snyder Langston & the project owner & the subcontractor as additional insured on its general liability coverage 24 hours prior to the arrival of any crane equipment to the job site. Any delays due to operations or equipment that are adverse to the safety requirements set forth in the Snyder Langston Mobile Crane Safety Manual shall be at the crane owner's and/or subcontractor's own expense.
- E. Any crane operator, who determines that a lift is unsafe to be performed, shall refuse to continue operation of the crane. The crane operator shall work directly with the crane surveyor and provide the surveyor with the information required on all Snyder Langston crane survey forms.
- F. No crane oiler shall operate any crane equipment unless he possesses the qualifications of a bona fide crane operator. This limitation does not include positioning of the crane during relocation, assembly, or disassembly.

4.1 QUALIFICATIONS OF CRANE PERSONNEL

- A. Effective June 1, 2000, all crane operators and crane surveyors shall be certified under the National Commission for the Certification of Crane Operators (C.C.O.) or an equivalent program that has been reviewed by an independent assessment service (e.g. Buros Institute) accepted by the Snyder Langston management.

5.1 CRANE OPERATION SAFETY REQUIREMENTS

- A. All crane equipment and operation of crane equipment shall meet the requirements of the manufacturer, ANSI, ASME, and OSHA.
- B. Lifting beams (commonly known as "spreader bars") shall conform to ANSI B30.20, 1985 regulations and include the following permanent markings:
 - 1. Manufacturer's name.
 - 2. Serial number (ID #).
 - 3. Weight of the bar if over 100 lbs.
 - 4. Rated Load.
 - 5. Initial Proofload testing at 125% of the lifting beam's capacity.
- C. Cranes shall maintain the minimum clearance from power lines as specified in the Snyder Langston Mobile Crane Safety Manual.
- D. No lifts shall exceed 75% of the manufacturer's load rating unless a written critical lift plan has been submitted and pre approved. *Where tilt-panels panels are being lifted, no lifts shall exceed 85% of the manufacturer's load rating unless a written critical lift plan has been submitted and pre approved.*
- E. No crane shall be operated in wind speeds that exceed 35 mph or the manufacturer's recommendations which ever is the lesser wind speed.
 - 1. Where possible, wind speed indicators shall be attached to the crane boom.
 - 2. Snyder Langston will provide a wind indicator at each site location.
- F. No person shall disable or circumvent a crane safety device while the crane is performing lifting service.

6.1 CRANE SAFETY DEVICES

- A. An Anti two-blocking device shall be functional and operational on all cranes manufactured after 1991.
- B. A load moment indicator shall be on all load lines in use on mobile cranes that exceed 50 tons rated capacity or 200 feet of boom.
- C. An electronic boom angle indicator shall be provided on all hydraulic cranes exceeding 15 tons rated capacity or a 60 feet boom length.

7.1 CRANE CERTIFICATE OF INSPECTION AND LOAD TEST

- A. All cranes shall have a current annual certificate of inspection and a current quadrennial certificate of inspection and proofload test located in the crane, issued by a crane surveyor licensed and accredited by the California Division of Occupational Safety and Health Administration (Cal-OSHA).
- B. All cranes that perform lifts with the jib attachment on Snyder Langston projects shall have a current certification of inspection stating that the jib has been proofload tested prior to conducting any lifts.
- C. Projects located outside of California, no crane shall be operated or assembled prior to providing proof certification and inspection consistent with the applicable Federal and State requirements.

8.1 LOAD RATING CHARTS

- A. A durable load rating chart with clearly legible letters and figures provided by the crane manufacturer or a certified agent that is experienced and familiar with the characteristics of the crane equipment shall be securely fixed (where the manufacturer's load chart is provided in a binder or other book form, the chart shall be located in the operator's cab) to the crane in a location clearly visible to the operator or within reach of the operator while at the control station.

9.1 CRANE SURVEY PROCEDURE

- A. All cranes rated 14.5 tons or more shall be subject to a safety survey performed by a qualified third party prior to commencement of work.
- B. Notice shall be given to the Snyder Langston Project Superintendent by the subcontractor 72 hours prior to the arrival of crane equipment.

- C. *Pre-Erection Hazard Analysis* form shall be completed and submitted to the Snyder Langston Project Superintendent 24 hours prior to crane arrival.
- D. The crane survey shall include the inspection of the crane, certificate of inspection and testing documentation, accessory equipment to be used on the project, and below-the-hook lifting devices that will be used for lifts on the project.
- E. The crane surveyor shall view the set up of the crane and operation of the crane in order to evaluate the safe operation and use of the crane equipment.

10.1 CRANE SUSPENDED WORK PLATFORMS

- A. The use of a crane or derrick to hoist employees 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.
- B. If a crane suspended work platform is used, its use shall be conducted in accordance with the applicable state and federal regulations

11.1 CRITICAL LIFT PLANS

- A. A critical lifts is established where any one of the following conditions are created:
 - 1. Where in the crane's current configuration at any point during the lift, a gross load weight exceeds 75% of the capacity of the crane, or 85% of the capacity of the crane where tilt-up panels are erected.
 - 2. A single lift that two or more cranes are used including tandem lifts and tailing cranes.
 - 3. Lifts made in close proximity of power lines as defined by the voltage clearance specifications described above.
 - 4. Lifts involving specialized or unique and complex rigging equipment.
 - 5. Hoisting of suspended work platforms.
 - 6. Static tower crane erection and dismantlement.
 - 7. Making lifts below the ground level where the crane is positioned. Where the below the ground lift is minimal, a critical lift plan may not be required.
- B. A critical lift plan shall be submitted to the Snyder Langston Superintendent and Crane Surveyor 72 hours prior to the crane's arrival at the job site.
- C. The plan shall be consistent with the criteria set forth in the Snyder Langston Mobile Crane Safety Manual.