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National Aeronautics and
Space Administration

John C. Stennis Space Center
Stennis Space Center, MS 39529-6000

COMPLIANCE IS MANDATORY

JOHN C. STENNIS SPACE CENTER
DIG PERMIT STANDARD
(FORM SSC-618)

Approved by:

Approved electronically in DDMS
NASA SSC Center Operations Directorate
Facilities Engineering Services
Date

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Approved electronically in DDMS
NASA SSC Center Operations Directorate
Facility Services Branch
Date

Approved electronically in DDMS
NASA SSC Engineering & Test Directorate
Date

Issued by

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Document History Log

Status/ Change/ Revision	Change Date	Originator /Phone	Description
Basic	1/16/07	S. Fandal 8-2961	Initial Release – supersedes SSC STD 99-015 Rev. B, with the following changes: New document number and format per SPR 1400.1. Complete edit, reorganization and rewrite, including additions, deletions and modifications to process requirements, procedures and responsibilities for FOSC Facilities Systems Engineer, Project Lead, Construction Manager, and Dig Site Supervisor; utility shut-off; safety zone; notifications of NASA/FOSC/TOC Safety and Communications; submittal of redlines and update of drawings; processing of Dig Permit Form SSC-618 (i.e., extension of expiration date and submittal of the signed/dated permit; handling of original signed copy and final checks/signature); and changes to content/format of Form SSC-618. Added section regarding historical site excavation. Included requirement for FOSC Environmental notification on SSC-618. Added relevant document reference of SSC Historic Preservation Plan. Added requirement in 5.2 regarding actions to follow if historic, prehistoric, or human remains are discovered during excavation. Added section 5.2.2 regarding personnel safety and inspection of excavations/trenches prior to entry.
A	12/15/09	J. Craft 8-3574	Replaced Facilities Systems Department with Engineering Services Department. Replaced Facility Systems Engineer with Utility Locator Specialist. Updated references. Section 5.1.3: changed “mechanical methods” to “non-intrusive methods.” Added section 5.1.3j hand locate known but unidentified utility or obstruction. Section 5.2.2: added exception for new confined space requirement. Added Section 5.2.5. Clarified verbiage in Section 5.4. Updated flow chart and Appendix A. Updated formatting in accordance with SPR 1400.1.

Status/ Change/ Revision	Change Date	Originator /Phone	Description
B	12/01/14	B. Stephens 8-2792	Five-year review. Updated references and acronyms. Revised 5.1 Permit Planning and Approval and 5.2 Excavation criteria. Revised 5.1.3.e, replacing "underground utilities and obstructions" with "outdoor underground utilities and obstructions"; and adding "Due to limitations of the Ground Penetrating Radar equipment, every effort shall be made to determine indoor utility locations in and under concrete by all available means. Specialized Contractor utility locating services may be utilized as needed." Revised 5.1.3.h, replacing "SSC Historical Preservation Plan" with "SSC Integrated Cultural Resources Management Plan on file in TechDoc". Revised 5.2.1.b, replacing "in no case shall only wood stakes or only paint be used" with "in no case shall only wood stakes be used". Revised 5.2.3.g, removing the reference to "the resident archaeologist"; and revised 5.2.3.h, replacing "detectable, metallic tape" with "detectable tracer wire and metallic tape". "Outsourcing Desktop Initiative for NASA (ODIN)" changed to "Information and Technical Services (ITS) Contractor" in all references throughout document. "FOSC" changed to "NASA or its designee" in all references throughout document.
B-1	02.12.16	R. Carol Wolfram 8-1164	Administrative change. Replaced "FOSC" and "NASA or its designee" with "SACOM" throughout document. Replaced "SWR" with "Task Order" throughout document.
C	06.06.18	B. Stephens 8-2792	Updated cover sheet to include Engineering and Test Directorate (E&TD) concurrence. Updated acronyms and references. 5.1.3-i, 5.2, and 9.0 Flow Chart: Added Warning/Caution, restricting excavation work within the Test Complex on days of A/B testing. 5.2.3-f: Added mandate that color pink will be used to identify "Unknown / Unidentified Utilities." Reformatted, incorporating acronym listing into document. Revised 9.0, Dig Permit Flow Chart. Deleted "Project Lead" row from Appendix A, as heir signature is not required. Deleted Appendix C, sample of Dig Permit form.

