DAMAGE ANALYSIS & NEEDS ASSESSMENT

A GUIDE FOR UNIVERSITY RESPONSE TEAMS

WPI | TEC | Tecnológico de Costa Rica

PREPARATIONS FOR SITUATIONS OF EMERGENCY AND DISASTER RELIEF

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Introduction

This damage analysis and needs assessment (DANA) manual consists of qualitative and quantitative identification of the extents, severity and location of the effects of an earthquake or fire on the Instituto Tecnologico de Costa Rica (TEC) Cartago campus.

Disasters have different effects on infrastructure depending on the type of event, the level of exposure to the population, the preparation beforehand, the quality of infrastructure, and the level of response implemented. In the event of an emergency, precise knowledge of the damage and effects is required to determine where help is needed, how it is needed and how much is needed. This DANA includes the resources needed to identify the impact of the disaster, its risk factors, as well as the needs in these technical areas: health, water, sanitation, and utility lines. The purpose of this DANA is to give the TEC community the ability to make informed decisions based on technical information that allows for the diagnosis, prioritization, planning, and resource request for an effective emergency response.

The adverse events covered in this manual are earthquakes and fires. While earthquakes are a natural event, fires can be caused either by human actions, system failures, spills, accidents, or the interaction between natural events and human actions.

The purpose of this manual is to provide individuals with the knowledge and skills necessary to make an initial assessment of affected buildings on campus. This evaluations includes damage to communication lines, health, housing and infrastructure, regardless of prior experience. Additionally, the manual outlines the roles and responsibilities of students, faculty/staff, and emergency response teams during the emergency and the evaluation period.

This structure of this DANA was modeled after an Evaluación de daños y análisis de necesidades de salud en situaciones de desastre by the Organización Panamericana de la Salud (Hernández et al., 2010).

1 MODEL OF ORGANIZATION OF TEC IN DISASTER SITUATIONS

Structure of TEC

Role of TEC during emergencies and disasters

- Responsibilities and actions of the Emergency Preparedness Team in the preparations phase
- Responsibilities and actions of the Emergency Preparedness Team in the response phase
- Responsibilities and actions for faculty/staff
- Responsibilities and actions for students

Structure of TEC

The university sector is made up of a set of departments, individuals, boards and standards that contribute to the improvement of universities, whose actions are aimed at student affairs, strategic planning, curriculum planning and fiscal oversight.

The structure of TEC begins with the Institutional Assembly, the Institutional Council, and the Rector. As the hierarchy goes along, the Vice Rector of each sector within the university has oversight on any committees or departments that are within the scope of their position. Offices such as the Office of Institutional Planning, Legal, the Communications Office, and the Engineering Office have the next highest authority over matters pertaining to their purpose. Below them are the smaller subdivisions such as the Admissions Department, the Scholarship and Financial Office, Human Resources, and the Administration of Departments, which each have one focus within each scope of the university.

For emergency planning and response, TEC has La Unidad de Gestión Ambiental y Seguridad Laboral (GASEL), an Institutional Emergency Commission, Maintenance and Facilities (DAM), and the Engineering Office that work together in the event of an emergency to ensure the safety of everyone on campus.

Role of TEC during emergencies and disasters

The scope and responsibilities of a university in matters related to prevention and response of emergencies and disasters depend on the structure, operation and particular legislation of each university.

At TEC, GASEL is responsible for calling the Director of the Office of Communication and Marketing so that they can activate the Crisis Committee who follows the protocols given in the Communication Protocol Manual. They also collaborate with the Vice Rector of Administration to develop a report for any damages that were reported during and after an emergency.

The Institutional Emergency Commission is made up of the directors of the Maintenance and Administration Department, the Department of General Services, and the Engineering Department, in addition to the Vice Chancellor for Administration. The commission works alongside the Rector to make decisions for protocols for crisis management that have been determined internally. They also have the authority to create an Operations Coordinating Center (CCO) which will work with the Crisis Committee to make decisions related to the emergency as well as external and internal communications.

In the case of a disaster that affects buildings on campus, the Engineering Office and MAD create initial and detailed reports that evaluate buildings to check whether they are safe or not by assessing all of the damages that have been made. The engineering office shall use the person most specialized in assessments of structures or systems for each type of emergency. If there is an earthquake and there was damage to a building, the engineer specializing in earthquake structures or the field closest to it shall do the evaluations.

TEC has an emergency response line which is available Monday-Friday from 7:30 am to 4:30 pm. Students are encouraged to use it in the case of fires, earthquakes, chemical spills, and medical issues. Once a call has been made, it is received by campus security who needs to know what the emergency is, how many people are in danger as and the location of the emergency in order to proceed. Depending on the type of emergency campus security will determine whether external forces are needed.

An institutional brigade or emergency response team, must be established to respond to any kind of emergency present on campus. Brigades are to be organized either for every building or for every type of situation. Nevertheless, a brigade exists as the first responders on campus because external forces are only to be called when the situation can not be handled by on campus officials. The brigade is made up of senior administrators who work together to manage the crisis from beginning to end. These members regularly attend ongoing

training provided by TEC year round to ensure everyone is up to date with current protocols. This team's main concern is to protect human life and secondly to protect the property of TEC's campus.

