Creativity and Participation Build Flexibility and Productivity in Your Workforce

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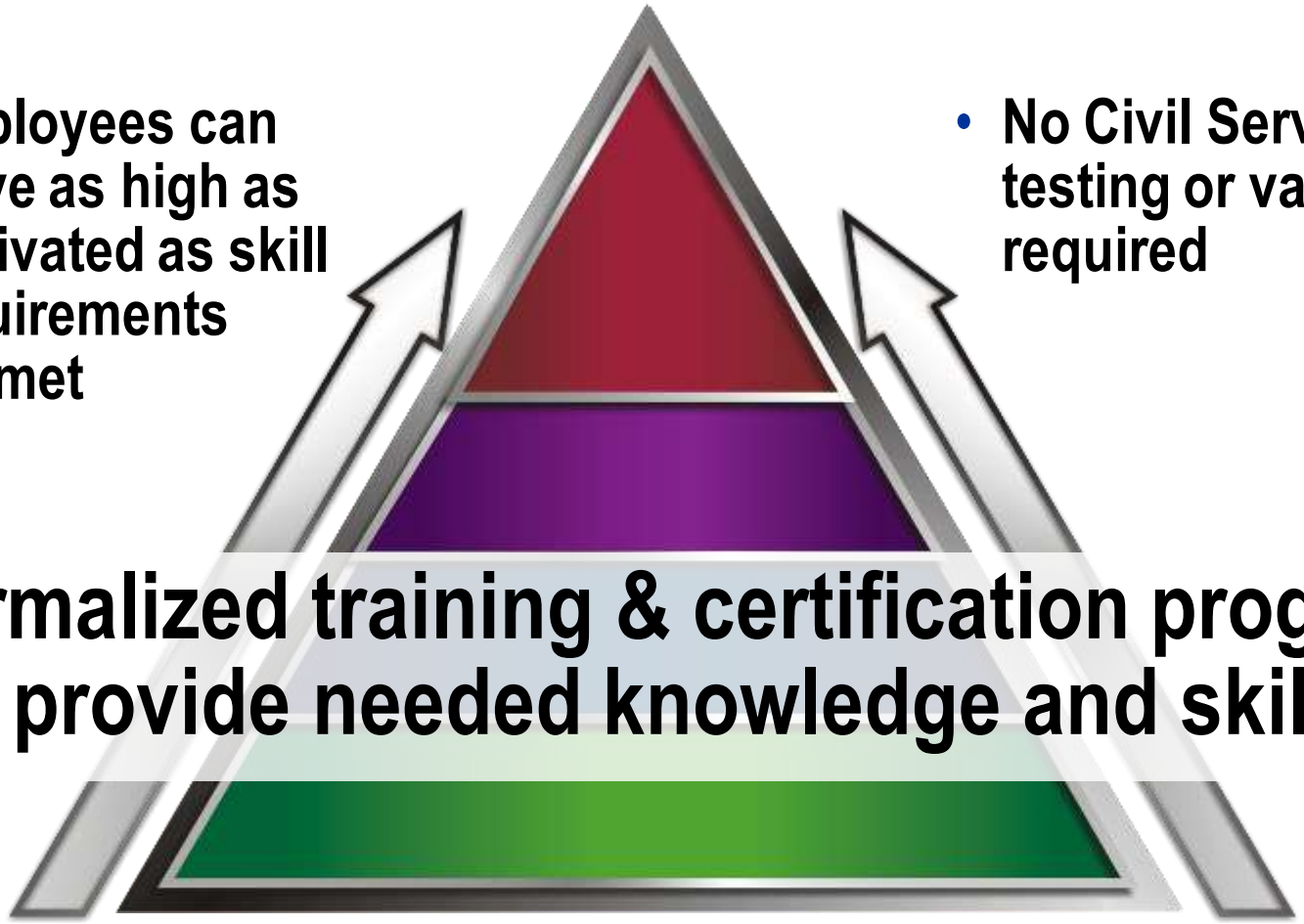
EMA

This presentation has 4 sections

1. **A Tale of Two Utilities**
2. **Common Elements of Two Programs Benefit the Utility & the Employee**
3. **Both Utilities Improve Bottom Line Results**
4. **How Do You Create This Program at Your Utility?**

Skill-Based Training Programs Provide Flexibility, Promotional Opportunities, Bottom Line Results

- Employees can move as high as motivated as skill requirements are met
- No Civil Service testing or vacancy required



A formalized training & certification program to provide needed knowledge and skills

These 2 Stories Show the "5 Keys to Management Success" in Action

1. Leadership is key throughout the management improvement cycle
2. Strategic business planning
3. Organizational approaches e.g., participatory culture, change management processes
4. Measurement
5. Continual improvement management framework e.g., plan-do-check