D	10/3/22	B Bouché, 8-1452	Document completely reworked.
D-1	10/18/22	Wolfram 8-1620	Administrative Change. Section 5.1.3-g: Changed “during the locating process” to “during this locating process.”

Table of Contents

1.0 PURPOSE

This John C. Stennis Space Center (SSC) standard (SSTD) establishes the requirements and responsibilities for all excavations as defined in Section 5.1.1, specifically as they relate to processing of the Dig Permit (Form SSC-618) located on the SSC Electronics Form Index.

2.0 APPLICABILITY

This SSTD applies to SSC excavations for renovations, repairs, new construction, exploratory work, or field investigations/studies involving SSC underground utilities and to persons who perform or have responsibility for SSC excavations and utility system configuration control.

3.0 REFERENCE AND RELEVANT DOCUMENTS

All references are assumed to be the latest version unless otherwise indicated.

Site-wide Operation and Repair Document (SORD) Drawings:
- 11B00-R000, *Site Plan Oxygen Liquid Oxygen Index Sheet*
- 11C00-R000, *Site Plan Hydrogen Index Sheet*
- 11D00-R000, *Site Plan RP-1 Index Sheet*
- 11F00-R000, *Site Plan Nitrogen Index Sheet*
- 11G00-R000, *Site Plan Helium Index Sheet*
- 11H00-R000, *Site Plan High Pressure Air Lines Index Sheet*
- 11J00-R000, *Site Plan High Pressure Industrial Water Index Sheet*
- 12B00-S000, *13.8 kV Site Plan Electrical Distribution System Index*
- 12D00-R000, *Site Plan Natural Gas Line Index Sheet*
- 12F00-R000, *Site Plan Sanitary Sewerage System Index Sheet*
- 12G00-R000, *Site Plan Potable Water Index Sheet*
- 12H00-R000, *Site Plan High Temperature and Chilled Water Systems*
- 12M00-S000, *Site-wide Telecommunications Systems Index Sheet*

APWA Uniform Color Codes
29 CFR 1926 Subpart M, *Fall Protection*
29 CFR 1926 Subpart P, *Excavations*
Form SSC-618, *Dig Permit*
Form SSC-625, *Certificate of Completion*
SPLN-8500-0090, *SSC Integrated Cultural Resources Management Plan*
SPR 8500.2, *Environmental Operations and Implementation Program Procedural Requirements*
SPR 8715.1, *Safety and Health Program Requirements*
SSTD-8070-0001-CONFIG, *Facilities Engineering Documentation Standard*
SSTD-8070-0005-CONFIG, *Preparation, Review, Approval, and Release of SSC Standards*
SSTD-8070-0009-CONFIG, *Preparation of Form SSC-625, Certificate of Completion (COC)*
SSTD-8070-0124-IDCODES, *Identification of Piping Systems and Above-Ground Markers*

4.0 RESPONSIBILITIES

a. The National Aeronautics and Space Administration (NASA) SSC Center Operations Directorate (COD) Facilities Engineering Services, COD Facility Services Branch, and Engineering and Test Directorate (E&TD) are responsible for approval of the content of this SSTD and have final authority for its interpretation.

b. Synergy-Achieving Consolidated Operations and Maintenance (SACOM) Engineering Services Department (ESD) is responsible for control of the SSC excavation and permit processes.

c. NASA and contractor personnel have various responsibilities for planning, approval, supervising, monitoring, notifying, and documenting, as specified throughout this SSTD.

d. NASA and contractor organizations are responsible for the use and maintenance of this SSTD in accordance with SSTD-8070-0005-CONFIG.

5.0 REQUIREMENTS AND PROCEDURES

5.1 PERMIT PLANNING AND APPROVAL

The Dig Permit (Form SSC-618) is a three-part form which authorizes excavation at locations specified in the documents referenced on the permit.

CAUTION

Though the Dig Permit authorizes excavation, it does not guarantee that all subsurface utilities have been identified and marked and are, in fact, located where or to the depths indicated on the configuration documentation.

Information is as complete and up-to-date as possible, based on research and investigation of the best information available to identify and locate underground utilities at excavation sites. Details for initiation, approval, and processing of a Dig Permit are specified in the following subsections and the flow chart in Section 9.0. For damage or interruption of utilities during an excavation, and for emergency excavations, refer to Sections 5.3 and 5.4, respectively.