On this team one member serves as the primary communications contact for TEC's community. They distribute regular updates to campus regarding all reported incidents to minimize rumors and maintain order and confidence in the emergency team. After resuming normal activities, the entire team gathers to debrief and analyze the outcomes and responses taken during the emergency as well as recommendations for improvements in the future (Worcester Polytechnic Institute, n.d.)

In brigades that are created for specific buildings, each team shall be trained for the dangers associated with each building type. In the chemistry building and laboratories, the brigade needs to be routinely trained for chemical spills and chemical fires that can expand quickly and cause a lot of damage in a short amount of time. In a dormitory building, brigades shall be trained to have interpersonal skills to communicate with the residents so that they can evacuate the building.

With brigades created for emergency specific events, they must be trained according to published protocols relating to said emergency. An earthquake specific team shall be trained to look for people under the rubble of buildings, to check for persons trapped in elevators, and assessing structural vulnerabilities. A fire response team must be trained for preventing and fighting fires, managing fires arising from chemical spills, helping persons injured from the fire, and inspecting smoke detectors (Mcleod, 2011).

Responsibilities and actions of the Emergency Preparedness Team in the preparations phase

Responsibilities	**Actions**
Evaluate current conditions of existing infrastructure	• Map out any threats, vulnerabilities and the capacity available for response • Put restrictions of use on anything that has a threat to human safety until it can be resolved
Guarantee that the emergency response teams are in position and function in the event of emergency	• Have persons from each team present at any point in time • Continuously train teams with the protocols established for their specific sectors • Routinely check communication lines so that they can be used in the event of emergency
Create plans and protocols to follow in emergency situations	• Establish response plans for every type of emergency possible on campus • Develop plans with before, during, and after procedures • Create contingency plans in the event that established protocols do not work
Design and implement emergency education programs	• Offer training 1-2 times a year for anyone on campus who is interested in learning emergency protocols • Require all faculty and staff to go through training before they begin working on campus and once a year after that • Train all brigade members for the different levels of emergency and decision making protocols

Responsibilities and actions of the Emergency Preparedness Team in the response phase

Responsibilities	**Actions**
Activate the response teams	● Make a conference call between the institutional emergency committee members ● Decide who needs to be activated depending on the type of emergency present
Make decisions on how to proceed	● Have an initial report of the conditions present and determine how the university is to proceed with response teams ● Once each necessary team is activated, send them into the center of the emergency area to mitigate the situation
Bring medical help to the wounded	● Call the first responders so that they can provide first aid, medical, and quasi-surgical help to those who are injured ● The medical response team must have response plans to implement that take into account their expertise and capacity for response ● This team is to be activated within 24 hours of an emergency so long as they are needed for said emergency
Coordinate and support the needs of response operations	● Organize the supplies needed for each type of emergency present ○ Disaster support elements, medical supplies, storage
Establish rapid recovery methods for the university after an emergency situation	● Reestablish communication lines if they have gone down ● Locate the materials needed for the university to be able to function after an emergency ● Perform the rapid rehabilitation of affected areas

This section contains extracted information from procedures in place from a university from the United States (Worcester Polytechnic Institute) in regards to roles and responsibilities of faculty/staff and students before and after an emergency.

Responsibilities and actions for faculty/staff

Phase	**Responsibilities**	**Actions**
Preparations	Know what to do in the event of an emergency on campus	● Go through emergency training for earthquake protocols and fires on campus ○ Learn primary exit pathways and secondary pathways ○ Know locations of fire alarm pull stations ○ Understand where to go in the event of an evacuation
	Communicate with the proper authorities during an emergency	● Know the institutional emergency phone number ○ Call 911 when necessary
	Take action on any hazards found on campus	● Move obstructions from egress routes ● Make a note and call the appropriate persons for damage of life safety systems ● If you see something, then say something
Response	Guide students and others on campus during an emergency	● Give them evacuation route possibilities ● Pull the fire alarm when a fire is present if it hasn't been pulled already ● Warn those who are not aware of the situation to evacuate the building

Responsibilities and actions for students

Phase	Responsibilities	Actions
Preparations	Know what to do in the event of an emergency on campus	● Go through emergency training for earthquake protocols and fires on campus ○ Learn primary exit pathways and secondary pathways ○ Know locations of fire alarm pull stations ○ Understand where to go in the event of an evacuation
	Participate in all drills	● Evacuate building when alarm sounds ● Listen to the proper authorities ● Understand the steps taken to ensure safety
Response	Help evacuate all occupants of the building in which they are in	● Wake others if you are in a residential area ● Warn occupants who are not aware of the situation ● Do not try to search for others, evacuate as quickly as possible

(WPI Office of Environmental Health and Safety, 2012)

2 | EMERGENCY PROTOCOLS

Earthquake Protocol
Fire Protocol
Dormitory Protocol
Evacuation Plans

This section contains extracted information from procedures in place at TEC as well as compiled information from Universities from the United States (Jacksonville State University and Worcester Polytechnic Institute) in regards to earthquakes and fires.

