

Work Instruction	Excavation Permits			Number: ENG-I-MP07	
Unit Issuing: Engineering	Approved by: Site Svcs Br Manager	Initial Issue Date: 09/30/09	Page: 1 of 22	Revision: 7 Eff Date: 01/09/24	

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PURPOSE

To establish the Base Operations & Spaceport Services Contract (BOSS) procedures and responsibilities for processing Excavation Permits to excavate/dig on Kennedy Space Center (KSC) to ensure personnel safety and prevent damage to underground utilities.

SCOPE AND APPLICABILITY

This document applies to any entity or person requiring excavation/digging on KSC.

1. Operations Requiring Excavation Permits

Any operations that involve penetrating the ground surface greater than 6 inches in depth are required to obtain an approved excavation permit request (EPR).

2. Excavation Permit Exceptions

Excavation work performed inside facilities is excluded from the EPR requirement. Excavators are still required to perform due diligence to ensure all other safety and excavation requirements are met. Excavators should proceed at risk.

3. NASA Policy and Process

Excavation work performed under the scope of this document shall also be in compliance with policy: NASA KDP-KSC-P-1302, Excavation and Waiver Process.

4. Excavation Permit Request Web Application(s)

Many procedures described in this document rely on the proper function of the internal and external EPR applications designated as TA134 and SI223 respectively. Management of these applications is the responsibility of the KSC IT contract (currently EAST2). A complete user guide of functionality is available in TechDocs as document TA134-UG-36_Rev_1.

PROCESS

1. REQUEST A NEW EXCAVATION PERMIT

To request a new permit for excavate/dig, the requester is required to do the following:

1.1. Complete the Request by Internal KSC User

- For KSC Network users, access the EPR Application at <http://epr.ksc.nasa.gov>.
- Click "Submit a New Request".
- Fill out request, including all required fields, and follow the instructions to review and save your EPR.
- Follow the instructions to create a map pdf using the KSC GIS Advanced Viewer application, then attach a map, sketch and/or other documents, such as an environmental checklist, or an approved site plan and upload to the EPR.

- If you cannot access this feature, send a map or sketch of the excavation area, and any additional documentation to the EPR Administrator. (See Appendix D for contact information). You are to include your EPR number on any documents emailed.

1.2. Complete the Request by External User

- External users can access the public EPR App at <https://extapps.ksc.nasa.gov/epr>.
- Click "Submit New Permit Request".
- Fill out request, including all required fields, and follow the instructions to review and save your EPR.
- The EPR Administrator shall receive and import the request into the Internal EPR Application.
- The EPR Administrator shall contact the requestor to obtain remaining required information to complete the request such as a map, sketch and/or other documents, such as an environmental checklist, or an approved site plan.

1.3. Exception: If the Requester Cannot Access the EPR Web Application

If a requester cannot access either the internal or public the EPR Web Applications, the EPR Administrator may receive information such as a map or drawing of the excavation area and any other applicable documentation via email to KSC-BOSS-DigPermit@mail.nasa.gov.

The EPR Administrator shall enter the EPR information, maps, and documentation into the EPR Web Application.

1.4. Utility Locates not directly related to an excavation

For utility locating in support of engineering (A&E) design, investigation, and studies work, requests must be initiated through the BOSS Work Control EWRS at <https://ewrs.ksc.nasa.gov>.

2. PROCESS PERMIT REQUEST

To process the EPR, the EPR Administrator shall complete the following:

2.1. EPR Request Validation and Review

Review the EPR for completeness:

2.1.1. Required Permit Fields

The preferred Submitter (Requester) is the actual Excavator. If the Submitter is in a liaison or proxy role, the following guidelines shall be used:

If NASA CoF is being performed, submitter may be BOSS Construction Inspector, actual excavator subcontractor must be determined and updated in Contractor/Excavator fields.

If internal BOSS work is being performed, submitter may be BOSS P&E or TO Planner. The Contractor/Excavator shall be the shop lead (in most cases Roads).

In all cases the Contractor/Excavator fields need to be completed and not the same as the submitter information.

Important!: The submitter has the primary responsibility for all communications between EPR staff and the excavator.

The NASA POC should be the NASA Project Manager or COR directly related to the excavation operation.

2.1.2. Maximum length of Permit

Permits shall not exceed 185 days in length between the start date and permit end date. Estimated Completion Date may be entered for short-duration tasks such as sign installations.

2.1.3. Permit Area of Dig (PAD)

A map or drawing of the impacted area is required for an EPR. The submitted map or drawing file will need to be interpolated and drawn into the EPR Application map editor by the EPR Administrator. The EPR Administrator shall review the area and may consult with the KSC Utility Locators to determine the feasibility and the effectiveness of the requested area. If it is determined that the area requested is too large or complex, the EPR Administrator shall require the submitter to break up the area into smaller sections by initiating additional permits. The subsequent secondary permits shall reference the primary permit.