5.1.1 Criteria

An approved Dig Permit (Form SSC-618) is required before work begins for:

a. Exterior excavations (digging, trenching, drilling) that exceed 12 inches below grade (ground surface) of any SSC Fee Area or Buffer Zone Area.

b. All excavations, regardless of depth, in historic areas. The Historical Preservation Officer must be contacted if the dig is in an historic area. (Reference the Historic Site Impact Map.)

c. Removal of, or cutting through, any existing outdoor roadway or parking lot surfaces (e.g., stone, asphalt).

d. Removal of, or cutting through, any concrete floors, pads, footings, or other concrete structures, whether indoor or outdoor.

e. Exploratory excavations.

f. Any penetration of grade that exceeds 12 inches.

5.1.2 Initiation/Request

a. When an SSC project requires excavating, the appropriate Dig Permit requestor (as described 5.1.2.b) shall provide the Underground Utility Locator (UUL) with written notification including but not limited to:

1. A construction drawing or a sketch showing the proposed excavation corridor, to include a 10-foot right-of-way (5 feet on each side of centerline) along the proposed excavation corridor.
2. A sketch showing pipe location and sizes, duct banks, conduit, and any other suspected underground obstructions, with approximate depths for all.
3. Excavation start date.
4. Project title.
5. Company performing the excavation, including contact information.
6. Any known risks associated with the excavation.

b. For projects in design, the Design Engineer shall notify the UUL by providing a funding source and an Engineering Modification Instruction (EMI), Engineering Change Request (ECR), Engineering Order (EO), or a sketch as soon as the requirement for excavation has been identified and before the 60% design review meeting, unless prior written approval has been obtained from the Project Manager

c. For all projects that require excavation work, the UUL or their designee shall be invited to all design reviews and other meetings affecting the project design.

d. For projects to be implemented, the Construction Manager or Dig Site Supervisor shall verify all applicable permits are in place and contact the UUL by providing a

Task Order and a construction drawing or sketch no later than five (5) working days prior to the planned start of the excavation.

e. In cases in which an emergency excavation is required, the UUL will expedite approval/issue of the Dig Permit to avoid project delays. Refer to Section 5.4.

5.1.3 Research and Investigation

a. Upon receipt of proper notification for a Dig Permit, per Section 5.1.2, the UUL shall conduct research to determine if underground utilities are present along the proposed excavation corridor and if historically significant areas are involved.

b. Sources used for research include but are not limited to systems site plans, site drawings, applicable building drawings (for excavations within 5 ft of a building), SORD drawings, SSC Geospatial Information System (GIS), and the SSC Historic Preservation Plan.

c. As applicable, based on the excavation corridor, the UUL shall consult with the project lead, Construction Manager, Shop Supervisor, Dig Site Supervisor, appropriate engineers, SSC Historic Preservation Officer, SACOM Safety, the Information and Technical Services (ITS) Contractor, and NASA SSC Environmental.

d. The UUL will normally complete the research/issuance of a Dig Permit within five (5) workdays after receipt of the written request.

e. Ground penetrating radar (GPR) shall be used every time to determine the approximate locations of underground utilities and obstructions in and around the excavation site. When appropriate, metal detection devices and other non-intrusive methods can be used to establish a safe working distance from the excavation site. Due to limitations of the GPR, there is no guarantee that all subsurface utilities have been identified and marked and are, in fact, located where or to the depths indicated on the configuration documentation. Specialized Contractor utility locating services may be utilized as required. A walk-down of the excavation corridor shall be performed by the UUL and the permit requestor.

f. SSC contains areas of historical and cultural interest that are protected by the SSC Integrated Cultural Resources Management Plan on file in TechDoc and the NASA SSC Environmental Management Office. Before any excavation in these areas begins, the UUL or the project construction manager (for an outside agency) must notify the SSC Environmental Officer and Historical Preservation Officer, who will advise the UUL of special considerations or conditions that must be met.

