

**REVIEW OF MARKET COMMENTS
PRESENTED IN SC MARKET ANALYTICS
AND THE BRATTLE GROUP
EXPERT REPORTS OF JUNE 9, 2017**

**RE: ARBITRATION MATTER BETWEEN
BILCON OF DELAWARE AND THE
GOVERNMENT OF CANADA**

Prepared For
NASH JOHNSTON LLP

By
John T. Boyd Company
Mining and Geological Consultants
Pittsburgh, Pennsylvania



Report No. 3807.001
AUGUST 2017



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August 16, 2017
File: 3807.001

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Attention: Mr. Gregory Nash

RE: Arbitration Matter Between
Bilcon of Delaware
And the Government of Canada

Subject: Review of Market Comments Presented in
SC Market Analytics and the Brattle Group
Expert Reports of June 9, 2017

Dear Sirs:

This report provides our independent response to the Expert Reports submitted by SC Market Analytics (SCMA) and The Brattle Group (Brattle), both dated June 9, 2017. Specifically, this report addresses the portion of the Respondent's Expert Reports that review the crushed stone demand and pricing (revenue) concerning the New York City (NYC) metropolitan area. This report primarily focuses on the premium crushed stone market of NYC as there appears to be little disagreement on the benefit derived from selling "grits" through Amboy Aggregates into the New Jersey market. We do not address the (cost) estimates for mining and transporting of material from Canada to NYC. Within the defined scope of work specified by Nash Johnston LLP, we consider this report to be a fair and reasonable assessment of the crushed stone/concrete sand markets within the specified market areas.

The findings and conclusions presented in this report represent the independent opinions of BOYD and the designated expert for BOYD in this case, Mr. Michael F. Wick.

Respectfully submitted,

JOHN T. BOYD COMPANY

By:


A handwritten signature in black ink, appearing to read "Michael F. Wick". The signature is fluid and cursive, with a large, stylized initial "M" and "W".

Michael F. Wick
Vice President/Expert

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REBUTTAL REPORT

1.0 Summary

1. At first glance, the SCMA and Brattle reports appear to be based upon diligent analysis of independent data and forecasts. In reality, the forecasts, opinions, and financial model are based predominantly on proprietary information and “calculations” that were developed internally with little transparency, methodology, or source data provided. In fact, none of the data presented in either report are independent and verifiable raw market data specifically addressing the NYC market.
2. From a stone supply perspective, the reports suggest that there is substantial seaborne competition available from numerous conceptual and existing Canadian quarries that could readily supply stone to the NYC market. In reality, a seaborne Canadian stone quarry **IS NOT** a market participant (competition) in the NYC building and construction markets. The notion that if a company operates a quarry in Canada then it automatically becomes a market participant in NYC is pure fallacy. 
3. From a stone demand perspective, and contrary to SCMA, the NYC construction market has been on a steady increase since 2011 and has reached a historical all-time spending record in 2016.¹ The raw data to support these facts are readily available from many reputable sources including: The Portland Cement Association, (PCA) The New York Building Congress (NYBC), and Dodge Data and Analytics. All of these long-established firms are the unquestionable suppliers of market data for the construction industry and building materials markets including NYC. Their data are completely transparent and available to anyone at any time. Figure 1 below needs little explanation, regardless of what timeframe or vantage point is utilized, NYC construction markets have experienced sustained long-term construction spending increases. From the opening of NYSS in 1998

¹ 

through 2016, construction spending has increased on average 8.3% annually. Additionally, from the projected commencement of stone sales from Whites Point in 2011 through 2016, spending has increased an average of 9.1% annually.

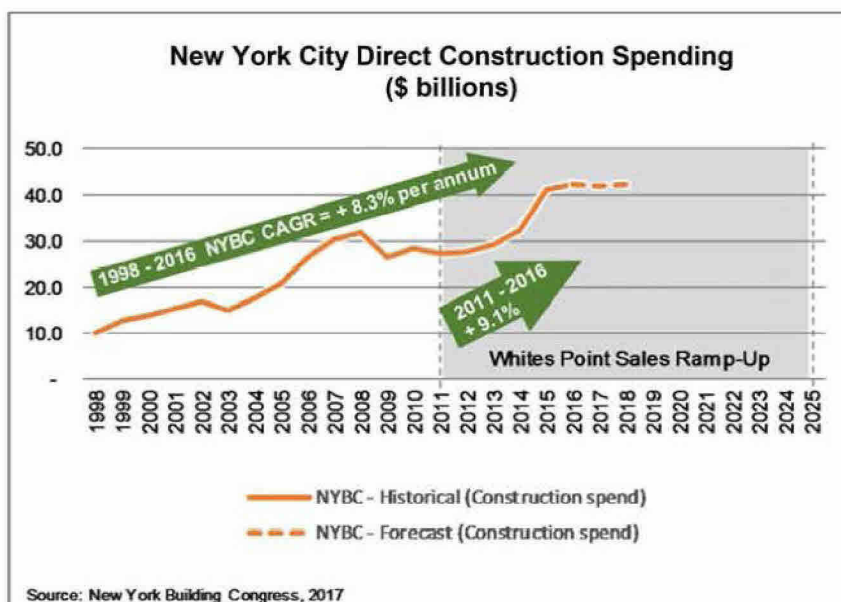


Figure 1: NYC Construction Spending

4. The SCMA and Brattle reports attempt to create the illusion that the NYC market is in decline (decreasing demand) and that there is, or will be, substantially increased competition (increasing supply) from predominantly Canadian stone quarries. The reports opine that this dynamic would create the framework for a prolonged and unprecedented price war in NYC, [REDACTED] for the entire 50-year lifespan of the Whites Point operation.