Failure to provide accurate Permit Areas of Dig (PAD) may lead to additional work delays.

2.1.4. Large Projects

If determined that the requested permit is a part of a large project (either in length of time or area), the EPR Administrator shall designate the initial permit as a primary and after communicating with both the KSC Utility Locator and permit submitter, explain the process of submitting for the subsequent, secondary permits for each excavating task closer to the scheduled time of each task.

2.1.5. Request Reviews

Request Environmental, Master Planning and KSC Utility Locator Reviews by changing the status to "In Review".

KEMCON Environmental and the BOSS Master Planning Offices shall then review the EPR and either "agrees" or "disagrees" and may include comments or special instructions.

The KSC Utility Locator shall then review the location, assign excavation permit category codes to the request, review the EPR and "agree" or "disagree" based on the quality and completeness of the permit area of dig as shown on the permit map and/or if the permit spans multiple category codes. Category codes will be assigned by the KSC Utility Locator using as-built, GIS and contract documents to complete this task. Excavation Permits shall be designated by a single category code. If the KSC Utility Locators determine the request contains multiple codes, they shall communicate with the EPR Administrator to split the request into multiple permits to appropriately encompass a single category code. The subsequent secondary permits shall reference the primary permit.

Note: Only the KSC Utility Locators are authorized to assign category codes.

2.1.6. Hold Pending Site Plan Approval

In some instances, BOSS Master Planning may disagree with an EPR pending site plan approval. The EPR Administrator may place the EPR into "Hold" status, until the site plan has been completed, and shall inform the requester of the reason for the status change.

Once the EPR Administrator has been notified that the siting is complete, the EPR is placed into "In Review" status.

2.2. Reject/Pending Request

Once the KEMCON Environmental, BOSS Master Planning Office and the KSC Utility Locator reviews are complete, the EPR Administrator shall advance the status of the permit to "Pending" or set the status to "Reject".

2.2.1. Reject Request

If any of the reviewers disagree with the request, the status is changed to "Rejected". An email is sent to the requester notifying them of the rejection.

2.2.2. Pending Request

Once the reviews are complete, and

- All groups agree with the request, and category codes have been assigned (see Appendix A). Then the status is changed to "Pending". The EPR application emails the requester and technical contact the unsigned, pending permit along with instructions on the next steps to perform the necessary locates and receive approval of the permit.

Note: A pending permit is the requester's notification to contact the KSC Utility Locator (for all KSC managed utilities) and Sunshine One-Call (811) (for all publicly-owned utilities) to request utilities be located and marked in the subject area. A permit is NOT valid until the KSC Utility Locator has signed the permit. Locates by both Sunshine One-Call and BOSS must be performed prior to any excavating.

2.3. Pending Permit Request Excavator Requirements

Once the pending permit has been obtained, the excavator shall contact both locating authorities to have the underground utilities located and marked as follows:

- KSC Utility Locators: 321-289-2372, 321-749-4840
- Sunshine One-Call (811): 800-432-4770, 811 (cell), or www.sunshine811.com. More information on the 811 process is available on their website under "Homeowners, Excavators" at www.sunshine811.com.

The excavator is required to:

- Schedule locating services with Sunshine One-Call and provide 811 ticket number on approval permit and provide this information to the KSC Utility Locator.
- Contact the KSC Utility Locator at least three (3) working days prior to digging at the subject area.
- Meet KSC Utility Locator at site with a printed pending dig permit, and map for all work performed by subcontractors.

~ Or ~

Provide sufficient support to the KSC Utility Locator to ensure the proper area is located. This can be accomplished in 3 ways:

- Method 1 – Excavator will meet KSC Utility Locator at site with pending dig permit, and map upon request by the Locator.
- Method 2 – KSC Utility Locator has sufficient experience and knowledge of the requested location that only requires verbal & mapping support in describing the location
- Method 3 – Excavator will mark on the ground with white spray paint the work area needing locating and provide verbal feedback to the KSC Utility Locator regarding the marked area.

Note: The KSC Utility Locator may require the excavator to mow the area if the utilities to be located are in areas of high grass or brush.

2.4. Locate and Mark Utilities

For KSC managed utilities that need locating/markings the KSC Utility Locator shall:

- Review maps and special instructions from BOSS Master Planning and KEMCON Environmental.
- Confirm the Sunshine One-Call (811) ticket number is on the approved EPR.
- Visit subject area utilities and mark with orange paint.
- Discuss special instructions and permit category codes with requester.
- Annotate special instructions on the permit, such as "hand dig". (See section 2.5.1 below for hand dig instructions.)
- Review, approve and sign the pending Excavation Permit on site; documenting that the KSC managed utility locate has been performed.