Earthquake Protocol

Earthquakes occur without warning and have the potential to cause significant damage, injury, loss of property, and loss of life. They can range in intensity from slight tremors to great shocks that can last anywhere from a few seconds to as long as five minutes. During the first few seconds of an earthquake, people typically are not able to move and because of this, TEC community members are encouraged to keep calm and follow the following procedure. After moving to a point of safety, dial the emergency number to inform campus security.

If you are indoors:

- ➔ DROP to the ground, TAKE COVER by getting under a table or another sturdy piece of furniture, and HOLD ON until the shaking stops.
- ➔ If there is not something sturdy to use to take cover, then cover your face and head with your arms in an inside corner of the building.
- ➔ Steer clear from windows, outside doors and walls and anything that could fall due to shaking (lighting fixtures, bookcases, etc.)
- ➔ A doorway can be used for shelter if it is strongly supported.
- ➔ After regaining mobility, evacuate the building as quickly and as safely as possible.

If you are outdoors:

- ➔ Try to move to an open area staying away from any power lines, buildings or any walls that might collapse.
- ➔ If you are driving, pull over to the side of the road, stop, and set the parking brake. Avoid stopping under overhead hazards.

After the earthquake stops:

- ➔ Check around you for injured people. Call for aid and DO NOT move seriously injured people unless they are in immediate danger.
- ➔ Follow instructions from emergency responders.

Fire Protocol

This plan provides a procedure to be followed in the event of a fire to minimize the potential for injury or loss of life. The definition of a fire includes flames, smoke, or odors of burning. The main goal in the event of a fire is to evacuate the building as quickly and as safely as possible. After evacuating, the campus emergency number is to be dialed. The building administrators must assist in an orderly evacuation as well as work with emergency responders to provide the location of the fire and any other relevant information. All campus workers are to be trained in fire prevention techniques, basic first aid, and how to properly use a fire extinguisher. When the alarm is set off people are to listen to the message relayed, identify the type of emergency, and respond accordingly.

Immediate Action:

- ➔ *Person Discovering a fire*
  - ◆ REMAIN CALM and, if possible, RESCUE anyone in immediate danger
  - ◆ ALARM - Pull the nearest fire alarm
  - ◆ CONTAIN the fire; close all doors but do not lock them. Call the emergency number
  - ◆ EXTINGUISH the fire ONLY if you can do so safely and have been trained in the proper use of the equipment
  - ◆ EVACUATE the building through the nearest exit using only stairs and avoiding elevators

- ➔ *For building occupants*
  - ◆ Close, but do not lock the doors around you
  - ◆ EVACUATE the building through the nearest exit using only stairs and avoiding elevators
  - ◆ Avoid areas filled with smoke

- ➔ *For those evacuating the immediate fire area*
  - ◆ BEFORE opening doors, the handle is to be felt, and if hot, DO NOT OPEN
  - ◆ If trapped, keep the door closed and place a cloth at the foot of the door to keep out smoke
  - ◆ Signal for help by hanging an object, such as a jacket or shirt, out of the window to attract attention, open all outside windows and yell for help
  - ◆ If your clothes catch fire remember STOP, DROP & ROLL to smother the flames
  - ◆ In the event that there is fire, and/or smoke in your vicinity, exit the premises by crawling low under the smoke and heat and cover your mouth with a cloth
  - ◆ DO NOT use elevators during a fire
  - ◆ DO NOT attempt to extinguish any fire unless you have been trained to do so

If time permits, before leaving a building, lab equipment should be stabilized, stoves and ovens turned off, and any devices that could potentially cause a dangerous situation should be unplugged as applicable. As you leave the building, warn others and do not go back in the building for any reason until an authorized university official deems it safe to re-enter. Once outside the building, remain at least 150 meters away from the building and await further instructions. Keep the road clear and beware of approaching emergency vehicles. Notify emergency responders of anyone trapped, especially anyone with a physical disability who cannot evacuate by themselves.

(JSU Police Department, 2019; Worcester Polytechnic Institute, n.d.)

Dormitory Protocol

This plan provides a supplementary procedure to be followed in the event of an earthquake or fire to minimize the potential for injury or loss of life in dormitories. The goal in the event of any emergency within a dormitory is for all occupants to evacuate the building as quickly and as safely as possible. After evacuating, the campus emergency number is to be called to notify the authorities. During evacuation it is imperative that the building's brigade be responsible for ensuring all occupants have left the building, if there are not any emergency responders on the scene. The building administrators shall assist in an orderly evacuation as well as work with emergency responders to provide information regarding the location of occupants and important information regarding the effects of the emergency. During either an earthquake or a fire, the top priority is to ensure all occupants are awoken, alerted, and evacuated regardless of the time of day and current situations.