5. [REDACTED]

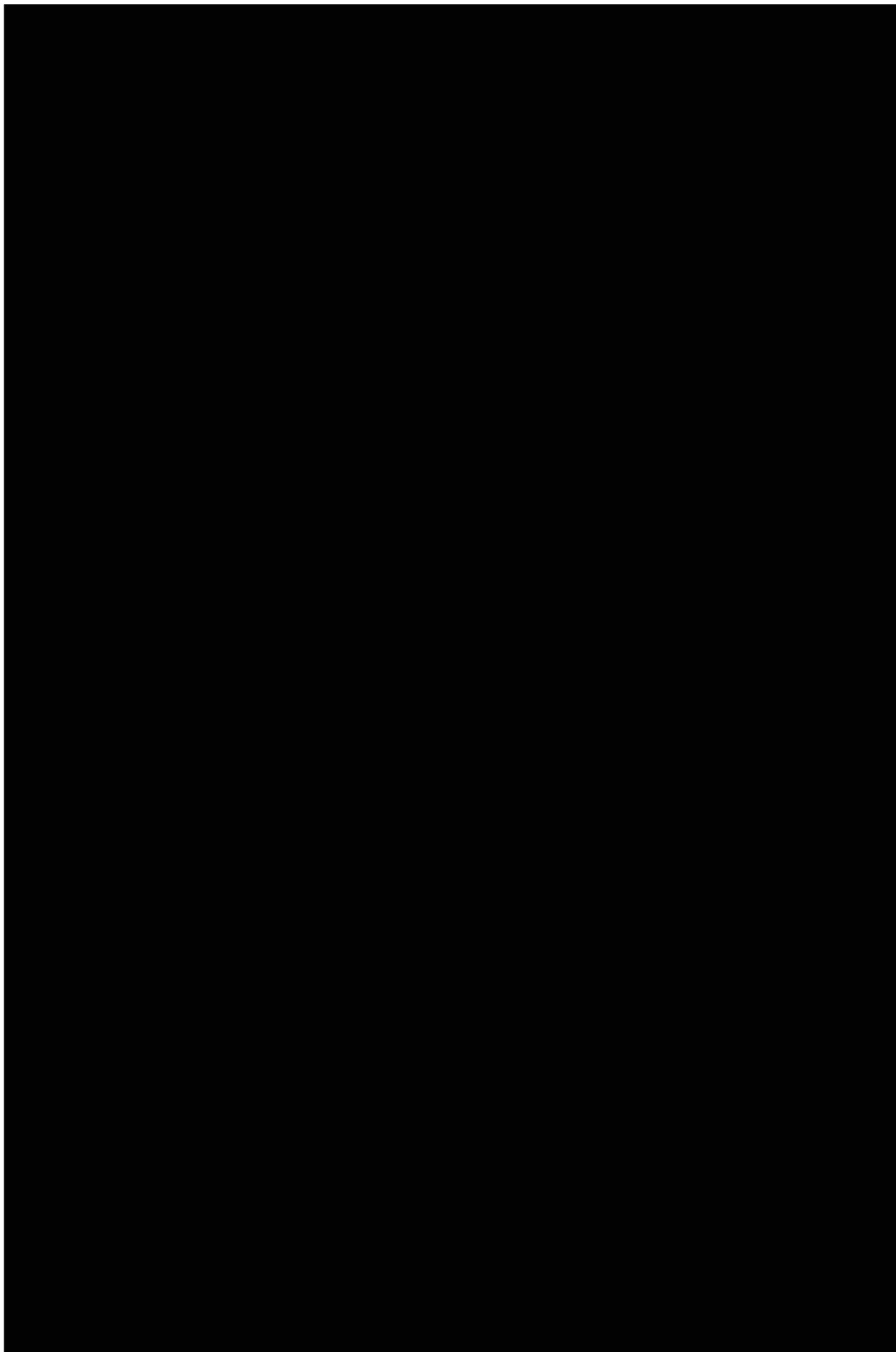
² SCMA p.26, para. 80.

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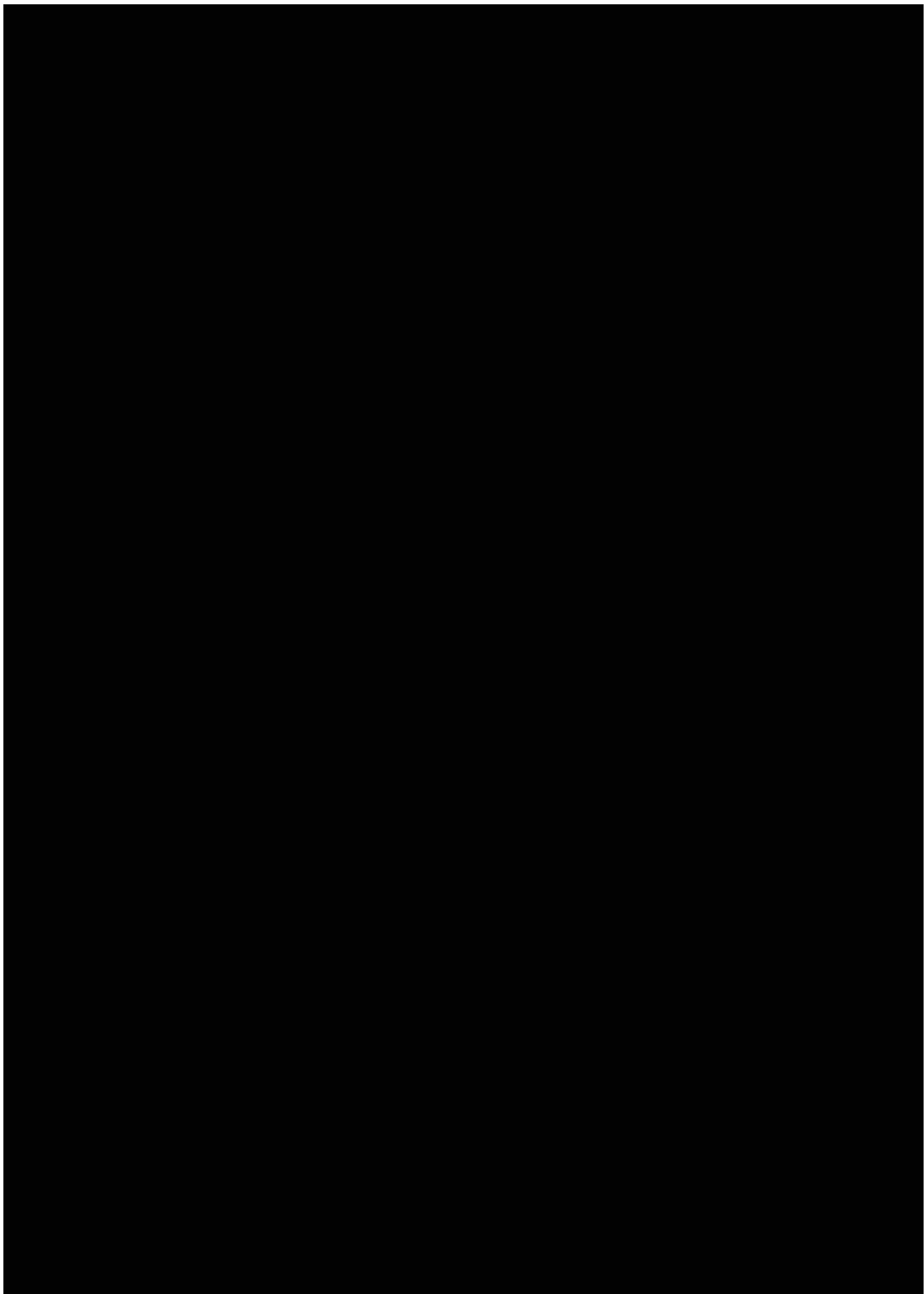
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³ Ibid.

