Senate Transportation Committee

Department of Transportation & Public Facilities

Typhoon Halong

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February 17, 2026

KEEP ALASKA MOVING

Event Overview & System Exposure

Scope of Impact

- 50+ communities impacted by two surge events
- ~600+ miles of coastline exposed to surge
- 60–80% of pedestrian access networks damaged in hardest-hit communities
- 6–9 runways overtopped by surge
- 4+ airfield lighting systems damaged
- Power line pole foundations undermined in surge zones
- More than 12 miles of boardroad damage in 13 communities


Kipnuk debris: 10-14-2025

Timeline of Response

Oct. 6 – DOT&PF ICS* activated, State EOC* coordination begins, pre-deployment of staff and equipment

Oct. 7 – First storm hits Bering Sea/Norton Sound communities

Oct. 10 – Governor Dunleavy issues State Disaster Declaration

Oct. 11 – Typhoon makes landfall along West Coast

Oct. 12 – Evacuations begin in Yukon-Kuskokwim Delta

Oct. 13 – 40+ personnel deployed for damage assessments

Oct. 15 – Emergency contracting authorities executed for debris removal and access restoration

Oct. 18 – First large-scale material staging in Bethel

Oct. 22 – Presidential Disaster Declaration issued

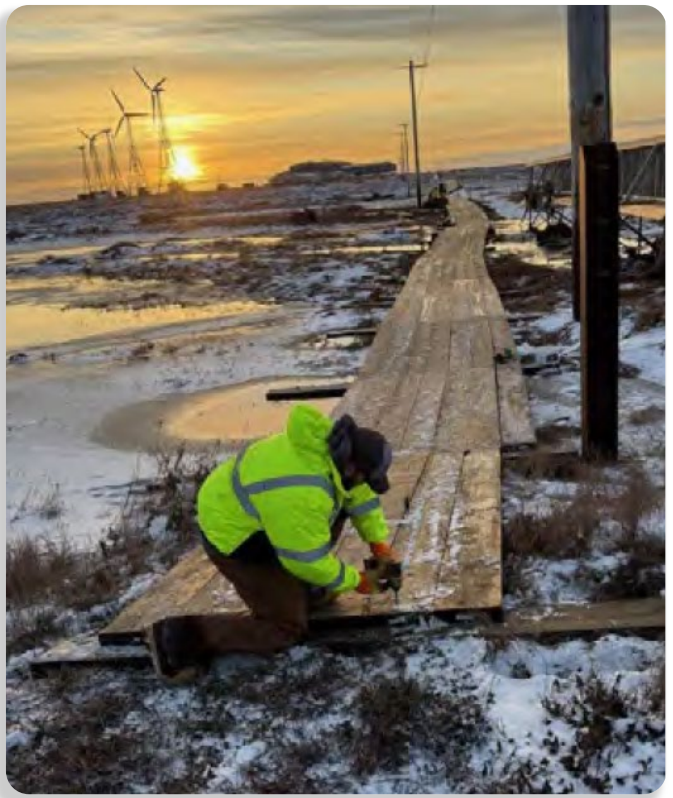
Oct. 24 – Materials in transit to YK Delta

Early Nov. – Winterization measures implemented (insulation, temporary foundations, heating protection)

Mid-Nov. – Transition from life-safety to emergency repair phase

Dec. – Emergency Temporary Repairs Ongoing

Jan. – Pile driving operations begin



Federal Declarations:
~60 days = typical
16 days = Halong

*Incident Command System (ICS) and Emergency Operations Center (EOC)

