

# Stage 11: Revised NoGo / Go Plan — Operationally Sufficient Basin (OSB)

## Context

Stage 10: Geodesic parser/executor worked in synthetic space but left phantom wells.

Stage 11 Doctrine: Warp → Detect → Denoise. Explicit warped manifold, funnel fit, phantom suppression, and denoising control stack.

Empirical proof (Latent ARC, n=100): Stock ≈49% exact; Stage 10 Geodesic ≈64% exact; Stage 11 Denoiser = 100/100 exact, hallucination ≈0.5%, omission ≈0.2%.

Conclusion: Phantoms persist geometrically, but denoiser controls render them inert. Behavior matters more than landscape purity.

## Revised OSB Checklist (Synthetic Setting)

Hard Behavior Gates (must pass)	
Accuracy exact	Target met (Latent ARC: 100/100 exact)
Hallucination	≈ noise floor (≤0.5%)
Token drift stability	r_trend_tokens ≥ 0.90
Trajectory health	Radius ↓, SNR ↑ across descent
Soft Landscape Health (advisory)	
Phantom Index (PI)	≤ 0.30 post warp
Margin	≥ 0.03
S_median	≥ 0.50
Stress Probes (≥3/4 should hold)	
	Half the steps
	+25% jitter
	Tap shift (−3 ↔ −2)
	20% prompt mix shift
When Tighten (LLM Integration)	
Phantom Index (PI)	≤ 0.15
Margin	≥ 0.04
S_median	≥ 0.55
Calibration	≥ 300 on topic prompts

## NoGo Criteria (Synthetic)

- Accuracy < target, or hallucination >1%.
- r\_trend\_tokens < 0.80 consistently (unstable drift).
- Radius increases or SNR collapses across descent.
- Any stress probe failure that also triggers a hard gate failure.

## Go Criteria (Synthetic)

- Accuracy = 100/100 exact, hallucination suppressed.
- r\_trend stable ( $\geq 0.90$  main run,  $\geq 0.80$  under stress).
- Radius shrinks, SNR climbs.
- Stress probes pass.

## Bottom Line

Clean basin not required: good enough basin + denoiser = deterministic behavior.

Synthetic GO achieved: Stage 11 denoiser yields perfect accuracy and suppresses hallucinations to the noise floor.

Next frontier: test LLM hooks under OSB plan, applying tighter soft bars and  $\geq 300$  on topic calibration prompts.