STRUCTURAL MATERIAL Economic vs high-performance • Short-term savings can have high WALL COMPOSITION running cost **BUILDING SPAN AND HEIGHT** • 6" vs 8" thickness Increasing span and height has exponential cost impact Wood vs metal stud vs concrete CENTRALIZED VS. DECENTRALIZED ROBOTS (TOLL BOOTH) • Cost/durability dilemma Increasing length has linear cost impact • Shown are decentralized robots (toll booth) NECK RAIL VS. LOCKUPS • Initial cost of decentralized is greater Neck rail costs less Herd management capability impacted MINIMIZING USE OF CONCRETE • Curbs vs. walls • Reduce thickness where possible **ROOM FINISHES** DESIGNED BY: PERIMETER VS. CENTER DRIVE • Bare concrete vs. epoxy coating Rob Pol vs. tile floors • Center drive is ~12% smaller area than perimeter drives PRE-FABRICATED GATES AND FENCING • HDPE finished form system vs. traditional wall types OWNED BY: • Faster and safer than on-site assembly • Perimeter preferred in colder DeLaval POWER VS. NATURAL VENTILATION regions • Detailed shop drawings required Power ventilation adds cost • Must balance cost vs. cow comfort • Do not compromise on cow comfort