Incident Symbology Framework, Guideline, and Operational Implementation Guidance
Version 2.0

I.   Guideline Background

Every day, police, fire fighters, 9-11 dispatchers, emergency managers, and other emergency responders use maps to plan for, mitigate against, respond to, and recover from real world incidents. It is imperative that these maps are quickly and accurately understood so that they can be used to make mission critical decisions in high stress environments. Ultimately, they aid in saving lives and changing the outcomes for survivors. Key to making maps effective decision support tools is the use of consistent symbols that are clearly understood by all to communicate critical incident information.

While national and international standards fulfill many symbol needs, there still exist gaps in incident symbols and the supporting frameworks. The National Alliance for Public Safety GIS (NAPSG) Foundation has been working with the U.S. Department of Homeland Security (DHS) to bridge these gaps by developing a standardized incident symbology framework, guideline, and symbol set for use at the incident level on maps, in geographic information systems (GIS), and other decision support tools.

NAPSG Foundation's incident symbology efforts are focused on developing and promulgating the use of a standardized national guideline that is voluntary and can be readily adopted and used since it was created by and for emergency responders. The incident symbology framework, guideline, and symbol set are intended to aid in the process of standardizing symbols used on map products during incident planning and operations. **This document is the Incident Symbology Framework and Guideline for use in developing and applying map symbols to <u>consistently communicate incident information</u>**.

II.　Standardized Color Ramp

Color Ramp Overview	A color ramp can be applied to any of the emergency hazard symbols as a secondary modifier to indicate the 1) severity of an event, or 2) risk level predicted. Color ramping should be applied consistently using the standardized RGB or HEX values outlined below. The color ramp is from no severity or risk (clear), low severity or risk (green), low to medium severity or risk (blue), medium severity (yellow), medium to high severity or risk (orange), high severity or risk (red), extreme severity or risk (purple or near black). This color ramp can be applied to any black and white symbol that has an associated standard for severity, risk, and operational status. Note: Color is a secondary treatment that is not required and may not be consumable to all people. This color ramp supports standardization in the application of color for incident symbols where it is already being used as a modifier.

Description/Examples for Use	Color	RGB	HEX
No severity or risk; Normal Operations/Status	White	255,255,255	#FFFFFF
Low severity or risk; No Damage; Open Status	Green	0,172,58	#00AC3A
Low to medium severity or risk; Alert/Action Notice	Blue	35,122,207	#237ACF
Medium severity or risk; Moderate damage	Yellow	255,215,24	#FFD718
Medium to High severity or risk; Watch Notice;	Orange	255,137,24	#FF8918
High severity or risk; Warning Notice; Severe Damage; Closed Status	Red	255,24,30	#FF181E
Extreme severity or risk; Highest category possible.	Purple	237,26,252	#ED1AFC

Color Ramp Applied	Symbol Examples	Polygon/Area Example

III.   Emergency Hazard Symbols

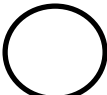| Reserved Shape	The DIAMOND is the reserved shape for any emergency hazard symbol. The location of any hazard that may cause harm, create social disturbance, and/or inhibit access to responders and the public. Hazards should be mitigated, observed, and/or avoided. Symbols are variable other than shape. The use of text within a symbol is avoided unless it is part of a widely used standard symbol(s) that is easily understood and interpreted.		
Sub-Category	**Description**	**Symbol Examples**	
Access Hazards	Features that indicate restricted or limited access of people or vehicles.	Blocked Access	Narrow Access	Restricted Weight Access
Natural Hazards	Indicates hazards from events that naturally occur.	Earthquake	Fire	Flood
Human-Caused Threats and Hazards	Indicates threats, hazards, and events that are human-caused, either intentional or unintentional.	Radioactive	Child Abduction	
Hazardous Materials	Standard NFPA 704 and Department of Transportation HazMat Placarding.	Acids/Corrosives	NFPA 704	Explosives
Other Specific Hazards	Other symbols used for indicating a local specific hazard.	Fall Hazard	Building Collapse	Fire Load

IV.   Public Alerts and Warnings
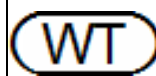
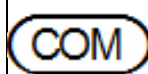| Reserved Shape	The TRIANGLE is the reserved shape for any public alert and warning symbol.
	Public alert and warning symbols have three primary uses:
	1) Integrated into wireless emergency alert content to provide a complimentary visual of the evert type and/or action, as a means to optimize message content for people with disabilities and limited English proficiency
	2) Use in public safety situational awareness applications to track where and when public alerts and warnings were issue during an event
	3) Use in public information maps where public alerts and warnings were issued.
	Notes:
	• Most public alert and warning symbols apply the icon used in the emergency hazard symbol to achieve consistency in communicating incident information.
	• IPAWS live feed is publically available for use in public safety mapping applications at: https://gii.dhs.gov/ags/rest/services/GEP/IPAWS/MapServer/0