- Photographs the signed permit page as well as any additional instructions.
- Photographs the actual Permitted Area of Dig site and marked utilities. If the actual area of dig varies significantly from the map shape on the permit, the KSC Utility locator shall redline the map on the hard copy permit and photograph that page.
- Observes the retention of markings during the excavation process.

2.5. Approved Permit Recording

The KSC Utility Locator shall notify the EPR Administrator of the permit approval and transfer the photos of the signed permit and utility markings.

The EPR Administrator shall:

- Review the signed permit photo for any special instructions and if noted, updates the permit request “Excavation Restrictions” field with those notes.
- Review the signed permit map photo for any redlines and updates the EPR Application permit map appropriately.
- Upload the signed permit photo to the EPR Application by selecting the “signed permit” upload type.
- Change the permit status from “Pending” to “Approved”
- Once the permit status is updated to “Approved”, the EPR Application sends notification to the requester with attached photo of signed permit page.

3. APPROVED PERMIT MAINTENANCE

3.1. Approved Permit Excavator Requirements

Note: Excavation/digging shall not commence until the KSC Utility Locator has signed and approved the permit. Violation of any these directives shall result in a work stoppage.

3.1.1. KSC Dig Day Validation

The BOSS Spaceport Integration Center (SIC) updates the KSC Dig Status twice daily at 06:00 and 18:00.

If permit assigned category code contains a Category B, the excavator must validate the KSC dig status the start of each day excavation work is to be performed.

The primary method to validate dig status is to go to the EPR webportal at <https://extapps.ksc.nasa.gov/epr> and enter the permit number.

If the EPR webportal is not accessible, excavator must contact the BOSS Spaceport Integration Center (SIC) to validate KSC dig status. (See Appendix D for contact information).

All questions related to the category codes shall be addressed by the KSC Utility Locator. Questions regarding the launch and landing schedule shall be addressed to the BOSS Spaceport Integration Center (SIC) or Cape Support Office.

3.1.2. On-site Requirements

To excavate/dig, the excavator is required to:

- Ensure a copy of the approved permit, signed by the KSC Utility Locator, is on-site whenever excavating.
- The approved permit is only valid for 21 calendar days from the KSC Utility Locator signature date (the date of the locate). All work begins within the 21 days of the locate or a new locate and mark is required. If a contractor has commenced excavation during the 21-day period, the duration of an approved and signed permit is the remainder of the permit duration.
- Confirm the area has been located by both the KSC Utility Locator and Sunshine One-Call (811) and that the paint is still visible identifying the utilities.
- Maintain original orange KSC Utility Locator paint markings.
- Schedule a new locate with the KSC Utility Locator and Sunshine One-Call (811) if the paint identifying the underground utilities has diminished or is unclear.
- Do not remove or disturb thrust blocks. When excavating soil at locations known to contain buried water or sewer lines, do not remove any buried concrete without prior approval.
- Excavate only within the approved, located area of dig shown on the permit.
- Excavate approved area safely.
- If wildlife is encountered, allow time for the animal to vacate the area.
- Comply with SHP-P-0650, Excavation, as appropriate.
- Hand dig within 24" inches, in all directions of an orange KSC Utility Locator paint mark to identify and minimize damage to the existing utilities. See additional Hand Dig Instructions in section 2.5.1.
- Hand dig around Sunshine On-Call (811) marked utilities per their requirements/instructions listed at the website.

