General Safety and Environmental Rules for Contractors at Space Park

Note: Refer to Section IV, page 26 for Emergency Procedures.

I. PURPOSE AND SCOPE

This document establishes the minimum environmental and safety requirements to be followed by a contractor at Space Park. A contractor is one who performs construction and maintenance projects, provides vendor services, or is involved in joint partnership activities in which none of the workers are directly supervised or employed at Northrop Grumman Space Systems (NGSS).

The intent of these requirements is to prevent an incident. As such, it is necessary for the contract representative to convey the contents of this document to the field employee(s) and any subcontract employee(s) they may utilize to complete a project. General requirements in Section III A apply to most projects whereas specific environmental and safety programs described in Section III B through W may not all apply to the project. It is the contractor's responsibility to review and instruct their employee(s) and subcontract employee(s) on the requirements applicable to the project. Additionally, these General Safety and Environmental Requirements are not inclusive of all the regulatory requirements, but NGSS expects the contractor to be compliant with all the regulatory requirements. Consult with the NGSS Environmental Safety Health and Medical (ESH&M) representative for a particular program not listed, or for additional requirements of a program not mentioned in Section III. Section IV provides the emergency notification and evacuation procedures.

To illustrate certain safety and environmental requirements involved in construction and maintenance projects, NGSS has prepared a Contractor Video with a Pamphlet. It is the responsibility of all contractors to review these materials and pass a quiz annually. A certificate will be completed by the contractor's representative once the supervisor or designee has successfully completed the quiz. The certificate must be available for review at all times when the contractors are performing work at Space Park, or work will cease until such certificate is received. The certificate and other referenced contractor Environmental, Safety and Health (ESH) materials are accessible on the OASIS website, followed by clicking on Contracting Data, scroll down and click on Technical Data, then click on the NGSS Additional Data Links.

II. POLICY STATEMENT

The NGSS Contracts Administrator is required to provide this document to all contract representatives with the issuance of any contract purchase agreement. **By signing the last page**, contractors commit to complying with these requirements. Any act or failure to act by NGSS requirements or the regulations shall relieve the contractor of any responsibility or liability.

Any deviations from these requirements can be considered a breach of contract. Any action taken by a contractor deemed a violation of a safety or environmental requirement shall be stopped by a coworker or by any NGSS Company Representative until such finding is corrected. NGSS requires contractors to take appropriate disciplinary action for worker non-compliance. Deviations are subject to an internal review and, depending on the violation, can result in a written warning or in more severe repercussions. Significant violations will result in contract termination.

As cited throughout this document, the contractor shall coordinate their work and communications with their NGSS Company Representative. The NGSS Company Representative will be the primary contact while ESH&M will provide additional direction for safety and environmental requirements in accordance with NGSS policies, protocols or procedures. The contractor, however, is solely responsible for the supervision, conduct and control of the safety and environmental compliance of themselves, their workers and subcontractors while protecting the site's infrastructure while performing work on NGSS premises.

III. COMPLIANCE REQUIREMENTS

A. General

1. Contractors shall comply with all federal, state, and local safety, health and environmental requirements. Compliance publications include but are not limited to the following:

    - California Code of Regulations (CCR), Title 8, Chapter 4;

- Code of Federal Regulations (CFR) Chapter XVII, Parts 1910 and 1926; South Coast Air Quality Management District Rule Book;
- CFR, Title 40, Parts 260-264;
- CCR, Title 22, Division 4.5;
- American National Standards, American National Standards Institute (ANSI), Inc.;
- National Fire Protection Association (NFPA), 70E Standard for Electrical Safety in the Workplace; and
- The South Coast Air Quality Management District Rules
- Local fire and Health and Safety Ordinances.

2. Contractors working on the premises of Space Park shall comply with the Contractor Notification List. The Contractor Notification List identifies the ESH program, the corresponding ESH&M point of contact, documents and training records to be submitted, the time requested for ESH&M to review and respond as well as other information to implement the particular program. Work involving a particular ESH program or other activity involving ESH review shall not commence until authorized to proceed by the NGSS Company Representative as communicated in writing by the ESH&M point of contact. Contractors shall also comply with the ESH protocols, forms and technical data requirements on the OASIS website. The protocols provide a greater detail of a particular ESH procedure such as conducting an excavation, including procedures to follow when encountering contaminated soils. Copies of the Notification List and the ESH documents can be obtained from the OASIS website (the link is presented in Section I).

3. The NGSS Company Representative will provide the contractor with information concerning hazardous materials in the affected work area such as asbestos, lead and chemical usage. The area representative will also indicate any personal protective equipment (PPE) to be additionally worn, or safety hazards such as working near an unprotected edge of a roof, within a confined space, a crane lift , or around high value equipment. The nearest evacuation staging area will also be provided by the NGSS Company Representative.

   Prior to initiating a construction project, the NGSS Company Representative will post the Eager Beaver Sign for all construction work in Space Park Buildings. The Sign will indicate the building and room(s) affected, start and approximate end dates, point of contact for additional information as well as what activities in the location(s). If odors or particles could be generated during the project, the following statement will be additionally included on the Eager Beaver Sign: ***Construction materials being used or generated during the project have been assessed by ESH&M. Some of these materials have detectable odors or release particles considered to be a low health risk. For your protection, ventilation and other engineering controls are being implemented in an attempt to minimize building exposures. If any person is experiencing health effects resulting from construction activities, leave the area immediately; notify supervision and the NGSS Company Representative. It is also strongly advised to report to Medical (Building S RM1371, Hrs. 7AM to 4 PM, except off Fridays) for a health evaluation.***

4. Hazard Notifications – NGSS Signs/Notices

   a. Work Area Information Card (WAIC)

      NGSS operations involve various physical and health hazards addressed by engineering and administrative controls. The WAICs are posted on Laboratories and High Bays where there are chemicals or where specific hazards exist. The WAIC provides work area contact information, special hazard information, and Safety Data Sheet (SDS) location information. Contractors working at such locations will be provided with appropriate hazard information either by designated work area personnel or by their NGSS Company Representative.

   b. Proposition 65 Warning

      California-based NGSS operations use/store chemicals known to the state of California to cause cancer and/or reproductive harm. Signs placed at NGSS building entrances indicate the presence of these materials.

   c. Asbestos Notification

      Binders have been placed at the NGSS lobby entrances to indicate the presence of asbestos-containing materials (ACMs) in the workplace. Each building where ACMs are present has a notebook

in the building lobby identifying the likely locations of these materials. Contact ESH&M for a specific location within a given building.

5. Security

   a. Badges

      Each and every contractor employee must wear a badge when working on Space Park, whether inside or outside the building. To obtain a badge, the contractor is to complete Forms C-609A, Non-Employee One Badge Request, and C-648, Acknowledgement of Prohibitions and Restrictions on Use of Items and Equipment on Company Premises. Obtain Forms C-609A and C-648 from the NGSS Company Representative. Allow at least 5 business days for badge processing. If your citizenship has not been previously approved on Form C-609A or are being issued a One Badge, need to bring two forms of identification when picking up your badge:

      i. Passport or birth certificate. Permanent Resident Card (Green Card) required for U.S. Persons.

      ii. Driver's License or other photo ID issued by Federal, State, or local government agency.

      A background investigation will be completed and the type of background investigation is usually written in the contract. The background investigation will evaluate:

      i. Criminal Conviction History – Goes back 7 years or to the 18th birthday, whichever is shorter.

      ii. Motor Vehicle Violations – DMV check of State where license was issued for outstanding/historic violations.

      iii. Education – Verification of degrees, certifications, professional licenses where relevant/required information is needed to complete the project.

      When completing C-648, Security has the right to inspect/search all persons, vehicles and containers on company property and to confiscate prohibited items such as weapons, explosives, alcohol, illegal drugs, etc. By signing the C-648, you will comply with photography, video, audio recording and computers/devices limitations. The contractor can request to use photography by completing Form C-648A, Limited Use of Restricted Equipment on Company Premises Request. Photography is prohibited in classified areas and must be approved prior to public release on your Company website, Facebook or for any promotional release.

   b. Classified Areas

      The purpose of security escort is to prevent unauthorized access to classified information. Un-cleared contractors must:

      i. Remain in the sight of the escort.

      ii. Take breaks with the escort. This includes meals, smoke breaks, restroom use, etc. If there is more than one contractor per escort, everyone takes their breaks together.

      Personal electronics, including cell phones and recording devices, are not permitted in classified areas.

   c. Flight hardware Areas

      i. Contractors shall adhere to signs and stanchions posted in the area.

      ii. Contractors are not to touch or move any flight hardware.

      iii. If work is needed to be performed around hardware, the contractor is to notify area personnel prior to performing work. Refer to the Work Area Information posting at the entrance to the area.

      iv. For additional information, refer to the presentation *Building and Lab operations for facilities and outside vendors* (5/24/2023) posted on the OASIS website.

   d. Parking

      Adhere to all parking signs including 15-minute loading and unloading areas, reserved parking, handicap parking, etc. Park the vehicle within a designated space. Do not park in a fire lane or red zone. The red curb is not to be used for a loading zone. Obey the posted speed limit and other laws and regulations. Infractions can result in a vehicle being towed and/or site access privileges can be taken away.

      Contractor is responsible for damage to or thefts from their vehicles.

   e. Gate/Fence Access

Obtain permission from Security and the NGSS Company Representative prior to opening gates in any perimeter fence, or temporarily removing sections of a fence or partitions. The contractor shall provide and install an adequate temporary enclosure during non-working hours. The contractor shall be responsible for replacing or repairing any openings made in a perimeter fence.

6. Expectations of Contractor Management

   The contractor shall:

   a. Designate a lead representative. The NGSS Company Representative will be provided the name and telephone number of the contractor representative to be reached at any time in the event of an emergency. The lead contractor representative shall be familiar with the Federal, California, or local regulations used in the performance of their work and observe the most stringent requirements that apply to the project. The contractor lead will have minimum training equivalent to the CAL/OSHA 30-hour Training for Construction course. The lead representative shall keep an organized binder with contractor employee certifications and other safety related documentation as mentioned herein.

   b. Complete and retain the Job Hazard Analysis (JHA) on site for a **high hazard project.** Examples include, but are not limited to utilizing fall protection equipment, performing confined space entry, or working with hazardous materials while also considering that the project area may also be occupied by NGSS personnel. A contractor can utilize the template posted on the OASIS website (the link is presented in Section 1), or use their own JHA template as long as it minimally contains a table listing the steps, hazards, and controls along with emergency procedures, clinic route map, and a subcontractor acknowledgment page. The contractor, through the NGSS Company Representative, will consult with ESH&M to review a JHA prior to initiating the project. Each contract employee shall review its contents and sign the JHA indicating they will comply with the contents prior to initiating the project. The JHA may need to be modified if the scope changes and subsequently communicated and acknowledged by all site workers. Components of the JHA can also be implemented for other projects with similar scopes of work. However, the supervisor or designee shall assess the area for any new hazards and include them on the revised JHA as well as ensuring all employees acknowledge their review at subsequent project locations. Projects involving soils suspected of being impacted with petroleum derivatives or other hazardous materials during excavations (e.g. M5 and M6 parking lots) will require the contractor to prepare a more comprehensive Health and Safety Plan and submit it along with HAZWOPER training certificates for ESH&M review prior to excavation in accordance with the CCR, Title 8, Section 5192(b)(4)(B).

   c. Ensure the subcontractors being supervised complete the Key Points Card in order to observe safe practices and safe conditions. A subcontractor representative wil complete the Key Points Card weekly during the duration of the project. The subcontractor will indicate which items were not in compliance and remedy any findings noted during their observations. The subcontractor will provide Key Points Card to the General Contractor representative for review and tracking/documentation.