SECTION
1

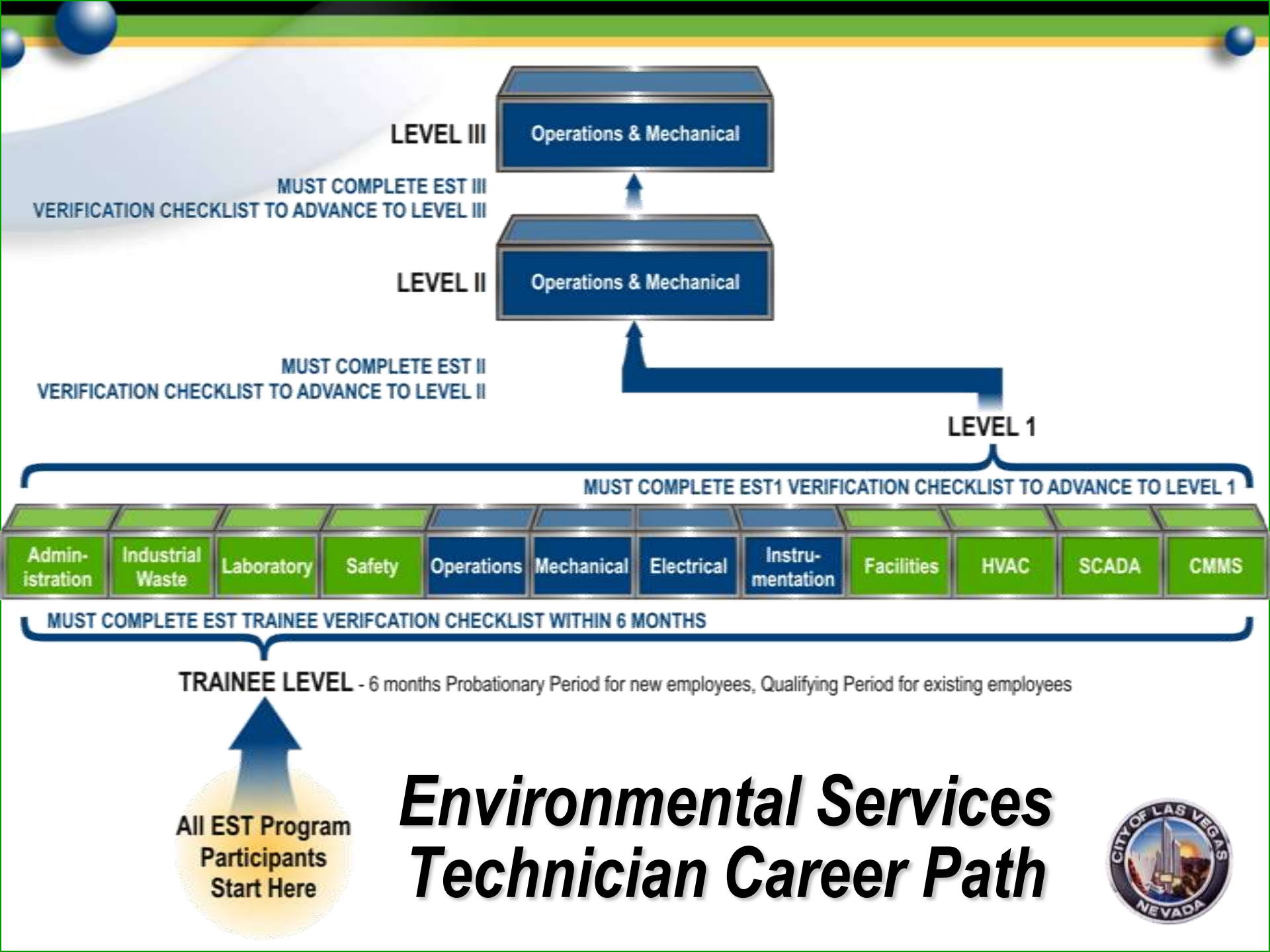
A Tale of Two Utilities:

City of Las Vegas, Water Pollution Control Facility

Charlotte Mecklenburg Utilities

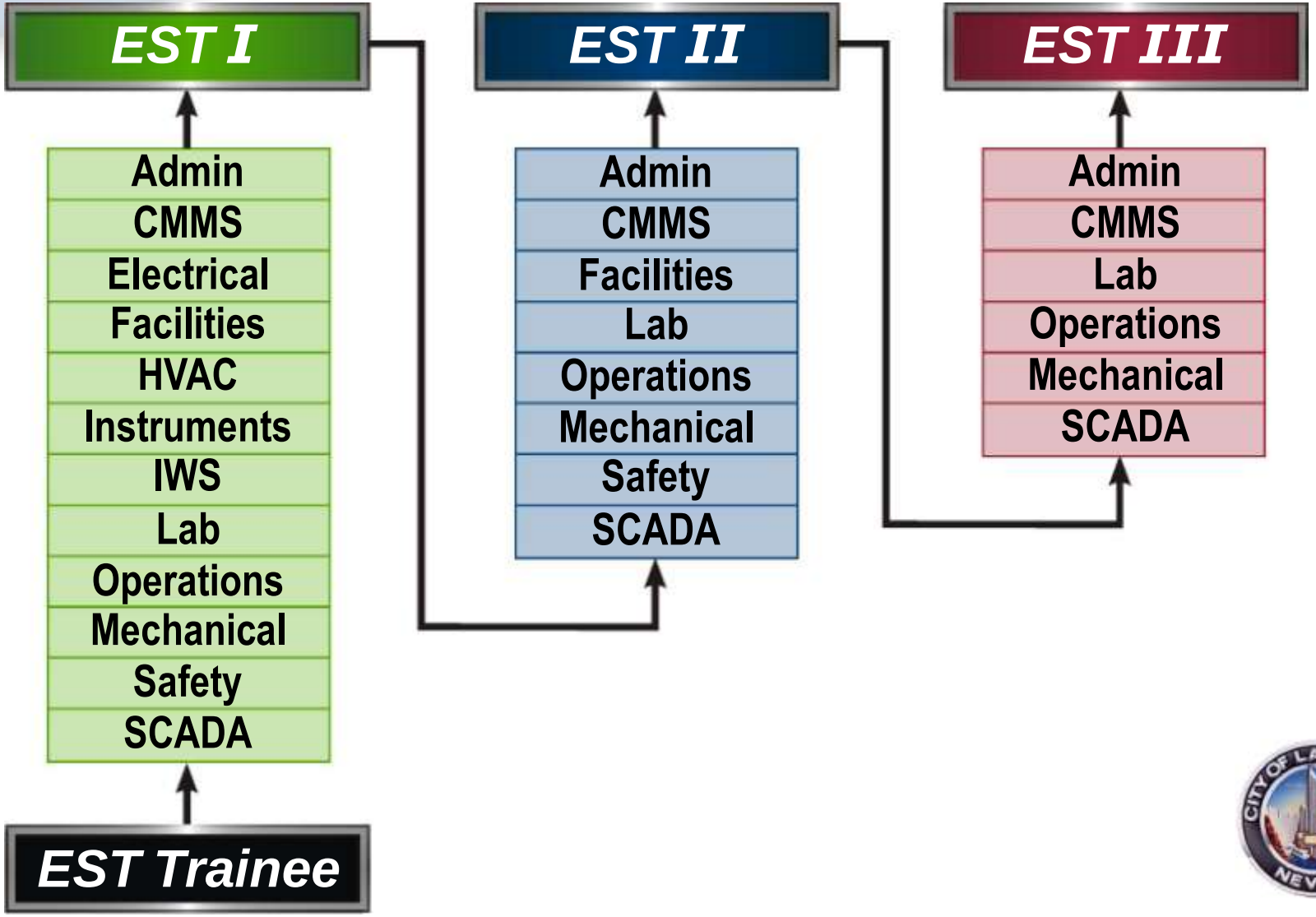
City of Las Vegas: Example of Skill Certification in Plant/Facilities Maintenance

