



**Municipality of Anchorage
Geotechnical Advisory Commission**

A G E N D A

Tuesday, August 22, 2023

Noon – 1:30 p.m.

**Regular Meeting
(Hybrid format)**

In-Person Physical Location

Training Room
Planning and Development Center
4700 Elmore Road
Anchorage, Alaska

or

via Microsoft Teams

[Click here to join the meeting](#)

[Download Teams | Join on the web](#)

Meeting ID: 269 718 563 018, Passcode: yoWmD2

Or Join by Conference Call:

Dial-in Number: 907-519-0237

Conference ID: 655 600 897#

- I. CALL TO ORDER
 - A. Establishment of Quorum
 - B. Disclosures
- II. MINUTES
 - A. July 25, 2023
- III. OLD BUSINESS
 - A. Scope of Potential Project for Seismic Hazard Analysis and Mapping
- IV. NEW BUSINESS
 - A. [Recent Report on Tsunami Inundation](#)
- V. PERSONS TO BE HEARD (3-minute limit)
- VI. COMMITTEE REPORTS
 - A. Communications Committee
 - B. Hazard Mitigation Committee
 - C. Seismic Hazard Committee
- VII. OTHER BUSINESS
- VIII. STAFF REPORTS
- IX. ADJOURNMENT

Next Regular Meeting – September 26, 2023



Municipality of Anchorage
Geotechnical Advisory Commission

ACTION SUMMARY

Tuesday, July 25, 2023
12:00 Noon

Regular Meeting

In-person
Planning Conference Room 170, 4700 Elmore Road
and Virtual via Teams

CALL TO ORDER

The meeting was called to order at 12:01 p.m.

Establishment of Quorum

A quorum was present.

Present: Steven Halcomb, Vice Chair
Cody Kreitel
Keri Nutter*
Amy Steiner*
John Thornley, Chair

Staff: Daniel Mckenna-Foster, Senior Planner, Planning Department
Miles Colescott, Intern, Planning Department
Wayne Bolen, * Plan Review Engineer, Building Safety, Development Services Department
Grant Gephardt, * Plan Review Engineer, Building Safety, Development Services Department
Ross Noffsinger, * Engineering Services Manager, Development Services Department
Timothy Huntting, Geotechnical Lab Manager, Project Management & Engineering
Ryan Yelle, Long-Range Planning Manager, Planning Department

Guests: Dennis Berry, former commissioner for reappointment
Dave Hemstreet, * former commissioner for reappointment*
Roe Sturgulewski, Vice President, Pacific Northwest Region at Ascent PgM

*attended virtually

Disclosures

No disclosures.

The Chair rearranged the business of the day to discuss item B. under old Business: Resolution for GAC Case 2023-02: Geopier Foundation Design for Anchorage FedEx Sorting Facility.

BUSINESS ITEMS

Discussion of Geopier Foundation Design for Anchorage FedEx Sorting Facility:

- *Chair Thornley* provided an overview talking about the foundation, seismic stability, lateral earth pressures, whether or not the piers could develop those, how much aggregate you end up putting in, our recommendation was to push this to a third-party review. He asked about examples of other projects that have used this system and demonstrated that seismic stability is not a concern, or where seismic stability was taken care of somewhere else in the structure.
- Commissioners discussed protections for frost, passive pressure, will there be lateral earth pressure, are buildings going to rock post-earthquake, and whether this system can be used in peat. Discussion of how peat ranging from 1' to 15' in this area cannot be removed because it is contaminated with PFAS.
- *Dennis Berry* and *Roe Sturgulewski* discussed how this system has been used on the west coast, but it is the first time he has done it in Alaska, and noted he is here to ascertain what type of information a third-party review would be looking for. The shell around the piers is a hard shell, ¼" hdpe. The geopier is placed, filled with gravel, and regular spread foundation on top, 8-9' on center. The shell remains in place at installation depth.
- The commission discussed the process for a third-party review, and how to select a reviewer, how involved the GAC should be, and how to work with the building department.
- The Chair expressed an interest in keeping things moving but also assuring quality and safety of the structure.