Phase 1 — Field Assessment & Situational Awareness

50+ Communities impacted by two typhoon surge storms

300+ Flight Missions

20 Starlink Panels

98,324 Images Collected

540 Full Motion Videos

34 Communities Mapped

5TB Raw Data Collected

12 Go Pros 360

1,300 Homes Assessed

40 Public Facilities Assessed

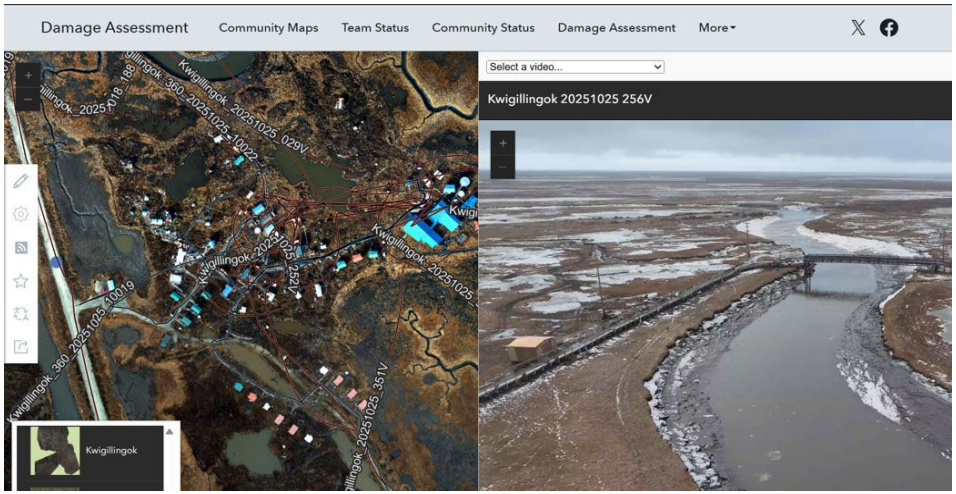
Over 40 DOT&PF Staff completed assessments for 34 communities in 3 days

DOT&PF's drone team delivers rapid, agile response during crises–improving safety by deploying remote-operated drones that provide real-time, thermal imaging. This approach accelerates assessments, reduces costs compared to traditional aircraft, and expands equitable access to cutting-edge emergency response tools.

Digital Command & Control; DOT&PF ICS

Drone & AI Integration

- Orthomosaics
- Before/After imagery comparison
- Synchronized aerial and ground-based imagery
- AI-assisted home numbering and home damage rating validation



*Incident Command System (ICS)

Common Operating Picture

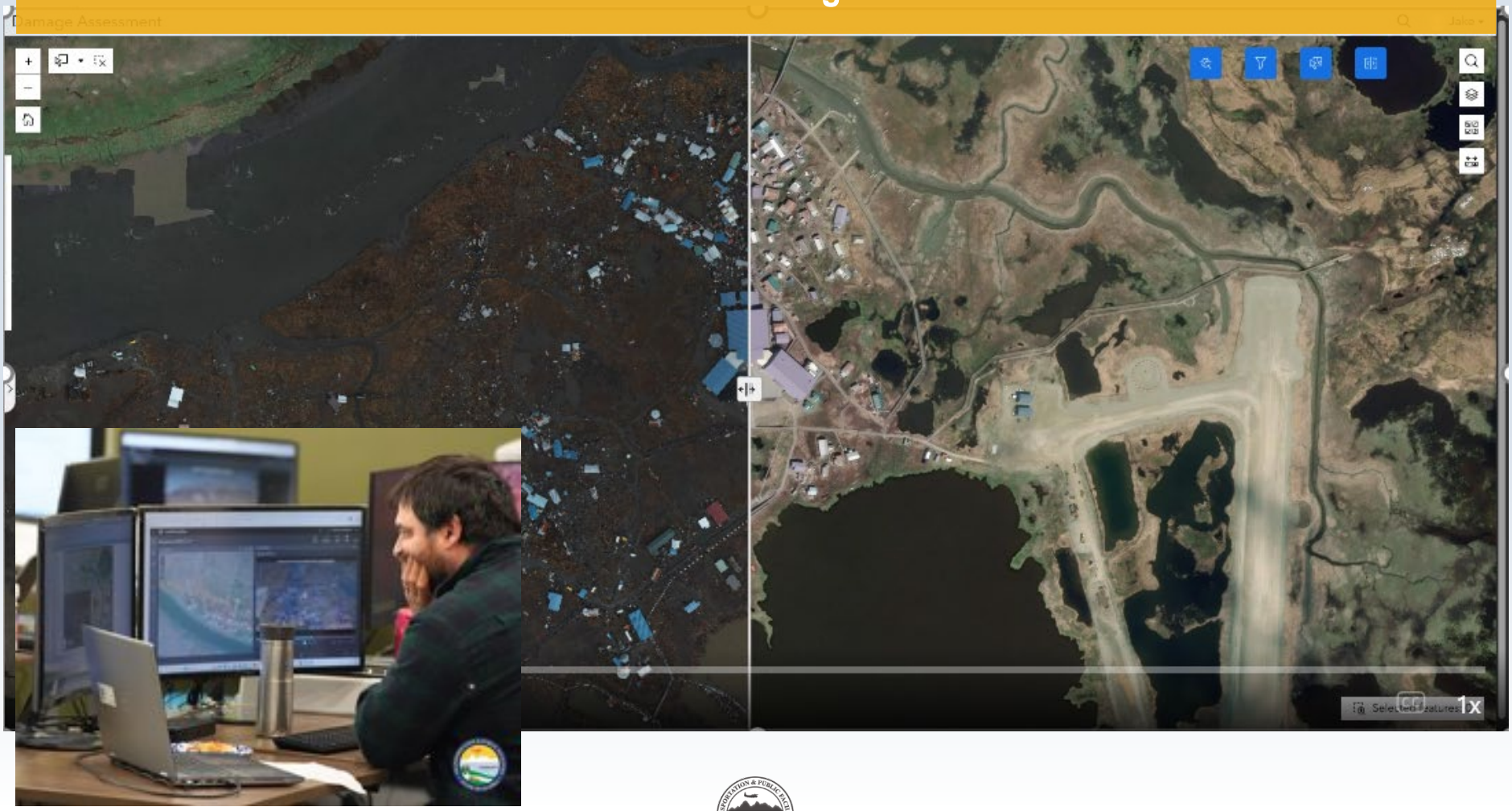
- Applications deployed in real time
- Real time understanding of conditions
- Reduction in duplicated efforts