   d. Post contact information for the contractor and the NGSS Company Representative, the personal protective equipment (PPE) to be worn, and the Cal/OSHA “Health Protection on the Job” poster for those projects extending beyond a week. Additionally, post applicable equipment signage (e.g., lasers, powder actuated tools or operating rules for industrial trucks) regardless of the duration of the project.

   e. Know the location of the designated NGSS emergency assembly area.

   f. Know the location of the sprinkler control valve if working in or above the ceiling.

   g. Host a pre-task safety meeting prior to initiating any project with two or more workers. The initial meeting topics will include reporting all incidents, including first aid and near misses “no matter how minor” as well as indicating the location of the emergency assembly area. NGSS also expects contractors will immediately report all incidents to the NGSS Company Representative. For extended construction projects (greater than a week), the contractor shall lead a weekly safety “tailgate” meeting with all contract workers under their supervision. The contractor should also encourage subcontractors to present a topic for discussion applicable to the project. Any subcontractor missing the meeting during the week will be required to review the topic(s) for the week. Structure the meeting as follows:

      i. Topic shall be relevant to the project.

      ii. Refresh employee incident reporting procedures and location of evacuation staging area.

      iii. Discuss improvement and outstanding performances from the weekly safety inspection.

      iv. Allow a question and answer period.

v. Complete a sign-in sheet, including the topic, date of meeting, and the presenter's name along with any associated training. Documentation will be retained on site for the duration of the project.

h. Provide a copy of their injury and illness prevention program (IIPP) and other ESH-related programs (e.g., confined space, electrical safety, fall protection plans, etc.) as well as employee training records upon request of a NGSS Company Representative for ESH&M review.

i. Have restroom facilities and portable hand-washing systems as required and ensure they are routinely serviced.

j. Maintain work site conditions by conducting routine housekeeping, enhancing ventilation, installing fire retardant dust barriers and controlling combustion equipment exhaust to prevent dust or chemical exposure, and organize equipment to prevent slips, trips and falls.

k. Cover trash bins, stage excavated soil on plastic sheeting (and cover when rain is expected), install berms and screen storm drains.

l. Consider the forecast of rain and have available roofing materials before making any holes in any roofs. No openings shall be made in roofs that cannot be made water tight before impending rain.

m. Contact ESH&M prior to use of any chemicals on the roofs of Buildings APC, 149, 202, R9, R10 and R11 due to the wood construction and the concern for penetration into occupied space and possible occupant exposures.

n. Refrain from washing equipment on pavement where wash water is capable of entering public street gutters and storm drains. Wash water must be collected and discharged as directed by ESH&M.

o. Obtain/verify the necessary licenses, registrations, certifications, and permits required per the federal, state or local regulation/ordinance for the work being performed prior to initiating work.

p. Require PPE to be worn by all contractors and NGSS Company Representatives in the work area. Ensure PPE is appropriate for the task, maintained in good condition (clean and not damaged) and used correctly by the contractor. If medical assessment is required for use of certain PPE (e.g., hearing or respiratory protection), the contractor will ensure the workers they supervised are medically qualified in accordance with regulatory requirements. The contractor shall not provide PPE to other contract companies or to NGSS Company Representatives for those PPE programs requiring a medical assessment (e.g. respirators and hearing protectors). However, the contractor may provide a hard hat and/or safety glasses to a worker or to a NGSS Company Representative as long as it is applicable to the task, properly fits, is maintained clean, and complies with the ANSI standards. The contractor will also abide by PPE requirements in those areas of Space Park requiring the use of certain PPE.

q. Place barricades, warning signs, or use a spotter to warn employees of an overhead hazard. Neither contractors nor NGSS employees will be able work under or pass beneath a suspended load, or allow work below when contractors are working above without engineering controls such as toe boards for scaffolds. The use of a hard hat is not an engineering control.

r. Avoid concentrated roof loads whenever possible. If a load is placed on a roof it shall not exceed design values for the roof structure. Contact the NGSS Company Representative for allowable loads before storing materials on the roof.

s. Ensure all equipment complies with its manufacture requirements. Equipment shall be thoroughly inspected at the beginning of the work shift and repaired as needed, or removed from service until such repairs can be done. Mechanical lifting equipment, fall protection equipment and scaffolds require documented inspections. Do not operate NGSS-owned motorized equipment such as cranes, industrial trucks and lifts unless authorized by the NGSS Company Representative by completing Systems Form 8245, Contractor Authorization to Operate NGSS Equipment. In addition, the contractor shall not use NGSS-owned fixed or portable equipment, such as those being used in fabrication or maintenance, unless approved by ESH&M.

t. Obey the speed limits and traffic signs.

u Notify the NGSS Company Representative and ESH&M of an injury, illness or any near miss incident that could result in a serious injury or structural damage on the day of the incident. Lead an incident "Stand Down" meeting (all subcontractors and NGSS Representative to attend) no later than one business day after the incident to discuss the facts known of the incident and what preventative measures will be taken. Conduct an incident investigation and provide a report to the NGSS Company Representative and ESH&M within two business days of the incident. The incident report shall be in writing and include:

i. Date of incident, names of contractor and company,

ii. A description of what happened,

iii. Type of incident,

iv. Cause and contributing factors and

v. The corrective action(s) with a corresponding assignment representative(s) and due date(s).

ESH&M may request a follow up meeting to clarify the incident report.

The contractor will promptly notify the NGSS Company Representatives (specifically the Facilities representative and the Contracts Administrator) of the following visits or actions:

i. Any visit by an outside regulatory agency (e.g., Cal/OSHA, SCAQMD, etc.) relevant to contractor work on NGSS premises.

ii. Receipt of any notice of violation or other regulatory citation relevant to contractor work.

v. Ensure First Aid equipment is available at the site. First Aid Kits shall be adequately stocked and not contain expired contents or oral medications. In addition, a contractor employees shall be trained in CPR when performing task involving confined space entry and any authorized energized work.

w. Take appropriate disciplinary action for worker noncompliance. As the controlling employer during construction projects, the contractor(s) is to prepare a written notice describing the unsafe action, unauthorized use of chemical or other infraction, the cause of the infraction and a description of the corrective action(s). The contract worker, foreman and the general contractor (if applicable) will sign the notice. ESHM and the NGSS Company Representative will obtain a copy of the non-compliance notice report. In certain cases, the NGSS Company Representative will request a meeting within three business days of the infraction to determine the appropriate corrective action. The meeting will include the NGSS project representative, Procurement and ESH&M, the contractor involved in the incident and the superintendent manager/owner. For severe, repeat, or knowingly and willful infractions, NGSS could remove the contractor from the site.

x. Recognize contractors for their outstanding ESH achievement

y. Monitor ESH compliance continuously by conducting and documenting a work site inspection at least weekly for projects extending more than a week. The inspection checklist shall represent applicable safety and environmental regulatory requirements for the tasks being implemented on the project. At a minimum, the inspection checklist will include housekeeping, tools, hazardous materials and PPE. The contractor is responsible for developing their inspection form or can use the Contractor Safety template on the OASIS database. The contractor representative conducting inspections shall have training or experience equivalent to an OSHA 30-hour contractor course. The contractor will retain records of the inspections on the jobsite for the duration of the project. Exemplary safety behaviors and areas in need of improvement shall be discussed in the weekly safety meetings. Inspections results and/or trending data and analysis shall be available for workers and NGSS review. Any negative findings shall be corrected by the contractor before continuing with the task. Any finding considered an “imminent danger” to employees (contractor or NGSS) that could cause serious injury or death, or repeated general violations will be subject to a NGSS investigation which could result in suspension up to and including termination by the Northrop Grumman Contracts Administrator. The following table summarizes the progressive disciplinary process based on field inspections performed by any NGSS representative. As offenses occur or are repeated, the following actions will be taken:

1st Offense	The NGSS representative will report inspection findings to the site superintendent, facilities project lead and ESHM. The superintendent will provide a corrective action.
2nd Offense	The same contract employee involved in a repeat finding will minimally lose their hard badge privilege for a month up to removal from the job site. A different contract employee of a repeat finding will require the superintendent to implement a project standdown the next workday with a presentation to those contractors they supervise addressing the

	repeat finding. Once completed, the superintendent will notify the NGSS representatives and procurement.
3rd Offense	The same worker will be removed from Space Park. The same/different repeat findings of different workers will require a project standdown for two days. The superintendent, in the presence of their manager, will share a presentation on the offense to job contractors by the third day. Once completed, the superintendent will notify the NGSS representatives and procurement.
4th Offense	After notification/confirmation by an NGSS representative, the Northrop Grumman Contracts Administrator will notify the subcontractor and potentially the General Contractor of being removed from the project. The General Contractor will provide a written and compelling corrective action(s) plan that must be accepted by NGSS representatives to continue work.
5th Offense	The subcontractor and General Contractor are removed for 1 year on projects at Space Park.

z. Stop work upon the identification of any ESH issue that affects any contractor, NGSS personnel and/or property. In the event the contractor fails to do so, the Northrop Grumman Contracts Administrator will take appropriate action

aa. Provide access to the work site for inspection by appropriate NGSS personnel.

bb. Arrange for testing for fire detection, alarm and notification systems with the NGSS Company Representative who will contact the ESH&M fire protection representative a minimum of 48 hours in advance of acceptance testing and inspection. The testing process shall consist of a full functional pre-test and final test. The Fire Sprinkler Suppression System inspection shall consist of:

i. Hydrostatic test of two hours at 200 psi with no greater than 5 psi drop over the two hours,

ii. A rough installation inspection prior to the installation of ceiling tiles, and

iii. A final sprinkler inspection to verify sprinkler placement and installation.

cc. Notify the NGSS Company Representative and ESH&M of any regulatory agency visit (e.g. Cal/OSHA or SCAQMD).

dd. Promptly contact the NGSS Company Representative for a resolution if unexpected environmental, safety, or health conditions which arise during the project.

ee. Control Personal Conduct:

i. Firearms may not be brought onto Space Park either on a person or in a vehicle.

ii. Any contractor employee under the influence of alcohol or narcotics will not be allowed on Space Park.

iii. Possession of any intoxicants or narcotics will not be tolerated and may result in a breach of contract.

iv. Unprofessional conduct, such as horseplay, wrestling, fighting, gambling, etc., is not permitted.

v. Under no circumstances shall contractor employees tamper with or handle any equipment in the plant that does not pertain to their job or for which they have not been authorized to use by the NGSS Company Representative.

vi. The contractor may not bring cameras, recording devices, cellular telephones or computer equipment onto the job site without prior approval by NGSS Security. Approval for such items is

obtained by completing a Limited Use Of Restricted Equipment On Company Premises Request (Form C-648A) that is approved by NGSS Security.

B. Air Quality

1. The South Coast Air Quality Management District (SCAQMD) requires certain equipment to have a permit. The following equipment is required to have a permit, but not limited to:
   a. Internal combustion engines such as generators above 50 bhp;
   b. Paint Guns;
   c. Boilers above 2 million BTUs;
   d. Abrasive blasting equipment; and
   e. Concrete crushers.
2. Permits must be provided to ESH&M for review prior to bringing equipment onto Space Park. Permits must be posted on the equipment and the equipment must be operated in compliance with the permit conditions, including monitoring and recordkeeping where applicable. Material usage records must be kept as required by SCAQMD rules.
3. The contractor shall provide usage logs to a NGSS representative for any combustion equipment (boilers, generators, etc.) to be used onsite.
4. The contractor will inform the NGSS Company Representative of any potential air contamination generated by the contractor's operation(s) such as dust, fumes, vapors, etc. prior to use of equipment.
5. Dust caused by soil excavation, hauling on unpaved road and other fugitive dust producing activities shall be controlled by the contractor.
6. Any use of materials containing volatile organic compounds (VOCs) such as paints, solvents, and adhesives shall be reviewed by ESH&M. Contractors shall provide ESH&M a listing of materials to be used as well as a description of how the materials will be applied by completing the Contractor Hazardous Material Request Form (K6-1013F-38), posted on the OASIS website) and submit along with the SDS to the ESH&M point of contact prior to any use of such materials (refer to Hazardous Materials Products for further details).
7. All solvent containing rags and PPE shall be kept in closed containers when not in use. Uncontrolled emissions of dusts, odors, smoke, vapors and others are prohibited.
8. All refrigerants must be recovered. Perform with an unvented EPA-certified recovery unit and an authorized operator.
9. Minimize public nuisances (e.g. noise, odor, etc.) during project activities.

