Appendix E4 – Fracout Plan

NANA Regional Broadband Network Project

Frac Out Plan

NANA Regional Corporation, Inc. (NT23TBC0290014)

NANA Region Middle Mile Fiber Optic Project

Northwest Arctic Borough, Alaska

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1 Frac Out Plan

Purpose: This plan outlines procedures to prevent, monitor, and respond to inadvertent drilling fluid releases (frac-outs) during HDD activities.

Drilling Method & Materials

- Method: Horizontal Directional Drilling (HDD) beneath rivers for the NANA Broadband Project
- Drilling Fluid: Bentonite-based, non-toxic, biodegradable mud designed to stabilize the borehole and transport cuttings.
- Additives: Only environmentally safe polymers or loss-circulation materials (LCM) approved for use in aquatic environments. Only utilized if required, not anticipated.
- Minimize mud pressure to accommodate 2" product, pressure monitored continuously to reduce blowout potential.

Risk Assessment

Potential for frac-out exists when drilling fluid migrates through natural fractures or porous soils to the surface or waterbody. Sensitive receptors include:

- Riverbed and riverbank habitats
- Fish spawning areas
- Drinking water intakes (if present)
- Wetlands and adjacent vegetation

Prevention & Monitoring Measures

Drilling Best Practices:

- Maintain circulation of mud flow and monitor volume.
- Use pilot hole for product placement, no back reaming or multiple increased diameter back pulls.

Monitoring:

- Continuous pressure and return flow monitoring.
- Visual inspections of riverbanks and upland ground surface by trained spotters.

Response Procedures

If a frac-out is suspected:

- Stop drilling immediately.
- Notify:
    - HDD superintendent
    - Environmental Support
    - NANA Broadband
    - Regulatory agencies (ADEC, DNR, USACE) as required by permit.

- Assess release location and extent.
    - Use turbidity monitoring, surface observation, and spill detection.
    - Containment & Recovery:
        - Excavate pits or use pumps for upland releases.
        - Hand removal of mud where practical to minimize habitat disturbance.
    - Written report within 24 hours including incident summary and corrective actions.

8. Training & Equipment

- Personnel Training: All HDD crew trained in frac-out recognition and emergency response.
- On-Site Equipment:
    - Absorbent pads
    - portable pumps for each bank
    - Spill kits and shovels
    - Communication equipment (radios, phones)

9. Post-Incident Review

Following any frac-out event, the project team will:

- Conduct a root-cause analysis.
- Revise drilling parameters or mud programs as needed.
- Submit a corrective action report to agencies.