Calculating PCI Manually

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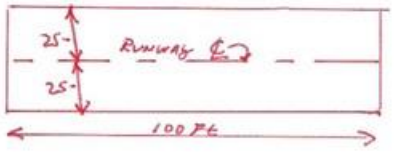
Asphalt Pavement Survey Data Sheet

AIRFIELD ASPHALT PAVEMENT
CONDITION SURVEY DATA SHEET
FOR SAMPLE UNIT

BRANCH R/W 1-19 SECTION 2C SAMPLE UNIT 1

SURVEYED BY SDM DATE 11-3-16 SAMPLE AREA 50,000 SF

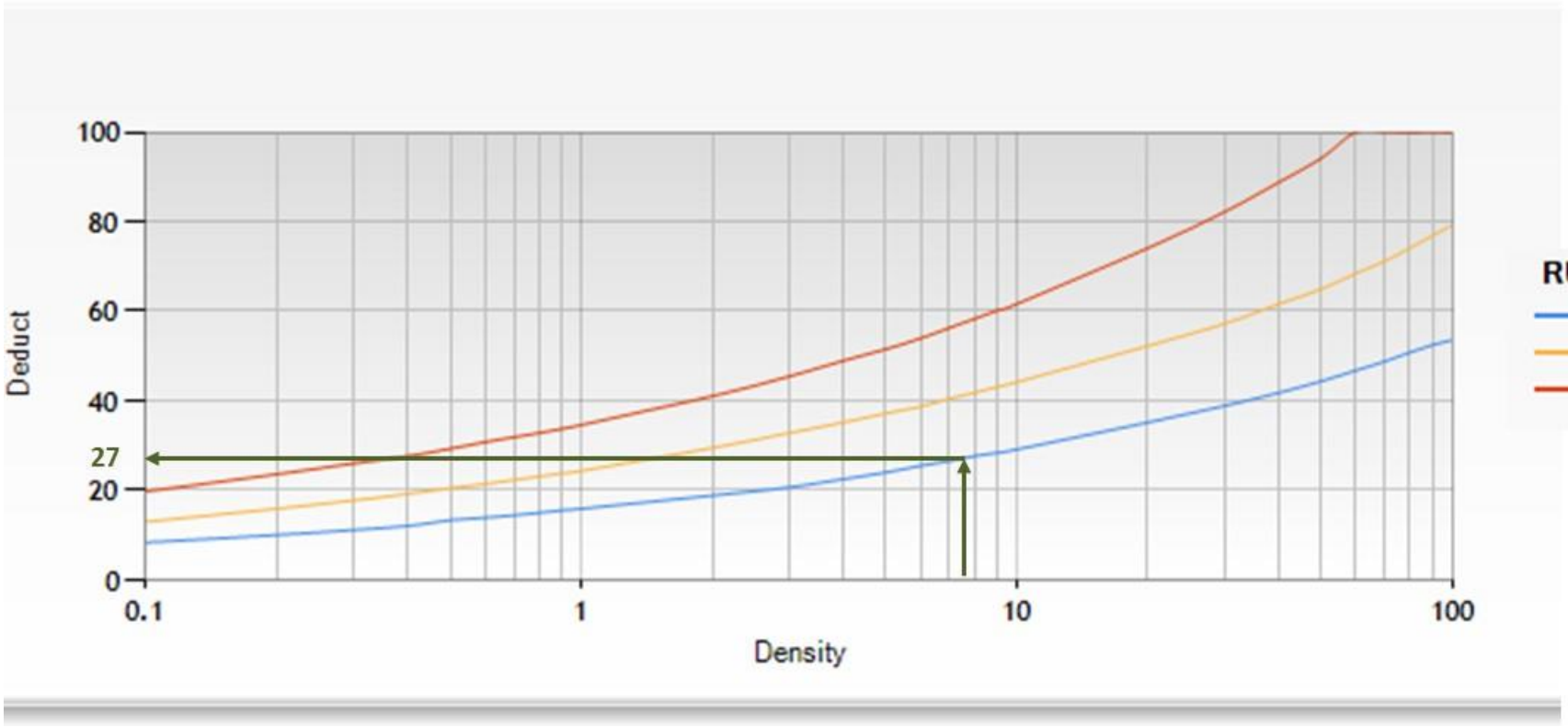
SKETCH:



1. Alligator Cracking	6. Jet Blast	11. Polished Aggregate	16. Swell
2. Bleeding	7. Jt. Reflection (PCC)	12. Raveling	17. Weathering
3. Block Cracking	8. Long. & Trans. Cracking	13. Rutting	
4. Corrugation	9. Oil Spillage	14. Shoving from PCC	
5. Depression	10. Patching	15. Slippage Cracking	

DISTRESS SEVERITY	QUANTITY									TOTAL	DENSITY %	DEDUCT VALUE
8L	15	10	20							45	0.90	4.8
8M	4	5								9	0.18	4.9
1L	20	30								50	1.00	21.0
13L	100	100								200	7.50	27.0
13M	25									25	0.50	20.0
5L	15									15	0.30	2.0
5M	20									20	0.40	9.0
10L	50									50	1.00	4.0

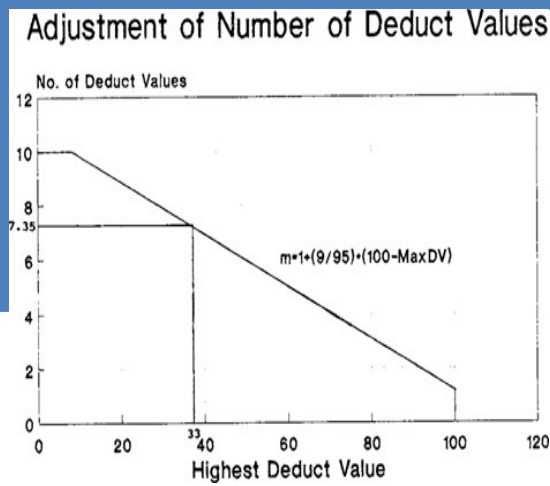
Deduct Curve for Rutting



Determine Maximum Number of Distresses

m=1+(9/95)(100-HDV)