C. Asbestos

1. All construction/renovation activities must be evaluated by ESH&M to determine if the scope of work will disturb ACMs. Examples of ACMs include, but are not limited to, floor tile and mastic, carpet mastic, cove base mastics, ceiling tile, stucco, fireproofing, drywall/joint compound, thermal pipe insulation, roofing materials and underground Transite water pipes. If the areas are undetermined as to whether they contain ACMs, a trained ESH&M representative will either collect samples or, depending on the magnitude of the renovation, ESH&M will request an Air Monitoring Consultant collect samples and prepare a survey report in Accordance with SCAQMD Rule 1403 procedures. The results/survey report will be provided to the NG Company Representative and ESH&M. Work that involves the disturbance or potential disturbance of ACMs must not be conducted by any Facilities Maintenance Representative due to insufficient training.
2. NGSS shall notify the contractor as to the presence of ACMs in the work area in order to avoid any disturbance of such materials. Details concerning the specific location(s) of such ACMs will be set forth in the Statement of Work, or will be made available by ESH&M prior to the contractor's need for access to such location(s).
3. The NGSS Company Representative must notify ESH&M when suspected ACMs are encountered in the work area.
4. The abatement contractors must submit to the NGSS third party contracted monitoring consultant all notifications, licenses, work plans, training, and medical records as required by regulations and NGSS

policy and specifications, prior to the start of work. In addition, the abatement contractor shall complete the Northrop Grumman Asbestos Project Work Plan (Work Plan) including the scope of work, name of abatement contractor, type of asbestos containing materials, square footage, location of air machines and exhausts, decontamination procedures, personal protective equipment to be worn, and disposal specifications. The Work Plan must be submitted to ESH&M for review and acceptance a week before the start of work.

5. Contractors shall post warnings in affected location(s) in print readily visible in large size and bright color pursuant to the provisions of CCR, Title 8, and Section 5208(j) as follows: **"***DANGER-ASBESTOS CANCER AND LUNG DISEASE HAZARD-AUTHORIZED PERSONNEL ONLY" as well as "RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA."*

6. Abatement must be performed in accordance with federal and state regulations and with NGSS policy and specifications. Unless authorized by ESH&M in writing, asbestos abatement must be done during NGSS off-hours (5pm-5am nights, weekends, and off-Fridays).

7. Abatement contractors must be OSHA-certified and licensed by the state contractor's board for asbestos work. Contractors are not to disturb ACMs without proper training and equipment.

8. The abatement contractor will coordinate the schedule with the NGSS contracted monitoring consultant. The abatement contractor shall also forward a copy of the approved Work Plan to the monitoring consultant. No asbestos abatement activity is to begin without the presence of the monitoring consultant. The abatement contractor is to assume that the on-site monitoring consultant represents NGSS and is to follow their direction. In case of conflict between the two parties, ESH&M is to be contacted to resolve the conflict.

9. The third-party consultant shall notify the NGSS Company Representative and ESHM each day following the cessation of abatement work (no later than 5 AM) with the area air monitoring results and any abatement issues. Recordkeeping shall be maintained.

10. The third-party consultant shall complete the asbestos (and lead) abatement checklist on the first day of abatement and every 7 working days thereafter for extensive abatement projects. The checklist can be submitted with the daily air monitoring results (9 above) to the NGSS Company Representative and ESHM. The asbestos checklist is posted in OASIS.

11. Contractors shall comply with all California Hazardous Waste Regulations pertaining to the abatement project. Contractors are responsible for maintaining the hazardous waste (friable asbestos) storage area compliant with all pertinent Cal-EPA requirements and shipping of non-Resource Conservation and Recovery Act (non-RCRA) hazardous waste (non-friable asbestos) per federal DOT requirements.

12. The abatement contractor will assume mastic waste is friable asbestos waste and is thereby considered a hazardous waste. Friable asbestos wastes need to be stored in NGSS directed locations. The storage areas must be maintained compliant with all Cal-EPA regulations. The contractor must document weekly inspections of the storage areas and the documentation must be available for review by NGSS upon request. The friable hazardous waste manifest must be signed by an authorized ESH&M representative and managed as a hazardous waste. Hazardous waste disposal must be coordinated with ESHM.

13. The abatement contractor can assume floor tile is non-friable asbestos waste and is thereby a non-hazardous waste. The non-friable non-hazardous waste manifest can be signed by the on-site monitoring consultant contractor or an authorized ESH&M representative.

14. The abatement contactor shall comply with additional information in the latest versions of the *Asbestos Work Control Specification: Abatement Services Purchase Contract, the Statement of Work and the Project Requirements: Air Monitoring Consultants Purchase Contract*.

D. Bloodborne Pathogens

1. Contactors can be exposed to bloodborne pathogens if assigned to first aid duties or involved in plumbing repair where skin, eye, mucous membrane or Other Potentially Infectious Materials (OPIM) are reasonably anticipated in the work area. Contractors shall provide ESH&M either a copy of their Bloodborne Pathogens Exposure Control Plan or their IIPP that identifies the hygiene facilities, personal protective equipment and other control measures to protect their employees from exposure to blood and OPIM.

2. NGSS expects contractors to utilize Universal Precautions: All human blood and OPIM will be treated as if it is infected by bloodborne pathogens.

3. Training records along with the Exposure Control Program or their IIPP will be obtained from the contractor indicating their review upon ESH&M request.

E. Confined Space Entry

1. NGSS has identified several confined spaces at Space Park as Permit Required Confined Spaces. Certain elevator pits and chambers can be reclassified as a non-permit required confined spaces if there are no electrical and hazardous atmospheres. Consult with ESH&M to determine if our permit-confined space can be reclassified as a non-permit required confined space.
2. No entry shall be made into an identified confined space (e.g., manhole, elevator pit, cooling tower, tank, utility vault, vessel, etc.) without prior notification to ESH&M. If the contractor believes they have encountered a space as an unidentified confined space, they must bring it to the attention of the NGSS Company Representative and ESH&M.
3. At a minimum, documentation of the contractor's confined space entry program along with appropriate employee training records and air monitoring equipment calibration record shall be provided to ESH&M prior to any confined space entry. The program shall include the following:
    a. A permit system for preparation, issuance and cancellation of entry permits.
    b. Procedure for reclassification of a permit-required confined space to a non-permit required confined space.
    c. Written safe entry procedures.
    d. Training of employees on safe entry procedures, air monitoring equipment and techniques, use of appropriate PPE, and emergency rescue procedures. For example, if an entry is made from the top of a confined space opening at a depth of 5 feet or greater, a harness as well as a hoisting device or other effective means shall be available to lift employees out of the space during an emergency rescue.
    e. Use appropriate air monitoring equipment for oxygen deficiency and suspect chemicals. Oxygen and chemical monitoring equipment shall be either worn on the entrant(s) to assess their exposure or the atmosphere shall be monitored in close proximity to their work.
    f. Documented emergency rescue procedures and availability of appropriate rescue equipment.
4. Electrical safety (i.e. lockout/tag out), fall protection, respiratory protection, and other applicable written programs as well as training records (e.g., First Aid/CPR) must also be made available upon ESH&M request.
5. A contractor is responsible for all monitoring, PPE, ventilation, and rescue equipment necessary to comply with NGSS policy/procedures and regulatory requirements.
6. If existing ventilation is insufficient to remove a dangerous atmosphere which may be present or develop, and ready access or egress is difficult due to the location or size of the opening, then the contractor is to also comply with CCR Title 8, Section 5158.
7. Following acceptance of program(s) and certificates, the contractor must obtain a NGSS Contractor Notification Tag from ESH&M prior to entry into a confined space and return it to ESH&M upon completion of the project.

F. Coronavirus (COVID-19)

1. The NGSS ESH&M representative requires each contractor on a project to have an Exposure Control Plan. To provide assistance, ESH&M has prepared a checklist which is posted on OASIS.
2. The project site will have a poster equivalent to the Center of Disease Control's: *Stop the Spread of Germs* to illustrate the importance of hand washing, face coverings among other controls to prevent the spread of disease
3. Contractors may be required to review and sign a health questionnaire daily prior to work. Contractors must not come on site if they have tested positive for COVID-19 until they have recovered. If any contractor reports symptoms related to COVID-19, the person will be immediately dismissed from the project and must obtain a negative COVID-19 test result before being allowed to return.
4. Hand washing facilities or hand sanitizers will need to be available on the project.

G. Crane Lifts

1. In order to conduct a material lift using a mobile crane, a NGSS Crane Lift Work Plan (Systems Form 8378) must be completed by the contractor performing the lift. Ensure General Contractor and NGSS Facilities Representative verify the information is completed prior to review by ESH&M. Also provide copies of:

    a. Operator's crane(s) certification - if boom length greater than 25 feet or its capacity greater than 15,000 pounds,

    b. Annual and quadrennial crane certificates for cranes- if greater than 3 tons,

    c. Inspection report with any noted dates of correction,

    d. Crane and rigging capacity charts, including the method of rigging (straight pull, choke, or basket and corresponding angle), and

    e. A certificate of insurance with at least minimum dollar limits (2 million dollars for comprehensive liability, 2 million dollars for automobile liability and 100,000 dollars for workers compensation). Include under worker compensation "a waiver of subrogation against Northrop Grumman Systems Corporation and its subsidiaries with respect to operations of insured".

    f. Notify of the Federal Aviation Association (FAA) for boom lengths greater than 200 feet or *within 20,000' of a public use airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200*'.

    g. Acceptance must be received from ESH&M in writing prior to the lift.

    h. ESHM will request a site walk with NG Security and the NGSS Facility representative to determine extent of needed barricades and door badge reader deactivation(s) prior to the lift.

2. The contractor shall comply with their pre-inspection, lifting and rigging regulatory requirements. On the day of and prior to the lift, the NGSS crane checklist must also be completed by the crane operator. A checklist form will be provided by ESH&M to the contractor upon acceptance of the crane lift. The completed checklist shall be returned to ESH&M within one day following the lift. The lift area must be clear of personnel beneath the load and, if applicable, within the swing radius of all floors of an occupied NGSS building. Cranes operating inside of buildings will duct the crane's exhaust to the outdoors and entrainment into other buildings must be prevented. Consult with CCR Title 8 Section 2946, Table 1 for minimum clearances in accordance with voltages of overhead high voltage lines.

3. Lifting personnel will follow additional requirements per CCR Title 8, Section 5004, including the requirement that the platform be designed by a registered engineer with a placard attached to the platform indicating its rated capacity, and that the crane operator conduct a trial lift at the desired height under 50 percent rated capacity followed by a visual inspection of equipment prior to placing personnel in the platform. The lift can only proceed when acceptance is received from ESH&M.

