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FAX TRANSMITTAL

TO:	FROM:
Shahab Biazar, P.E. Planning Department Development and Building Services Division City of Albuquerque	Justin Schara, EI High Mesa Consulting Group jschara@ highmesacg.com
FAX:	PAGES:
924-3864	1
PHONE:	DATE:
	10-25-13
PROJECT:	RE:
Chaparral ES Parent Parking Lot (F10/D005)	Beehive Grate Inlet Calculations
JOB NO:	CC:
2013.180.2	

☐ Urgent ☐ For Review ☒ For Your Info. ☐ Please Reply ☐ As Discussed ☒ As Requested

Shahab,

As requested, here is the calculations for the inlet grate at Chaparral ES Parent Parking Lot. Let me know if you have any questions.

Justin

Justin Schara

From: Justin Schara
Sent: Friday, October 25, 2013 9:24 AM
To: 'Biazar, Shahab'
Subject: RE: Chaparral E.S., Parent Parking Lot, Grading and Drainage Plan (F10/D005)

Shahab,

I have completely retyped the calculations into the body of this email, hopefully that does the trick and this email finally goes through. ☺

Thanks for your help on this.

These calculations are based on the condition of developed peak discharge of $Q_{100} = 7.5$ cfs. Design of the beehive grate assumes a 50% clogged condition, so therefore $Q_{req'd} = 15$ cfs is the minimum required capacity.

Neenah Beehive Grate R-4349

Orifice Equation: $Q_{cap} = 0.6 \cdot A \cdot \sqrt{2 \cdot g \cdot h}$

A = Grate Open Area = 2.7 sq ft

G = 32.2 ft/sec²

H = head = 1.34 ft (Rim = 10.50, Nearest Road Edge Elev = 11.84)

$Q_{cap} = 15.1$ cfs > $Q_{req'd} = 15$ cfs

Therefore, the rim must be lowered 1' to 10.50 to meet the 50% clogged condition requirement.



Justin D. Schara, E.I.

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