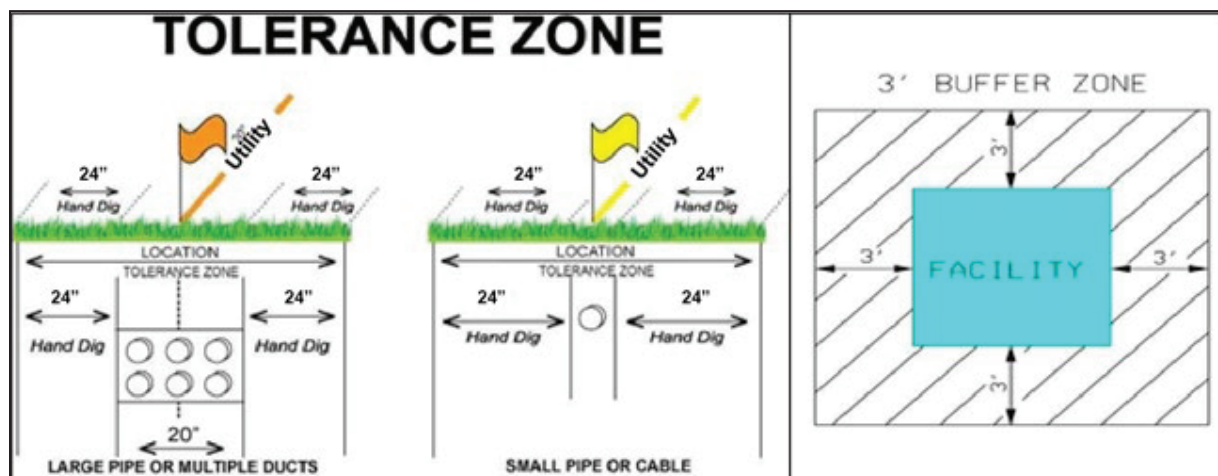
3.1.3. Hand Dig Instructions

As stated above, the excavator shall hand dig within 24" inches in all directions of an orange KSC Utility Locator paint mark to identify and minimize damage to the existing utilities.

3.1.4. Excavation Tolerance Zone

The excavator shall observe a tolerance zone which is comprised of the width of the utility plus 24" inches on each side of the outside edge of the underground utility. Hand dig as directed by the KSC Utility Locator on approved excavation permits within 3 feet of buildings/structures/utilities to eliminate mismarked utilities due to equipment limitations.

NOTE: The KSC Utility Locator may require an additional buffer that is facility dependent.

FIGURE 1: UTILITY AND FACILITY TOLERANCE ZONES

3.1.5. White Lining

The requester (excavator) shall designate the route or area to be excavated/located using water based white marking paint pre-marking to clearly identify the proposed work area.

Note: It is standard procedure to always have the area marked by the requestor, although this is not always enforced internally.

3.1.6. Site Maps or Drawings

The requester/excavator shall have the contract, site plan maps or construction drawings available for the KSC Utility Locator for review and annotation. The maps shall show the existing known utilities and contractor proposed routing of new underground features.

3.2. Damaged Utilities

If a utility line is damaged (except gas lines) stop work and contact the BOSS Spaceport Integration Center (SIC) at 321-861-5050. For gas line cuts, evacuate the area immediately, call 911 (landline) or 321-867-7911 (mobile) and then contact the BOSS Spaceport Integration Center (SIC) at 321-861-5050.

Note: Gas utilities at KSC include, among others, Natural Gas, Gaseous Nitrogen (GN₂), Helium (HE) and Liquid Nitrogen (LN₂).

3.3. Closing, Expiring or Extending Permits

When a project is complete, the requester notifies the EPR Administrator that the permit is complete and can be closed (See Appendix D for contact information). All permits are closed by the EPR application upon expiration of the end date.

When notified by the requester the job is complete, the EPR Administrator shall change the status to "Closed", and an email is sent notifying the requester of the closure.

Once a permit is closed, no further excavation/digging may be done.

Note: No EPR may be extended. If work is expected to extend longer than the permit expiration date, a new EPR is to be submitted, including an updated map and scope of work.

3.4. Excavation Category Waivers

Excavation Category Waivers (ECW) are requested when normal work is to be completed during a time not allowed by the category code(s) assigned to the excavation permit. ECW are only issued to a requester holding an already **approved** permit.

3.4.1. Excavation Category Waiver

Each dig permit has a category code(s) that designates the criticality of a location and when digging/excavating is permitted. To work outside these instructions requires an ECW. An ECW may only be issued for an approved, signed permit.

3.4.1.1. Request Excavation Category Waiver

To obtain an ECW to work outside of an assigned category code(s), requester submits a completed ECW Request (Form KSC50-1 NS) Appendix C to the EPR Administrator.

3.4.1.2. Process Excavation Category Waiver

The EPR Administrator shall review the ECW request for completeness, and email the request to:

- BOSS Spaceport Integration Center (SIC), which coordinates with the NASA Spaceport Integration Office (SIO)
- Cape Canaveral Space Force Station (CCSFS) notified by SIO.

Once approval or rejection of the waiver request is given by their respective signature authorities, the duty office emails or faxes the approved/rejected waiver request to the EPR Administrator.

Note: The SIO signature is required for all excavation category waivers.

3.4.1.3. Approve/Reject Excavation Category Waiver

An ECW is approved by the signature approval from the SIO.

3.4.1.4. Approve Waiver

An ECW is approved if the SIO has agreed with and signed the waiver. The EPR Administrator shall add a comment to the electronic EPR noting the approval of the waiver and emails the signed ECW form to the following:

- EPR Requester
- ECW Requester (if different than EPR Requester)
- BOSS Spaceport Integration Center (SIC)
- EPR Administrator

A copy of the approved waiver is to be onsite whenever excavating outside of the assigned category code instructions.