This resulted in:

- Faster federal disaster declaration
- Detailed damage assessments that drove emergency repair plans
- FEMA accepting electronic records due to evacuation conditions
- FEMA accepting damage ratings completed by Alaskans

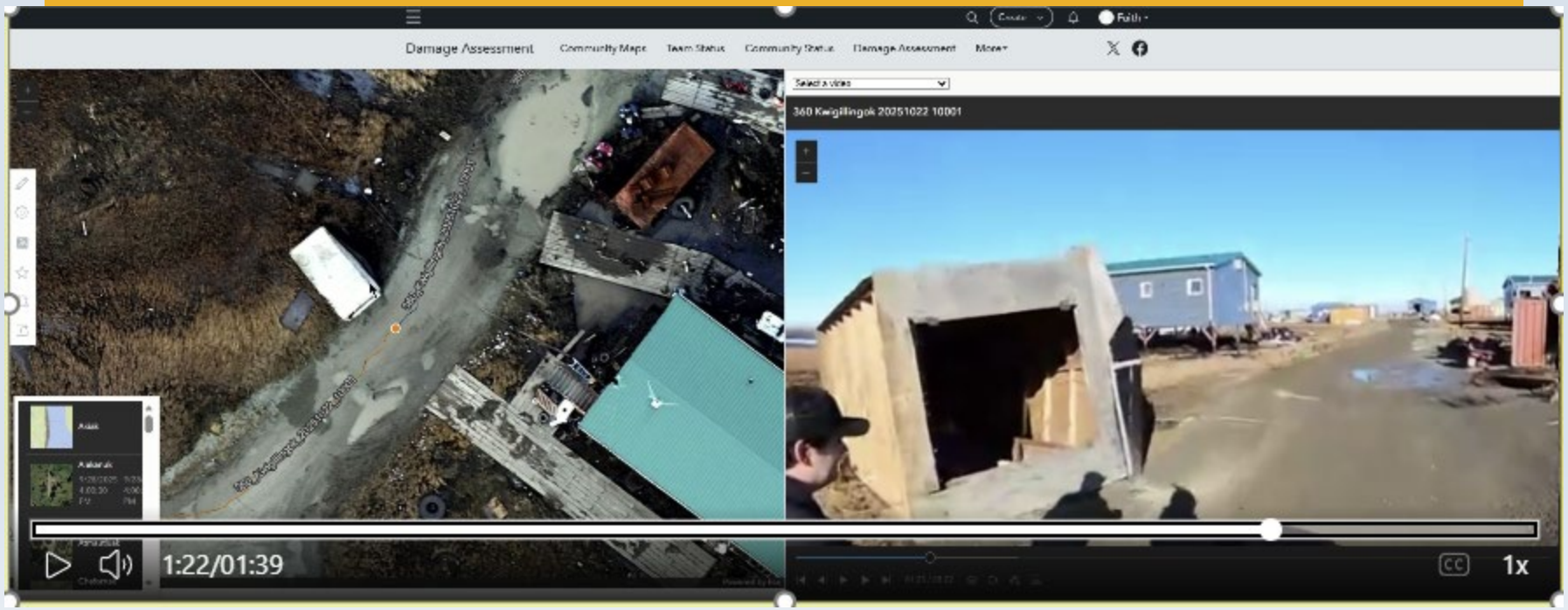
Before and After Imagery Comparison

Before/after imagery comparison to detect missing, moved, or damaged features not obvious in a single dataset.



Imagery From Above vs Footage on the Ground

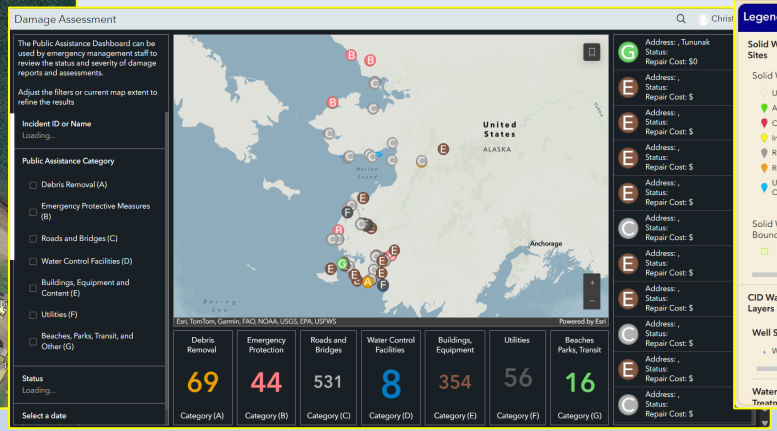
Buildings and roofs viewed from above may look intact but when viewed from the side the level of damage becomes apparent.



Common Operating Picture

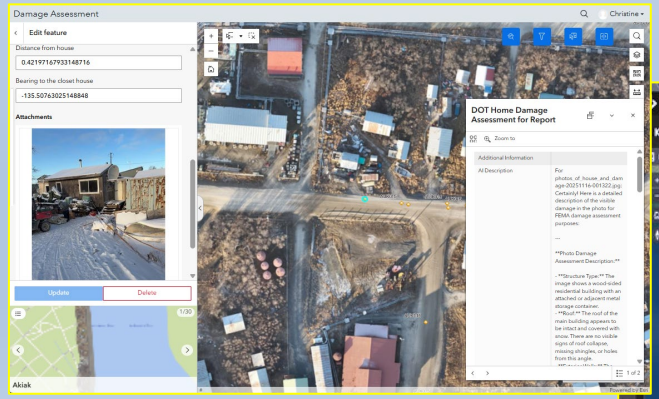