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⁴ SCMA, P.26, para 80.

⁵ SCMA, P.14, para 40.

⁶ SCMA, P.5, para.16.

⁷ SCMA, P.38, Appendix III.

11.



12. SCMA also contends that BOYD utilized a coarse aggregate to cement ratio that included the sand/fines portion of the concrete¹⁰. As indicated below, this was not the case when utilizing 4 tons of coarse aggregate per 1 ton of cement:

Concrete mix design is the process of finding the proportions of concrete mix in terms of ratios of cement, sand and coarse aggregates. For e.g., a concrete mix of proportions 1:2:4 means that cement, fine and coarse aggregate are in the ratio 1:2:4 or the mix contains one part of cement, two parts of fine aggregate and four parts of coarse aggregate. The concrete mix design proportions are either by volume or by mass.¹¹

13. All of the SCMA assertions pertaining to BOYD's market estimate are totally unsupported by any verifiable data, examples or documentation.

⁸ SCMA P.24, para. 73.

⁹ SCMA Figure 6, p.18.

¹⁰ Ibid.

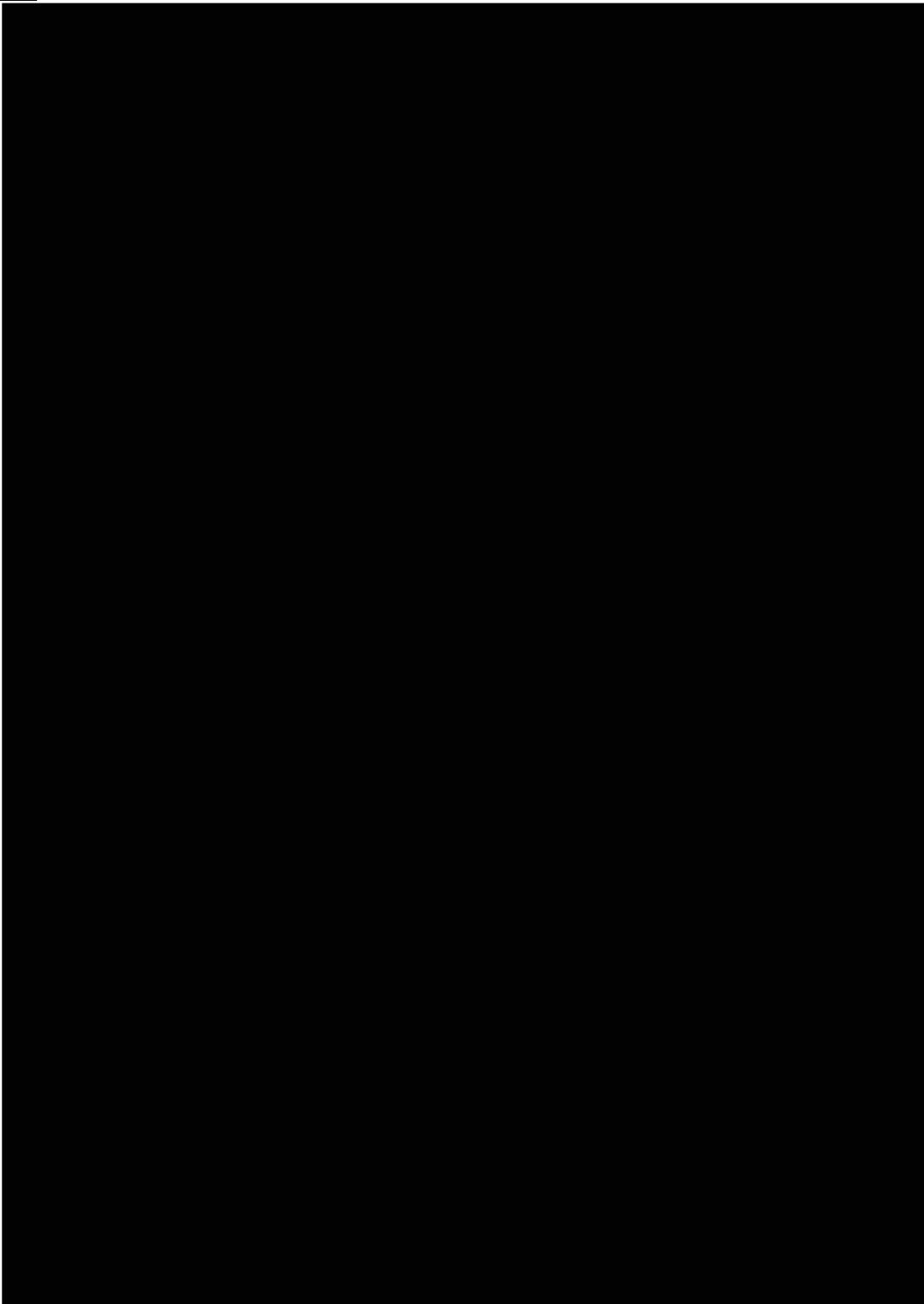
¹¹ Concrete Technology Guide for the Civil Engineer, Concrete Mix Design- IS456