The commission reviewed resolution 2023-02, made edits, and approved unanimously.

No significant discussion of other business items.

REVIEW OF MINUTES

The commission approved the minutes of April 11, 2023, May 23, 2023, and June 27, 2023, with corrections to the latter two.

- 4/11/2023 minutes: *Commissioner Steiner* moved; *Commissioner Kreitel* seconded. Approved unanimously.
- 5/23/2023 minutes: *Vice Chair Halcomb* moved; *Commissioner Kreitel* seconded.
 - Chair: Under disclosures remove "Alaska" from "WSP ALASKA"; unanimous support of approving minutes as edited.

- 6/27/2023 minutes: *Commissioner Kreitel* moved; *Vice Chair Halcomb* seconded.
 - Page 1, first paragraph, third line: change to property lease owner, not developer - “...CRW was retained by the property lease owner...”
 - Page 1, first paragraph, fourth line: “CRW had nothing to do with the proposed Geopier ground improvement with shallow foundation...”
 - Page 3, first paragraph, first line: “...for the GAC to review and provide recommendations...”
 - Page 3, second paragraph, third sentence: “He explained that his firm recommended a pile foundation...”
 - Page 4, first paragraph: change to “...concrete slab...”, not slap, in first sentence.
 - Page 4, first paragraph: change to “...shear force...” in last sentence.

NEW BUSINESS

No new business

PERSONS TO BE HEARD

No persons to be heard.

COMMITTEE REPORTS

A. Communications Committee

Commissioner Nutter reported she is seeking new commissioner volunteers to join the Communications Committee. She would like to improve communication with MOA departments on an annual basis. Asked if there was any news on filling vacant positions. Discussions of pending Assembly approval. Mentioned being interested in recruiting more members.

B. Hazard Mitigation Committee (*Nothing to report*)

C. Seismic Hazard Committee *Chair Thornley* said he has a report sitting in inbox ready to review for the Alaska Seismic Hazard Committee for the Alaska seismic maps and will keep everyone posted once he goes through them. The maps are not yet public. If they hit all the edits and comments that we have, I would imagine it would go out for public comment in November 2023. They are really trying to push these to come out this year.

OTHER BUSINESS (*none*)

STAFF REPORTS (*none*)

ADJOURNMENT

Vice Chair Halcomb moved to adjourn. *Commissioner Kreitel* seconded.

The meeting adjourned at 12:59 p.m.

DRAFT



Municipality of Anchorage
Planning Department
Memorandum



Date: February 28, 2023
To: Geotechnical Advisory Commission
From: Tom Davis, AICP, Senior Planner
Subject: Scope of a Potential Project for Seismic Hazard Analysis and Mapping

The Municipality of Anchorage (MOA) has applied for a CDBG Disaster Recovery (DR) grant of \$750,000 to update seismic hazard mapping within the inhabited communities of the MOA. The Project Management & Engineering (PM&E), GIS, Planning, and Development Services Departments collaborated to submit the general project scope shown on the next page.

If the Municipality is awarded the grant, these agencies will form a working group to carry out the project with the assistance of professional consulting services and with the advice of the Geotechnical Advisory Commission. Tim Huntting would lead the agency working group with assistance from Tom Davis.

The general project scope shown on the next page is very broad for the purposes of the grant application submittal. A specific scope that identifies and prioritizes what kinds of hazard data, data collection tasks, and products needs to be determined. The project may include organizing existing data into an integrated spatial data application. It may include updating or expanding certain spatial data.

The agency working group requests guidance from the Geotechnical Advisory Commission in establishing requirements for deliverables, identifying specific tasks required to produce those deliverables, and developing specifications for a scope of services for contracting professional consulting services that are consistent with the stated goals to determine the most useful kinds of seismic hazard spatial data to collect, update, and map; and the products such as databases, reports, and/or mapping applications.

GENERAL PROJECT SCOPE:

Seismic Hazards Analysis and Mapping with Building Code Update for the purpose of updating seismic hazard spatial data used by the Municipality of Anchorage (MOA) and other agencies.