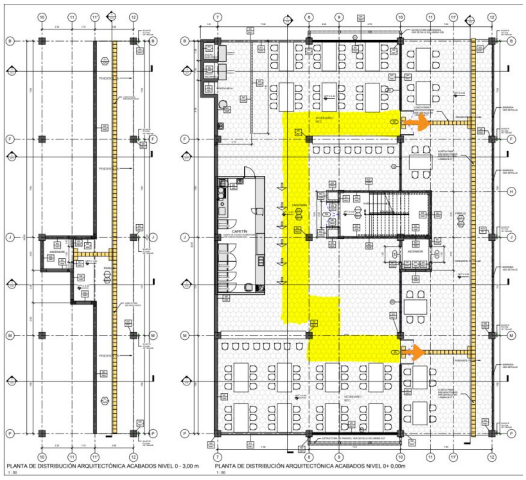
The following areas shall be evaluated, for any dormitory building, in addition to the essential areas stated in Chapter 3:

Area	**Effects of the disaster**	**Aspects to Evaluate**	**Necessities to Identify**
Housing	Affect on housing Increased risk factors Cut/decrease in basic services and provisions	● Provision of shelters or temporary housing in good condition ● Sanitary conditions of shelters or temporary housing	● Temporary accommodation ● Control of environmental risk factors ● Options for water and basic sanitation ● Personnel who attend to shelters or temporary housing
Nutrition	Limited quantity and/or access to food	● Food safety and preparation ● Nutritional balance	● Support in proper handling for food preparation ● Balanced diet supply ● Food supplements for those with dietary restrictions

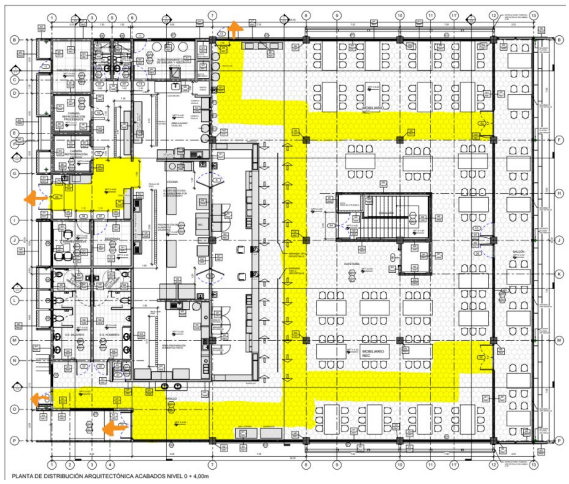
Evacuation Routes

Below are the buildings floor plans with their respective evacuation routes highlighted in yellow and the exits are portrayed by orange arrows.

East Dining Hall (Soda Este/Nuevo comedor)