Modifiers	The color of the triangle can be modified to indicate types of public alerts. Below is the color schematic for each alert type. The color values for each correspond to the RGB and HEX values above in section 3.
	Statements Watches Warnings

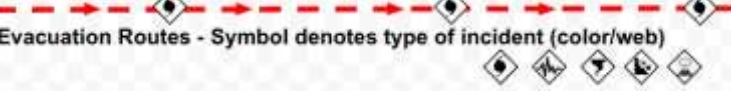| Sub-Category	Description	Symbol Examples
IPAWS Event Code Alerts & Warnings	Symbols for specific IPAWS event codes for alerts and warnings.	Tornado Watch Evacuation Immediate
Non-IPAWS Alert and Warnings	Symbols for alerts and warnings that do not have a specific corresponding IPAWS event codes and may be able to include tailored center icons.	Residential Fire Wildland Fire

V.   Infrastructure

| Infrastructure | Represents critical fixed features, fixed points of interest, critical infrastructure. Reserved shape is a rectangle with rounded corners. | Examples:
• Hospital
• Police Stations
• Bridge
• Rail Station
• Pharmacies | Hospital   Bridge |

VI.   Incident Symbols

The incident symbols typically consist of a clear or white background (to support being hand drawn when needed), with black outer shapes reserved for each sub-category.

Sub-Category and Reserved Shape	Description	Example Uses	Symbols Examples
Fixed Incident Resources and Command Features	Location of relatively fixed incident resources and command features that support the management of the incident.	• Incident Management Landmarks • Assembly points for responders	Camp Base Airstrip
Incident Command System (ICS)	Location of features that support the Incident Command System. These symbols are best used in dynamic maps where status information is routinely updated, but can be used in semi-static maps.	• Task Forces and Strike Teams • Groups and Divisions • Sections • Branches	FIRE Fire Branch SAR SAR Group I C Incident Commander
Resource Symbols	Symbols representing the semi-static to active location of a deployable resource, unit, or resource package.	• Ambulances • HazMat Entry Team • Emergency Medical Task Force • Incident Management Team • Urban Search and Rescue Task Force	WT Water Tender COM Communications Unit
Exposures	The side of a structure or building that is visibly impacted in an incident. Should be used to specify the precise location of an incident or impacted area.	Letters should be used to identify the visibly impacted area of a structure during an incident. "A", "B", "C", "D"	No specific examples. Use simple and clear text for indicating exposures.

Modifiers and Exceptions

ICP	If a symbol is available in an existing standard, use it. You can modify with clear text to ease understanding.	Icons can be used in the background to detail specific type of feature.	Arrows can be used to indicate assembly points related to the specific symbol.

VII. Line Features

Line Shape	Description	Examples
Solid Line	A solid line indicates that the feature is active.	Full Road Closure (color/web) Full Road Closure (b/w)
Dashed Line	A dashed line indicates that the feature is planned or temporary.	Emergency Routes (Ingress/Egress) (color/web)
Icon on Line	An icon on the line indicates the type of line feature it is.	Evacuation Routes - Symbol denotes type of incident (color/web)
Arrow on Line	The arrow on the line indicates the direction the action should proceed in.	

VIII.   Pre-Incident Symbols

Pre-incident symbols are used in fire and law enforcement pre-incident planning or pre-planning in or around a specific building, facility, or other structure. Pre-incident symbols have a standardized background color to differentiate from incident symbols.

Designated Shape and Color	Sub-Category	Description	Examples		
Green	Access Point	Access point and ways to access a building or incident area	Attic Access	Knox or Key Box	Stairway
Red	Assessment Features	Alarms and other	Control Panel with Burglar Alarm Modifier	Fire Alarm Reset Panel	Public Alert alarm symbol with red triangle with blue circle
Blue	Utility Shutoffs	Location for utility shutoffs.	Fuel Shutoff	Gas Shutoff	Compressed Natural Gas Shutoff.
Gray for detector Red for fire suppression	Detection & Extinguishing Equipment	Detectors and building extinguishment systems	Dry Chemical	Duct Detector	CO2 System
Purple	Ventilation	Place to manage the exhaust of gases	Smoke Vent	HVAC System	Vent Opening
Red	Water Flow Control Valves and Water Sources	Water flow devices	Dry Chemical Reel station with NFPA Icon	Post Indicator Valve with NFPA Icon	Fire Department Connection with NFPA Icon
Gray	Equipment Rooms	Location of features	Child Care (Standard icon)	Electrical Room	Fire Pump