Description: This project includes geological/seismic hazard mapping and data integration and acquisition for seismic hazard mitigation activities. These updates will enable the MOA Development Services Department to revise the Anchorage Building Code (Title 23) such as code provisions to identify where geotechnical investigations would be required. This project may educate the public on the seismic zones and geological hazards within MOA by creating a website to clarify code requirements for communities by an advisory committee for overall communication review and guidance.

This project includes updating the seismic hazard data within the inhabited communities of the Anchorage Bowl, Chugiak-Eagle River, Turnagain Arm communities, and Girdwood, and evaluating structures and site development characteristics in each area. It will include research of all published geology, seismology, groundwater, and geotechnical reports applicable in the MOA communities. Examples of data that may be utilized includes:

- MOA soil boring data
- MOA geotechnical reports (site specific locations and PDF reports)
- MOA INFOR – November 2018 Earthquake building status
- MOA seismically induced ground failure hazard mapping (c. 1979 Harding-Lawson Report)
- USDA soils data
- USGS surficial geology
- Sheer wave velocity mapping

Deliverables

1. GIS data and maps (static and interactive), available on the MOA website for the public.
2. Final technical report document(s), including recommended next actions to be taken by the MOA.
3. Potential updated Building Code regulations with respect to seismic hazards.
4. Public outreach and engagement, including meetings with the Geotechnical Advisory Commission, Building Board, Planning and Zoning Commission, and Anchorage Assembly.

Goals: This project will increase knowledge and awareness by decision-makers in private- and public-sector development to reduce risks to public health, safety, and welfare from geological hazards, as follows:

- Improve accuracy, amount, integration, public access, and awareness of seismic hazard data identifying areas of geological hazard and relevant geological and soils characteristics in the inhabited areas of the MOA, and provide a data platform that can be expanded in the future to map other natural hazards.
- Inform infrastructure investments, private development decision-making, and MOA decision-making regarding proposed developments and area plans.

Timeline: July 2023 – December 2026.

Budget: \$750,000. The budget amount available to perform the actual work will be less.

2. Seismic Hazards Analysis and Mapping with Building Code Update – DCCED will provide \$750,000 to Municipality of Anchorage (MOA) for the purpose of updating seismic hazard spatial data used by MOA and other agencies.

Planning Activity Description:

This project includes geological/seismic hazard mapping and data integration and acquisition for seismic hazard mitigation activities as authorized by 24 CFR 570.205 and 24 CFR 570.208(d)(4). These updates will enable the MOA Development Services Department to revise the Anchorage Building Code (Title 23) such as code provisions to identify where geotechnical investigations would be required. This project may educate the public on the seismic zones and geological hazards within MOA by creating a website to clarify code requirements for communities by an advisory committee for overall communication review and guidance. This project includes updating the seismic hazard data within the inhabited communities of the Anchorage Bowl, Chugiak-Eagle River, Turnagain Arm communities, and Girdwood, and evaluating structures and site development characteristics in each area. It will include research of all published geology, seismology, groundwater, and geotechnical reports applicable in the MOA communities. Partners: Anchorage Geotechnical Advisory Commission, GDIC, development community.

- MOA soil boring data
- MOA geotechnical reports (site specific locations and PDF reports)
- MOA INFOR – November 2018 Earthquake building status
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Planning Activity Deliverables:

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2. Final technical report document(s), including recommended next actions to be taken by the MOA.
3. Potential updated Building Code regulations with respect to seismic hazards.
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Planning Activity Goals:

- To increase knowledge and awareness by decision makers in private and public sector development to reduce risks to public health, safety, and welfare from geological hazards, as follows:
- Improve accuracy, amount, integration, public access, and awareness of seismic hazard data identifying areas of geological hazard and relevant geological and soils characteristics in the inhabited areas of the MOA and provide a data platform that can be expanded in the future to map other natural hazards.
- Inform infrastructure investments, private development decision making, and MOA decision making regarding proposed developments and area plans.

Planning Activity Timeline: July 2023 – December 2026.