The UUL will communicate this information to the project lead, Construction Manager, and/or Dig Site Supervisor, as applicable. If the Historical Preservation Officer is not available, the SSC Environmental Officer will act as alternate.

g. After the research and investigation process is completed, if the exact location of a known underground utility or obstruction has not been determined, the contractor or shop performing the underground work activities shall utilize non-destructive methods (unless another method is approved in advance and in writing by the UUL) to locate the unidentified utility or obstruction prior to any other excavation. The construction manager and UUL shall be present during this locating process.

h. After the research and investigation are completed and prior to permit approval, the Construction Manager shall meet with the appropriate Facility Manager whose facility's operations may be affected by the planned excavation activities, to review the permit and provide information relative to excavation impact on operations and/or personnel.

i. If needed, exploratory excavations and hazardous atmosphere testing shall be performed.

WARNING/CAUTION

If excavation will exceed a depth of 4 ft and require entry by personnel or if a hazardous atmosphere is possible, SACOM Safety Department must be notified at least two (2) workdays before work starts. If the excavation involves voice/data utilities, the ITS Contractor must be notified at least three (3) workdays before work begins. If an SSC historic area is involved, the NASA SSC Environmental Management Office must be notified at least two (2) workdays before work begins. If applicable, as specified in NASA/Contractor guidelines and procedures, those who are notified of an excavation shall notify other necessary personnel or groups.

5.1.4 Expiration Date Determination

a. The expiration date must be agreed upon by all consulting parties and entered on the Dig Permit Form, SSC-618, before approval signatures are obtained. The maximum duration allowed for a Dig Permit shall not exceed thirty (30) calendar days. For high utility areas or at the discretion of the UUL, the expiration shall not exceed fourteen (14) calendar days.

b. If an expiration date needs to be extended, the UUL must be notified before the permit expiration date. If necessary, the UUL will notify the SSC Environmental

Officer, SACOM Safety Department, and ITS Contractor, and convey all information relevant to the extension.

5.1.5 Approval and Issuance

a. The UUL shall be the final approval authority and sole issuer for all SSC Dig Permits, which become valid only after all required signatures have been obtained. (See Appendix A)

b. At a minimum, the UUL, Dig Site Supervisor, and equipment operator performing the excavation work must sign all Dig Permits. Other signatures may be required as follows:

1. The SSC contractor Construction Manager must sign for excavations performed by offsite contractors and SACOM contract construction jobs.
2. SACOM Safety Department must sign in all cases in which the excavation depth exceeds 4 ft below grade and is entered by personnel, or a hazardous atmosphere might exist.
3. ITS Contractor must sign in all cases when the excavation involves data or voice communication lines.
4. The SSC Environmental Officer or delegate shall sign the permit if the excavation will be in an identified historical area.

c. After final approval of the Dig Permit, the UUL shall keep the white page (top copy) of the original, signed permit until final signoff at job completion per Section 5.2.3.

d. The UUL shall provide the yellow page of the three-part form to the equipment operator and provide additional copies of the signed permit, as applicable, to the Project Lead, the SSC Environmental Officer, the ITS Contractor, and/or SACOM Safety Department, who retain their copy for the duration of the excavation.

e. The SSC contractor Construction Manager or Dig Site Supervisor shall ensure that the pink page of the approved (signed) permit (with the area drawing/sketch) is at the dig site throughout the duration of the excavation.

f. Approved Dig Permits are valid from the date of the last approval signature through the expiration date, as established in Section 5.1.4. Extension of the expiration date shall not be requested nor granted after the expiration date shown on the permit. Once a Dig Permit expires, the excavation must cease until a new permit is initiated and approved.

5.2 EXCAVATION

a. No excavation work will be permitted within the Test Complex on days of hazardous operations and/or A/B testing. Excavation may be permitted within the Test Complex on days of E testing with written (email) concurrence from the E-Complex Operations Management (Chief of Operations, Mechanical Operations Branch Chief, or the Lead Test Director). NOTE: The Test Complex is defined as the area past the Saturn Road Test Complex guard gate (B-8200).

b. After the Dig Permit is completed (including expiration date), approved (signed), and distributed, the excavation will proceed in three phases:

1. Site preparation/utility identification
2. Actual excavation activities
3. Post-excavation documentation

5.2.1 Site Preparation/Utility Identification

a. Prior to start of any excavation, either the UUL or third-party contractor, as required per contract, shall clearly mark the locations of underground utilities in the excavation area and along the excavation corridor (as identified on the Dig Permit). All parties involved in the excavation shall be knowledgeable of the nearest isolation points for potentially affected utilities.