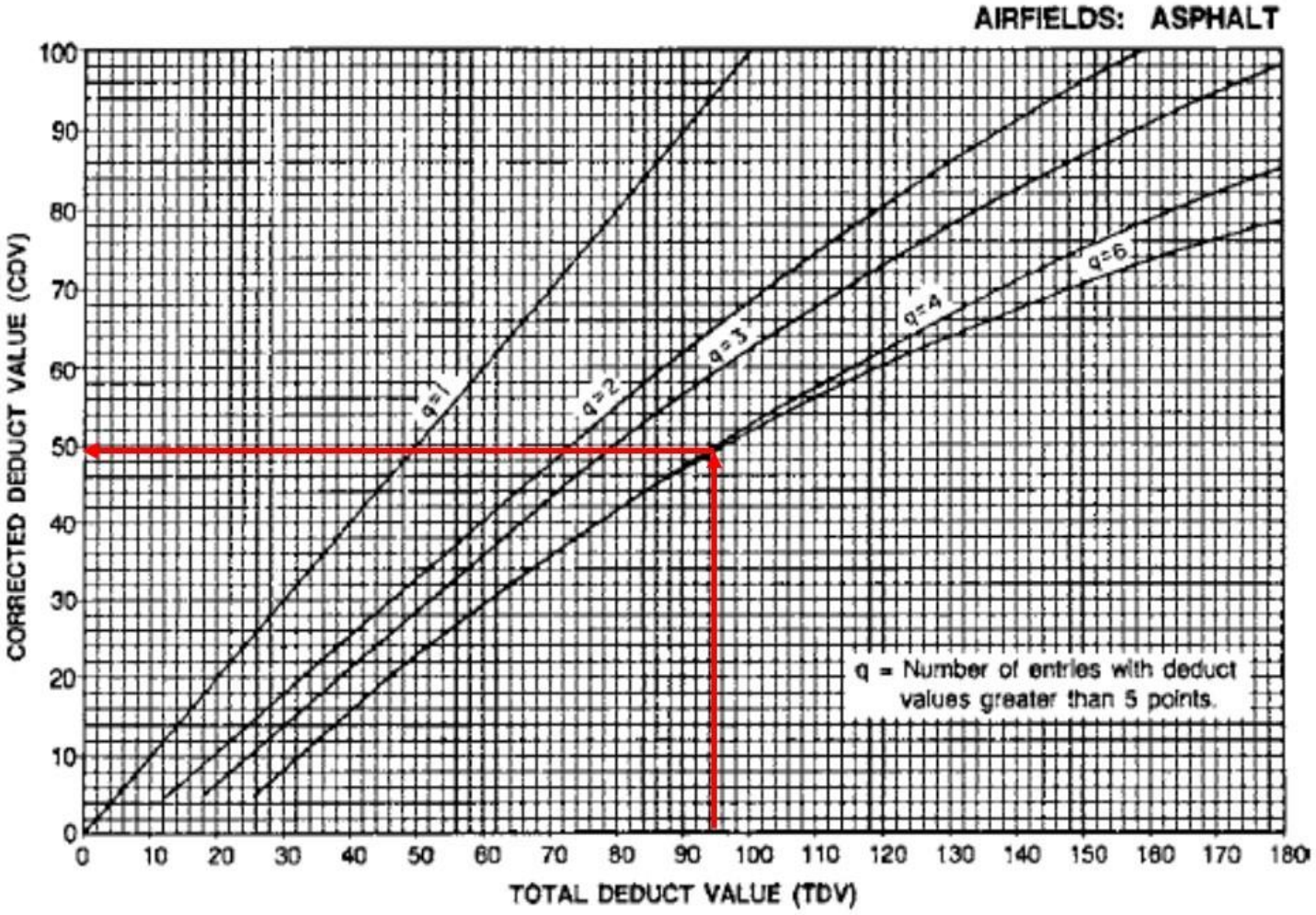
m= 1=(9/95)(100-27)= 7.92



Adjustment of Deduct Values

#	DEDUCT VALUES									Total	q	CDV
1	27.0	21.0	20.0	9.0	4.9	4.8	4.0	1.8		92.5	4	50
2	27.0	21.0	20.0	5.0	4.9	4.8	4.0	1.8		88.5	3	56
3	27.0	21.0	5.0	5.0	4.9	4.8	4.0	1.8		73.5	2	51
4	27.0	5.0	5.0	5.0	4.9	4.8	4.0	1.8		57.5	1	57.5
5												
6												
7												
8												
9												

Corrected Deduct Value for Flexible Airfield Pavements



PCI= 100- Max CDV

PCI = 100-57.5 = 42.5

Check if correction is required for multiple severity distress.

	Distresses	PCI Value
Start with:	*l, m, h*	→ PCI (*l, m, h*)
Set (*l* + *m*) = *M*	→*0, M, h*	→ PCI (*0, M, h*)
Set (*m* + *h*) = *H*	→*l, 0, H*	→ PCI (*l, 0, H*)
Set (*l* + *h*) = *H*	→ *0, m, H*	→ PCI (*0, m, H*)
Set (*l* + *m* + *h*) = *H*	→ *0, 0, H*	→ PCI (*0, 0, H*)

PCC Pavement Survey Data Sheet

AIRFIELD CONCRETE PAVEMENTS
CONDITION SURVEY DATA SHEET FOR SAMPLE UNIT

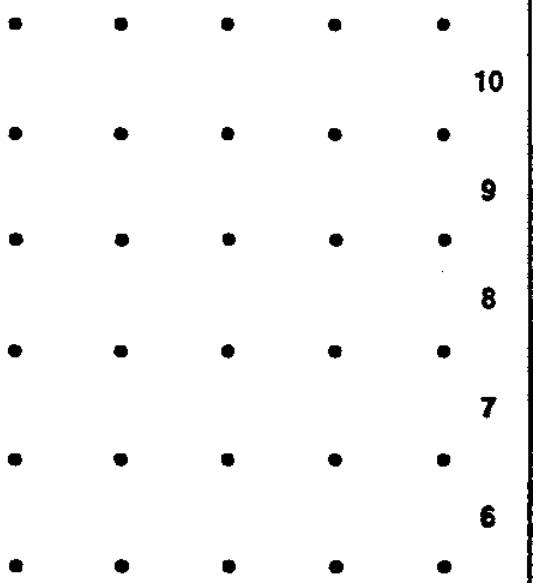
BRANCH_____ SECTION_____ SAMPLE UNIT_____
SURVEYED BY_____ DATE_____ SAMPLE AREA_____