3.4.1.5. Reject Excavation Category Waiver

A waiver is rejected if **either** the SIO or Cape Commander has disagreed with the waiver. The EPR Administrator shall add a comment to the electronic EPR noting the rejection of the request and emails a notice of the rejection to the following:

- EPR Requester
- ECW Requester (if different than EPR Requester)
- BOSS Spaceport Integration Center (SIC)

3.5. Emergency Locate Requests

Emergency Locate Requests are requests to locate utilities in an emergency such as a water main break, a chemical spill, or an unintentional utility outage due to a cut. The KSC Utility Locator locates the utilities surrounding the emergency to prevent further damage. Unlike an excavation category waiver, an existing approved permit is not required prior to an emergency locate. However, once an emergency locate is requested, the requester applies for an excavation permit through the regular EPR process on the next business day.

3.5.1. Emergency Locate Requests

Emergency locate requests for incidents such as line breaks causing service interruptions take priority over scheduled work to ensure safety and minimal customer impact. Emergency locate requests take priority over all other requests.

Note: Normal EPR scheduling does not constitute an emergency.

3.5.2. Request Emergency Locates

Once the requester has made the emergency determination; the requester shall contact the BOSS Spaceport Integration Center (SIC) 321-861-5050 and provide the following to the BOSS Spaceport Integration Center (SIC):

- Name, organization and phone number
- Emergency description and justification
- Detailed location of the utility locate/excavation site
- Associated EPR number, if applicable

Then the excavator is required to:

- Meet the KSC Utility Locator at the emergency site.
- Notify the EPR Administrator of the type of emergency locate.
- Submit the EPR form and map/sketch to the EPR Administrator the next business day.
- Contact Sunshine one-call at 800-432-4770, 811 (cell), or www.sunshine811.com to locate non-KSC managed utilities that may be present at the site.

3.5.3. Process an Emergency Locate Request

To process an emergency, locate request, the BOSS Spaceport Integration Center (SIC) completes the following:

- Notify the KSC Utility Locator with requester information via cell phone.
- If BOSS requester, inquire if the request is an anomaly or close call.
- Log the interruption of service in Highlights.
- If the incident is a spill, contact KSC Environmental Assurance and the Spill Response Team by dialing 911 (landline) or 321-867-7911 (cell).

Once notified by the BOSS Spaceport Integration Center (SIC), the KSC Utility Locator completes the following:

- Meet requester and/or excavator at the emergency site.
- Locate KSC Managed utility services (after confirming Sunshine One-Call 811 ticket number).
- Instruct requester and/or excavator to submit a Utility Locate/Excavation Permit Request to the EPR Administrator the next business day.

The EPR Administrator shall begin processing an after-the-fact EPR by the next business day.

3.6. Performance Standards and Problem Reporting

KSC Utility Locators locates underground utilities per the Base Operations & Spaceport Services Contract (BOSS).

If an underground utility service is interrupted due to incomplete locating service, the Locator completes the appropriate form as directed in the Event and Near Miss Reporting procedure (SMA-P-0016).

If a utility line is accidentally cut or damaged for all utilities except gas lines, stop work and contact the BOSS Spaceport Integration Center (SIC) at 321-861-5050. For gas line cuts, evacuate the area immediately, call 911 (landline) or 321-867-7911 (mobile) and then contact the BOSS Spaceport Integration Center (SIC) at 321-861-5050.

3.7. KSC Utility Locator Authority

KSC Utility Locators are qualified to operate underground locating equipment and use the latest in equipment to locate underground utilities. If locating equipment cannot locate underground utilities the Locator directs the requester to hand dig.

Locators are authorized to request a suspension of a permit for any of the following reasons:

- Violates assigned category code(s) without an approved waive.
- Begins excavation prior to obtaining an approved, KSC Locator signed permit.
- Does not maintain original KSC Utility Locator orange paint markings.
- Does not begin digging within 21 days of the utility locate.
- Use of machinery within 24" of marks or when hand digging was specified.

4. PERMIT NON-COMPLIANCE AND SUSPENSION

An approved permit may be suspended when the requirements of maintaining an approved permit are not met. All excavation operations must cease immediately upon notification of a suspended permit and cannot resume until the permit status has been reinstated to approved.

4.1. Permit Suspension

4.1.1. Notification of Permit Suspension

When made aware of non-compliance issues pertaining to an approved permit, the Utility Locator Lead shall authorize suspension of the permit and notify the EPR Administrator providing reason for suspension.

The EPR Administrator shall update the permit status to "suspended" and enter the suspension reason statement in the required field.