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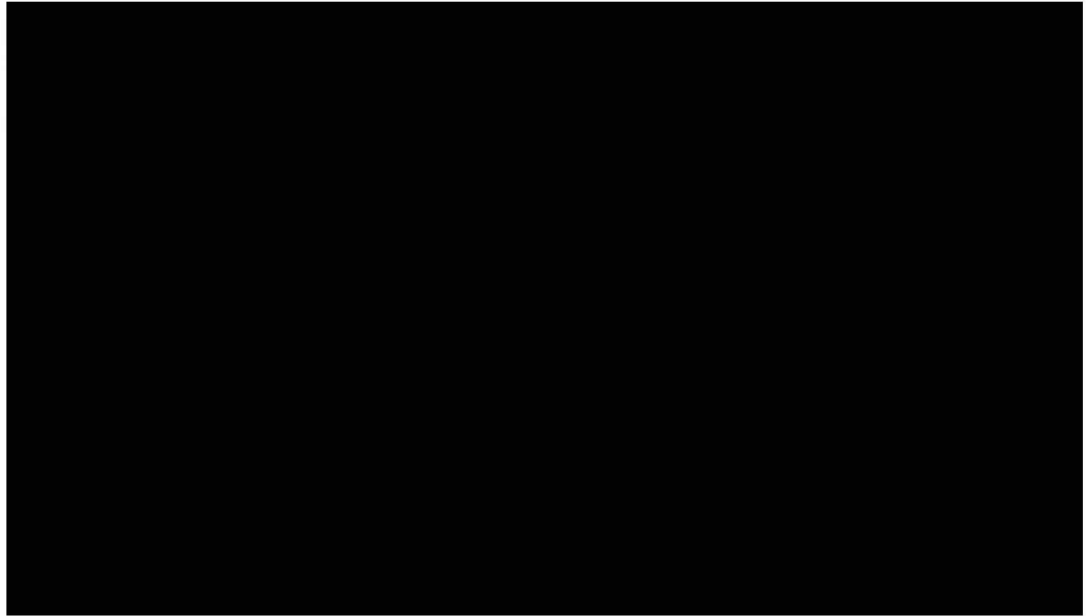
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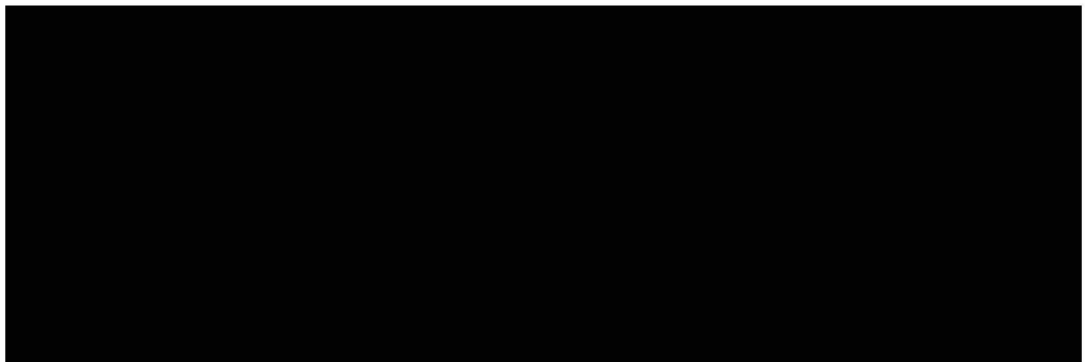
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4.0 The Realities of Demand and Pricing in the NYC Market

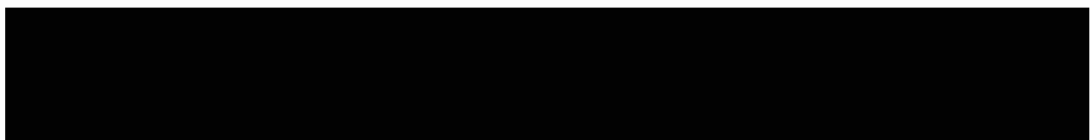
18. The majority of the charts and graphs in the SCMA report appear to show a NYC market in decline with large amounts of potential Canadian stone supply and rapidly declining cement consumption and construction spending. This is accomplished by choosing selective segments of proprietary data at various snapshots in time and presenting it in succession to create the illusion of a market in long-term decline.