b. Location markers may be paint lines, wood stakes, or wire pin flagging; however, in no case shall only wood stakes be used (because of susceptibility to damage from mowing). It is preferred that the wire pin flagging method be used, supplemented by paint and wood stake markers. The utilities shall be identified in accordance with the American Public Works Association (APWA) Uniform Color Codes designation for “Temporary Survey Markings and Unknown/Unidentified Utilities.”

c. When a stake is used, the utility shall be clearly identified on the stake.

d. When a paint line is used, the utility shall be clearly identified alongside the location line.

e. Paint and stake markings shall be on the ground as close as possible to the actual location of the marked underground utility.

f. Wire flags shall be placed directly above the utility.

5.2.2 Personnel Safety Requirements

a. Prior to an excavation near gas lines, a safety representative shall conduct a sniff test to ensure the safety of workers, as per SPR 8715.1.

b. Prior to employees entering all excavations/trenches, the adjacent areas and protective systems shall be inspected by a competent person appointed by the contractor performing the excavation.

c. Excavation competent persons shall have documented training in excavation soil classification, shoring, sloping/benching, and fall protection requirements.

d. Employees entering an excavation/trench shall be protected from cave-ins by an adequate protection system designed in accordance with 29 CFR 1926 Subpart P, "Excavations." The only exceptions to this requirement at SSC are:

   1. Excavations less than 4 ft in depth, where examination of the ground by a competent person has provided no indication of potential cave-ins.
   2. New confined space requirement.

e. The competent person shall inspect all excavations daily, prior to the start of the work shift and as needed throughout the work shift.

f. Inspections shall be made following every rainstorm or other hazard increasing occurrences.

g. All competent person excavation inspections shall be documented by a signed checklist.

h. Checklists shall be maintained at the worksite and made available to SSC construction managers and/or safety personnel upon request.

5.2.3 Actual Excavation

WARNING

The Dig Site Supervisor shall ensure that a safety zone is clearly marked at least 6 ft on all sides of the excavation area, per 29 CFR 1926 Subpart M, "Fall Protection."

CAUTION

Excavations in areas of known or suspected subsurface utilities shall be closely monitored by the Construction Manager or Dig Site Supervisor, especially when accuracy of sketches, drawings or other configuration

documentation is in doubt. Known or questionable interferences shall be "Hand-Dug" or excavated using other non-destructive means within 6 ft of the interference. When excavating to within 5 ft of a building, the applicable building drawings, in addition to the SORD drawings, shall be reviewed. For emergency excavations (refer to sections 5.1.2-e and 5.4), the level of supervision shall be increased, and the Construction Manager/Dig Site Supervisor shall exercise caution, considering the added potential for damage to or disruption of utilities. In the event of utility damage or service disruption, Section 5.3 applies.

a. Prior to construction activities, the contractor performing the excavation shall verify all subsurface utilities (existing and abandoned) and obstructions within the construction corridor as previously identified by the excavation permit sketch. The contractor performing the excavation shall locate, horizontally and vertically, all existing utilities crossing the proposed construction corridor; and all those located within 10 ft horizontally as shown on the drawings and vertically a minimal of 2 ft deeper than the lowest construction depth, unless otherwise required by the design.

b. For any project modification that requires an excavation to deviate from the original corridor approved on the Dig Permit:

    1. The excavation activities shall cease.
    2. The UUL shall be immediately advised and provided with all appropriate information to enable research and investigation for a new Dig Permit.
    3. The new Dig Permit shall be required before the excavation may continue.

c. During the excavation process, the Construction Manager and Dig Site Supervisor shall prepare and maintain utilities configuration documentation redlines in accordance with SSTD-8070-0001-CONFIG for:

    1. Any changes to the configuration of new or existing utilities.
    2. Any utilities or obstructions not previously identified on configuration documentation.
    3. Utilities found in locations other than as indicated on the configuration documentation.