- Environmental Division of the PWD treats wastewater for the cities of Las Vegas and North Las Vegas
- 3 facilities: 2 are water reuse facilities that provide treated water for golf course irrigation
- City's population is made up of over a 500,000 residents (2 million in Clark County)
- Facility treats 68 MGD, capacity to treat 91 MGD
- Plant worker's average age is 56



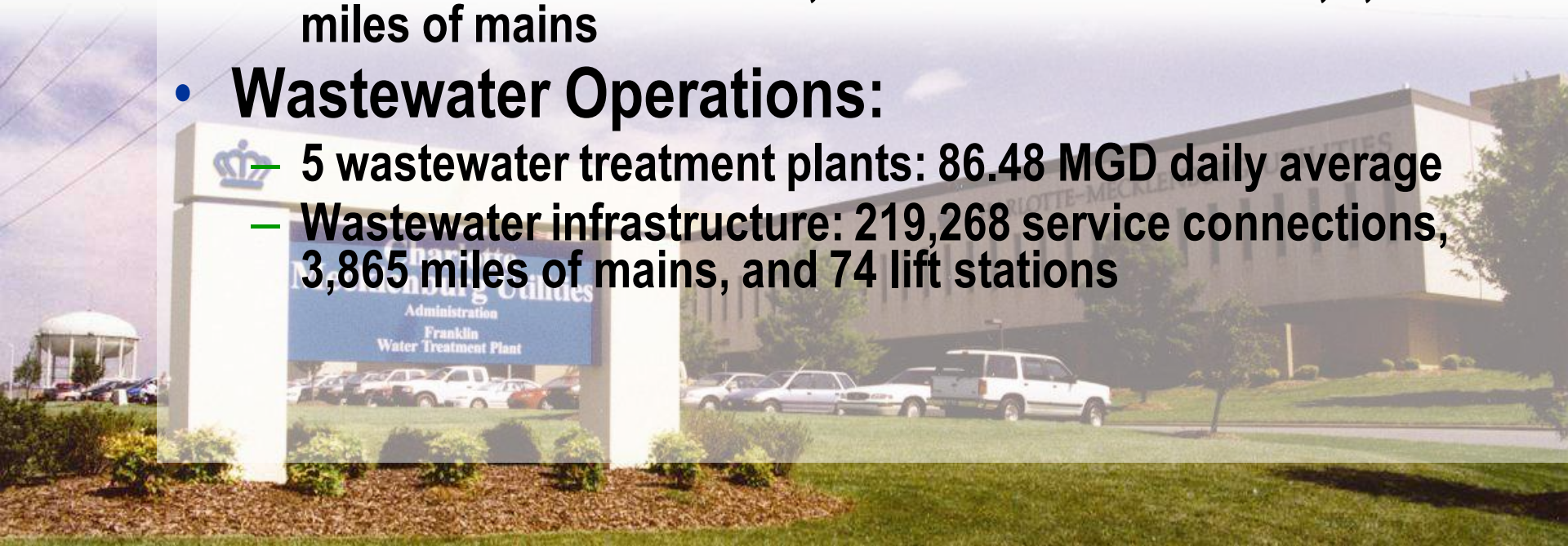
Environmental Services Technician Career Path

Environmental Services Technician Skill Progression



Charlotte Mecklenburg Utilities: Skill Certification in Field Maintenance

- **CMU serves 750,000 customers in the City of Charlotte and greater Mecklenburg County**
- **Water Operations:**
  - **3 water treatment plants: 113 MGD daily average pumped**
  - **Water infrastructure: 243,996 service connections, 3,850 miles of mains**
- **Wastewater Operations:**
  - **5 wastewater treatment plants: 86.48 MGD daily average**
  - **Wastewater infrastructure: 219,268 service connections, 3,865 miles of mains, and 74 lift stations**