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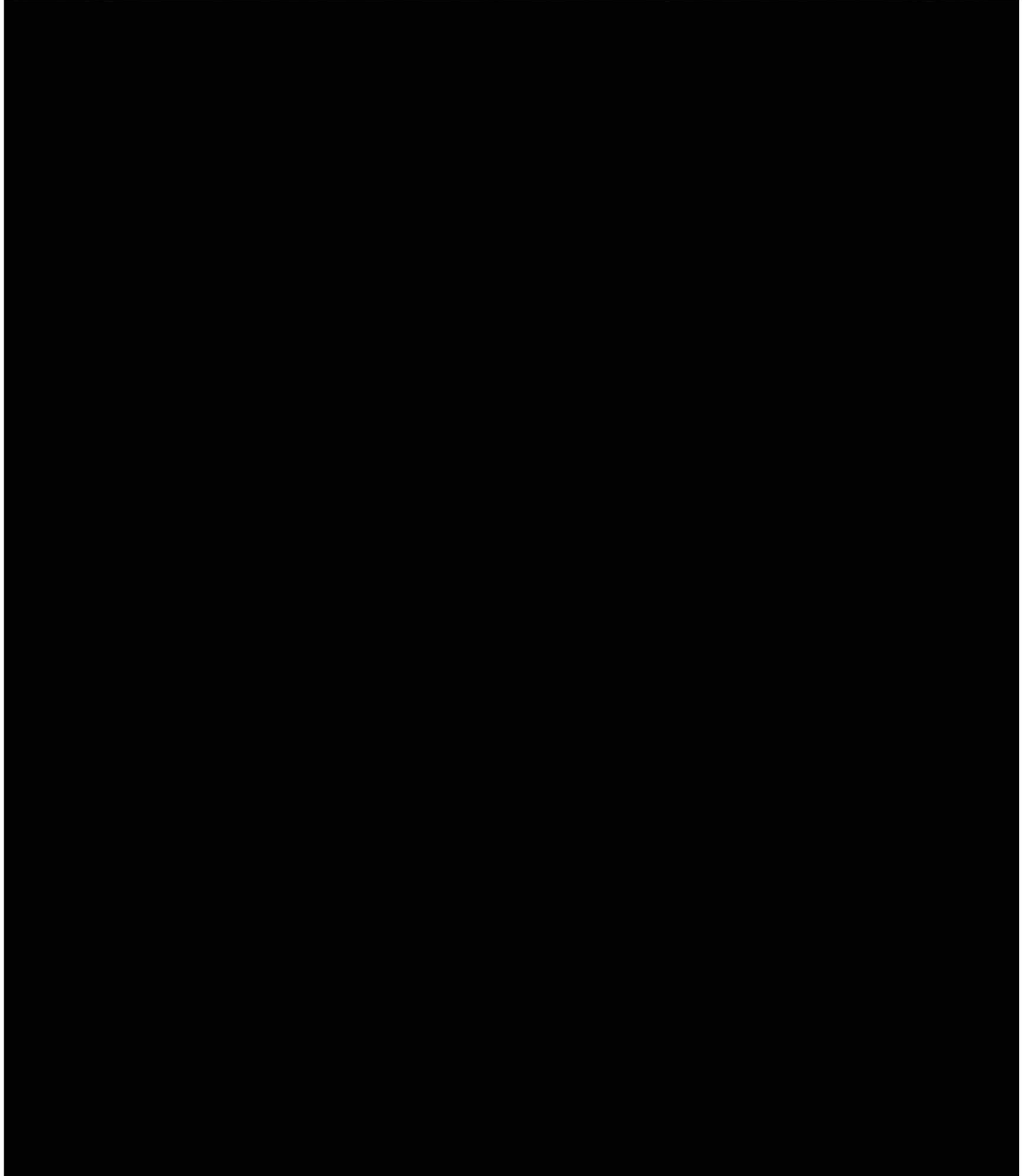
The SCMA Report's assertions that an increase in supply would coincide with a declining market appear to be based on several flawed premises, including the following.

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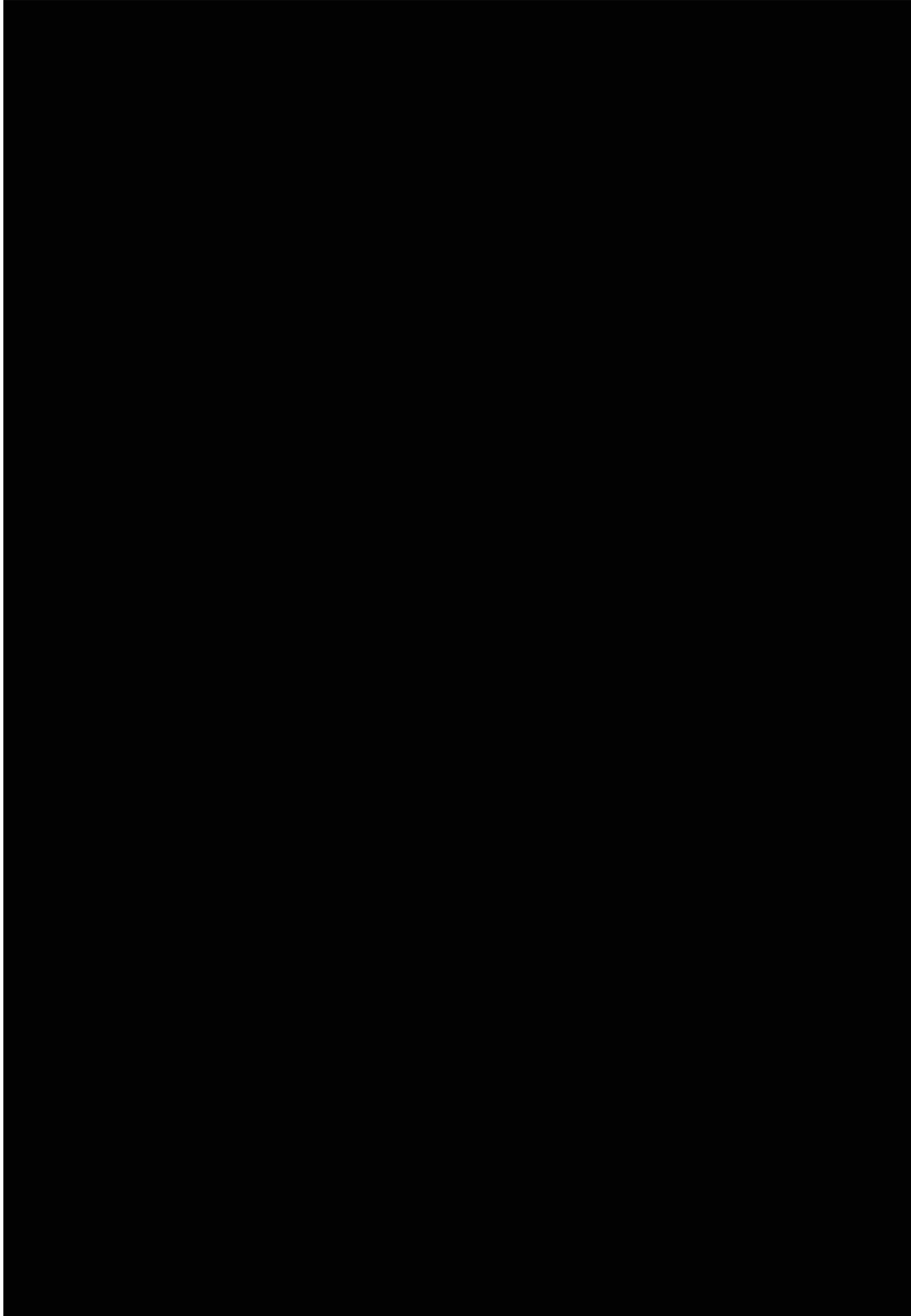