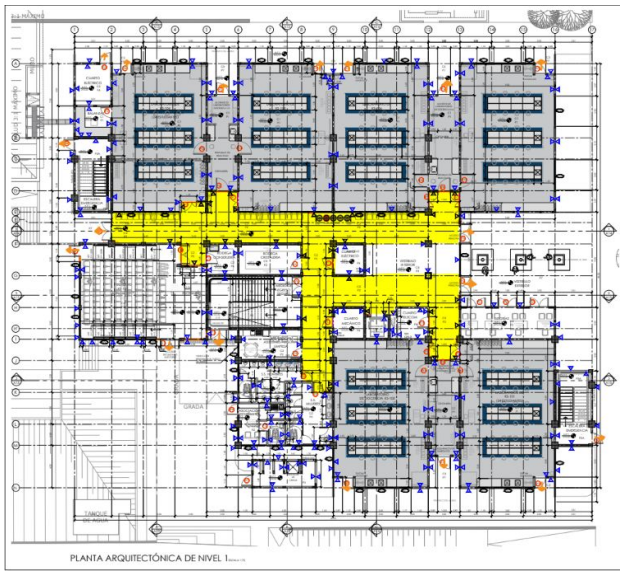


First Floor



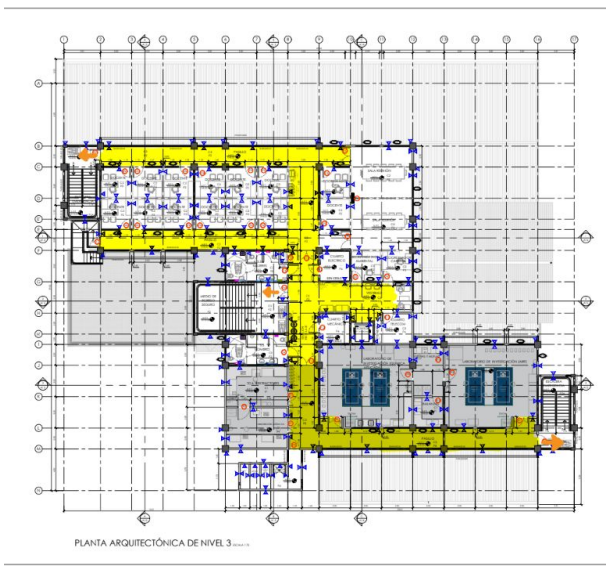
Second Floor

Chemistry Building and Laboratories



First Floor

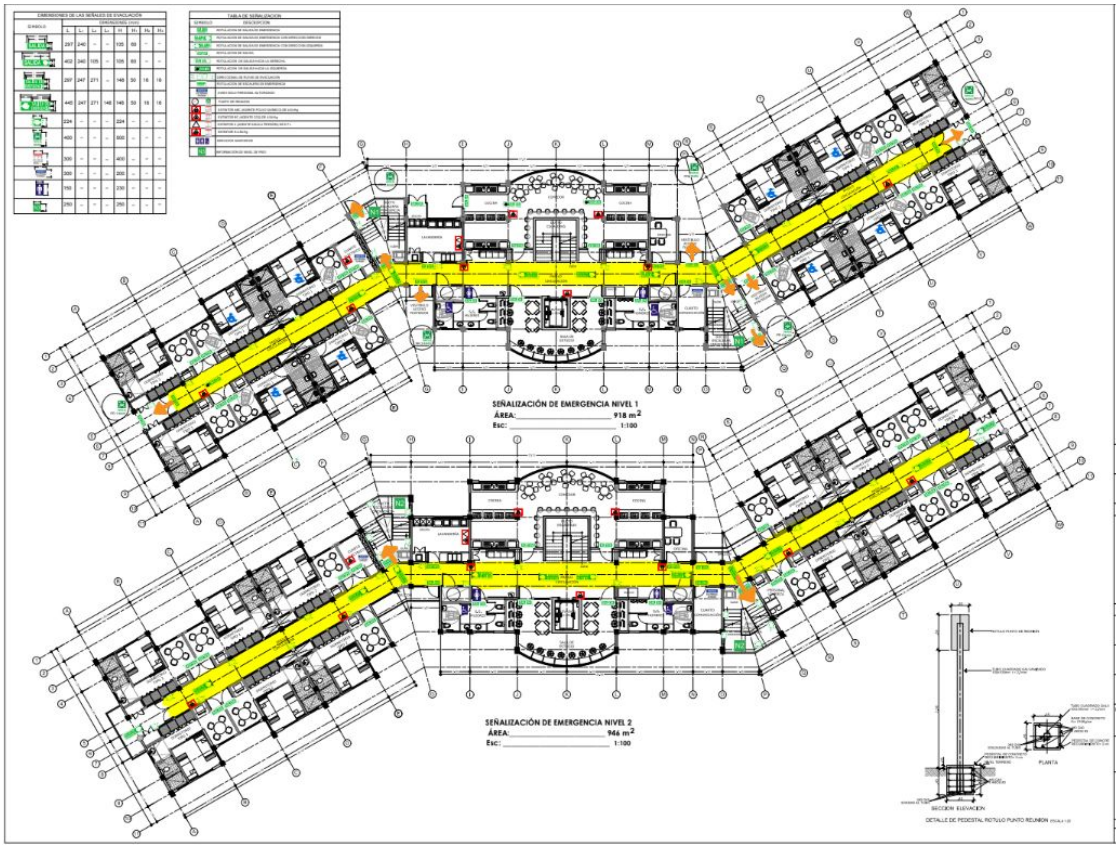
Second Floor



Third Floor

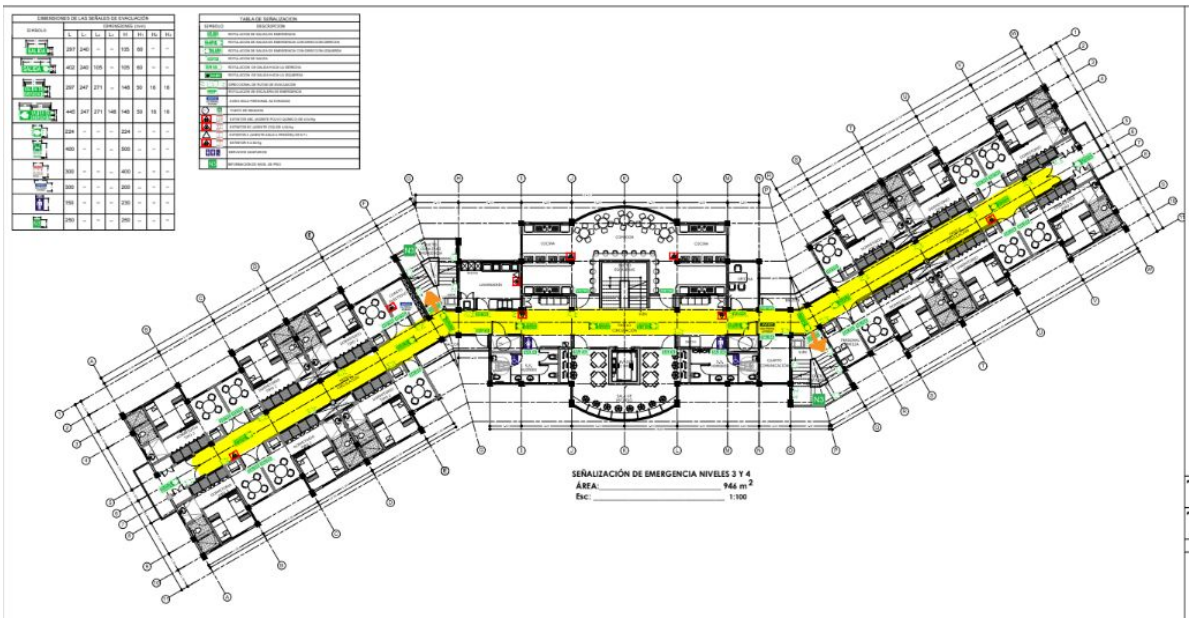
Fourth Floor

Student Dorms (New, J7)