4. Helicopter Lifts will comply with the Guidelines for Helicopter Lift Operations such as notification of the FAA as posted in OASIS. Additionally, the project work plan shall include the Code of Safe Practices as specified in CCR, Title 8, Section 1938, Plate C-36-a. The helicopter operator shall obtain a Cal/OSHA permit and provide a certificate of insurance with at least the minimum limits as indicated for mobile cranes. Include under worker compensation "a waiver of subrogation against Northrop Grumman Systems Corporation and its subsidiaries with respect to operations of insured". The area must be clear of personnel beneath the load.

5. Only contractors authorized by NGSS are allowed to operate NGSS owned trolley crane equipment. Authorization is obtained by the contractor as follows: obtain training from their own training provider and complete qualification with an evaluation by a NGSS qualified instructor using Systems Form 8245.

H. Electrical Safety

1. Lockout Tag out.

    a. The contractor will provide ESH&M a copy of their lockout tag-out procedure on request prior to performing any work on electrical systems. The procedure shall include the six-step process in Article 120.1 of the latest version of the NFPA 70E Standard to achieve an electrical safe work condition.

    b. The contractor will review and comply by the NGSS lockout/tag out policy and equipment-specific energy control procedures which are posted in binders at equipment room entrances. If NGSS does not have an equipment-specific energy control procedure, the contractor will develop a procedure and submit the procedure to ESH&M for review. The energy control procedure shall be in compliance with CCR, Title 8, and Section 3314(g). In circumstances when a contractor is unavailable to remove their lockout/tag out device, the contract supervisor must complete their removal form and verify equipment

repair is safe to energize, document the date of removal of lock(s)/tag(s), the reason for the removal and sign authorizing the removal.

c. The contractor shall not enter any electrical substation nor shut off any power without authorization of the NGSS Company Representative and the NGSS lead electrician.

d. Authorized contactors shall be trained in lockout/tag out in accordance with CCR, Title 8, 3314(j) and copies of training records shall be provided to ESH&M upon request.

2. Energized Work.

a. Every attempt shall conduct installations and repairs by de-energizing equipment. Otherwise, ESH&M must be provided with justification from the NGSS Company Representative as to why the work must be conducted energized.

b. The contractor will provide the NGSS Company Representative and ESH&M a copy of their energized work procedure. The procedure must be in compliance with the federal and local regulations as well as the latest version of National Fire Protection Association (NFPA) 70E standard.

c. The contractor must submit their energized work permit signed by their supervisor, utilizing the latest version of the 70E Standard and accepted by ESH&M prior to conducting energized work. Given the regulations limiting contractors to perform energized work, ESH&M will rigorously critique the justification to conduct energized work and will require both ESH&M and the NGSS Facilities Director to provide written acceptance prior to energized work.

d. Contractor must be qualified to conduct energized work through training in accordance with NFPA 70E Article 110.2 and OSHA 1910.332 (no Cal/OSHA equivalent training). Retraining shall be conducted at intervals not to exceed 3 years. A minimum of two contractor employees are to be assigned to work and at least the watchmen must be certified in CPR and automatic external defibrillator (AED) use by the employer annually. Documentation shall be provided to ESH&M on request. An AED shall be readily available in the area of energized work.

e. Contractor's representative conducts a documented inspection at least annually that the contractor is complying with the safety-related work practices as required by 70E. Provide ESH&M a copy of an on-site inspection on request. NGSS Company representatives and ESHM will conduct routine safety inspections for any electrical safety related work activities.

f. The contractor shall not drill holes into any energized substations for the purpose of installing temporary wiring.

I. Excavation and Trenching

The following requirements are summarized below and are in accordance with the NGSS Excavation Protocol posted in the OASIS website.

1. Excavation includes any form of soil removal such as trenching, potholing, drilling and borings utilizing any type of equipment. It is the contractor's responsibility to contact Dig Alert, complete a third-party survey for private and review available blueprints provided by a NGSS Company Representative prior to excavating. Any revised drawings stemming from the survey shall be provided to the NGSS Company Representative. Any subsurface installations shall be protected, supported, or removed to safeguard workers in the excavation.

2. An excavation and trenching permit (Form K6-1013F-78) must be completed by the Contractor and submitted for review/acceptance by ESH&M prior to the excavation. Given post-tensioning cables in the concrete mezzanine deck of M5/R6, an excavation permit will also be completed, and a third-party survey will also be included with the permit. All utilities (electrical, gas, sewer, water, communication, communication, etc.) either identified on the drawings, survey or by Dig Alert must ALL be marked with paint on the surface of the excavation in colors in accordance with the uniform color code of the American Public Works Association,

3. The contractor shall assign a competent person to the project, provide evidence of training and must be on site of the excavation during the duration of excavation. The competent person must conduct and document inspections each day of an open excavation.

4. The competent person must conduct a pre-briefing on the day of and prior to the excavation to discuss the utilities in the area based on the site drawings, the third-party survey and Dig Alert. Attendees shall include the facilities representative, ESH&M, the General Contractor, if applicable, and all subcontractors involved

in the excavation project. The discussion shall include the identification of the marking locations and approximate depth and location of the utilities to be avoided in the area of the excavation.

5. Within 24 inches of any utility, the excavating contractor shall use hand tools to expose the utiity line. No motor, hydraulic or pneumatic-controlled excavating devices are permitted to operate within 24 inches of any Space Park utility line. In certain situations, the excavation contractor must additionally wear lineman's gloves appropriate to the voltage, Electrical Hazard (EH) shoes, and use non- conductive tools.

4. The contractor will barricade around the excavation and shore trenches in accordance with Cal/OSHA Title 8 Section 1541.1, Appendices A through C. Depending on the excavation location, steel motor vehicle plates or wood that can support the greater of 400 pounds or twice the weight of contractor shall cover the excavation. All wood covered or fenced surrounded open excavations shall be posted with a compliant sign: DANGER EXCAVATION KEEP OUT on the wood or attached to the fence.

5. Excavations 5 feet or greater in which a Contractor will enter must first have a permit, and the contractor shall provide notification to Cal/OSHA. In addition, all sides shall be properly benched, sloped or shored depending on the soil conditions. The competent person may determine that shallower excavations may also require protection from cave-ins.

6. Stability of adjacent structures shall be protected from excavation operations by shoring, bracing, or underpinning and for protection of workers in the excavation.

7. A single-leg ladder for exiting the excavation shall be placed within 25 feet of the work area whenever excavations are greater than four feet.

8. Excavated soils proposed to be removed from the site must be sampled by ESH&M and analyzed to determine proper landfill disposition prior to removal. The contractor shall notify and obtain approval from the NGSS Company Representative and ESH&M of the planned landfill or clean-fill disposition site for this soil. ESH&M may direct alternate disposition of soils based on the analysis. The contractor or NGSS Company Representative shall immediately notify ESH&M of any suspect soil conditions with chemical odors or discoloration if encountered during the excavation. All handling and removal activities involving contaminated soil must halt until handling actions have been coordinated with and accepted by the NGSS Company Representative and ESH&M to ensure proper implementation of the NGSS Excavation Protocol and the SCAQMD Rule 1166 air monitoring regulation. Additionally, the contractor must submit a Health and Safety Plan for review and acceptance by ESH&M (refer to Section III, A [6] [b]).

9. The contractor will be required to submit evidence of respirator and 40 hour HAZWOPER training to ESH&M for review when excavating contaminated soils if the air concentrations could potentially exceed a permissible exposure limit.

J. Fall Protection

1. Contractors are required to utilize fall protection whenever they are within 6 feet of an unprotected edge of a structure, a hole (2-inch least dimension), or a skylight where the fall distance is 6 feet or greater. ESH&M will consider certain construction tasks at higher heights without utilizing fall protection per the Cal/OSHA regulations, but it is the responsibility of the contractor to provide ESH&M justification for not utilizing a fall protection method along with the corresponding regulatory citation prior to initiating a specific task. Examples of fall protection not required to be utilized include, and are not limited to working safely from a portable ladder positioned at ground level, or working within 6 feet from an edge of a roof with a parapet of at least 24 inches minimum height as long as the slope of the roof is less than 33 percent and the construction worker is not required to walk backwards at any time nor rides on operating equipment.

2. Methods of fall protection can include hole covers, guard rails, netting, personal fall restraint/arrest equipment, warning lines/controlled access zones or monitoring. If contractors select hole covers, the material must at least support twice the weight of employee, equipment or vehicle imposed on the cover (or 400 pounds, whichever is greater) and edges must be no more than 0.5 inch, or if taller, covered to prevent tripping if used in a passageway. Openings shall bear a stenciled sign: Opening-Do Not Remove.

3. Guard rails shall be between 42 to 45 inches high with a mid-rail. Wood posts shall be of select lumber, free from damage, 2 x 4 inches in cross section and spaced at 8-feet or closer intervals. Railings shall be of a smooth surface so they are not able to cause a laceration.

4. Warning lines shall be erected no closer than 6 feet from an unprotected edge, extend the entire length of the edge, and can consist of ropes, wires or tapes with flagging no more than 6 foot intervals. Height shall be between 39 inches to 45 inches to account for sagging. Lines shall be securely anchored on each end to a railing wall or well-anchored stanchion and shall have a minimum breaking strength of 200 pounds.

5. Any personal fall protection equipment shall be meet the minimum design requirements per the latest ANSI 359.2 standard and Cal/OSHA Title 8, Section 1670. For contractor safety, and if the location allows, NGSS prefers contractors wear a harness and self-retracting lanyard as a fall restraint verses a fall arrest system with a shock absorbing lanyard. Anchorages for fall restraint shall be selected by the contractor and be capable of sustaining 4 times the attended load verses 5,000 pounds for a fall arrest system. If the contractor duties require horizontal movement, a ring or other rigging shall be provided so that the attached lanyard will slide along with the employee on the horizontal lifeline. Lifelines shall be protected from being abraded or cut by utilizing beam straps or nylon wrappings.

6. With the exception of horizontal lifelines permanently installed on Building E2, contractors must utilize their own fall protection equipment. Contractors must be able to provide documented training for each worker using fall protection equipment upon the request of ESH&M. The equipment must be inspected daily before use as well as inspected and documented biannually by a competent person if used as a fall arrest system in accordance with manufactures recommendations. Buildings E1 and E2 have specific fall protection requirements to be followed when working on their ledges per CCR, Title 8, Section 3282. The contractor must review and comply with the Operating Procedure Outline Sheets (OPOS) and engineered designs provided by NGSS when contractors are utilizing their own fall protection equipment on Building E1 ledges. Fall protection components assembled on the Building E2 ledges are inspected annually and included in the NGSS Written Assurance Form. No contractor is authorized to work on the ledges of Buildings E1 or E2 until each employee reviews the OPOS and fall protection design and signs the NGSS Written Assurance Form. The Form is kept with ESH&M.

7. If none of the fall protection methods are applicable, personnel monitoring will be required. The contractor will submit a written fall protection plan including rescue procedures which must be accepted by ESH&M. The assigned contractor conducting the monitoring will be competent in recognizing fall hazards, have no other responsibilities, and be in visible sight and communication distance of all other contractors. All contractors will comply with the safety monitor's requirements and instructions.

J. Fire Prevention

1. Prior to performing cutting, welding, or other spark producing or open flame the contractor must obtain a NGSS *Hot Work Permit* from ESH&M, or from a designated NGSS Company Representative. NGSS must be notified at least 24 hours in advance to allow sufficient time for inspection of the welding area and equipment in the field prior to any hot work being performed. Permits will be issued for a day up to one week. Permits can be extended by ESH&M or designated NGSS Fire Representative after re-inspecting the work area.

    a. All combustible materials within 35 feet of the ignition source must be removed or completely covered with flame retardant tarps.

    b. The contractor will review and comply with all conditions indicated on the permit. Additionally, a 20 A 10 BC (20 pound) fire extinguisher must be provided by the contractor, and a fire watch must be assigned who is someone other than the person doing the hot work. Personnel involved with the hot work shall be trained on the use of fire extinguisher. The fire extinguisher must be serviced within the last year.

    c. The contractor will utilize a welding screen/curtain and wear appropriate arc-rated eye protection and other personal protective equipment during welding operations.

    d. The contractor will provide adequate access to fire-fighting equipment around material storage areas and equipment on Space Park.

    e. Paint and other combustibles will be stored in an isolated location and the area properly maintained so that, in the event of a fire, NGSS property will not be endangered.

    f. Return permit cards to ESH&M upon completion of hot work. Failure to return permits will jeopardize future issuance of a permit.