21. Unsupported and mistaken assumptions about potential stone supply –



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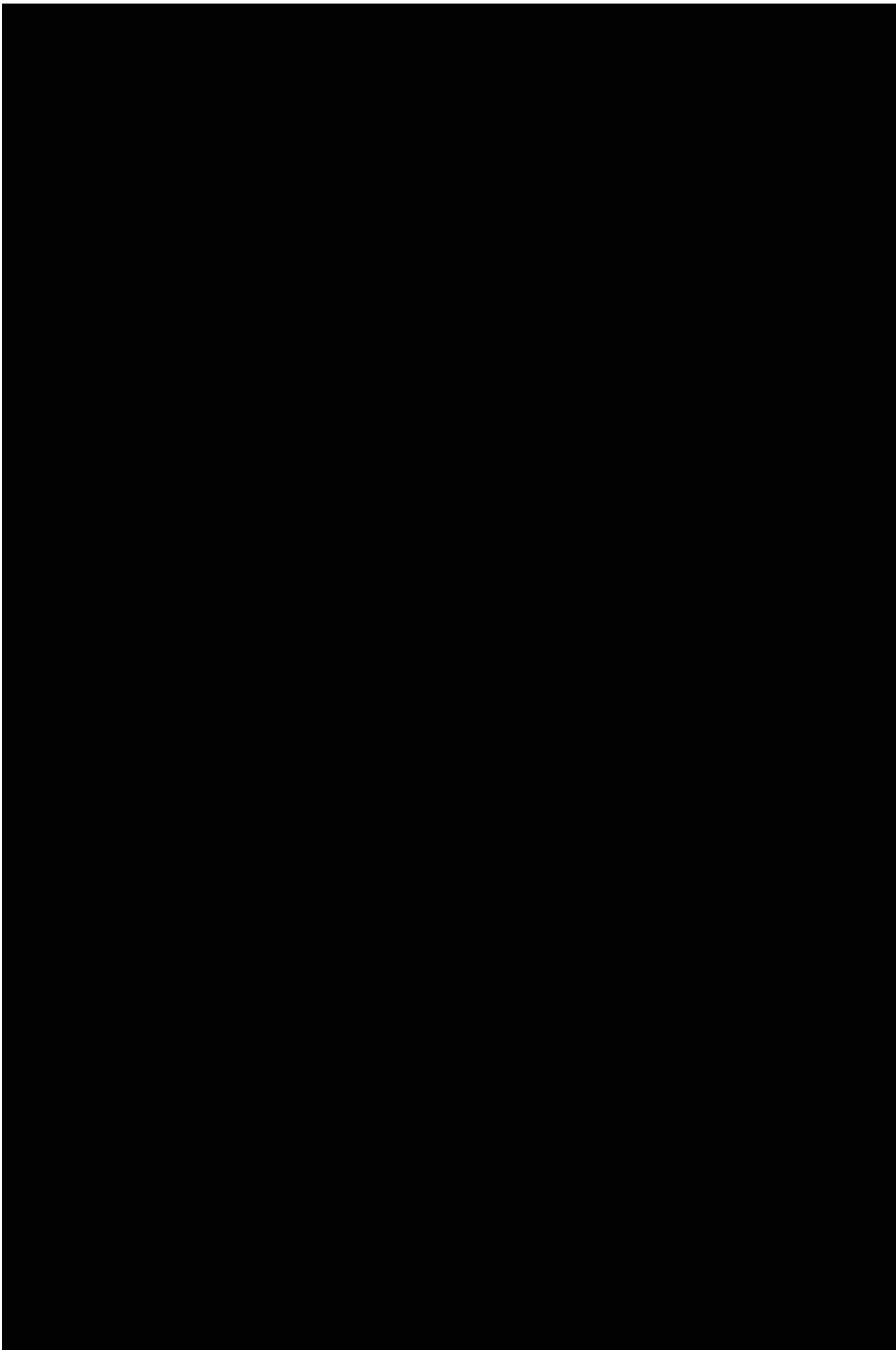
¹³ Black Point Quarry Project Schedule, www.blackpointquarry.com

¹⁴ SCMA P. 27, No. 2.