AI Assigned Addressing

Real Time Damage Dashboard

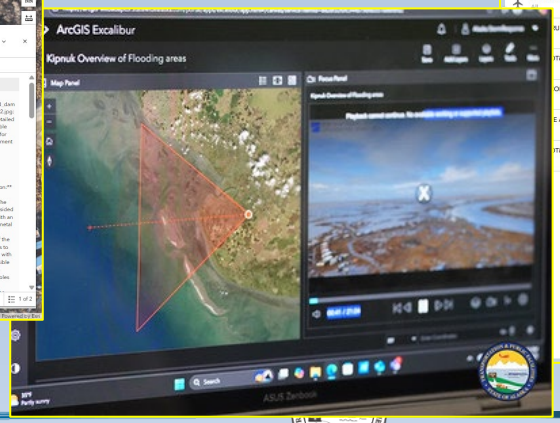


Community Infrastructure Maps

Workspace to Estimate Repairs



Orientated Imagery



Community Infrastructure Status

Phase 2 — Immediate Stabilization
DOT&PF Response

250+ DOT&PF Employees Statewide

15+ Contractors Rebuilding Infrastructure

15+ Transporters Delivering Critical Supplies

55+ Suppliers

100+ Local Hires Rebuilding Communities

8,000,000+lbs Materials Delivered to Date

Working through the **Statewide Emergency Operations Center**, in collaboration with state agencies, nonprofit and private partners, the Governor's Office, and federal agencies to restore transportation systems and assist affected communities.