2. Gasoline, diesel fuel, oil, and flammable solvents shall be stored in F.M. or U.L. approved 5-gallon (or smaller) safety containers and placed on secondary containment and in an area appropriate for the storage of flammable and combustible materials.

    a. All dispensing containers shall be grounded and bonded to prevent ignition of fuels and solvents, and measures to contain drip or spills will be used during dispensing.

    b. Containers will be properly labeled.

c. Contractor shall be responsible for cleanup of any fuel or equipment leaks or spill and shall notify the NGSS Company Representative and ESH&M immediately upon occurrence, as indicated in section K (8) herein.

3. Vehicles and other gasoline/diesel powered equipment will not be fueled while running.

4. The following relates to use of oxygen-fuel gas cylinders:

   a. Cylinders must be contained in portable carts during use or placed as such to prevent them to fall or being knocked over. Cylinders shall be secured during storage with restraints made of a nonflammable material.

   b. Cylinders must be capped prior to transport and while being stored. They must be transported, used, and stored in the upright position.

   c. Oxygen cylinders shall be stored away from fuel-gas cylinders or combustible materials at a minimum distance of 20 feet or separated by a non-combustible barrier at least 5 feet high having a fire resistance rating of at least one-half hour.

   d. All cylinders shall be protected from adjacent heat sources.

   e. Empty cylinders shall be capped, tagged, and segregated from product-containing cylinders.

   f. Torches shall be inspected at the beginning of each shift for leaks of the shut off valves, hose and coupling integrity, and tip connection condition. Any leaks shall be repaired prior to use, and faulty components must be taken out of service or discarded.

   g. Back flow protection shall be provided to prevent oxygen from flowing into the fuel source, or the fuel source into oxygen. It can be either installed at the torch or at the gauge outlets.

5. Low flash-point solvents such as gasoline, acetone, or naphtha shall not be used for cleaning equipment or parts.

6. Oily rags and other flammable wastes must be disposed of in F.M. or U.L. approved containers approved or provided by NGSS and not be stored around oxygen cylinders. These wastes shall be considered hazardous and must be stored in closed approved DOT containers. Contractor will request hazardous waste labels from ESH&M to affix to the containers.

K. Hazardous Materials

The contractor will inform the NGSS Company Representative of the use of a hazardous material prior to being brought onto Space Park. A hazardous material is defined as any material or combination of materials that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may present a physical and/or health hazard to worker, or poses a potential hazard to the environment.

1. Contractor will refer to the OASIS database to determine the status of a hazardous material's acceptance by reviewing the Contractor Hazardous Material Lists, alphabetically either by Chemical Review Process (CRP) number or by the manufacture's name. Both lists are posted in OASIS.

2. Unless otherwise noted, chemicals being approved or that are approved with restrictions for use at Space Park are limited to a maximum of 100 pounds. Quantities in excess of 100 pounds will require re-submittal of the SDS and Contractor Hazardous Materials Request Form (K6-1013F-78) posted in the OASIS website) for ESH&M review.

3. For any hazardous material not appearing on the Lists, or identified as being restricted on a case by case basis, or a product listed but from a different manufacture, or regardless if approved and now needing to be used in excess of 100 pounds, the contractor must:

   a. Submit a completed Contractor Hazardous Material Request Form (K6-1013F-78) along with the most current and legible SDS for each material to the NGSS Company Representative;

   b. Wait for ESH&M to complete the review and determine the status, and;

   c. Be notified by the NGSS Company Representative of the status by being provided with a written Chemical Review Action Summary Status prior to bringing any hazardous materials onto Space Park.

4. The contractor is responsible for ensuring the SDS for each hazardous material is available at Space Park and is readily available to provide to contractor employees or to a NGSS Company Representative at all times the hazardous material is on site.

5. The contractor is responsible for placing a NGSS Hazardous Material blue sticker on each type of product container, or on one of the same containers if stored in a group or on a pallet. The stickers are available from the NGSS Company Representative. Additionally, all containers must also have the manufacture's name, identification of the materials contained and the hazard warnings.

6. Contractors observed utilizing hazardous materials that are not on the List, using approved materials in a manner not consistent with the specified restrictions, not having the most current SDS readily available on the job, or not placing an approval sticker on a hazardous material container(s), are subject to any NGSS Company Representative halting the project.

7. Any unused hazardous material purchased by the contractor to perform their task must be removed from the site and transported in accordance with Department of Transportation requirements. If the unused hazardous material is owned by NGSS, then the contractor will coordinate proper deposition through the NGSS Company Representative which may include managing it as a hazardous waste as described herein.

8. Any spilled or released hazardous material caused by the contractor will be abated at the sole expense of the contractor, as elected by the NGSS Company Representative. Releases can result from equipment leaks containing fuels, oils, coolants or any other hazardous materials. Any hazardous material releases typically greater than a quart must be reported using the emergency procedures described herein and collected and disposed in accordance with the following hazardous waste procedures. Smaller spills should be reported to ESH&M to allow for inspection of the spill area. As such, contractors should be prepared for smaller spills less than a quart by having and clearly labeling spill kits.

9. The contractor is responsible for providing secondary containment that can capture 100% of potential liquid spills for hazardous materials product containers. Containers must either have original manufacturer labeling or secondary labeling that meets the requirements of Cal/OSHA Title 8, Section 5194. Labels must be maintained in legible condition. Containers must be kept closed except when in use.

L. Hazardous Waste

1. A hazardous waste is defined as any unused, spent, or contaminated material or chemical-containing material no longer of use, including compressed gas cylinders, or any material to be discarded having hazardous characteristics that render it a hazardous waste in accordance with California Title 22 or Federal CFR 40 regulations.

2. Any waste generated by the contractor in performance of the work at Space Park shall be properly managed by the contractor. Under no circumstances shall a hazardous waste be discharged onto the landscape or pavement, into a sanitary sewer or storm drain or drainage ditch, or disposed of with ordinary trash. All environmental damage, or other damage caused by non-compliance with these rules, NGSS policies, and/or federal, state, or local laws, codes, ordinances or regulations shall be remedied at the contractor's sole expense.

3. The contractor shall ensure containers are compatible with the waste and properly labeled at the time the hazardous waste is first deposited in the container. When labels and containers are needed, the contractor will contact the NGSS Company Representative who will complete the Service Request Form. The contractor shall only use labels and containers approved or supplied by the NGSS Company Representative for the collection and storage of hazardous waste. Containers shall be kept closed and secured from spills at all times except when adding or transferring waste.

4. Waste shall be stored in a secured container or bin when not adding content to the container. The contractor is responsible for providing secondary containment that can capture 100% of potential liquid spills. Containers or bins must be stored in ESH&M approved areas with appropriate and legible labeling in accordance NGSS Environmental procedures and California and federal regulations. Contact the NGSS Company Representative for appropriate labels, bins and other containers given there are different labels for Redondo Beach and Manhattan Beach, and in certain cases for specific buildings on Santa Fe Avenue.

5. Documented weekly inspections of the applicable hazardous waste staging area must be completed (can be included in your weekly safety inspections) by the contractor. The contractor shall notify the NGSS Company Representative of any environmental or safety hazards that are encountered on Space Park premises (i.e., presence of toxic materials) and report other hazardous waste storage issues as necessary.

6. ESH&M is responsible for managing the off-site disposal of all hazardous waste. Surplus hazardous materials and/or wastes that are the property of NGSS shall be disposed of in a manner prescribed by the NGSS Company Representative. Directions for disposition of such materials will be obtained from the NGSS Company Representative prior to start of waste accumulation based upon the information submitted by the NGSS Company Representative on the Waste Profile Form. The contractor shall not independently

request a U.S. EPA waste identification number for disposal of hazardous waste from NGSS premises or ship hazardous waste from Space Park without ESH&M approval.

M. Heat Illness Prevention

1. Contractors shall have a written heat illness prevention program for all all outdoor construction operations. Their program can be a component of their Injury Illness Prevention Program. Components of the heat illness prevention program shall be in compliance with Title 8 Section 3395(i) and shall at least contain the following information with site-specific requirements at Space Park :

   a. Provision of water containers shall be located as close as practicable to the construction area where employees are working outdoors to encourage frequent consumption. Bottled water or water containers with a cup dispenser shall be available. Water containers shall be kept in sanitary condition. When temperatures are expected to exceed 80 degrees Fahrenheit during the day, a pre-brief meeting will be conducted to review the importance of drinking water, taking rest breaks and review signs and symptoms of heat illness. When temperatures are expected to exceed 95 degrees Fahrenheit, pre-brief meeting will stress the importance keeping hydrated and increasing the rest breaks. Contact Dial-A-Forecast at (805) 988.6610, press 1 then 3 to determine the weekly temperatures expected at Space Park.

   b. Effective communication by direct observation utilizing a buddy system will be conducted when temperatures equal or exceed 95 degrees Fahrenheit to recognize a heat illness. Employees will be reminded constantly throughout the work shift to drink plenty of water and take frequent rest breaks, preferably 10-minute preventative cool-down every hour. During high heat procedures, employees will be reminded to follow the emergency procedures described below of any signs or symptoms of heat related symptoms.

   c. A shade structure, truck cab or tree(s)-provided they cast a shadow to protect employees directly from the sun, can be utilized when temperatures exceed 80 degrees Fahrenheit. Enough shade will need to be provided to accommodate all employees who are on break at any given time.

   d. All contractors shall carry cell phones to ensure emergency medical services can be contacted. The number to call in case of emergency is 310.812.9911. Security will dispatch emergency services to the employee's location so a clear and precise directions can be provided to the construction work site. Steps will need to be taken immediately to keep the contractor cool to prevent a more serious heat illness. Under no circumstance will the affected employee be left unattended.

   e. Unacclimated or recently hired contactors who are assigned to work activities that could lead to a heat illness shall be closely supervised through the buddy system whereby an employee acclimated to heat will be assigned to an unacclimated or recently hired contractor for the first 14 days. Less demanding tasks shall be assigned during hotter parts of the day while more demanding tasks shall be assigned during the cooler parts of the day. Steps will be taken by the acclimated buddy to lessen the intensity of the workload of unacclimated or new employees.

2. Contractors shall be trained on signs and symptoms of the various types of heat illnesses as well as the additional burden of heat load on the body caused by exertion. It is the contractor's responsibility to provide water equivalent to 4 cups per hour, shade (structural if necessary), and to communicate the importance of accumulation and cool-rest breaks to contractor employees. Any contractor employee shall be able to report signs and symptoms to their supervisor and shall be familiar with the notification of emergency services by contacting Security 310.812.9911 for any contractor experiencing heat illness.

3. The superintendents shall be familiar with obtaining weather reports (see example provided in section (a) above).

N. Ladders

1. Stepladders, step stools, single ladders and extension ladders are commonly used by contractors and are herein referred to as portable ladders. Portable ladders shall be restricted to the purpose for which the ladder is designed. Ladder selection shall consider the ladder height, duty rating and working load, the task being performed, worker position to the task being performed, and frequency of their use. Portable ladders are generally designed for one-person use.

2. Before a contractor uses a portable ladder, they shall be trained in the safe use of ladders in accordance to topics presented in CCR, Title 8, and Section 3276(f). The training may be part of the employer's IIPP.