¹⁵ Brattle para. 143

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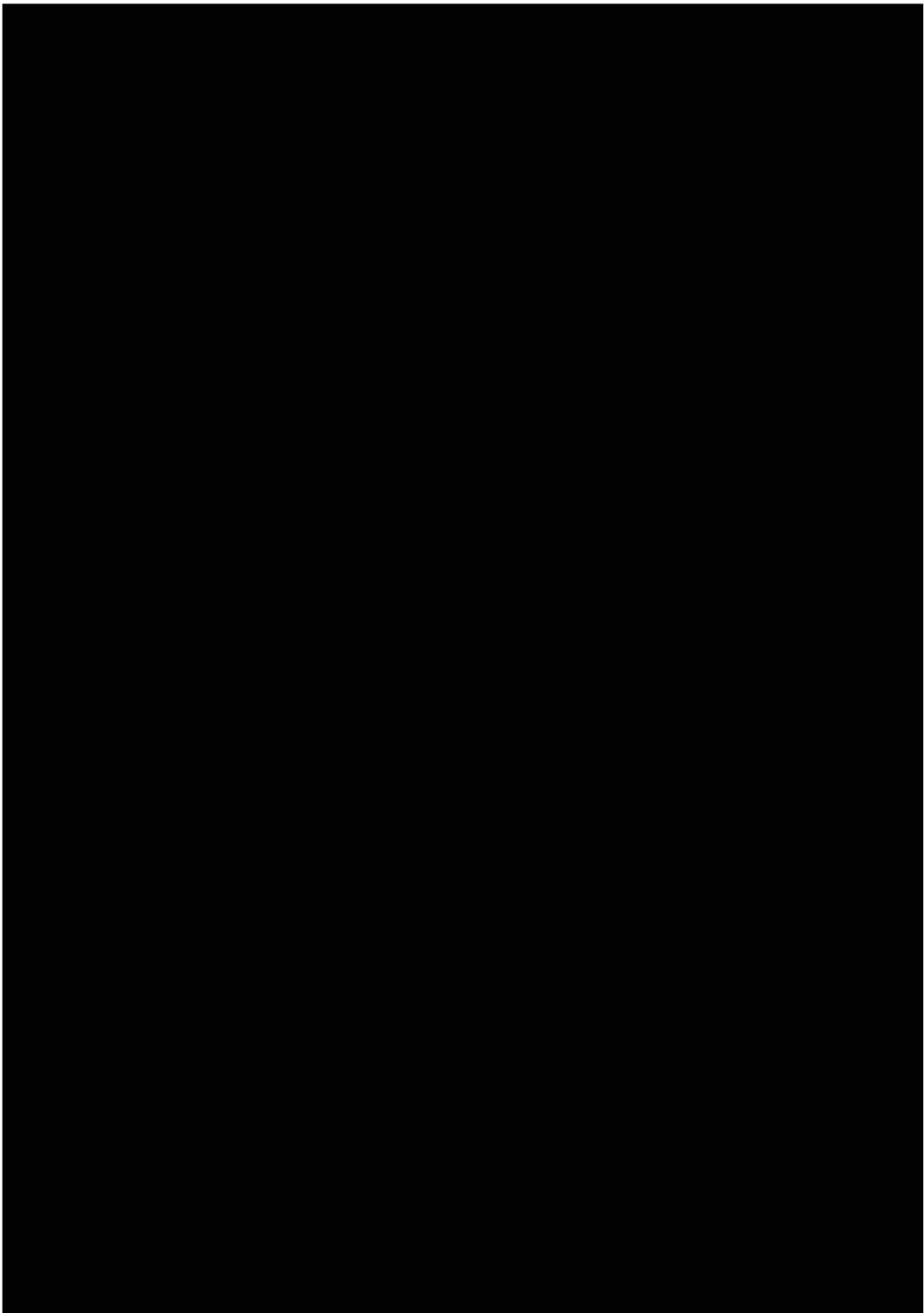


¹⁶ SCMA, P.20, para. 61.
¹⁷ SCMA, P.27, Figure 10.

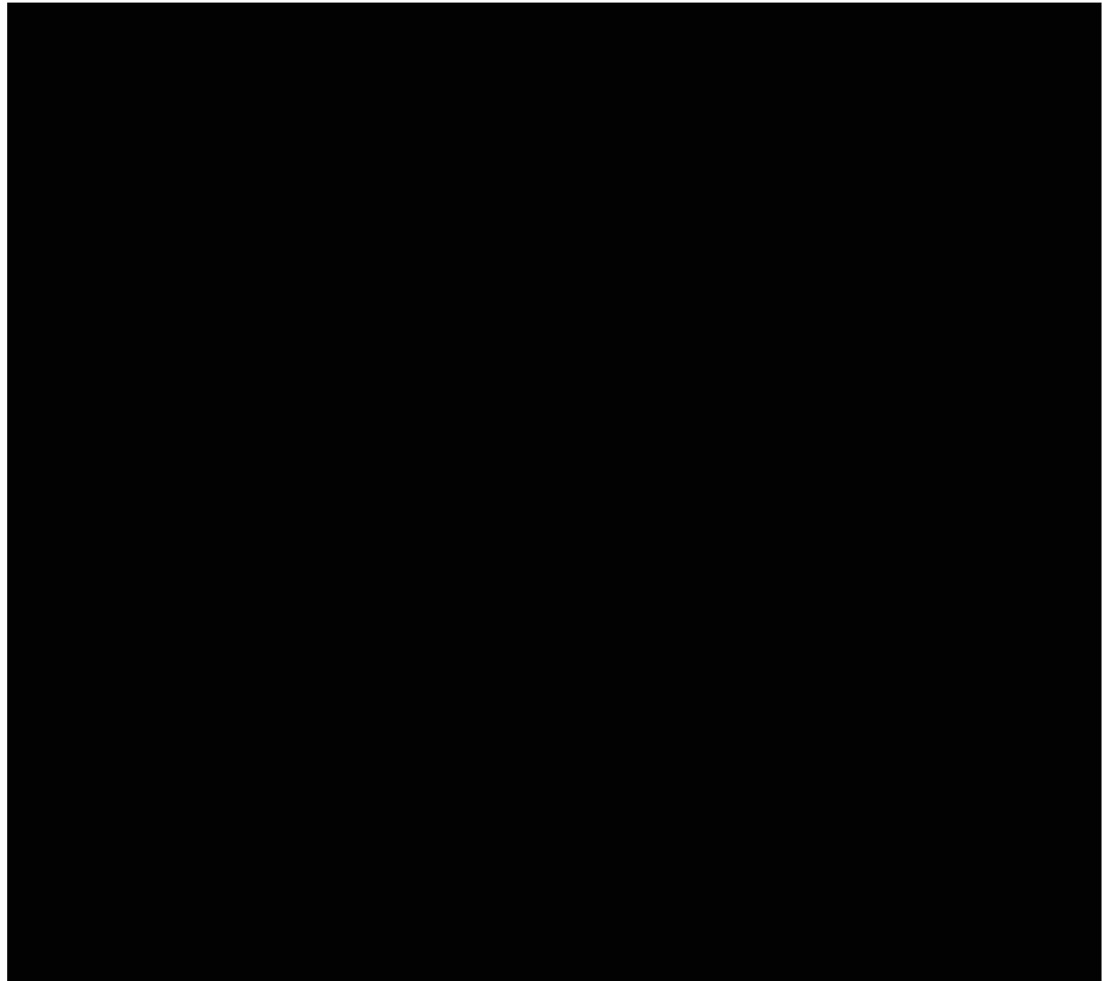
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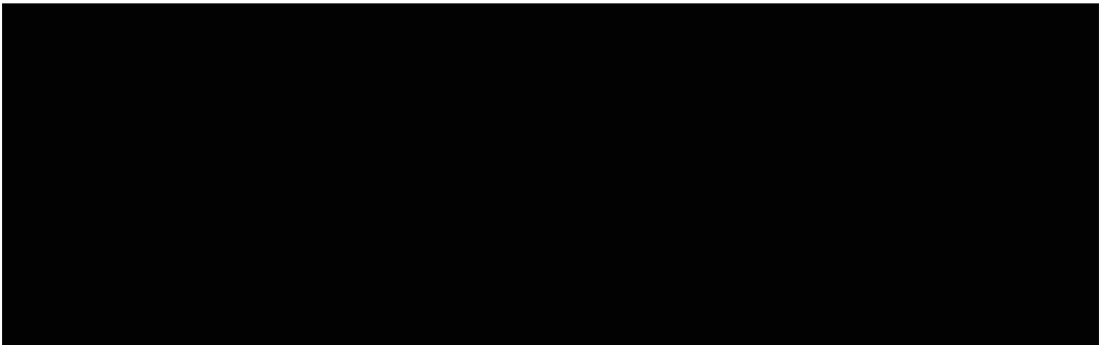