Logistics and Cargo Operations

Method of Transport from Bethel	Average Cost per Pound per Transport Hour from Bethel	Pounds Hauled to Date *(Partial List)*
Small Fixed Wing Airplanes (Caravan, Navajo)	$0.86	>965,000
Pisten Bully	$1.25	>850,000
Heavy Lift Helicopter (Chinook, Blackhawk)	$1.84	830,000
Snowmachines	$0.09	>630,000
Light Duty Helicopter (Astar, B212, Robinson 66)	$4.35	315,000
Large Fixed Wing Airplanes (Casa, DC-3)	$1.58	181,000
Ice Road Pickup Trucks	$0.03	>75,000

Type of Material	**Pounds Hauled to Date** (*Partial List*)
Food and Water	>190,000
Plywood	>500,000
Lumber	>5,000,000
Insulation	>130,000
Piles	>475,000
Fuel	>60,000

Phase 3 — Emergency Repairs
DOT&PF Response

$63M+ Expended to Date

9 Active Prime Contractors

500+ Helical Piles Driven

50+ Homes Moved Back into Place

170+ Homes Substantially Complete

160+ Homes in Progress

14 Communities with Emergency Repairs Mostly Complete

Repairs Completed: Bethel, Deering, Emmonak, Hooper Bay, Kaltag, Kotzebue, Nome, Nunam Iqua, Quinhagak, Scammon Bay, Shishmaref, St. Mary's, Teller, Toksook Bay

Repairs Underway: Akiak, Atmautluak, Chefornak, Kasigluk, Kipnuk, Kongiganak, Kwigillingok, Napakiak, Napaskiak, Nightmute, Noatak, Nunapitchuk, Tununak, and Tuntutuliak

Housing Stabilization & Relocation

- >50 homes relocated
- 15 moved >1 mile
- Longest move: 3.5 miles
- >1,000 homes in need of repair

Typical Foundation Bracing (Kwigillinok)

Typical Insulation Replacement (Kongiginak)