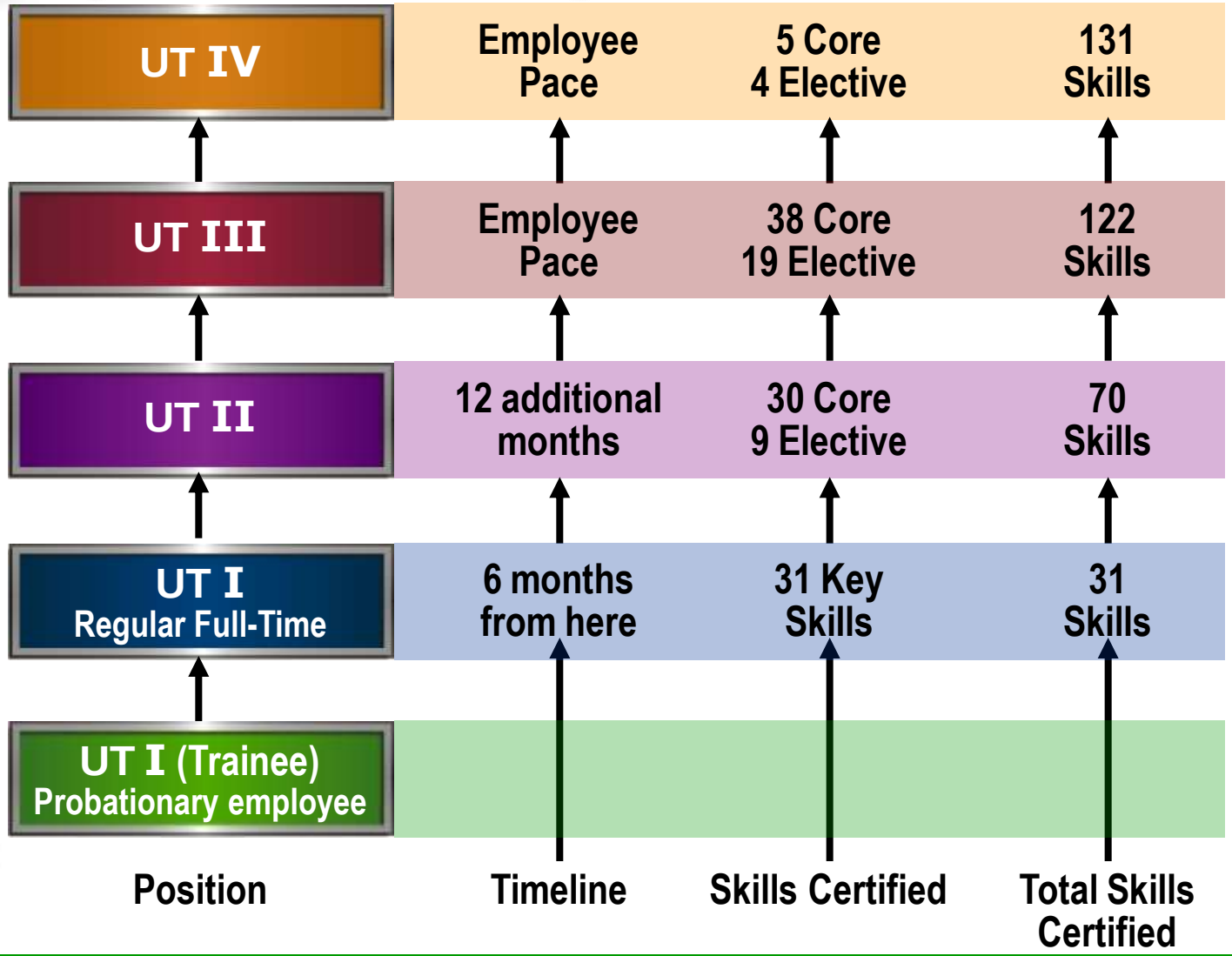


Employee Team Designed Skill Matrix for 167 Field Maintenance Skills

CHARLOTTE
CHARLOTTE-MECKLENBURG UTILITIES

	Construction /Repair	Sewer/Water Lines MTC	Operate Equipment	Safety & General
UT IV	2 Core/ 4 Elective	1 Core/ 0 Elective	0 Core/ 2 Elective	2 Core/ 1 Elective
UT III	15 Core/ 5 Elective	6 Core/ 12 Elective	1 Core/ 6 Elective	16 Core/ 15 Elective
UT II	12 Core/ 5 Elective	3 Core/ 3 Elective	5 Core/ 6 Elective	10 Core/ 4 Elective
UT I	9 Key	2 Key	5 Key	15 Key

Defined Rules for Utility Technicians to Progress Through Skill Matrix



CHARLOTTE.
CHARLOTTE-MECKLENBURG UTILITIES

Policies for Advancement Require Commitment of Utility and Employee

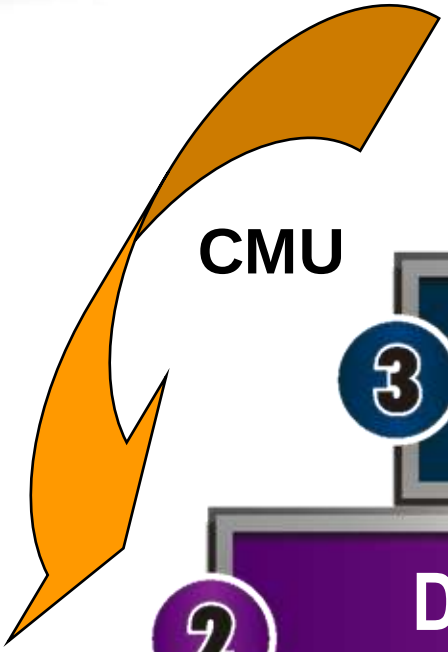
- All skills must be certified before an employee is reclassified to the next level.
- New Hire/Transfers subject to disciplinary process if do not meet 6 and 18 month expectations for skills acquired.
- Utility will ensure training & certification opportunities are available for employees.
- Training time is built into work day by Planner/Schedulers.

CHARLOTTE.
CHARLOTTE-MECKLENBURG UTILITIES

SECTION
2

The Common Elements of the Programs Benefit the Utility and the Employee

Both Used a Structured Process With High Level of Employee Participation



4 PILOT and IMPLEMENT

- Select Pilot Team
- Leadership and Supervisory Development
- Planner/Scheduler Training

3 OBTAIN APPROVALS

- Outline Performance Metrics
- Develop MOU
- Civil Service/City HR Approval

2 DESIGN PROGRAM

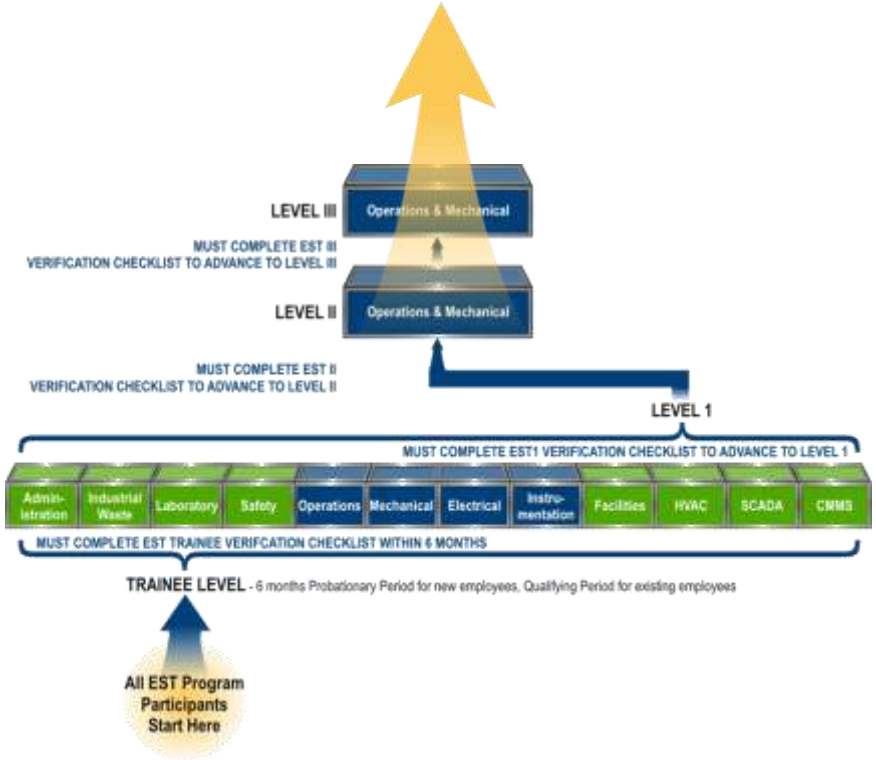
- Work Process Modeling/Analysis
- Job Descriptions With New Pay Grades
- Skill Self-Assessment & SME Certification
- Compensation Survey

