

Attracting, Developing and Retaining the Workforce of the Future: Engineering Division Position Progression Framework

Louisville MSD

5 Cities Plus 2018

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Engineering Division Progression

Indications of Problems with the Status Quo

- Inability to sustain critical institutional knowledge
- Limited incentives for staff professional growth
- Lack of staff ownership for work product quality
- Concern from supply chain partners on lack of more tenured staff



Engineering Division Progression By the Numbers

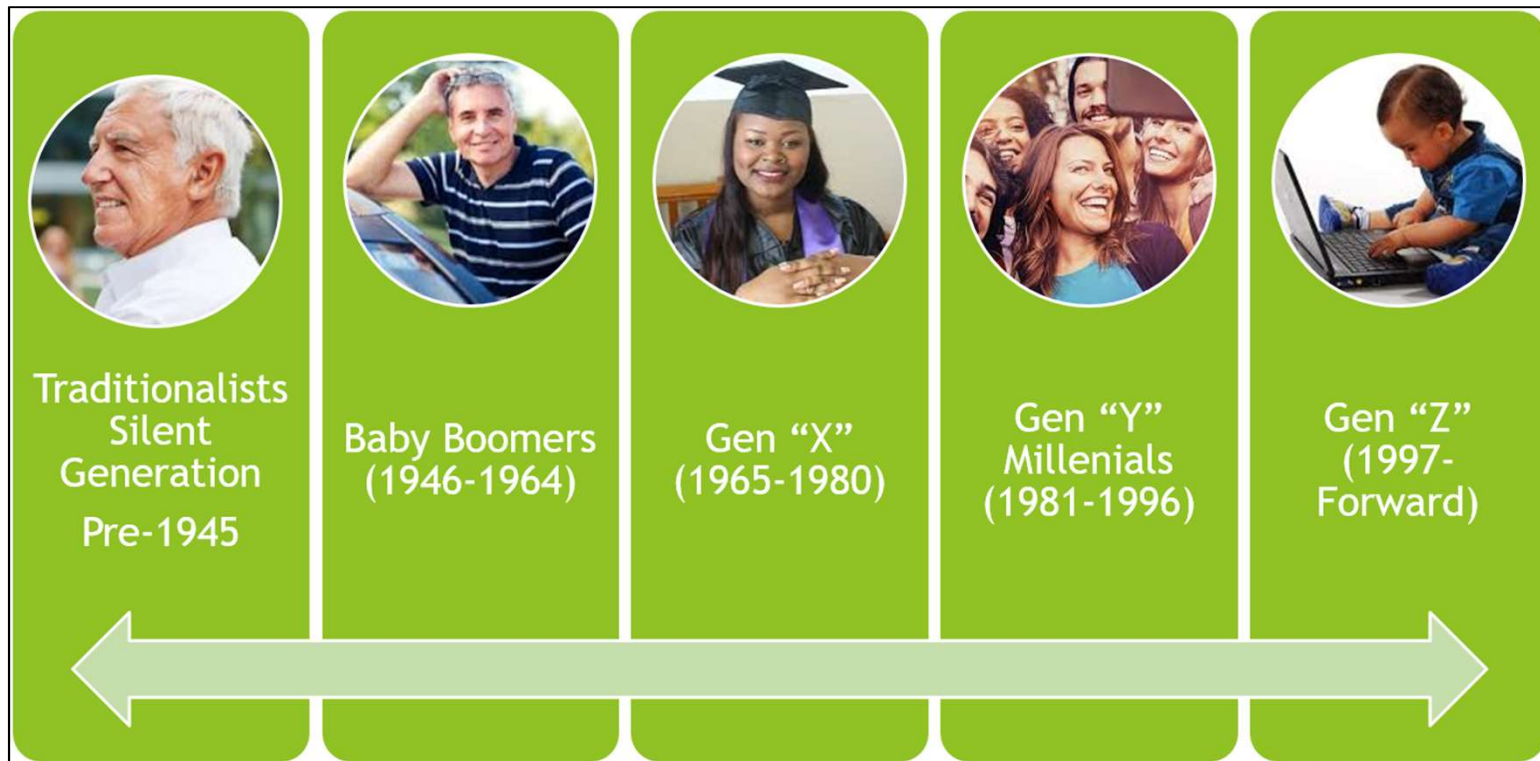
Staff Position Categories	98 Positions
Administration	4
Engineering Records Analysts/Techs	4
Reg Compliance/Asset Management Analysts	5
GIS Analysts	6
Engineers (non-licensed)	8
Engineering Techs	13
Construction Inspection	23
Engineers (licensed)	35

Note – position numbers include management

Engineering Division Progression Drivers for a New Approach

Multi-generational workforce

- Tenure is 6 months to 27 years
- Stepping stone for other opportunities



Engineering Division Progression Appeal to Diverse Workforce Motivators

	Traditionalist	Baby Boomer	Gen X	Millenials
Outlook	Practical	Optimistic	Skeptical	Hopeful
Work Ethic	Dedicated	Driven	Ambitious	Balanced
Authority	Respectful	Love/Hate	Education Based	Equality
Leadership	Hierarchy	Command/ Control	Consensus	Team Based
Relationships	Self-Sacrifice	Personal Gratification	Loyal	Inclusive
Perspective	Civic-Minded	Self-Reliant	Team Oriented	Community
Turn-offs	Vulgarity	Political Incorrectness	Clichés, Hype	Condescension