    Note: When an unknown utility is located, the UUL shall mark the area using the color pink in accordance with the American Public Works Association (APWA) Uniform Color Codes designation for "Temporary Survey Markings and Unknown/Unidentified Utilities."

d. During the excavation, should there be a find of historic, prehistoric, or human remains, the digging shall be immediately stopped and the SSC Historic Preservation Officer and/or delegate shall be contacted. If necessary, other expert personnel will be asked to assess the situation and recommend mitigation strategies.

e. All repaired, modified, or new underground utilities shall have detectable tracer wire and metallic tape, and be identified with temporary above-ground markers, in accordance with requirements of Section 5.2.1.

f. For piping identification, SSTD-8070-0124-IDCODES requirements shall also apply.

5.2.4 Post-Excavation Documentation

a. Prior to backfilling, the contractor performing the excavation shall verify and record all contract drawings of new and existing utilities, including material type, location, orientation, and elevation, as they existed immediately prior to backfilling the excavation. The contractor performing the excavation shall provide this information to the Construction Manager or the SACOM shop supervisor/foreman/lead prior to backfilling.

b. Upon completion of the excavation, the Construction Manager or Dig Site Supervisor shall complete, sign and date the bottom portion of the Dig Permit Form SSC-618 and ensure that applicable redlines and sketches of the subsurface utilities encountered, and their exact locations have been completed in accordance with SSTD-8070-0001-CONFIG.

c. The Construction Manager or Dig Site Supervisor shall ensure that the original signed Dig Permit Form SSC-618 and the excavation documentation, including sketches and redlines, are incorporated into the project folder and provided to the appropriate configuration control personnel, as applicable, for inclusion with the Certificate of Completion (COC Form SSC-625), per SSTD-8070-0009-CONFIG, and processing to Central Engineering Files (CEF). CEF shall initiate update of appropriate plans and drawings per SSTD-8070-0001-CONFIG.

d. All closed or completed dig permits shall be archived in CEF.

5.2.5 Accountability

a. The job shall not be closed out until all open Dig Permits are closed and documentation is submitted.

b. Contractors and subcontractors shall have final payments withheld until Dig Permits are closed out.

5.3 UTILITY DAMAGE OR DISRUPTION

CAUTION

If damage occurs to a utility line, the utility shall be shut off at the nearest control point and notifications, as identified below, shall be completed.

The UUL shall educate all personnel involved in excavation activities to ensure that the following notifications, as applicable, are made in the event a utility line is damaged or service disrupted. Additional notifications are required for emergency digging per Section 5.4.

- 911 (if using a landline) or 228-688-3636 (if using a cellular telephone) – In all cases in which injury/harm to personnel may occur and/or the release of oil or hazardous materials or gases has occurred.
- SACOM Safety Department – In all cases of utility damage or disruption (*****).
- ITS Contractor – If data or voice communication lines are involved (*****).
- SACOM Mechanical Plumbing Shop – If fluid transmission lines are involved.
- SACOM Electric Shop – If electrical conduit or wiring is involved.
- NASA SSC Propulsion Test Operations and High Pressure Gas Facility – If high pressure hydrogen, nitrogen, oxygen, air, or helium transfer lines are involved.
- NASA SSC Propulsion Test Operations and High Pressure Industrial Water (HPIW) – If HPIW is involved.
- NASA SSC Propulsion Test Operations and Test Stand/facility supervisor – If involved utility is located in the SSC Test Complex.
- NASA SSC Environmental – If a SSC historic area is involved.

(*****) Notify NASA and/or other entities per applicable NASA SSC and/or contractor guidelines and procedures.

5.4 EMERGENCY DIGGING

a. For emergency excavations (defined in Section 7.0) all provisions of this SSTD must be performed as soon as practical before, during, or immediately after completion of excavation backfilling, except for the requirements in Section 5.2.2 and notifications in Section 5.3, which are always required <u>before</u> excavation begins.

b. If digging is required during non-working hours (e.g., for after-hours repairs of damaged or interrupted utilities), the Construction Manager or Dig Site Supervisor shall contact the Energy Management Control System (EMCS) Operation Control Center (228-688-3381).

c. EMCS shall notify the UUL and, as applicable, the SSC Environmental Officer, SACOM Safety Department, applicable SACOM shop supervisor, and/or the ITS Contractor.

d. If applicable, contractor Safety and Communications shall notify NASA and/or other SSC entities as specified in contractor internal written procedures and/or in NASA guidelines.