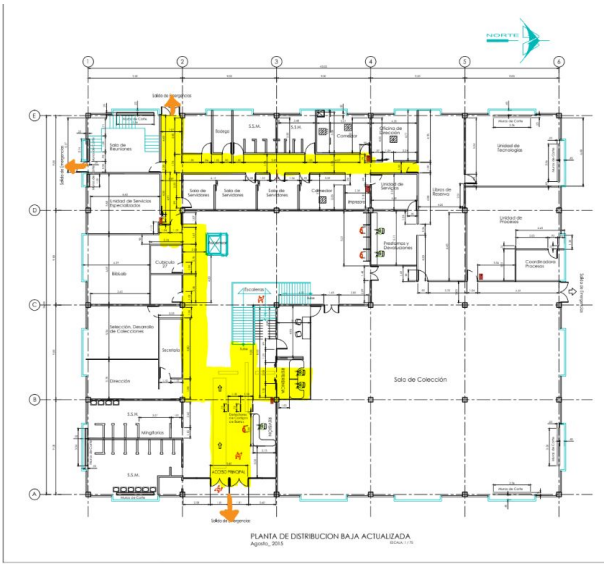
First Floor

Second Floor

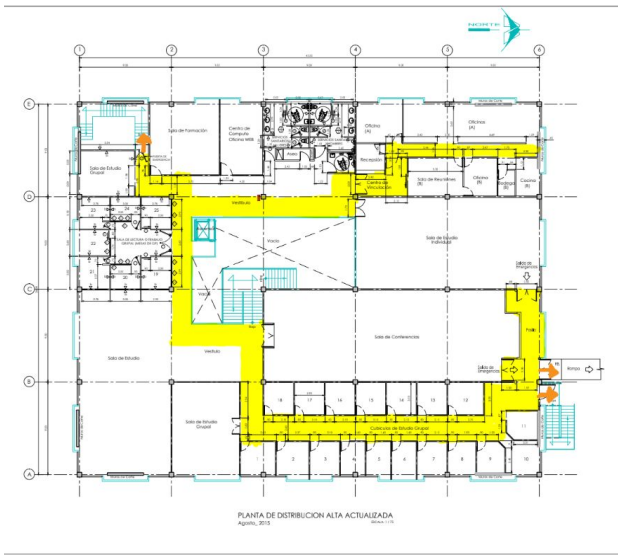


Third and Fourth Floor

José Figueres Ferrer Library



First Floor



Second Floor

3 | EVALUATION OF DAMAGES AND NEEDS AND THE DECISION MAKING PROCESS

Essential Evaluation Areas

Tools for the collection and analysis of data

Initial Assessment

- Earthquake
- Fire

Detailed Assessment

- Earthquake
- Fire

Essential Evaluation Areas

This chapter describes the areas to evaluate and the needs that must be identified in a structure. This model should be taken as a comparative means that other organizations can adopt and format to their needs. It is imperative that this model exists and meets the desired requirements for each institution, in this case TEC, before an emergency occurs to control risk to life safety.

Area	**Effects of the disaster**	**Aspects to Evaluate**	**Necessities to Identify**
Health	Effects on public health: **Direct** - injured, dead, or missing **Indirect** - environmental changes	● Mobility ● Mortality ● General public health conditions	● Search and rescue personnel ● Emergency supplies/support ● Management of cadavers
Water	Interruption, contamination or decrease in the water supply	● Availability of water sources ● Water supply and quality ● Identification of critical points in the water supply system (from collection to distribution)	● Personnel, equipment, and/or supplies for quality control and water treatment ● Recovery/rehabilitation of water systems ● Safe water storage ● Equipment for repairing critical points in the supply systems ● Water purification and health education
Sanitation	Interruption of excreta, wastewater and solid waste disposal systems	● Level of damage to basic services ● Population exposure to unsanitary conditions ● Environmental contamination of soil and water	● Control of environmental risk factors ● Associated disease control ● Options for basic sanitation ● Supplies for the reestablishment of critical points in sewage systems and wastewater disposal ● Sanitation education

Utility Lines	Interruption or damage to power lines, communication lines, and/or gas lines	● Availability of electricity/telephones/alarms/signals ● Level of damage to utility line and identification of critical points ● Risk of inhalation ● Risk of ignition ● Population exposure to uninsulated, severed power lines	● Control of high risk areas ● Personnel and equipment for repairing critical points ● Possibility of building reentry

Tools for the collection and analysis of data

The evaluation leads to an analysis of the damages that occurred, and the following steps are to decide, modify and execute.

Decision

It is imperative to respond in a timely and effective manner in order of priority: search and rescue, basic sanitation, and rapid rehabilitation of the infrastructure.

Modify

Adjust the protocol and design new strategies to be better prepared for future emergencies for the protection of public health.

Execute

The newly designed plans and programs are to be implemented in the case of future emergencies, as well as, the search for information in order to determine the impact and application of new strategies

These steps are to be completed by the building specific brigade in the building that is being evaluated. The following forms for building analysis are to be completed by the building's brigade and given to campus administration or the campus emergency response team once completed. The information from these evaluations shall be formally addressed to all of campus to access the needs and requirements of the affected buildings.