1 DEVELOP FRAMEWORK

- Define Vision
- Set Program Goals
- Understand Current Situation/Conduct Assessment
- Make Recommendations

Both Programs Provide Career Paths Beyond EST/UT Level

O&M Supervisor or Planner Scheduler



Planner Scheduler, Team Leader or Zone Manager

	Construction/ Repair	Sewer/Water Lines	Operate	General
UT IV	2 Core/ 4 Elective	1 Core/ 0 Elective	0 Core/ 2 Elective	2 Core/ 1 Elective
UT III	15 Core/ 5 Elective	6 Core/ 12 Elective	1 Core/ 6 Elective	16 Core/ 15 Elective
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Both Require Skill Verification

ENVIRONMENTAL SYSTEMS TECHNICIAN I
OPERATIONS SKILL BLOCK VERIFICATION

EMPLOYEE NAME: _____

LICENSING REQUIREMENTS

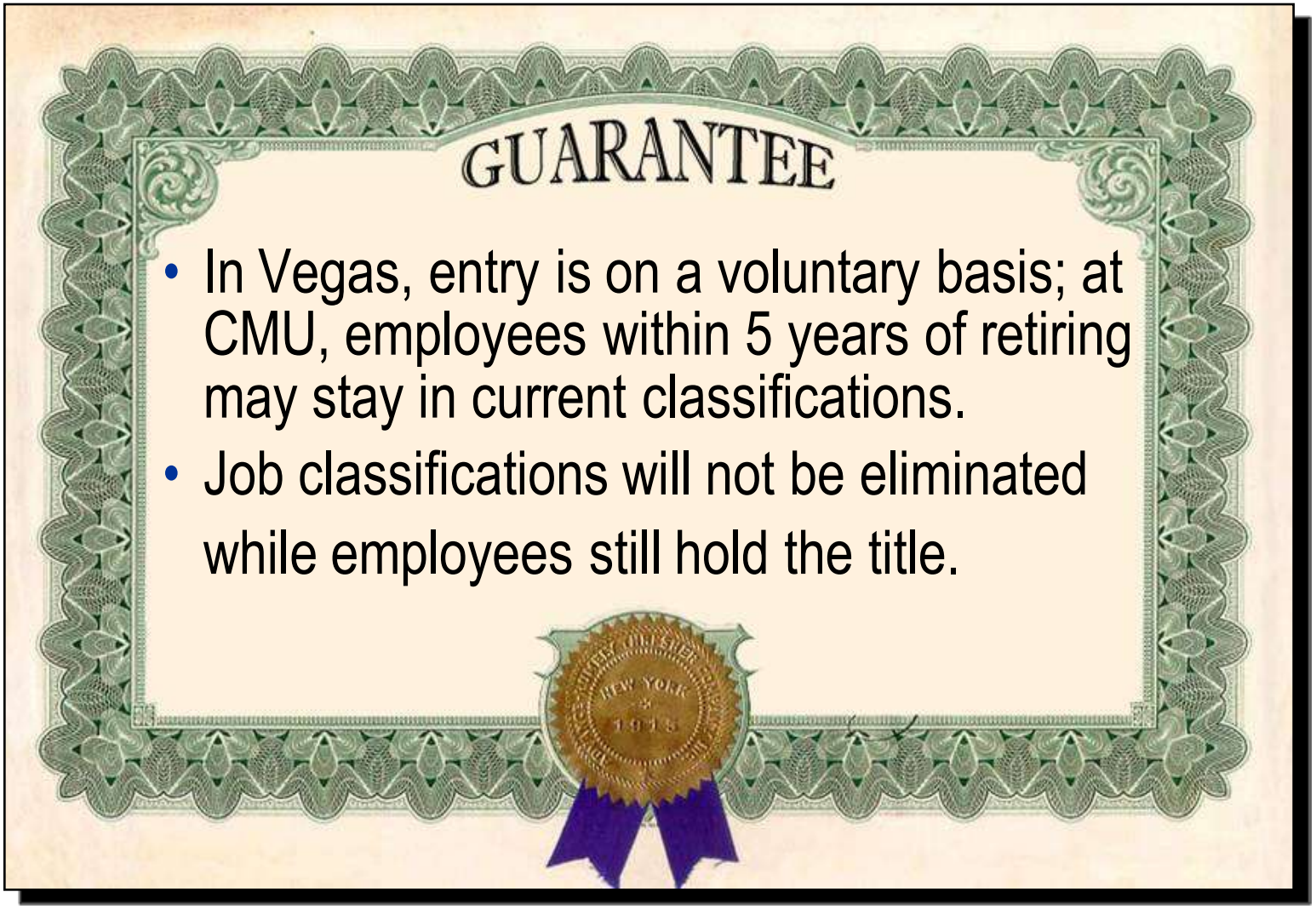
Nevada Wastewater Treatment Plant Operator I Certification #: _____ Expiration date: _____

VERIFICATION REQUIREMENTS

Indicate in the Self-Assessment Box (S.A.) with your initials those skills you believe you are competent to perform. Your Supervisor or a designated qualified person will sign and date those self-assessed skills when verified. The remainder of the skill requirements will be signed and dated by designated persons after witnessing your satisfactory completion.

OPERATIONS WORK TASKS	S.A.	VERI-FIED	DATE	COMMENTS
Demonstrate manual and automatic operation to skim sedimentation basins (see task list)				
Clean Weirs (see task list)				
Clean equipment rooms (see task list)				
Take process control samples (see task list)				
Receive chemical deliveries, perform analysis, and complete paperwork (see task list)				
Adjust chemical feed and flow rates (see task list)				
Calculations (see task list)				
Take...				