6.0 ACRONYMS

APWA	American Public Works Association
CEF	Central Engineering Files
CFR	Code of Federal Regulations
CM	Construction Manager
COC	Certificate of Completion (Form SSC-625)
COD	Center Operations Directorate
DP	Dig Permit
E&TD	Engineering and Test Directorate
ECR	Engineering Change Request
EMCS	Energy Monitoring and Control System
EMI	Engineering Modification Instruction (Form SSC-151)
EO	Engineering Order
ESD	Engineering Services Department (SACOM)
ft	feet/foot
GIS	Stennis Space Center Geospatial Information System
GPR	Ground Penetrating Radar
HPIW	High Pressure Industrial Water
ITS	Information and Technical Services Contractor for SSC
NASA	National Aeronautics and Space Administration
PWP	Project Work Professional
SACOM	Synergy-Achieving Consolidated Operations and Maintenance
SORD	Site-wide Operation and Repair Document
SPLN	Stennis Plan
SPR	John C. Stennis Space Center Procedural Requirements
SSC	John C. Stennis Space Center
SSTD	John C. Stennis Standard
UUL	Underground Utility Locator

7.0 DEFINITIONS (as referenced in this document)

Construction Manager: SSC contractor technician or engineer responsible for supporting the Project Lead with monitoring and coordination of daily operations for an SSC project.

Design Engineer: Engineer or lead person who designs or plans a project.

Dig Site Supervisor: The person designated by the project lead who is responsible for conduct or supervision of an SSC project or excavation - usually the SSC Shop supervisor/foreman/lead or offsite contractor designated lead.

Emergency Excavation: Digging, trenching, or drilling below 12 inches that must be done immediately, without a Dig Permit, to prevent or minimize personal injury; damage to facilities, systems, or equipment; or interruption of a utility service.

Excavation: Digging, trenching, or drilling that cuts through, removes, or penetrates more than 12 inches below the surface of any SSC grounds, roads, or other structures, as specified in Section 5.1.1.

Facilities Systems Engineer/ UUL: As referenced on Form SSC-618, the ULL controls the SSC excavation and permit process.

Fluid: Any liquid or gas (e.g., air, water, natural gas, oxygen, hydrogen, nitrogen, helium, Rocket Propellant [RP-1]).

Grade: Surface of the ground.

ITS: Information and Technical Services – Contractor for utility and data lines (e.g., telephone and computer network communication lines).

Project: Design, construction, and/or excavation for new or modified SSC facilities or for purposes of research or planning. An excavation may be part of or the whole of a project.

Project Lead: Person responsible for supervision and completion of a given SSC project. (This person may be the NASA project manager or project engineer, for NASA direct projects; or the contractor shop supervisor/foreman/lead or contractor superintendent.)

Project Manager: NASA or SACOM engineer responsible for acceptance of an SSC project.

Shop Supervisor/Lead/Foreman: SACOM shop technician or shop engineer, who is responsible for supervising and completing an SSC project.

Technician: A person who is certified or qualified in a technical skill or trade.