3. Portable ladders shall be inspected by a qualified contractor for visible defects daily prior to first use, frequently throughout the day and after any occurrence affecting their safe use. Inspection shall include

structure integrity, missing or loose parts, cleats and safety feet, frayed or damaged rope-extension ladders as well as any manufactured accessories such as wing space or leg levelers. Ladders must be kept clean and shall not have oil, grease or other residual substances capable of causing an incident or contact exposure. Ladders with broken steps, rungs, cleats, safety feet, side rails, or other defects, including missing or illegible safety labels, shall not be used. Should ladder warning and duty rating labels become faded or removed, they shall be replaced before their use.

4. The user shall verify load rating on the label before use to prevent overloading.
5. Portable ladders shall be placed on a secure and level solid base with the area around its base kept clear. Ladders shall not be directly placed in soft substrates such as lawns as well as loose bricks and gravel. The contractor shall verify the stability of the ladder before climbing. An extension ladder should have a wingspan, roof hook or alternatively use rope attached to a secure object to improve stability, which shall be a requirement if the ladder height is greater than 20 feet. Extension ladders shall be placed against a building so the base is 1 foot away from the building for every 4 feet in height, and the top of the ladder must extend 36 inches above the landing.
6. Contractors shall face the portable ladder and use both hands during a climb or a decent. Contactors shall use a tool belt or device to transport equipment and materials to a desired elevation and are prohibited from carrying loads by hand while during transport. Contractors shall wear a heeled shoe with slip resistant soles. Both feet must stay on ladder steps/rungs unless transitioning to a landing; never place a foot on an adjacent object or structure while on a ladder.
7. Spreaders of stepladders shall be completely extended when used. Contractor should never stand on either of the top two steps or straddle a step ladder.
8. Signs and barricades shall be placed at doorways, passageways and any other locations where portable ladders can be displaced. If cannot barricade for emergency purposes, use a spotter.
9. Fiberglass railed portable ladders with rubber cleats are preferred to be used on most construction projects, and are mandatory when working with electrical systems.
10. Ladders shall not be used in aerial/scissor lifts, or on scaffolds unless 6 feet from the edge and scaffold structure is designed to safely support the ladder.
11. Contractors shall not use NGSS ladders and NGSS shall not use contractor ladders.

O. <u>Lead Abatement</u>

1. The NGSS Company Representative shall notify ESH&M of suspect lead containing materials at Space Park prior to disturbance. When performing work on structures, building materials or other components with suspect lead content, certain precautions and control measures apply. Contractors shall coordinate with their NGSS Company Representative and ESH&M on their emission control procedures before performing any of the following tasks on suspected lead containing materials:
   a. Scraping, sanding, grinding;
   b. Demolition of structures;
   c. Cutting and sawing walls;
   d. Torch cutting, welding, brazing or soldering; and
   e. Paint removal; and
   f. Performing other activities generating dust.
2. The abatement contractor or third-party monitoring consultant may be required to collect representative samples and submit to a certified laboratory. If the concentration in the lead sample(s) is equal to or greater than 600 parts per million (ppm) or 0.06%, the surface coating is “lead containing material”. It will need to be removed by an approved abatement contractor and supervised by NGSS consultant, who will provide air monitoring and project oversight, <u>prior to demolition</u>.
3. Lead abatement must be performed in accordance with federal, state and NGSS policy and specifications. Unless authorized by ESH&M in writing, abatement activity shall be completed during NGSS non-working hours.
4. The abatement contractor shall submit a Work Plan to ESH&M (same Form as the Asbestos Work Plan) for review and acceptance a week before the start of work. The Work Plan will describe method of removal, containment measures suitable for the project, PPE, waste disposal, and emergency procedures.

5. Abatement contractors shall post warning signs in the affected location that are readily visible where employee exposure to lead is above the permissible exposure limit of 50 micrograms per cubic meter. The sign shall read: "*LEAD WORK AREA, POISON, and NO SMOKING OR EATING." The area shall not entered unless wearing personal protective equipment and authorized by the air monitoring consultant.*
6. The abatement contractor will be required to notify Department of Occupational Safety and Health (DOSH) at least 24 hours in advance of commencement of the work if the substrate sample concentrations exceeds 5,000 ppm, or the amount of lead containing materials to be abated is greater than 100 square or 100 linear feet.
7. The abatement contractor must use only trained and certified personnel to perform abatement tasks and will be required to submit lead, respirator and other applicable certifications to the third-party consultant for review.
8. Protection of storm drains and other containment requirements will be strictly enforced by NGSS during the abatement.
9. The abatement contractor will coordinate the abatement schedule with the NGSS third party monitoring consultant. The abatement contractor shall also forward a copy of the approved Work Plan to the monitoring consultant. No abatement activity is to begin without the presence of the monitoring consultant. The abatement contractor is to assume that the on-site monitoring consultant represents NGSS and is to follow their direction. In case of conflict between the two parties, ESH&M must be contacted to resolve the conflict.
10. The third party consultant shall notify the NGSS Company Representative and ESHM each day following the cessation of abatement work (no later than 5 AM) with the area air monitoring results and any abatement issues. Recordkeeping shall be maintained.
11. The consultant shall complete the lead (also used for asbestos) checklist on the first day of abatement and every 7 days thereafter for extensive projects and can submit it along with the daily area air monitoring results to the NGSS Company Representative and ESHM. The lead checklist is posted in OASIS.
12. The abatement contractor will manage lead contaminated waste as directed by NGSS and in accordance with the hazardous waste process specified herein.
13. The Air Monitoring Consultant must also comply with the latest versions of the Lead Work Control Specification and the *Statement of Work and Project Requirements: Air Monitoring Consultant's Purchase Contract*.

P. Microbiological Growth

1. In the course of work, or prior to performing work if it becomes known that a substrate contains a microbiological growth (e.g. mold), the contractor or NGSS Company Representative shall notify ESH&M. Work shall stop until confirmation can be obtained by ESH&M. All construction/renovation activities must be evaluated by ESH&M prior to the abatement of mold.
2. Depending on the location and magnitude of the mold, air monitoring may be required by a third-party monitoring consultant contractor. Consult with ESH&M on performing air monitoring for mold on a specific project.
4. The abatement contractor will coordinate the abatement schedule with the NGSS contracted third party monitoring consultant. The abatement contractor shall also forward a copy of the approved "Work Plan" to the monitoring consultant contractor. No abatement activity is to begin without the presence of the monitoring consultant contractor. The abatement contractor is to assume that the on-site monitoring consultant contractor represents NGSS and is to follow their direction. In case of conflict between the two parties, ESH&M must be contacted to resolve the conflict.
5. The abatement contractor will be required to submit respirator training and other applicable certifications to ESH&M for review. The abatement contractor shall submit a Work Plan to ESH&M for approval at least a week before the start of work. Abatement of mold is to be done during non-working hours unless accepted by ESH&M.
6. The third-party consultant shall notify the NGSS Company Representative each day following the cessation of abatement work (no later than 5 AM) with the area air monitoring results and any abatement issues. Recordkeeping shall be maintained.
7. The abatement contractor will manage mold contaminated waste specified by ESH&M.
8. The Air Monitoring Consultant must also comply with the latest version of the *Statement of Work and Project Requirements: Air Monitoring Consultant's Purchase Contract*.

Q. Noise

1. When the contractor obtains a demolition permit, it may stipulate an outdoor noise level which cannot be exceeded within a specified time in accordance with the Manhattan or Redondo Beach City ordinances.
2. Depending on the location, the contractor may need to conduct a noise survey of their construction area using a calibrated sound level meter. The contractor will inform the NGSS Company Representative of the results. A contractor is to halt the project if they receive a noise complaint from an occupant and shall not resume until a corrective action is implemented.
3. Continuous noise levels within a occupied building above 85 dBA will require engineering controls, work to be conducted off hours, or if deemed the only control option, the possible issuance of hearing protection to NGSS employees (following completion of a hearing evaluation and training) by ESH&M.
4. Install noise-proof barriers at openings into adjacent rooms to prevent disruption of NGSS work. Installation of noise barriers may also be required on or installed around the outdoor equipment to control noise below the City noise ordinance.
5. Contractors wearing their hearing protection shall follow their companies hearing conservation program and provide training records upon request of the NGSS Company Representative. Refer to PPE requirements in III (6) for additional information on distributing PPE.
6. Contractors will coordinate the work schedule with the NGSS Company Representative and will observe the Redondo and Manhattan City ordinances for allowed start/stop times and public noise control limits and any noise control methods.

R. Property Protection

1. No vehicle with metal treads will be permitted on NGSS roads. The contractor will provide padding of a suitable type (i.e., boards, tires, etc.) when it is necessary to move anything other than a rubber-tired vehicle across a roadway.
2. Balloon tire push carts will be used to distribute the loads on the roofs.
3. The contractor will be responsible for any damage to a road, lawn, or any structural component of a building caused by its equipment or work.
4. The contractor will provide and install suitable safeguards to protect shrubbery and landscaping and shall not to be removed unless authorized by an NGSS representative.
5. The contractor will provide and install such safeguards to protect employees from injury as well prevent damage to buildings and structures, pole lines, fences, conduits, pipelines under or above ground, sewer and water lines, or any other improvements or facilities within or adjacent to the work. The contractor shall also shore up, brace, underpin and protect, as appropriate, existing structures adjacent to and adjoining the worksite that may be affected by an excavation.

S. Powered Industrial Trucks and other Motorized Lifting Equipment

1. Contractors shall consider the use of powered industrial trucks (e.g., forklifts), elevating work platforms (e.g., scissor lifts, mask climbers), aerial devices (e.g., boom lifts) and other mechanical lifting devices to prevent worker lifting incidents.
2. Contract operators shall be trained by a qualified person in the safe use of powered industrial trucks and other mobile lifting equipment. Certificates shall be retained by the operator for verification. Retraining will be required by forklift operators at least every 3 years whereas retraining for other equipment is dependent on the contractor requirements.
3. Devices shall be inspected for damaged parts daily prior to use and the inspection must be documented per NGSS policy utilizing the manufacturers or equivalent inspection form. Keys must be removed when not in use and equipment stored/parked in a safe and secure manner, taking measures to avoid hazards to passerby. Equipment shall be safe for operation. Otherwise, it shall be repaired or replaced prior to operation. Inspection, maintenance, and repairs shall be conducted by a qualified person. A 3A 40BC fire extinguisher shall be available within 5 feet from the operator. Contractors shall comply with the operational rules for industrial trucks in accordance with CCR, Title 8, Section 3664 (including Section 3650(t)) as well as operate the forklift in accordance with the manufacture's manual. The Cal/OSHA operational rules for industrial trucks shall also be posted in the work area prior to use and for the duration of the project. Contractors shall operate elevating lifting platforms in accordance with the manufacture's manual and CCR,

Title 8, Section 3646, and aerial devices shall be operated in accordance with the manufacture's manual and CCR, Title 8, Section 3648.

4. Electrical cords must be raised or protected to prevent potential electrocution or damage from trucks or equipment roll over or placement of outriggers.

5. A harness and fall restraint lanyard shall be worn while in an aerial lift, and also be worn if there are connections on an elevating work platform. Lifting equipment shall not be altered to affect its operation, load capacity, or safety.

6. Rails on aerial lifts or elevating work platforms shall not be stood upon to gain greater height. Ladders shall also not be used in these types of lifting equipment.