Below are several standardized sets of procedures for evaluating buildings after an earthquake developed by the Applied Technology Council (Applied Technology Council, 2005).

	Tools	**Objective**
Initial Assessment	ATC-20RE	To determine if buildings are safe to occupy and provide a consistent way of deciding if buildings should be placarded as "red, yellow, or green" after an earthquake. To be completed within hours of the event by emergency personnel.
Detailed Assessment	ATC-20DA	A more detailed analysis to determine if buildings are safe for reentry. To be completed within 2 to 4 weeks of the earthquake by a professional to reevaluate the situation and determine the necessary steps. To be completed after the initial assessment
Fixed Equipment Checklist	Checklist	To analyse the status of all fixed equipment and determine the proper course of action.
Placards	Green Yellow Red	The placards are to be placed on the entrance of the building once the assessments have been completed. To signal the status of the building to the public

Below are similar forms to report a fire incident

	Tools	**Objective**
Initial Assessment	IA	To determine if the buildings are safe for reentry after a fire. To be completed immediately after a fire.
Detailed Assessment	DA	A more detailed analysis to determine if buildings are safe for reentry. To be completed within 2 to 4 weeks after the fire by a professional to reevaluate the situation and determine the necessary next steps. To be completed after the initial assessment.

Initial Assessment

Earthquake

In the case of an earthquake, an initial assessment must be done within the first 72 hours of the disaster, giving only a broad knowledge of the effects of the incident without necessarily giving exact figures. However, it is needed to determine the type of assistance needed and to go over the impact of the disaster on the people and their health, as well as their ability to cope with damages of water, energy, sewage and communication lines. It must only cover priorities for action such as collapses, leaning of any buildings, structural damages or ground cracks and slope movement. The assessment states whether the building was inspected or not, and if it is of restricted use or deemed unsafe using green yellow and red placards respectively. Lastly, it is essential to determine if any further action is needed to determine if there are any barricades needed and the type of additional detailed evaluation needed.

Fire

In the case of a fire, the initial assessment is to be done as soon as possible, and it must address the location of the fire and its level of containment, as well as who it was contained by. The initial assessment must also include the humanitarian aspects, such as whether people are still in danger and need to be rescued. Prioritizing that information is essential in determining whether additional help is needed in terms such as extinguishing the fire or getting additional medical attention. The assessment is to contain a brief evaluation of some of the damages to the building to note if there were any wall collapses, essential damages or falling hazards. If the fire was extinguished before completing this assessment, it is important to determine if it is safe for reentry. Finally, the form has a posting section which must be filled out to identify the building as inspected, restricted use or unsafe for reentry.

Detailed Assessment

Earthquake

The detailed assessment is to be after the initial assessment of the event is completed. It is much more detailed than the initial assessment and goes much more in depth by covering recovery option plans for the area damaged by the disaster along with financial and material recovery requirements for each of the plans. The evaluation goes into the details of the structural hazards such as: foundations, roofs, floors, walls as well as non structural hazards such as: parapets, cladding, elevators and stairs and lastly geotechnical hazards like slope failures and ground movements. The assessment includes estimates on the values that were lost through the damages and in depth details about the damages to the social structures. The detailed evaluation also brings in links between stages of relief from the damages to the stages of development in the area having a vision for the future growth. With this comes a section in which the postings of the placards are updated since they were done in the initial assessment. However, the area might still be in need of relief assistance and as result might still be in need of asking for exterior assistance.

Fire

The detailed assessment for a fire must be done within a few days after the fire, and first and foremost must indicate the origin of the fire. The detailed assessment states the damages that occurred along with a financial evaluation of how much it would cost to replace the damages. The areas of study that need to be focused on are any structural damages as well as damages to any of the utility and power lines. Following the previous two sections is a section that is used to determine if an engineer is needed for a more in depth evaluation, as well as the type of engineer needed. The report must also go over whether the sprinklers functioned or not. It has to be stated whether the fire extinguishers were used, and if so, which ones were used, so that they can be checked. The detailed assessment also has a posting section which is used to update the posting that was made in the initial assessment as the condition of the building might have become worse, or might have been evaluated to be worse than it actually was. Finally the report must cover the final number of casualties and injuries that resulted from the fire.

4 | HOW TO IMPLEMENT THE DANA BEFORE A DISASTER

Forming and utilizing a DANA Team
Roles and Responsibilities of the Emergency Preparedness Team
Informants and Response Resources

Forming and utilizing a DANA Team

The creation of a DANA team is essential in order to have the required personnel available and educated in the event of an emergency. Within this team, there needs to be people who have the capacity for teamwork, and personnel management. To lead this group an individual with initiative and consistency in their effects, and knowledge of disaster work is necessary in order to ensure the efficiency and effectiveness of their duties. This team will be responsible for the success of the campus' evaluation after an emergency event.