The EPR Application sends an email to the submitter, excavator, and NASA POC stating the permit is suspended and all digging must cease immediately. Also included in the email is an attached revised "pending" permit pdf and instructions on reinstating the permit.

4.2. Permit Reinstatement

A permit in suspended status is the equivalent of a pending permit and all the same steps necessary to approve the permit are required (see section 2.3). A new 811 locate is required to be called in and a new KSC Utility Locate is required.

Note: The KSC Utility Locators will schedule soonest available which may exceed the typical 3 business day response time.

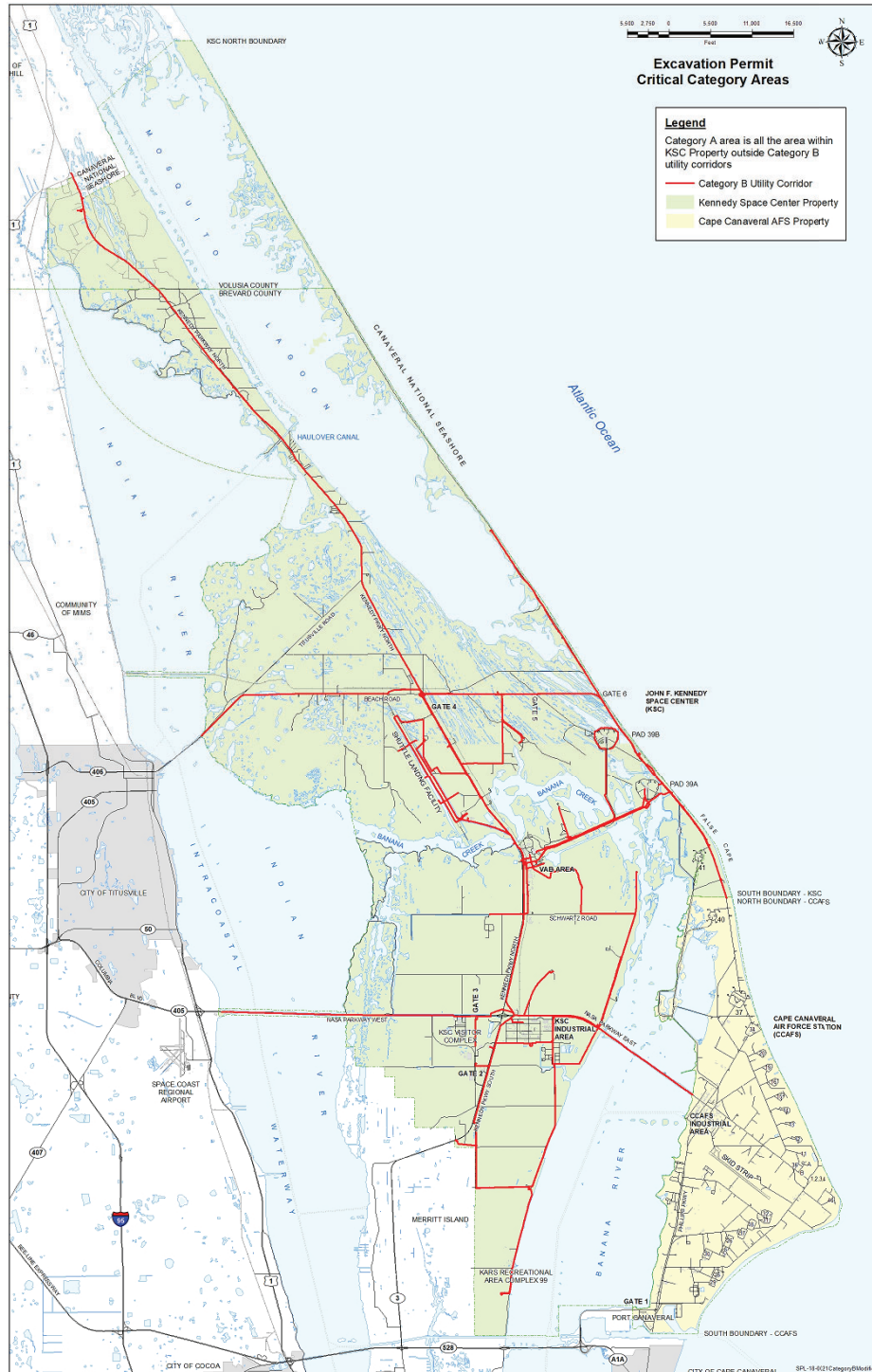
Once a new locate is performed and all requirements are satisfied (see section 2.4), new photos are sent to the EPR Administrator of the approved and signed revised permit.