7. Lifting equipment shall not be loaded in excess of its capacity. Upon ESH&M request, the contractor will provide a load chart, rigging methods, and the operator's certificate for forklifts to lift materials onto roofs of Space Park buildings. A boom and shackle attachment shall be used when utilizing a sling(s) on forklifts in accordance with manufacture's specifications. Major modifications and structural changes shall not be carried out by the user without prior written approval of the manufacturer and instruction plates shall be changed accordingly. Attachments shall also be inspected as well as a legible marking/tag indicating what are the proof tested loads for boom, shackle and sling for each given connection orientation (straight, choke, etc.).

8. Motorized electric devices are preferred for indoor use. Petroleum or natural gas-powered engines shall not be operated indoors without an appropriate scrubber attachment and/or ducted ventilation to the outdoors. Otherwise, ESH&M requires air monitoring to be performed by the contractor. Calibration certificates for air monitoring equipment will be required for ESH&M review and performed per manufacture requirements.

9. Contractors utilizing lifting equipment shall maintain clearances from energized high voltage lines in accordance with CCR Title 8 Section 2946, Table 1.

T. Scaffolds

Unless otherwise required, metal scaffolds must be provided for work that cannot be safely done from portable ladders. Scaffolds, regardless of type shall be assembled and dismantled under the supervision of a qualified person. Additionally, ESH&M must inspect a scaffold prior to any NGSS employee utilizing the scaffold.

1. Supported Metal Scaffolds including and Stair Towers:

   a. Metal scaffolds must support their own weight plus four times its attended load. Each scaffold must be tagged or marked legibly indicating its maximum working load and shall not be subjected to loads greater than its posted load. The scaffold must be inspected and documented daily by a person who was trained by the competent person who erected the scaffold.

   b. Supported scaffolds which exceed three stories or 36 feet require a Cal/OSHA project permit or an annual permit with notification to Cal/OSHA at least 24 hours prior to erecting the scaffold.

   c. Wooden platform planks shall be constructed of Douglas Fir or equivalent, solid, 2" thick x 10" width, and overlap at supports at least 6 inches or secured from movement. Decking shall not overlap on platform scaffolds. Unless brackets impede the distance, there shall be no more than 1 inch gap between adjacent planks and the uprights. Wood platforms shall not be coated with opaque finishes. Water and other materials shall be immediately removed to prevent slips and trips, and metal planks shall provide slip resistant surfaces. Planks shall not slope more than 2 feet vertically for every 10 feet horizontally. For stair towers, steps shall be 24 inches in width and provide adequate traction as well as have landings every 12 feet in conformance with CCR, Title 8, and Section 1626. The first step shall be no more than 2 feet from the ground surface. Work must not be performed on metal scaffolds during inclement weather.

   d. Unless equipped with outriggers, metal scaffolds are required to be tied off if their height exceeds three times its base dimension with single loop 10 or double loop No. 12 wiring. Scaffolds are to be tied at 26 feet intervals vertically, with the last vertical tie no further from the top than four times its least base dimension (e.g., if scaffold's least base dimension is 4 feet, the last tie should be within 16 feet from the top). Supported scaffolds are to be tied horizontally at least every 30 feet.

   e. Scaffolds more than 6 feet tall are generally required to have guardrails and be in conformance to CCR, Title 8 1620. Platforms are not allowed to be placed on guardrails to gain greater height. There is no toe board requirement if within 14 inches of a structure or within 18 inches from a structure if plastering. Toe boards are required if personnel are required to pass or work under subsequent levels. Hardhats

are not a substitution for toe boards. Hardhats must be worn on a scaffold if the worker is subjected to overhead hazards. Toe boards shall be 4 inches tall and no more than a quarter-inch gap between the toe board and the platform. Screening can be used as a substitute of a toe board. Cross bracing is required to be installed at least every third set of posts and every fourth ribbon vertically. Posts shall be erected and secured with two nails to a suitable base plate to sustain the load. If post is placed on a soft substrate, 10"x10"x2" thick mud sill shall be placed beneath the base plate of the post and the post secured with two nails.

f. The distance from supporting surface to a ladder must not exceed 2 feet, be securely attached to the supported scaffold and extend 3.5 feet above the platform. Gates are preferred to access a scaffold, but railings cannot be removed to gain access to a platform. Railings shall not be stood on to obtain greater height. Portable ladders are not allowed on platforms to gain greater height unless 6 feet from the edge of the supporting scaffold and designed for such use.

2. Rolling scaffolds:

a. Like supported metal scaffolds, the height of a rolling scaffold cannot exceed three times their base dimension unless tied as described above, have railings if extend above 6 feet, and must support at least four times its intended load. The scaffold must be marked in a conspicuous location with the maximum attended working load.

b. Caster wheels shall be installed on rolling scaffolds. At least two of the caster wheels must be swivel type and they also must support at least four times its intended load. At no time will a worker climb or work on scaffold without first locking the four wheels/ or casters. Do not work on rolling metal scaffold unless they have rubber wheels.

c. Riding on a scaffold, either by being pushed or self-propelled is not recommended by the NGSS Company Representative given the potential hazards in the work area. However, if needing to be pushed or self-propelled, ensure compliance with CCR Title 8, Section 1646(i)(j).

3. Suspended Scaffolds (including motorized power-driven suspended scaffolds):

a. All scaffold members, including related parts and rigging, shall be an adequate strength without exceeding stresses established by factors specified or accepted by the engineering profession. For example, outriggers, temporary or permanent, shall be tied back to a substantial anchorage and support at least 4 times their intended load. Supporting ropes shall have a safety factor of at least six. When counterweight systems are used, they shall be made out of steel or concrete (no sand). Tiebacks shall be equivalent to suspension ropes and anchored securely. The intended working load of a suspended scaffold platform must be marked in a conspicuous location.

b. Contractors working on a one or two point suspended scaffold shall be required to wear a body harness and lanyard, and the lanyard is attached to independent drop lines and drop line attached to an anchor point. In addition, guard rails will be provided on all four sides between 36 and 42 inches with mid rails and toe boards.

c. The power unit of a motorized scaffold shall not exceed its rated capacity. Electrical components shall comply with the electrical safety orders and the hand-operated load release shall not allow the scaffold to descend faster than normal speed.

d. Suspended scaffolds must be inspected by a qualified person daily and tested frequently and documentation must be retained on the scaffold or on site in a binder. Ladders are not allowed to be used on suspended scaffolds to gain a greater height.

4. Interior Hung Scaffold.

a. The design as well as the structure shall be assessed by a registered professional engineer. Interior hung scaffolds must be inspected by a qualified person daily and tested frequently and documentation must be retained on the scaffold or on site in a binder.

U. Silica (Crystalline)

Crystalline silica is found in brick, concrete, mortar sand and stone and can cause silicosis and lung cancer. Exposure to crystalline silica can occur during common construction task while utilizing masonry saws, drills grinders, jackhammers and chipping tools.

1. Cal/OSHA requires contractors to limit their exposure to crystalline silica either by utilizing a variety of control methods provided in Table 1 of the construction standard (Title 8 Section 1532.3), or contractors can conduct air sampling to quantify dust exposure to determine which dust controls work best to

reduce exposures below the PEL of 50 micrograms per cubic meter ($\mu g/m^3$). Water or a vacuum installed with High Efficiency Particulate Air (HEPA) filters are common control methods to capture dust. During some tasks while considering whether inside or outside the building and duration of the task, air-purifying respirators are required to be worn. Contractors shall follow the engineering controls, work practices and respirator use control procedures in Table 1. For tasks performed indoors or in enclosed spaces, the contractor must provide a means of exhausting dust to minimize its accumulation indoors. If control methods cannot be implemented and accepted by ESH&M, contractors will be required to conduct air sampling to measure the worker's exposure to crystalline silica wearing additional respiratory protection while conducting work during off-hours. Where respiratory protection is required to be worn, annual fit testing and medical surveillance is required when the contractor wears the respirator for 30 days or more each year. If none of the 18 tasks in Table 1 are being implemented, exposure monitoring must be implemented to ensure no employee is exposed above the PEL and procedure approved by ESH&M.

2. All contractors involved tasks generating silica dust must have a Written Exposure Control Plan which must be submitted to ESH&M for review and acceptance. The following are the minimum requirements:
   a. A description of tasks being performed which can result in exposure to crystalline silica.
   b A description of engineering controls, work practices and respiratory protection being used to limit exposure to crystalline silica.
   c A description of housekeeping methods to limit employee exposure.
   d. Methods to restrict access to the work area

   The Exposure Control Plan must be reviewed annually by the contractor. A competent person must be assigned to the project and be present at all times to evaluate conditions and take any immediate corrective action(s). The competent person must provide evidence of competency to ESH&M and be identified in the project JHA.
3. All contractors potentially exposed to silica must be trained in the following:
   a. Health hazards of crystalline silica
   b. Tasks which generate crystalline silica
   c. Control measures the contractor can implement to protect themselves utilizing engineering controls, work practices and respirators.
   d. The purpose and description of a medical surveillance program

   Training certifications will be submitted to ESH&M for review.

V. Stormwater Protection

1. General

   Field investigations have shown that the amount of sediment transported by stormwater runoff from construction sites conducting excavation without controls is significantly greater than sites with strong controls. In addition to sediment, construction activities contribute to chemical pollutant products such as petroleum-based products, cleaning solvents, corrosives and other construction liquids and solids that impact stormwater and vegetation. Impacts to wildlife and the ecosystem can be significant and serious. Therefore, NGSS requires several Best Management Practices (BMPs) to be implemented.

2. BMPs

   a. Excavation. Divert rainwater from the excavation and contain and prevent sediments, debris and pollutants from entering storm drains with the use of straw wattles, tarps, screens and/or fence dikes. When soil is dry, wind causes the particulates to be liberated by vehicle and other construction activities. Thus, it is imperative to utilize water spray devices from a hose or trucks to minimize dust dispersion by construction activity.

   b. Housekeeping. Sweep surfaces frequently and dispose non-hazardous waste properly in contractor provided waste receptables. When performing pressure-washing of a structure, cover the ground with a tarp or contain with a berm to capture and collect the water and any paint chips or debris for proper disposal, and protect any nearby storm drain inlets. Equipment and work trucks shall be cleaned offsite and not on our site.

   c. Storm-drain Protection: Storm-drain inlet protection prevents sediment from discharging off the construction site prior or entering the storm drain system. Effective storm drain inlet protection allows sediment to settle out of the water or filters the water prior to entry into the storm drain.