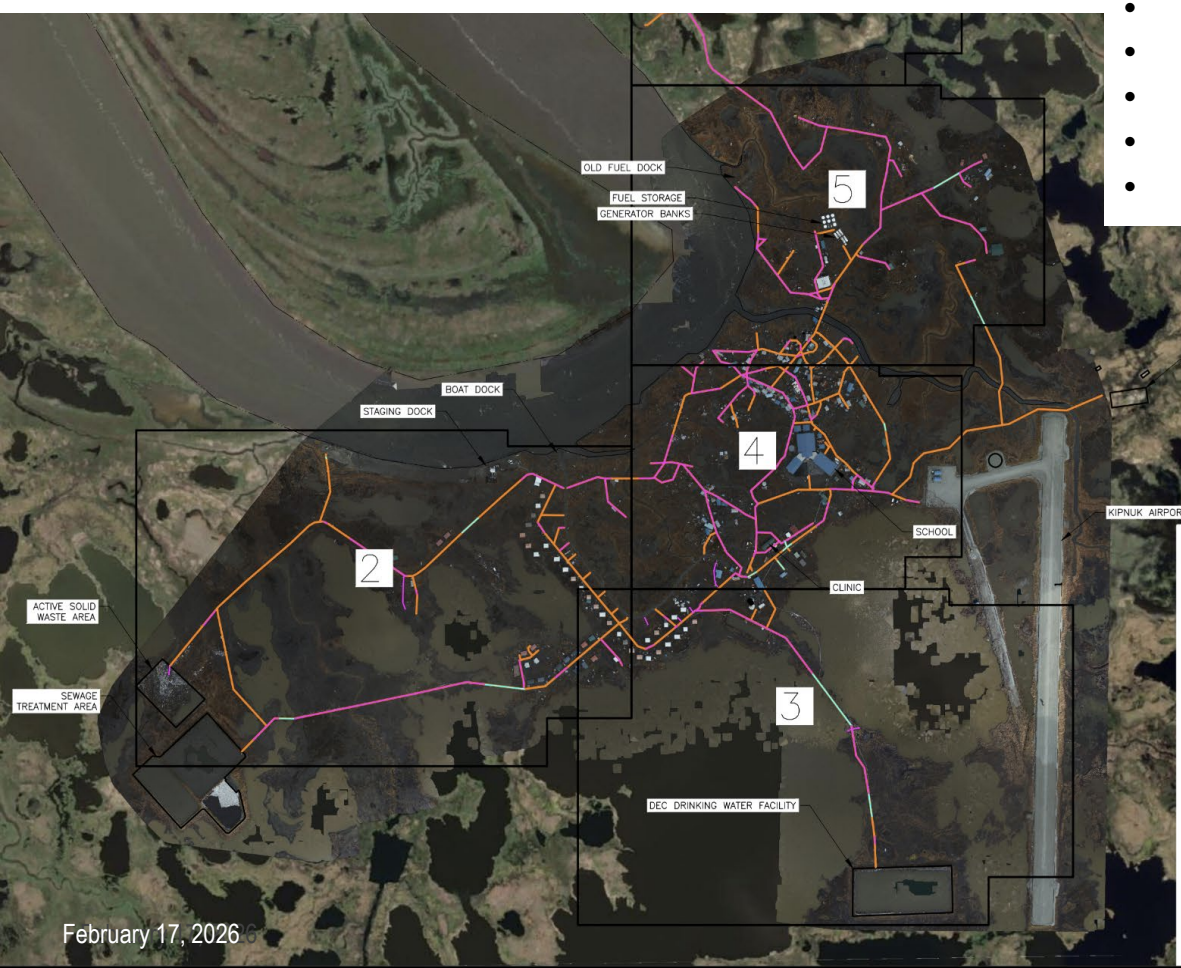
Kipnuk Emergency Repairs

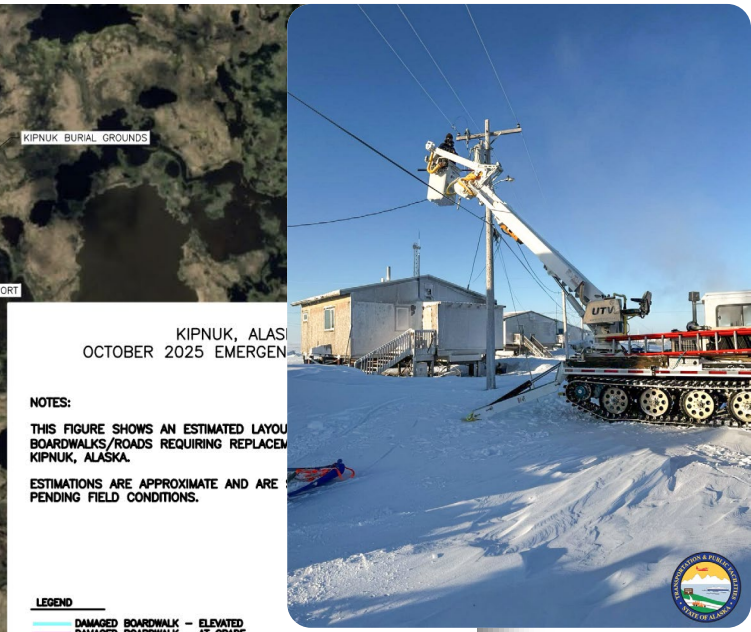
IN PROGRESS/NOT STARTED

- 4.3 miles of boardroad reconstruction
- Water treatment plant repairs; install water treatment reverse osmosis filter
- >50 house relocation
- >50 residential house repairs in progress; >100 not started

COMPLETED

- Powerplant Operational
- Installed 70 transformers and erected power poles
- Teacher housing repaired
- Airport lighting repaired
- AWOS repaired
- School power/sewer/water systems repaired
- Washeteria repaired
- Armory repaired
- Power restored to 39 homes
- Assisted with casket identification
- 4100 cubic yards debris removed
- 2800 cubic yards debris burned
- Repaired Tribal Council Building





KIPNUK, ALAS
OCTOBER 2025 EMERGEN

NOTES:

THIS FIGURE SHOWS AN ESTIMATED LAYOU
BOARDWALKS/ROADS REQUIRING REPLACEM
KIPNUK, ALASKA.