Engineering Division Progression Framework

Grade	Engineer - Management (PE Required)	Engineering - Technical (PE Required)	Engineer - Technical (EIT/PE not reqd)	Engineering Technicians	Regulatory Compliance & Asset Management	Construction Inspection	GIS	Records	Administration
31	Chief Engineer PE+10 years/5 years management								
27+	Engineering Directors PE+8 years/5 years management								
23	Engineering Manager & MSD Construction Manager ABET BS ENG EIT + PE+6 yrs rel exp post PE/5 yrs mgmt exp								
22	Engineering Managers (WGTC, Dm/Fld, Develop Rev) ABET BS ENG EIT + PE+7 yrs rel exp post PE/4 yrs mgmt exp	Senior Specialty Engineer (Elec/Mech) ABET BS ENG EIT + PE+15 yrs rel exp post PE (Last 6 years working within specialty field)			Regulatory Services, Records and GIS Services Manager BS + 9 yrs rel exp/3 yrs mgmt exp				
21	Engineering Program Managers (Infr Pln, WGTC, MS4) ABET BS ENG EIT + PE+6 yrs rel exp post PE/3 yrs mgmt exp	Senior Specialty Engineer (Const) ABET BS ENG EIT + PE+15 yrs rel exp post PE (Last 6 years working within specialty field)				Construction Inspection Manager BS + 9 yrs rel exp/3 yrs mgmt exp EPSC Cert NICET III or equivalent preferred			
20	Engineering Projects/Program Administrators (Fld Prod, Coll Sys, Dev Infr, PMA/CRS) ABET BS ENG EIT + PE+5 yrs rel exp post PE/1 yr mgmt exp	Senior Engineer ABET BS ENG EIT + PE + 9 yrs rel exp post PE		Project OIR Program Administrator BS + 9 yrs rel exp or EIT + PE+5 yrs rel exp post PE/1 yr mgmt exp EIT/PE pref EPSC Cert w/ 6mo if no PE	Regulatory Compliance & Asset Management Administrator ABET BS ENG EIT/PE + 5 yrs rel exp post PE/1 yr mgmt exp PACP Cert w/ 6mo				
19		Engineer III ABET BS ENG EIT + PE + 4 yrs rel exp post PE			Regulatory Compliance & Asset Management Senior Analyst BS + 10 yrs rel exp PACP Cert w/ 6mo CPEA-MS Cert		GIS Products Administrator BS + 5 yrs rel exp /1 yr mgmt exp GISP Cert		
18		Engineer II ABET BS ENG + EIT + PE 4 yrs rel exp	Associate Engineer II ABET BS ENG + 8 yrs rel exp EPSC Cert w/ 6mo	Plumbing Modification Services Administrator AS + 7 yrs rel exp/1 yr mgmt exp	Regulatory Compliance & Asset Management Analyst III BS + 8 yrs rel exp PACP Cert w/ 6mo CPEA-MS Cert	Construction Inspector Supervisor AS + 7 yrs rel exp/1 yr mgmt exp NICET II EPSC Cert w/ 6 mo	Senior GIS Analyst BS + 8 yrs rel exp PACP Cert w/ 6mo GISP Cert	Records Administrator BS + 5 yrs rel exp/1 yr mgmt exp	
17		Engineer I ABET BS ENG + EIT 0 yrs rel exp EPSC Cert w/ 6mo	Associate Engineer I ABET BS ENG + 2 yrs rel exp EPSC Cert w/ 6mo	Sr. Engineering Tech AS + 12 yrs rel exp EPSC Cert w/ 6mo	Regulatory Compliance & Asset Management Analyst II BS + 2 yrs rel exp PACP Cert w/ 6mo	Construction Inspector II AS + 6 yrs rel exp NICET III EPSC Cert w/ 6 mo	GIS Analyst III BS + 5 yrs rel exp PACP Cert w/ 6mo GISP Cert Pref		
16				Engineering Tech III AS + 7 yrs rel exp EPSC Cert w/ 6mo	Regulatory Compliance & Asset Management Analyst I BS + 0 yrs rel exp		GIS Analyst II BS + 2 yrs rel exp	Records Analyst II BS + 4 yrs rel exp	
16				Engineering Tech II AS + 3 yrs rel exp		Construction Inspector II HSDip + 4 yrs rel exp NICET II EPSC Cert w/ 6 mo	GIS Analyst I BS + 0 yrs rel exp		
14				Engineering Tech I AS + 0 yrs rel exp				Records Analyst II BS + 2 yrs rel exp	Engineering Administrative Specialist AS + 5 yrs rel exp
13						Construction Inspector I HSDip + 1 yrs rel exp NICET I EPSC Cert w/ 6 mo			Engineering Administrative Coordinator HSDip + 3 yrs rel exp
12								Records Analyst I BS + 0 yrs rel exp	
11									
10								Records Technician AS + 0 yrs rel exp	

Engineering Division Progression Framework

Implementation Elements

Application Process	Transparent, clearly articulated, consistently administered with multi-department involvement, initiated by the employee
Job Descriptions	Increasing defined complexity of required job functions, work product quality standards and required level of leadership
Individual Development Plan	Mutually agreed upon plan for employee to sharpen/expand skills, enhance knowledge and gain experience necessary for next level
Annual Performance Goals	Defined deliverables with milestone completion dates for both project and programmatic elements
Annual Performance Competency Evaluations	Clearly articulated measures of performance for each competency, consistently applied across the division

Engineering Division Progression Lessons Learned

- Partner with your HR Division
- Utilize best practices and lessons learned from peer organizations
- Build forward-looking program that addresses multi-generational values and perspectives
- Involve your management staff in the program development – they have to implement it!
- Clearly articulate the standard of excellence you expect, consistently evaluate performance against the standards, and reward those that meet/exceed the expectations with advancement

**"THE RIGHT THING TO
DO AND THE HARD
THING TO DO ARE
USUALLY THE SAME."**