The EPR Administrator shall update the permit attachments with the new signed permit photo and update the status to "Approved".

The EPR Application shall notify the submitter, excavator, NASA POC of the approved permit.

FIGURE 2: CRITICAL CATEGORY AREAS MAP

This map is provided for general informational purposes only. Actual critical category codes are designated to permits at the discretion and authority of the KSC Utility Locators.



APPENDIX A: ECW FORM KSC 50-1 NS

Excavation Category Waiver		
WAIVER MUST BE SUBMITTED AT LEAST 3 BUSINESS DAYS PRIOR TO REQUESTED DATE.		
Send completed form to the Excavation Permit Administrator KSC-BOSS-DigPermit@mail.nasa.gov Phone: 321-867-2406		
An Excavation Category Waiver can be requested to allow excavation work to continue during an otherwise restricted time based on the category code assigned to the Excavation Permit. An Excavation Category Waiver is only issued to a requestor holding an approved permit. An Excavation Category Waiver is NOT an emergency locate request.		
Requestor Name	Requestor Phone Number	Requestor Email
Excavation Permit (EPR) Number	Contractor/Excavator Company Name	
Project Title/Scope	Location (attach map)	
Requested Waiver Period	Launch/Mission/Operation	
Rationale/Justification Requestor shall provide a thorough explanation of why excavation is being requested during a restricted time, including specific consequences if the waiver is not granted (not to include loss of work days). This should include the intended method of excavation and a detailed description of the proposed mitigations to ensure identified critical utility infrastructure that could impact operational, launch, and/or mission essential activities are not damaged. This should also include verification that utility locates have been completely located and that the markings have been maintained. NOTE: Directional boring is not permitted unless explicitly authorized by this waiver, if approved.		
		Attachments
For Use by the Excavation Permit Administrator. Do not write below this line.		
Waiver Number		
KSC Approval - Required for Dig Permits assigned as Category B		
Signature of NASA Spaceport Integration is required for all waivers on the Kennedy Space Center		Date
Notes / Restrictions or Additional Information		
		Submit by Email

KSC FORM 50-1 NS 06/20 (1.1) PREVIOUS EDITIONS ARE OBSOLETE. Validate prior to use.

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APPENDIX B: CONTACT INFORMATION

Excavation Permit Request (EPR) Administrator:

Phone:	321-867-2406
Email:	KSC-BOSS-DigPermit@mail.nasa.gov
EPR Supervisor	321-867-0847

KSC Utility Locators:

Cell:	Primary: 321-749-4840 Alternate: 321-529-4796
Email:	KSC-Utility-Locators@mail.nasa.gov
Supervisor:	321-861-6556

BOSS Spaceport Integration Center (SIC):

Phone:	321-861-5050
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KEMCON Environmental Office:

Phone:	321-867-8430
Fax:	321-867-3409
24-Hour SWMU Information Line:	321-360-9297

RECORDS

The following records are retained by the organizations listed below:

Record	Responsible Organization
KSC Form 50-1 NS – Excavation Category Waiver	BOSS Master Planning

AFFECTED DIVISIONS/OFFICES

Engineering Services
FSEU
Program Management
Spaceport Integration Center

MANAGEMENT ROLES AND RESPONSIBILITIES

Division Manager: Ensures compliance within the Division to the requirements stated in this procedure.

Branch Manager: Ensures compliance at the branch level to the requirements stated in this procedure.

FUNCTIONAL ROLES AND RESPONSIBILITIES

Cape Canaveral Space Force Station (CCSFS) Duty Office: Provides launch/landing and critical operations schedule to the KSC Spaceport Integration Center.

KEMCON NASA Environmental office or designated contactor alternate: Reviewer for Utility Locate/Excavation Permit Requests; provides special instructions to excavators when necessary.

Excavation Permit Request (EPR) Administrator: Serves as the central point of contact for Utility Locate/Excavation Permit Requests and Excavation Category Waiver Requests. Responsible for maintaining the Excavation Permit Application; coordinating the permit requests and permit communications, and the Excavation Category Waiver (KSC Form 50-1 NS). Processes permits and waivers. See Appendix D for contact information.

KSC Utility Locator: BOSS specially trained survey services personnel who locate and mark (with orange paint) underground utilities using specialized equipment, to assist customers safely excavate without damaging utilities or causing service interruption. Reviews EPR's and assigns category codes. See Appendix D for contact information.

BOSS Spaceport Integration Center (SIC): Coordinates between the EPR Administrator and the NASA Spaceport Integration Office (SIO) for approval/rejection of Excavation Category Waiver requests. Coordinates with requester and Excavation Permit Inspector

for Emergency Locate Requests. Maintains no-dig status in EPR Application. Provides launch/landing schedule to requesters. See Appendix D for contact information.