Both Provide Security for Long-Tenured Employees



Both Reduced # of Job Classifications

Classifications eligible to enter the EST/UT program without Civil Service testing:

- ☑ Plant Operator I and II
- ☑ Maintenance Mechanic I and II
- ☑ Senior Plant Operator
- ☑ Senior Maintenance Mechanic
- ☑ Plant Operations Shift Supervisor
- ☑ Facilities Maintenance Supervisor (positions assigned to WPCF only)

CHARLOTTE
CHARLOTTE-MECKLENBURG UTILITIES

- ☑ Utility Crew Member
- ☑ Equipment Operator I, II, and III
- ☑ Crew Leader I, II, and III

Both Result in Fewer Staff Who Are More Highly and Broadly Skilled Working in Smaller Teams

CHARLOTTE
CHARLOTTE-MECKLENBURG UTILITIES

Reduction in Crew Numbers

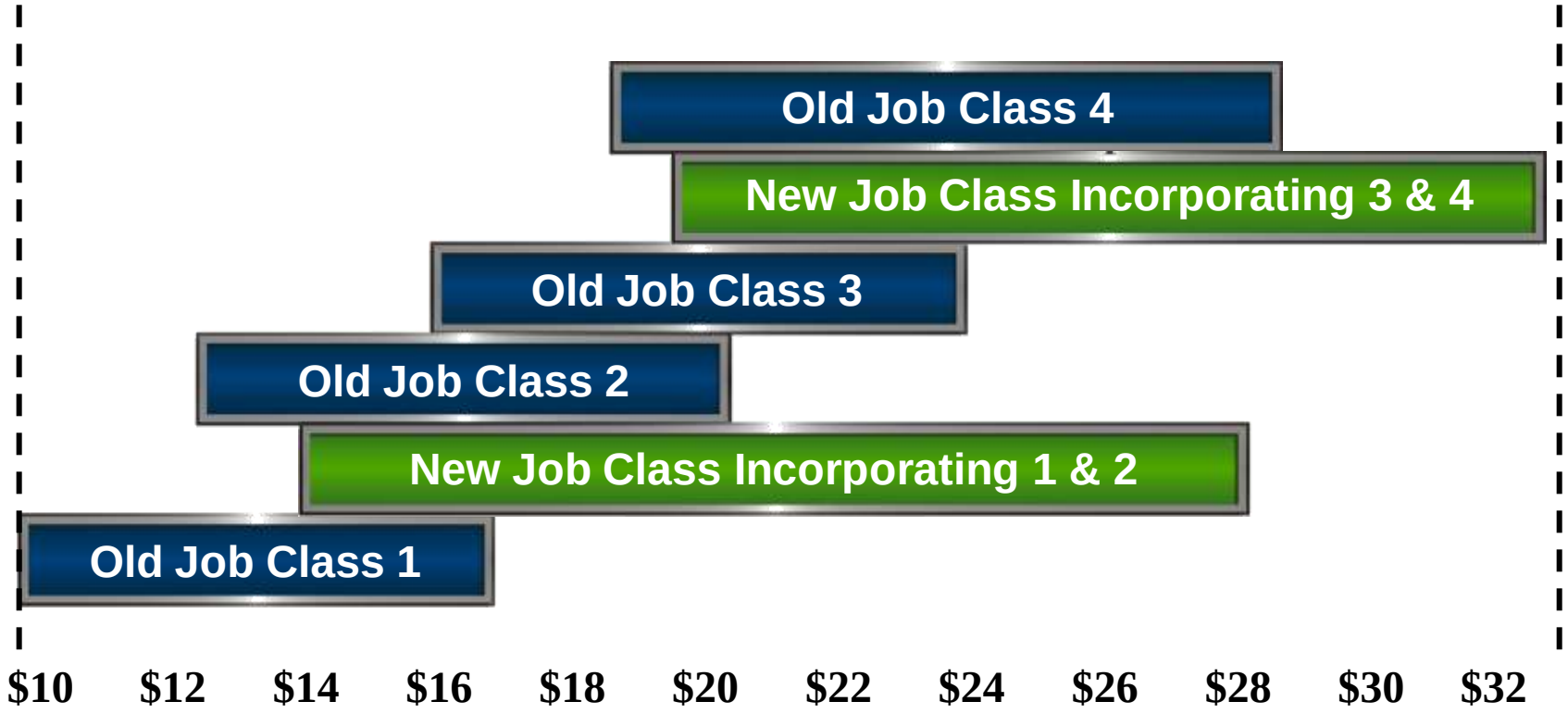
CITY OF LAS VEGAS NEVADA

Operations

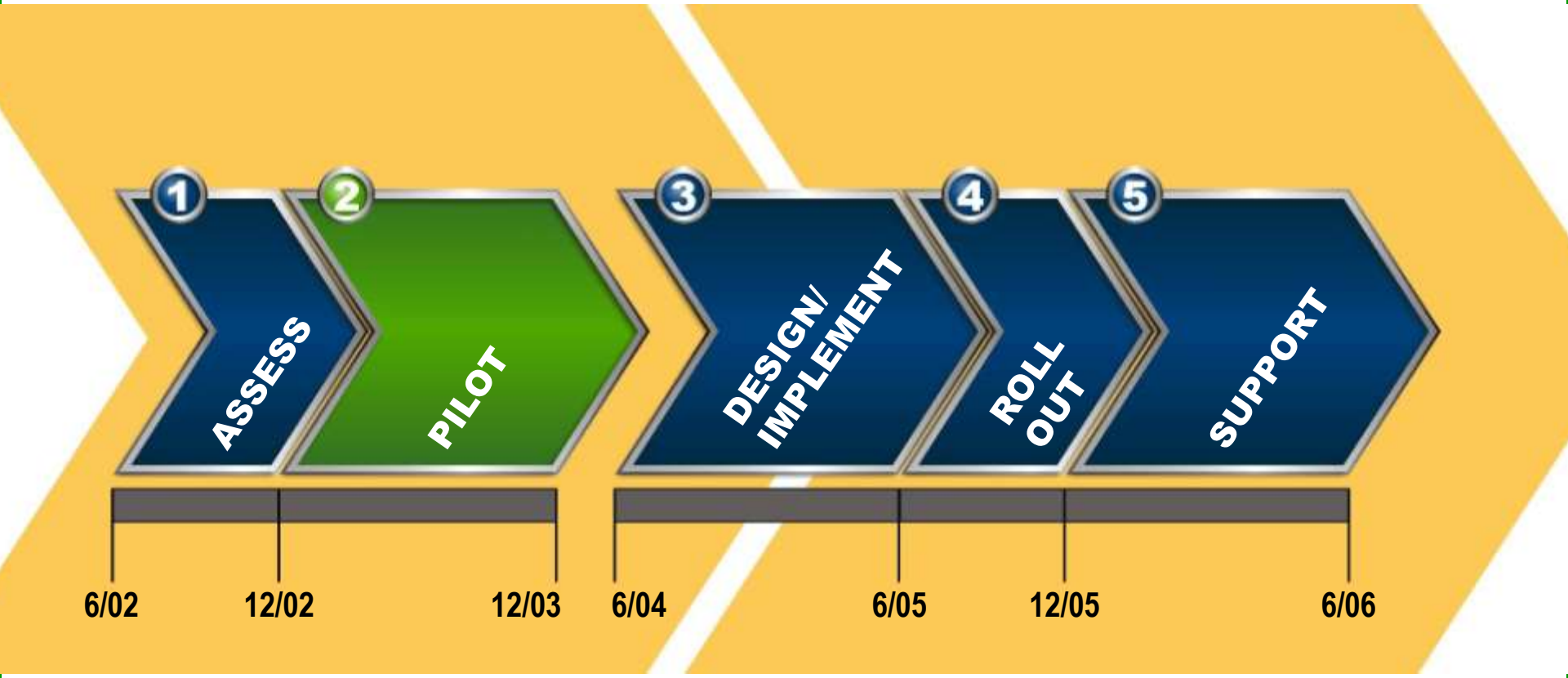
EST

Maintenance

Both Used Broad-Banding to Align Pay With New Classifications



Both Used Pilots as Proof of Concept



Both Used EMA's O-P-T Perspective as Foundation for Success

SECTION 3

Both Utilities Improve Bottom Line Results

CMU Utilized Balanced Scorecard to Assess Program Success

Customer

- Maintain leak response time
- Reduce sewer overflows from previous year through aggressive line cleaning

Financial

- Improve productivity by 20% as measured by the pilot labor savings

Internal Processes

- Increase the rate of return on service cards with higher ratings reported

Learning & Growth

- Receive training in new skill areas