Planning Activity Budget:

- | | |
|---------------------------------|-----------|
| • Staffing-salary and benefits | \$25,000 |
| • Consultant Studies and Report | \$725,000 |

Budget Narrative:

Consultant will research geology, seismology, groundwater, geotechnical, and 2018 Earthquake Inspection reports, extrapolate research into actions (\$350,000), participate in the steering team (\$50,000), contribute to map production, draft and final online data platform (\$200,000) draft/ final reports (\$100,000). MOA Staffing (\$50,000).

List of Project Staff: Tim Huntington, P.E.; Tom Davis, Senior Planner.



Department of Natural Resources
GEOLOGICAL & GEOPHYSICAL SURVEYS

[Alaska](#) / [DNR](#) / [DGGs](#) / [Pubs](#) / [RI 2023-2](#)

DGGs RI 2023-2

Tsunami inundation maps of Anchorage and upper Cook Inlet, Alaska

Authors: Suleimani, E.N., Salisbury, J.B., and Nicolsky, D.J.
Publication Date: Aug 2023
Publisher: Alaska Division of Geological & Geophysical Surveys
Ordering Info: Download below for free or see our [publication sales page](#) to order a hard copy.
Quadrangle(s): Anchorage
Related project(s): [Tsunami inundation mapping](#)
Citation ID: 31018



Bibliographic Reference

Suleimani, E.N., Salisbury, J.B., and Nicolsky, D.J., 2023, Tsunami inundation maps of Anchorage and upper Cook Inlet, Alaska: Alaska Division of Geological & Geophysical Surveys Report of Investigation 2023-2, 56 p., 9 sheets.
<https://doi.org/10.14509/31018>

Publication Products

Report Information

[ri2023_002.pdf](#) (71.0 M)

Web Map

[RI 2023-2 Anchorage tsunami inundation ArcGIS StoryMap](#)

Supplemental File(s)

[ri2023_002_press_release.pdf](#) (822.0 K)
[ri2023_002_study_summary.pdf](#) (185.0 K)
[ri2023_002_tsunami_inundation_animation.mp4](#) (125.0 M)

Maps & Other Oversized Sheets

- Sheet 1, Maximum estimated tsunami inundation for Anchorage, Alaska, scale 1:230,000 (26.0 M)
- Sheet 2, Maximum estimated tsunami inundation for upper Knik Arm, Alaska, scale 1:62,000 (24.0 M)
- Sheet 3, Maximum estimated tsunami inundation for Point Mackenzie, Alaska, scale 1:28,000 (19.0 B)
- Sheet 4, Maximum estimated tsunami inundation for Eagle Bay, Alaska, scale 1:16,000 (22.0 M)
- Sheet 5, Maximum estimated tsunami inundation for the Port of Anchorage, Alaska, scale 1:25,000 (23.0 M)
- Sheet 6, Maximum estimated tsunami inundation for Campbell Lake, Alaska, scale 1:15,000 (21.0 M)
- Sheet 7, Maximum estimated tsunami inundation for Girdwood, Alaska, scale 1:16,000 (19.0 M)
- Sheet 8, Maximum estimated tsunami inundation for Hope, Alaska, scale 1:10,000 (22.0 M)
- Sheet 9, Maximum estimated tsunami inundation for lower Turnagain Arm, Alaska, scale 1:35,000 (28.0 M)

Digital Geospatial Data

Tsunami inundation maps of Anchorage and upper Cook Inlet	Data File Format	File Size	Info
Download ri2023_002_tsunami_inundation_upper_cook_inlet	Shapefile	100.2 M	Metadata - Read me

Keywords

Active Fault; Anchorage; Bathymetry; Coastal; Coastal and River; Cook Inlet; DGGs; Earthquake; Earthquake Related Slope Failure; Emergency Preparedness; Engineering; Engineering Geology; Environmental; Fault Displacement; Faulting; Faults; Flood; Geologic; Geologic Hazards; Geological Process; Geotechnical; Girdwood; Hazards; Hope; Inundation; Knik; Knik Arm; Land Subsidence; Landslide; Landslide Susceptibility; Marine; Marine Geology; Modeling; Neotectonics; Seismic Hazards; Seismic Interpretation; Subduction; Subsidence; Subsurface; Surface; Topography; Tsunami; Turnagain Arm; geoscientificInformation

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