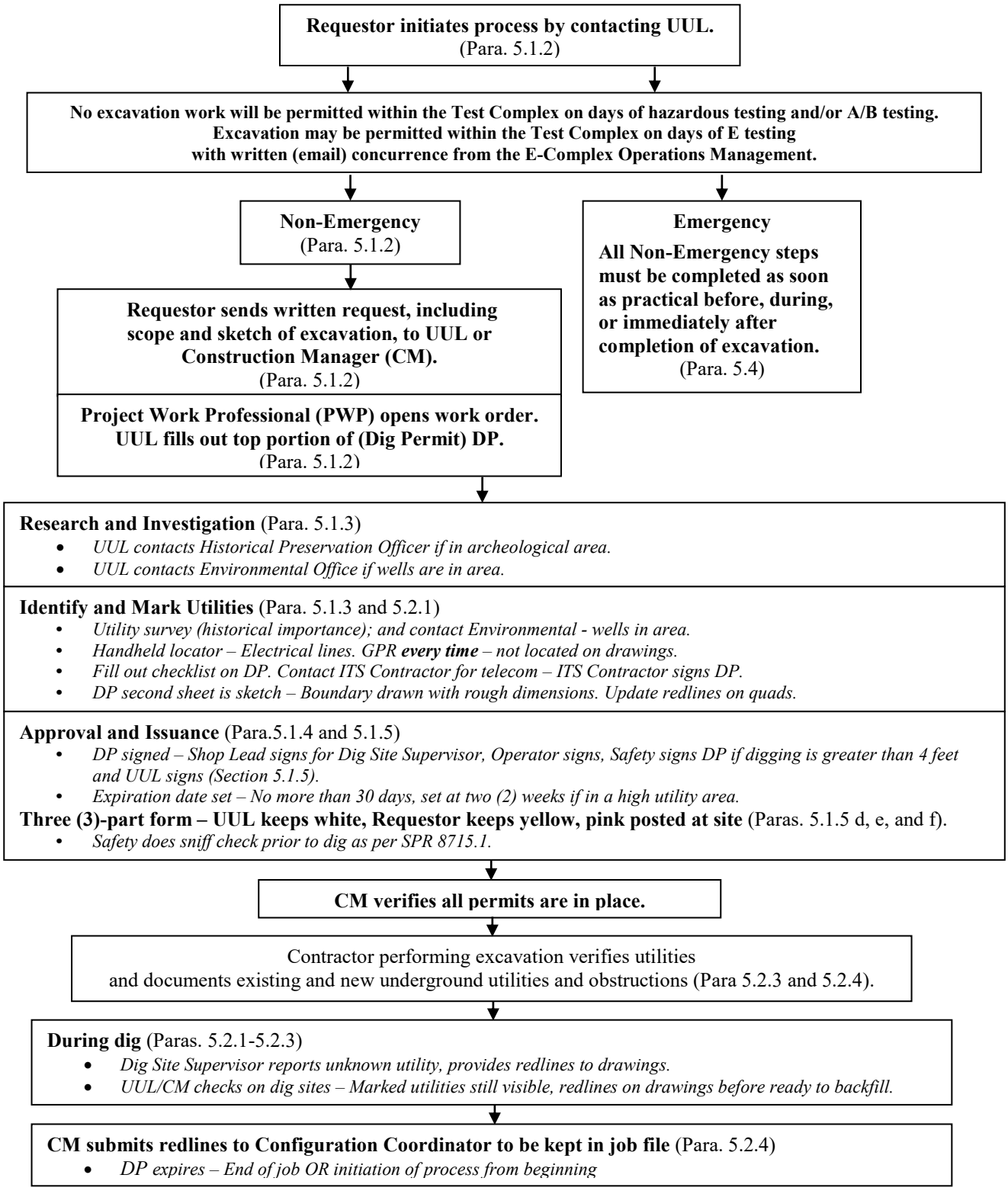
Utility: Any system or component thereof (e.g., piping, electrical conduit, cabling) that carries or conveys air, fluids, electricity, or voice/data signals.

Workday: Monday through Friday, not including holidays.

8.0 RECORDS AND FORMS

Records and forms required by the procedures of this SSTD shall be maintained in accordance with SPR 1440.1. All records and forms are assumed to be the latest edition unless otherwise indicated. Forms may be obtained from the SSC Electronic Forms repository or from the NASA SSC Forms Management Officer. Quality Records are identified in the SSC Master Records Index.

9.0 DIG PERMIT PROCESS FLOW CHART



APPENDIX A. DIG PERMIT SIGNATURE REQUIREMENTS

FOR REFERENCE ONLY

SIGNEE	SACOM Construction Task	SACOM Shop Task	NASA Direct Task	Approval	Job Complete
Underground Utility Locator	X	X	X	X	
Construction Manager	X		X	X	X(3)
Dig Site Supervisor		X			X(3)
Equipment Operator	X	X	X	X	
SACOM Safety Department	X(1)	X(1)	X(1)	X	
ITS Contractor	X(2)	X(2)	X(2)	X	
SSC Environmental Officer *(If excavation involves historic area)*	X	X	X	X	

NOTE: All signees sign original Dig Permit provided by the Construction Manager or Dig Site Supervisor.

(1) If excavation exceeds 4 ft and will be entered by personnel, or if hazardous atmosphere is possible or if SSC historic area is involved.

(2) If voice/data lines are involved.

(3) Construction Manager or Dig Site Supervisor signs for all permits upon job completion.