CMU Pilot First, Results Supported Full Implementation

- Water Leak Response time declined from 14 to 3 days for pilot area, and declined from 9 to 6 for remaining service area.
- Sewer Line Cleaning crews realized a lower cost per job.
- Labor Productivity increased by 39% in the pilot geographic area. ***So: 39% of field staff could be deployed for time and event critical tasks.***
- Team members averaged 10 hours of OJT and 11 hours of classroom cross-training per month.
- Supervisor to employee ratio increased to 1:15; from 1:10.

Full Implementation Continues to Prove Beneficial to Operational Results

- In first 12 months of full implementation, planned maintenance increased from 47% to 68% on average.
- Work Plans in place with estimated hours for cleaning, Right-of-Way clearing, and Line Rodding; Planner Schedulers are building a work schedule around those estimates.
- Averaging a 3 – 4 week *planned* backlog.
- Introducing new equipment into mix.

18 Months Into Full Rollout, Employees Progressing Upward in Skill Matrix

- 210 employees:
  - 70% certified in the Utility Technician 1 or 2 positions **or** are certified in UT I&II skills and working to enter the skill matrix at Utility Technician 3 level.
- Employees received bonuses for completing certain skill sets, then 5% pay increases upon entry into a UT position.

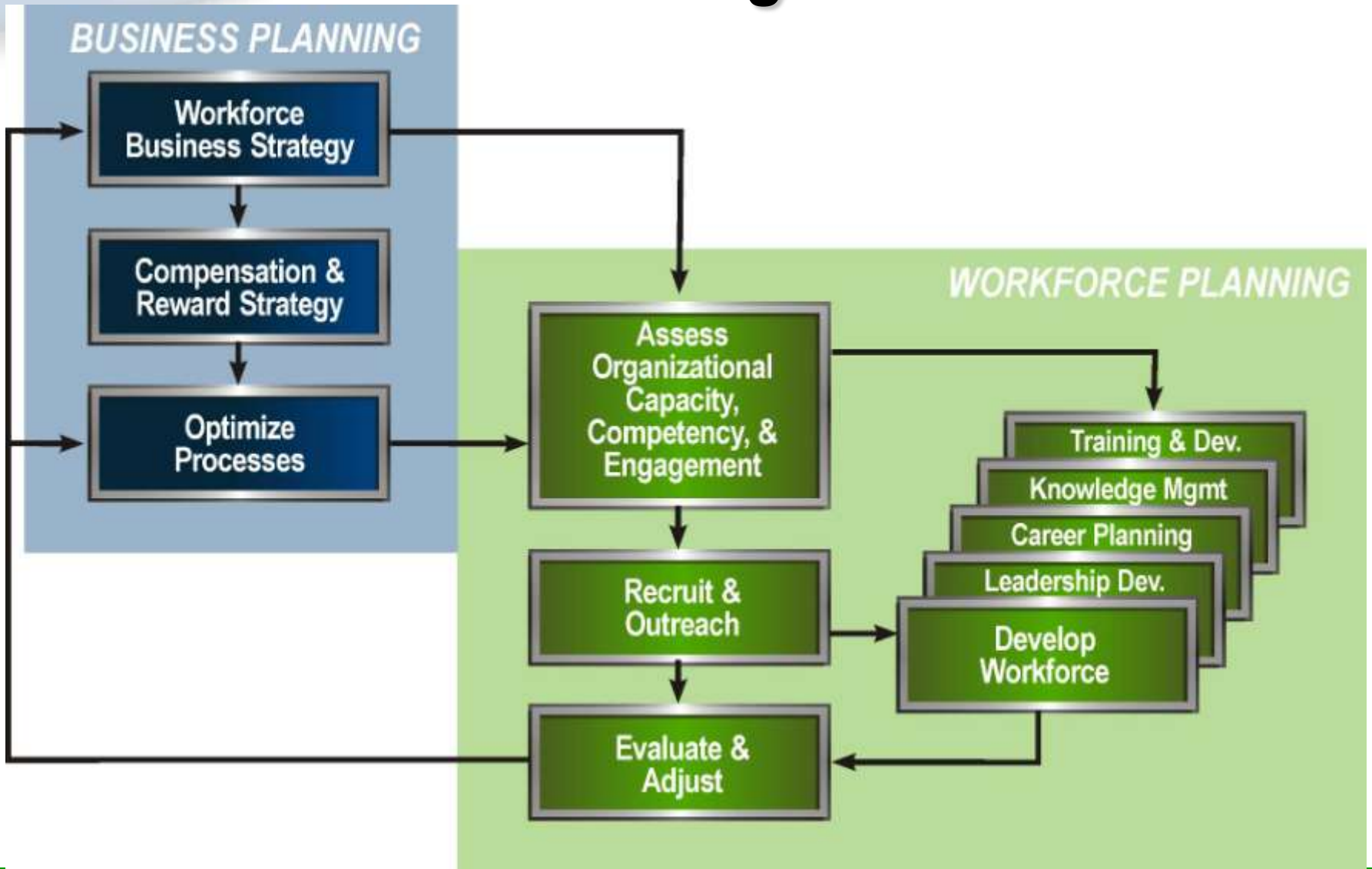
Vegas Implemented Technology First, Now Establishing Performance Criteria