Storm-drain inlet protection shall be provided for any drain inlet receiving construction runoff with filter socks using stormwater treatment media made of StormwaterBIOCHAR. ESHM also requires the use of filter socks with StormwaterBIOCHAR treatment media where chemical products are being used on site. Routine inspections of filter socks shall be performed and when observed to be degraded, including without limitation when there are rips, tears, or other visual damage, filter socks shall be replaced.

d. Stockpile Management: Stockpile protection is a year around requirement given perennial potential for rain and wind. To contain soil spoils, place a plastic barrier on the ground surface and transfer the soil on top of the plastic without spill over. Then place another plastic cover on top of the stockpile when stockpile additions are complete, but no longer than the end of the workday. Install temporary weighted barriers around the perimeter of the stockpile to secure it and prevent erosion or dust generation. Temporary barriers can be wattles, straw bales or gravel bags. Barriers should be abutted together without any gaps. Sandbags are not to be used given their fine grain contents can impact stormwater if the bag is damaged. Finally secure the top plastic with bricks or other materials to prevent wind removal. The cover will need to be inspected daily through the course of the project and repaired if necessary to prevent runoff.

e. Bin Management: Like stockpile protection, bin management of soils requires a plastic liner be first placed in the bin, if the soil is impacted with chemicals. Once soil has been placed in the bin, plastic must be placed over the soil and extend over the bin and secured. Periodic bin inspection should be done to ensure full containment of the stockpiled material with no sediment or debris in the surrounding exterior.

f. Rumble Plates: Used to prevent tracking of debris leaving an excavated area on site. Plates must be examined daily for excess debris which must be removed and contained on site. Plates shall be maintained in place throughout the project until excavations and stockpiles are complete/removed and bare as well as trackable soils are no longer present.

g. Street Sweeping: Sweeping is required to remove sediment tracked onto public roadway that a rumble plate or other methods were unable to capture. Designate a limited number of ingress/egress locations and instruct construction crew to only use those areas that are protected to soil dispersion. Sweeping shall be performed daily and employ hand sweeping and/or vacuuming in areas a sweeper cannot access.

h. Emergency Generators: Their use can create oil and fuel releases that can enter a storm drain. NGSSSD requires either to place the generator under an existing metal awning or utilize plastic impervious fencing. Surround the generator with chemical absorbent wattles and monitor frequently for oil or fuel releases. If a release is discovered, promptly discontinue use, take measures to secure/clean the release, and notify ESHM and the NGSSSD Company Representative.

i. Temporary Industrial Equipment: These activities include, but not limited to, generators, transformers, and other electrical equipment, air conditioners, chillers, and water purification systems. Secondary containment shall be installed for all temporary equipment to the extent feasible. ESHM shall be contacted if any ponding water is observed in secondary containment and will need to be tested prior to discharge. If not feasible, filter sock with StormwaterBIOCHAR treatment media shall be installed at all storm-drain inlets downstream of temporary industrial equipment.

j. Concrete, Mortar, Dry Wall Mud/Dust, Sawdust, and Other Construction-Produced Particulates: Never wash these materials into a storm drain. Instead, capture materials in a bucket or roll-off bin, secured with a cover and appropriately label for subsequent offsite disposal.

k. Equipment Fueling: All vehicles and equipment that routinely enter and leave the construction site should be fueled off site. If equipment is required to be fueled on site, no more than 5 gallons of fuel is allowed to refill the equipment and must be performed on an impermeable/unexcavated surface and downstream or at least 50 feet from a storm drain. Absorbent materials must be available to clean up spills when fueling operations are being conducted by contractors on site. All fueling shall be conducted during dry weather unless such is required for safe operation of the Facility.

l. Hazardous Materials Storage: Do not use or store any chemical products on exposed soil or within 50 feet of storm drains unless protected with absorbent wattles. All chemicals being stored must

be kept closed when not in use and contained within secondary containment. Refer to section K for additional information.

m. General Construction Debris and Material Handling: Materials, hardware and packaging's brought on site as part of the project must be protected and contained with tarps, awnings or other impervious coverings until used or installed. Demolition debris created during project performance must also be contained and covered to prevent possible stormwater runoff or windblown dispersion.

W. Tools

1. General

   a. Tools shall be used in accordance to their intended use. Applicable guards must be installed and in good condition; electrical cord integrity must be maintained; and appropriate safety precautions by the manufacturer must be observed. Hazard labels on tools shall be in legible condition. All safety guards removed from NGSS machinery or equipment must be replaced before the machinery or equipment is operated by an NGSS employee. Any cord repairs on tools and welding equipment shall be of insulating quality equivalent to the cable insulation.

   b. A ground fault circuit interrupter (GFCI) shall be connected to 120 volts, 15–20 amphere receptacles with all tools use in wet locations, or when utilizing extension cords that not part of a permanent wiring of a building.

   c. Compressed air or other compressed gasses shall not be used to blow dirt, chips or dust from clothing in excess of 10 pounds per square inch.

   d. Pins shall be used to interconnect pressure hoses while Velcro® straps shall be used to interconnect fluid hoses.

   e. Tools, hoses, materials, and equipment, when not in use, must be stored neatly, securely, and safely.

   f. NGSS will not be responsible for theft or damage of contractor tools or equipment but will take reasonable measures to avoid such loss from occurring.

   g. Objects or materials with sharp, protruding ends shall be removed or bent over; materials, when not in use, will be stored securely and safely.

   h. All materials, tools, hoses, and equipment will be used and stored so as not to obstruct aisles, stairs, halls, roads, entrances or exits.

   i. When x-ray producing devices or radioactive material is used in a tool, prior approval by ESH&M is required.

2. Powder-Actuated Tools

   a. Only personnel with a valid license issued by the appropriate agency shall operate powder-actuated tools.

   b. Powder-actuated tools shall not be used without a securely fastened spatter shield or nozzle attachment.

   c. Cartridges shall be stored in a proper container that is kept locked when not in use.

   d. Loaded tools shall not be left unattended.

   e. A sign, at least 8 inches by 10 inches in size reading *Caution "Powder-Actuated Tool in Use"* shall be furnished by the contractor and be posted within 50 feet of the tool use and posted in such a manner that it is clearly visible to any personnel approaching the work area.

X. Utilities and Outages

1. No public utility line may be modified until such time permission to do so has been obtained in writing from the utility company and the NGSS Company Representative and will require 5 day prior notice. Sprinkler guards shall be installed on heads when renovating above the drop ceiling. Sprinkler control valves shall be located by the site superintendent prior to work in case of a water release.

2. The NGSS Company Representative shall provide the contractor available as built utility drawings. The contractor shall trace utilities to their source and the tag the lines, indicating whether they are to "remain" or to be "remove," and identify if gas, electric etc. If unable to trace utilities to their source, the contractor is to contact the NGSS Company Representative for assistance.

3. Prior to shutting off any on-site NGSS operated utilities (e.g., electrical, gas, water, sprinklers, and fire alarms); the contractor shall notify the NGSS Company Representative of the need for a utility outage at least 24 hours in advance. The NGSS Company Representative will then complete a Utility/Fire Protection/APC System Outage Reporting Form (Systems Form 6482) and submit it to ESH&M for acceptance. ESH&M subsequently will notify the NGSS Company Representative(s), and, as necessary, the NGSS insurance carrier and the fire department. No control valves will be operated by anyone other than NGSS personnel without ESH&M acceptance of an NGSS Outage Form.

4. All utility service hookups (air, water, electrical) supplied to the contractor will be designated by the NGSS Company Representative.

5. Fire suppression and other outages will require the contractor to apply their own lockout/tag out equipment at all hazardous energy sources. The contractor shall validate that a zero-energy state exists for all primary hazardous energy sources and that all secondary stored hazardous energy sources have been bled, blocked, dissipated, grounded, or released in the system prior to making repairs. The contractor will coordinate with the NGSS Company Representative for the outage lockout/tag out activity.

Y. Ventilation

1. Indoor, Pits or Confined Space Operations

   a. A smoke eater or other local exhaust ventilation device shall be used or installed on equipment during certain welding, drilling, sanding or other tasks when mechanical ventilation is insufficient to remove airborne contaminants capable of causing a detectable odor or dust, or if the monitored concentrations are above 50 percent of the permissible exposure limits (Title 8 Section 5155). The local exhaust ventilation device shall provide a minimum of 100 feet per minute at the point of potential inhalation exposure of the worker when the base metals, fluxes, plating's or filler materials include, but are not limited to: cadmium, chromium, zinc or when MIG (metal inert gas) welding on stainless steel (Title 8 Section 1536). Ventilation supplied for this activity shall utilize HEPA and Carbon filters to control both particulate/fume and vapor (bi-product) hazards.

   b. Larger surface areas to be prepared or coated may require containment within a fire rated tent composed of fire-rated opaque plastic sheeting utilizing appropriate negative exhaust ventilation, and require possible personal air monitoring. Exhaust shall be directed to an area where there is minimal pedestrian activity.

   c. Negative ventilation equipment utilizing HEPA filters will be required for asbestos, lead and mold abatement activities.

   d. Forced air ventilation will be required at entrances to permit-required confined spaces. The air shall be obtained from a clean source and directed toward the employee(s) work area. It shall be operated continuously until the employee(s) has left the space.

2. Outdoor Operations

   a. Natural dilution is generally acceptable ventilation in outdoor operations.

   b. Any ventilation intakes of Building HVAC systems within 35 feet of welding, dust generation, reroofing activities, or solvent use must be covered and completely sealed with either ample layers of carbon filters or fire rated plastic sheeting.

IV. EMERGENCY

1. General Emergency Notification Procedures

   The NGSS site emergency number must be used in all emergency situations (e.g. fire, uncontrolled chemical releases, earthquake, and personnel injury/illness) to obtain appropriate and prompt assistance. At Space Park, the emergency number is 911 using a company phone or 310-812-9911 using a cell phone which is answered 24 hours a day by an officer in Security. Security will dispatch ESH&M and other NGSS and local jurisdiction emergency responders. The following sequence of events shall occur when responding to an emergency:

   a. All construction work will stop.

   b. Assess the type and extent of the emergency. Pull the alarm if evacuation of the building is required.

c. Notify Security and provide the following information:

- Your name
- What the emergency is
- Where the emergency is
- Other information as requested.

Do not hang up until directed to do so.

d. The contractor will subsequently notify the NGSS Company Representative. An investigation will commence with the presence of Security, the NGSS Company Representative, ESH&M and the contractor at the site to determine the corrective action(s) and to determine an estimated time for the project to resume.

The contractor shall adhere to all applicable Space Park policies/procedures governing emergencies. The contractor shall have appropriate procedures in place for ensuring employees have access to or means of summoning emergency services if needed when performing work in isolated locations or working alone.

2. Fire

Most NGSS buildings are equipped with fixed fire suppression systems (sprinklers, Halon, CO_2, etc.) and all areas are covered by smoke and fire detection systems. Portable fire extinguishers are also provided in each building. Manual hand pull stations for building evacuation alarm systems are positioned throughout each building. If a fire occurs:

a. Move to a safe location away from the fire.

b. Call the company emergency number (dial 911 on company phone or 310-812-9911 using a cell phone).

c. Do not assume that someone else has called or will call.

d. If necessary, evacuate the building by using the manual hand pull station. Exercise judgment before taking this action.

e. Close doors in and around the fire area for containment purposes.

3. Evacuation

Alarms and flashing lights are used at Space Park to notify building occupants to leave the building. Evacuation alarms and lights may activate at any time. If an evacuation alarm activates, you must:

a. Leave the building. Do not assume the alarm is a drill.

b. Exit and proceed to the designated assembly area (review the location before you start work).

c. Follow the directions of uniformed Security personnel and identified company emergency responders such as Space Park's Emergency Assistance Team (E.A.T.).

d. Do not use the elevators.

e. Do not attempt to carry liquids with you.

f. Do not go back to retrieve personal belongings.

g. Do not smoke (either in the building or in the designated assembly area).

After exiting, go directly to the nearest assembly area as identified by your NGSS Company Representative or emergency responders. Account for all your contractors within the assembly area. Provide the names to Security or E.A.T. representative at your assembly area of any missing contractors. Wait in the assembly area until Security authorizes building re-entry or other instructions are provided by a NGSS Company Representative or local jurisdiction responders.

4. Injury/Illness

Any work-related injury/illness occurring on Space Park should be reported to your NGSS Company Representative. If it is an emergency situation, dial 911 on a company phone or 310-812-9911 on a cell phone for assistance. At Space Park, company E.A.T. representatives are available in each building to provide emergency CPR and first aid until professional help arrives. E.A.T. member locations are identified by a red and white placard posted above their office doorways. A roster of building E.A.T. representatives is also posted at various locations in each building. Onsite NGSS medical staff is also available to provide first aid assistance at Building S room 1371 between 7:00 AM to 4:30 PM, except for off Fridays, weekends, and holidays. Follow procedures as described in Section III, A(6)(r) when reporting an incident.

CONTRACTOR CERTIFICATION		
I have read and understand the above requirements. I certify that all work performed for NGSS will be in conformance with all aspects of the above applicable requirements.		
Name (Print)	Signature	Date
Title/Position		
Email	Phone Number	