Distress Types

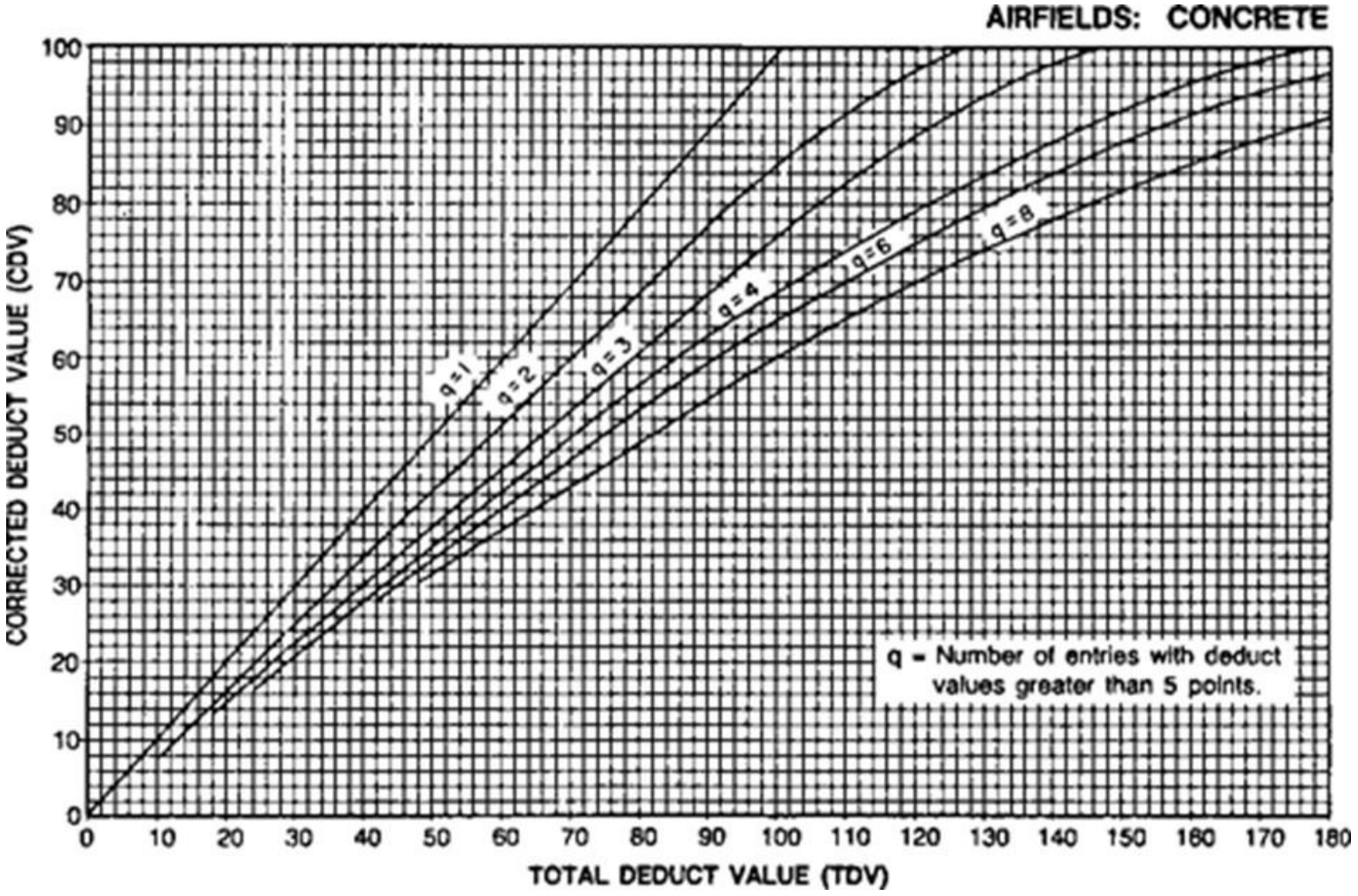
1. Blow up
2. Corner Break
3. Long/Trans/ Diagonal Crack
4. Durability Crack
5. Joint Seal Damage
6. Patching, 5 sf
7. Patching/Utility Cut
8. Popouts
9. Pumping
10. Scaling/Map Crack/ Crazing
11. Settlement/Fault
12. Shattered Slab
13. Shrinkage Crack
14. Spalling-Joints
15. Spalling-Corner

DIST TYPE	SEV	NO. SLABS	DENSITY %	DEDUCT VALUE

SKETCH:



Corrected Deduct Values for Jointed Rigid Airfield Pavements



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$$PCI_S = \overline{PCI_r} = \frac{\sum_{i=1}^{n} (PCI_{ri} \cdot A_{ri})}{\sum_{i=1}^{n} A_{ri}}$$

PCI for Section is calculated as the area weighted PCI of the Sample Units :

QUESTIONS?

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