The individuals within this team shall consist of people with relevant knowledge of emergency situations. When forming the group a coordinator must strive for a group with technicians and professionals, with the greatest interdisciplinary knowledge. These people shall fulfill the following suggested characteristics:

- ➔ To know the location (campus)
- ➔ Who has experience with disaster situations
- ➔ Who has experience with the subject being evaluated
- ➔ Who is able to provide the time and resources to the position
- ➔ Have support and structure

This team shall be the first line of response to all incidents on campus. The group shall consist of senior members from GASEL, campus police, MAD, Human Resources, Residential Services, Marketing and Communications, the Vice Rector of Students Office, and Academic Affairs. Whenever an emergency occurs, this team will be mobilized to evaluate the situation and place into effect the necessary people for response. For every type of emergency, there will be a written guideline and procedure to follow for each member of the team so that everyone knows what to do in the event of an emergency.

Each member of the team will be given a specific role in the overarching goal of said team. There are five overall management groups in the Emergency Preparedness team. A Multiagency Coordination Group (MAC) will be made up of elected officials and senior leaders. The Emergency Operations Center (EOC) Director will oversee resource and planning support for on scene personnel. The Department Emergency Operations Center (DOC) Manager will work with the EOC and manage and coordinate activities specific to a single area. The Public Information Officer (PIO) will ensure that the public receives timely, consistent, and accurate information about an emergency on campus. The last member of the team will be the Incident Commander (IC) who will direct on-scene personnel who are responsible for saving lives, protecting property and the environment, and stabilizing the situation. Department heads can also become a part of the team, but they will be there more as support for the core response group. (Federal Emergency Management Agency, 2018a)

Roles and Responsibilities of the Emergency Preparedness Team

This chapter describes the roles and responsibilities of the emergency preparedness team during any type of situation. This model provides general guidelines to follow on campus when an emergency happens. It is imperative that this model exists and meets the desired requirements for each institution, in this case TEC, before an emergency occurs, to minimize the effects on human safety and campus life.

Role	Responsibilities
Senior Executive	**Essential Responsibilities** ● Activate specific legal authorities such as disaster declarations, evacuations, and other protective actions ● Coordinate with the PIO to keep the public informed of the situation ● Request assistance from state agencies through the EOC and Emergency Management Director ● Resolve resource allocation issues ● Participate in a MAC group if required ● Ensure that the Emergency Manager is informed and that the IC functions ● Initiate the Continuity of Operations (COOP) plan ● Coordinate with all IC's if multiple on-scene emergencies occur **Decision Making** ● Determine when/whether to evacuate the campus ● Determine when/whether to declare a disaster state ● Set priorities in coordination with other senior officials ● Take steps to make sure that the university follows federal guidelines
MAC Group	● Support resource allocation and prioritization ● Meets according to the established incident meeting schedule at a predetermined location ● Enable decision-making among elected and appointed officials
EOC	● Gather and analyze incident information ● Provide situational assessments during an emergency ● Receives all questions and concerns during an emergency ● Support resource needs and requests
Emergency Manager	● Set policies and establish the missions during an emergency ● Shape the overall direction of response ● Authorize trained personnel to accomplish emergency objectives (Federal Emergency Management Agency, 2018b)

Informants and Response

To implement this plan and form a team to carry out the procedures is not enough in order to fully execute the plan and all of its benefits. The most important aspect of the implementation is the education of the people across campus about the procedure, who to report to, and the available locations for safety.

In the event of an emergency, like an earthquake or fire, the occupants of the various buildings on the TEC campus but be informed about the procedures in places and the steps they need to take in order to ensure their safety and the safety of those around them. The following topics shall be explained to occupants of the TEC campus in order to properly educate them on the steps required in an emergency situation:

- ➔ What is the benefit of the DANA on campus?
- ➔ What instruments are available for the occupant's use?
- ➔ What information shall be collected by the occupants? This serves to provide information to the response team in order to provide the initial assessment of buildings and campus.
- ➔ Who they shall contact and possible sources of information.
- ➔ Current use of the spaces of observation and possible concerns.

Resources

Within the buildings on campus, resources need to be available to the occupants in order to maintain safety and manage risks after an emergency. The supplies that are commonly given are basic emergency supplies like a blanket, food and water, a flashlight, and first aid kit. To properly implement the DANA, as described in the previous sections, the following materials need to be supplied within each building: a two-way communication device, a clipboard with evaluation forms, tested and functioning writing instruments, fire extinguishers and the basic supplies described above. These supplies shall be stocked and checked regularly to ensure the readiness and functionality in the event of an emergency.

The availability of these resources across the campus is essential for the management of an emergency. By providing the resources in designated locations, occupants will know where to find the supplies necessary to handle the emergency at hand. In all of the buildings on campus, supplies to record the conditions of the buildings and occupants (the evaluation forms and writing utensils, and two-way communication devices) must be placed in multiple locations throughout the building and be easily identifiable through signage. These locations have to be on every floor in the area of refuge so that it can be accessible to anyone during an emergency. Items like the blanket, food, and water, are those that can be in the dormitories where people live and require these resources rather than academic buildings where the common course of action is evacuation and the occupants have elsewhere to go. Other emergency supplies (fire extinguishers, first-aid kit, flashlight, etc.) must be readily available in at least one location of each building to help during an emergency.

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