BOSS Master Planning Office: Serves as the EPR Administrator and reviews Utility Locate/Excavation Permit Requests for site plan requirements.

NASA Spaceport Integration Office (SIO): Signature approval authority for Excavation Category Waivers for category B.

Requester: Requests Utility Locate/Excavation Permits, Excavation Category Waivers, and Emergency Locates. Coordinates with the excavator and KSC Utility Locators to have utilities located and marked. Notifies EPR Administrator when excavation projects are complete.

Solid Waste Management Unit (SWMU): Chemically contaminated groundwater or soil requiring special precautions for soil or water handling, or personal protective equipment (PPE).

REFERENCE DOCUMENTS

The following documents are referenced in this procedure:

Document Number	Title
KSC Form 50-1 NS	Excavation Category Waiver
SMA-P-0016	Event and Near Miss Reporting.
SHP-P-0650	Excavation
KDP-KSC-P-1302	Excavation and Waiver Process
TA134-UG-36	User Guide for the Excavation Permit Request

ACRONYMS

BOSS - Base Operations & Spaceport Services Contract
CCSFS- Cape Canaveral Space Force Station
ECW- Excavation Category Waiver
EPR- Excavation Permit Request
KSC- Kennedy Space Center
NASA-National Aeronautics and Space Administration
PPE- Personal Protective Equipment
SIC - BOSS Spaceport Integration Center
SIO- NASA Spaceport Integration Office
SWMU- Solid Waste Management Unit

DEFINITIONS

Category Code: Codes assigned to a permit that designates the criticality of a location, as well as when digging is permitted due to operational constraints and only assigned by

the KSC Utility Locator. Category codes are areas overlaying the Kennedy Space Center that are defined by the level of damage that could be done to the mission if a utility is cut. A permit with a category code B designation has limits on digging prior to launch, landing, and test operations.

Category Code A: There are no restrictions on excavation due to launch/landing unless directed otherwise by the Spaceport Integration Center (SIC).

Category Code B: Excavation is to cease at least *twelve (12) hours** prior to launch, landing or test. Permit-holders are required to validate dig status daily prior to digging. **no-dig window (Critical Day) is determined by launch/test operation and may extend well beyond 12 hours.*

Critical Day: Any day defined by the Spaceport Integration Center (SIC) in which a mission critical milestone would be missed if a utility outage would occur.

Note: Weekend Critical Day Rule - When launches are scheduled for weekends or Mondays, the previous Friday are considered the L-1 Day and weekend days are to be critical.

Dig/Excavate: Any penetration to subsurface area including, modification to an existing grade or area storm drainage profile by digging, cutting an existing grade, probing, drilling, installing tie down rods, driving ground rods, installing permanent or temporary fence posts, trenching and back-filling.

Thrust Block: A configured piece of concrete located underground for water and sewer utility piping to prevent movement from line pressure fluctuations.

Underground Locate: Support to a study, survey or project by identifying underground utilities without intent to dig/excavate.

Utility Corridor: The utility corridor, for locate purposes only, is defined as 25' each side of the utility line, as defined by the KSC Utility Locator (subject to field verification). Main roads (Kennedy Parkway, NASA Causeway, Saturn Causeway, Phillips Parkway, SLF Tow-way, and the Crawler-way) allow government utilities to be located within a 100' setback from the edge of pavement. Secondary roads allow government utilities to be located within a 50' setback from the edge of pavement.

Excavation Permit Request (EPR): Petition for authorization to excavate/dig on Kennedy Space Center.

Excavation Permit Request (EPR) Web Application: The preferred method for requesting utility locates and excavation permits, accessible at epr.ksc.nasa.gov.

REVISION RECORD

The following revisions have been applied to this document:

Revision Number	Change Description	Date
0	Initial Release Under Engineering Services	09/30/09
1	Minor Revisions; Update Template & Records Table. No Formal Review Required per QPO	07/25/11
2	Minor Revisions; Critical Day definition	10/02/12
3	Critical Category Revisions, Natural Gas Locate Instructions	11/20/15
4	Updated Excavator Requirements	4/05/17
5	Minor revisions to reflect BOSS contract, updated phone numbers and email addresses.	2/10/20
6	Critical Categories Revised to A and B only, all permit stakeholders' roles and responsibilities updated. Excavation Permit Inspector (EPI) revised to KSC Utility Locator. Permit validation requirements added. Permit maximum length reduced to 185 days, permit suspension and reinstatement instructions added.	7/10/21
7	Added Scope and Applicability language, revised map editing procedures.	1/09/24

DOCUMENT APPROVALS

1/22/2024

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1/22/2024

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