ESTIMATIONS ARE APPROXIMATE AND ARE
PENDING FIELD CONDITIONS.

LEGEND

DAMAGED BOARDWALK – ELEVATED
DAMAGED BOARDWALK – AT GRADE
EXISTING BOARDWALK LOCATION

Kwigillinok Emergency Repairs

IN PROGESS

- Approximately 4 miles of boardroad reconstruction
- Residential utilities (electrical, heating, water, sewer)
- >12 houses to relocated back into place
- >40 residential houses to complete
- Raw-water line to water treatment plant
- School sewage treatment system
- Debris removal/appliance crushing

COMPLETED

- >14 homes relocated back in place over 1 mile
- 26 home relocations total
- >27 homes substantially complete
- School sewer line to the lagoon restored
- School and teacher housing repaired
- Powerplant generator repaired
- Road & airport resurfacing & drainage repaired
- Barge landing 40’ river crossing constructed
- Relocated and repair police station
- Assisted GCI with cell tower repairs
- Assisted with casket identification

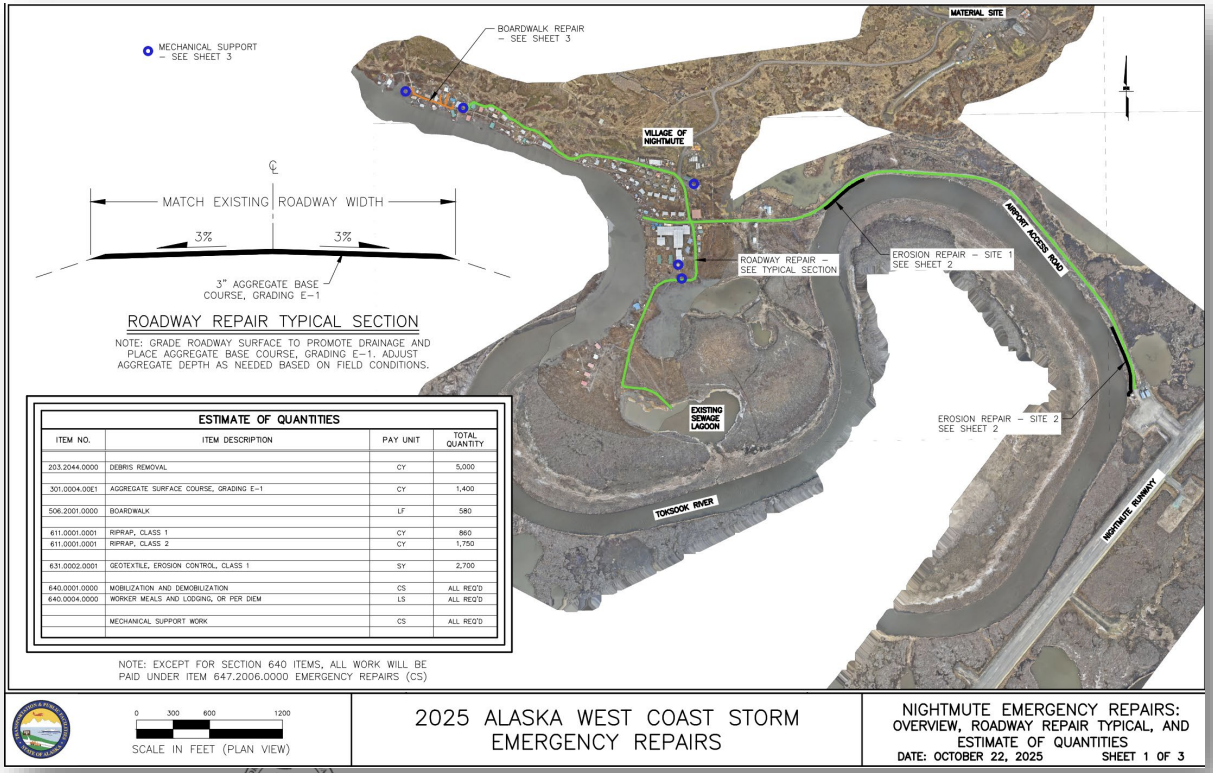
Nightmute Emergency Repairs

IN PROGRESS

- Residential utilities (electrical, heating, water, sewer)
- >25 residential home repairs