- Training hours (as % Paid Hours)
- Absenteeism (as % Paid Hours)
- Overtime (as % Paid Hours)
- Planned Maintenance Completed
- Planned Maintenance Cancelled
- % Planned /% Reactive Maintenance
- Work Backlog in Crew Weeks
- And, all the standard sampling ……

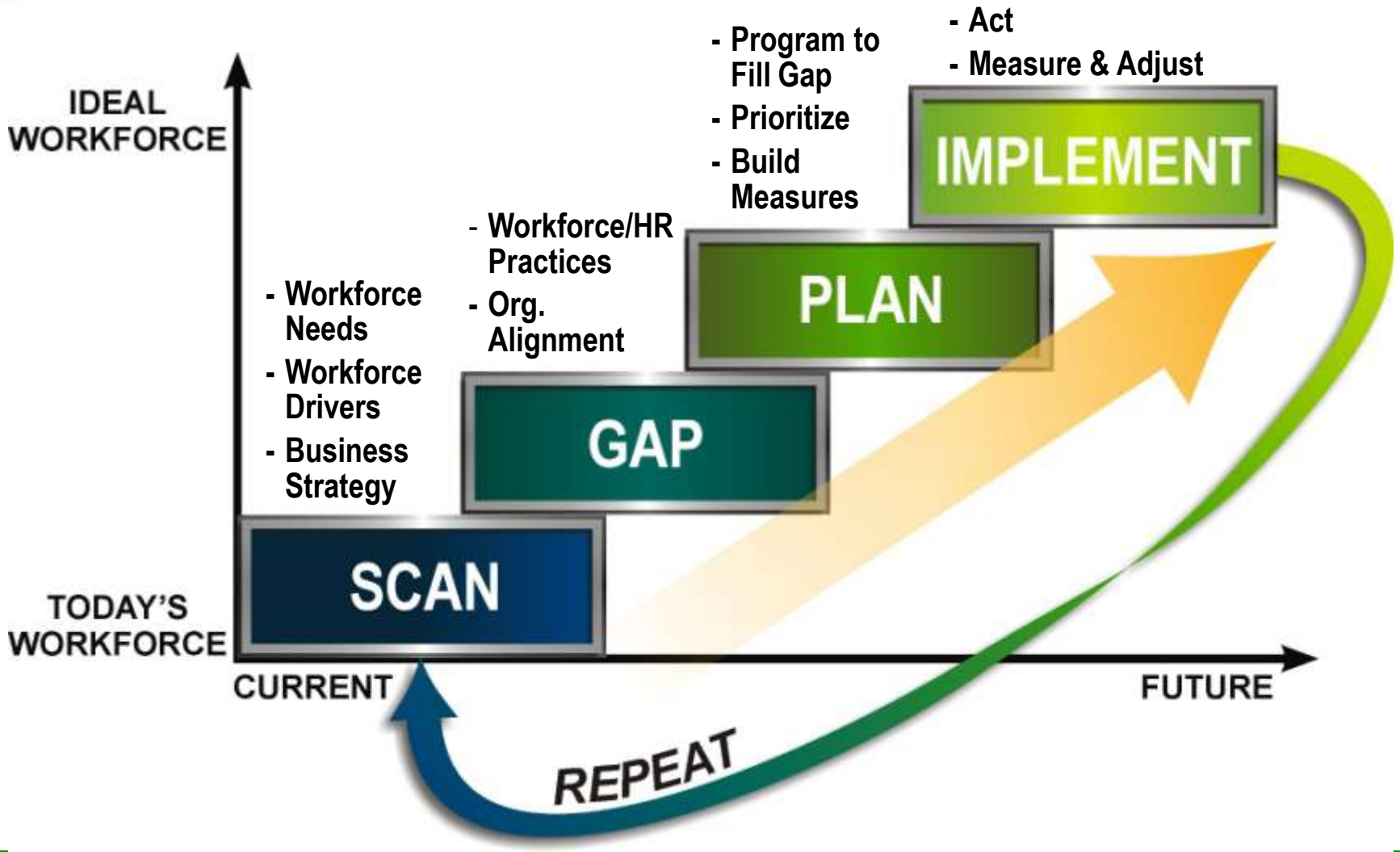
SECTION
4

How Do You Create This Program at Your Utility?

Workforce Sustainability Model Provides Framework for Planning



Adopt a Change Process With Tools to Build Sustainability



Three Actions That Will Lead to a Flexible and Productive Workforce

1. Put leaders in place who create a culture of involvement, learning and trust.
2. Organize a Design Team and follow the process shared by CMU and Vegas.
3. Pilot, Measure, Assess, Recalibrate to gain the flexibility and productivity that produce significant results.

Result Will be WIN-WIN for All Stakeholders

Improved Service, Real Savings

CUSTOMERS

Improved Management of Assets, More Productive Organization

CITY

Improved Skills, Better Pay, Advancement Opportunities

EMPLOYEES

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Questions?

For more information,
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