COMPLETE

- Temporary landfill constructed with access road
- Sewage lagoon access restored
- Water line to school repaired
- 1.2 miles road repaired
- Airport resurfaced/regraded
- Debris removal/cleanup and relocated to new landfill
- >5 homes over 1 mile relocated back into place
- 21 home relocations total (average 100 feet)
- 17 homes substantially complete



Emergency Contracting Authority

DOT&PF operated under statutory framework

- State disaster declaration authority: AS 26.23.020 (c)
- Emergency procurement authority: AS 36.30.310
- Time & Materials/Temporary Work Authorization (TWA) contracting authority: AS 36.30.015 (State Procurement Code)
- Federal Stafford Act coordination with federal agencies: 42 U.S.C. 5174

Emergency contracting allowed

- Immediate mobilization of 7 contractors within 48 hours
- Material staging prior to formal FEMA reimbursement
- Rapid task order issuance

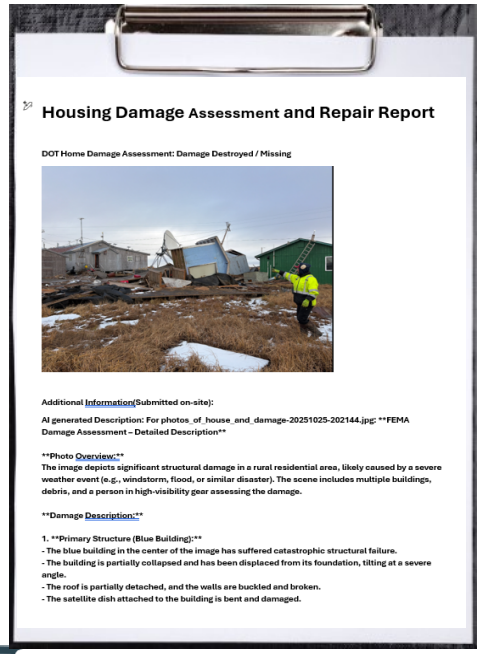
Near-Term Objectives (30–60 Days)

Winter Construction

- Complete pile-supported boardwalks
- Maximize overland transport
- Complete house relocations
- Finalize public facility stabilization

Compliance Controls in Place

- ICS finance tracking
- Early eligibility alignment with SEOC & FEMA Public Assistance staff
- Documentation tied to FEMA categories
- Electronic repair-in-progress records accepted by FEMA
- Daily cost tracking under emergency authority



Housing Damage Assessment and Repair Report

DOT Home Damage Assessment: Damage Destroyed / Missing

Additional Information(Submitted on-site):

AI generated Description: For photos_of_house_and_damage-20251025-202144.jpg: **FEMA Damage Assessment – Detailed Description**

Photo Overview:
The image depicts significant structural damage in a rural residential area, likely caused by a severe weather event (e.g., windstorm, flood, or similar disaster). The scene includes multiple buildings, debris, and a person in high-visibility gear assessing the damage.

Damage Description:

1. **Primary Structure (Blue Building):**
- The blue building in the center of the image has suffered catastrophic structural failure.
- The building is partially collapsed and has been displaced from its foundation, tilting at a severe angle.
- The roof is partially detached, and the walls are buckled and broken.
- The satellite dish attached to the building is bent and damaged.

*Incident Command System (ICS), State Emergency Operations Center (EOC), Federal Emergency Management Agency (FEMA)

Thank You.

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Cover photos by Alaska DOT&PF Staff:
Sunset departure, Anchorage International Airport. By Christopher Cummins
Alaska Range from the Richardson Highway. By Dennis Bishop
Aboard the MV LeConte sailing Lynn Canal to Juneau from Haines. By Andrea Deppner

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