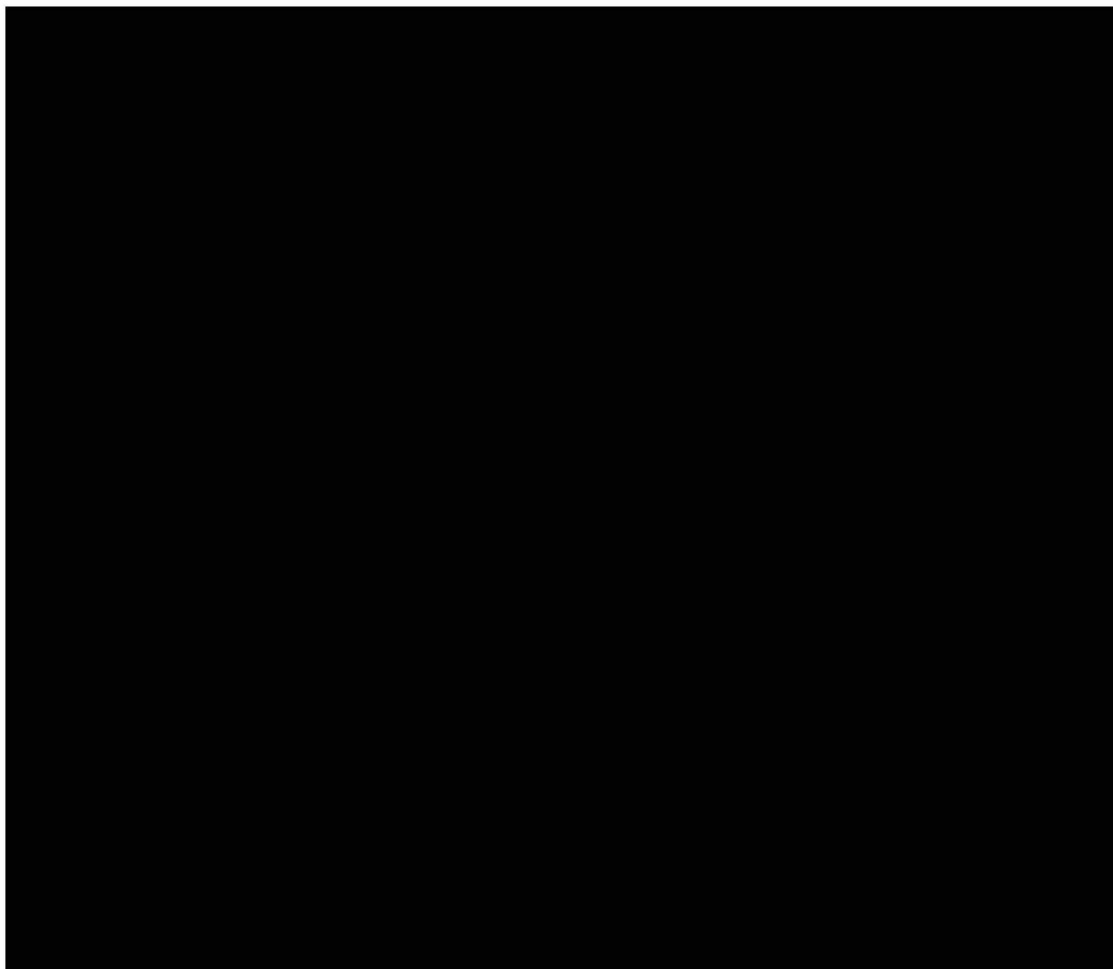
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33. The entire Respondent's financial case rests on the ability to convince the reader that the NYC market is oversupplied and in decline. A review of the latest independent and transparent demand data concerning NYC shows the exact opposite. These data are presented in their raw form (not manipulated) and available to the public.

34.





35. Another excellent demand indicator that directly correlates to premium crushed stone usage is historic and projected cement demand which is in the chart that follows on Page 13. The PCA is a 100-year old independent organization that forecasts cement usage in all of the US metropolitan areas. PCA membership represents approximately 92% of US cement production, including those supplying NYC. It is the undisputed authority on cement forecasting and customarily and routinely utilized by companies and organizations worldwide. The green line illustrates historical cement usage (in metric tons) from 2000 to 2016 and projected cement demand from 2017 to 2021. The (red) bottom line is the SCMA proprietary cement forecast (index values) from August 2006²¹. As shown in Figure 3, the PCA forecast more dramatically captures the decline and aftermath of the economic recession in the 2007 to 2010 period. The purpose of the SCMA proprietary cement forecast is to show an eight-year fragment of cement demand and a two-year declining market forecast from 2006 to 2008. This implies that the owners of Bilcon, who have been in business for over 60 years and affiliated with NYSS

²⁰ SCMA, Figure 9, p.23.

²¹ SCMA P.23, Figure 8b.

since 1998-1999, would base a decision to open a major quarry in Canada on a couple of down years in the market. The projected opening of Whites Point in 2011 would be an opportune time for capturing additional demand in a steadily rising market.

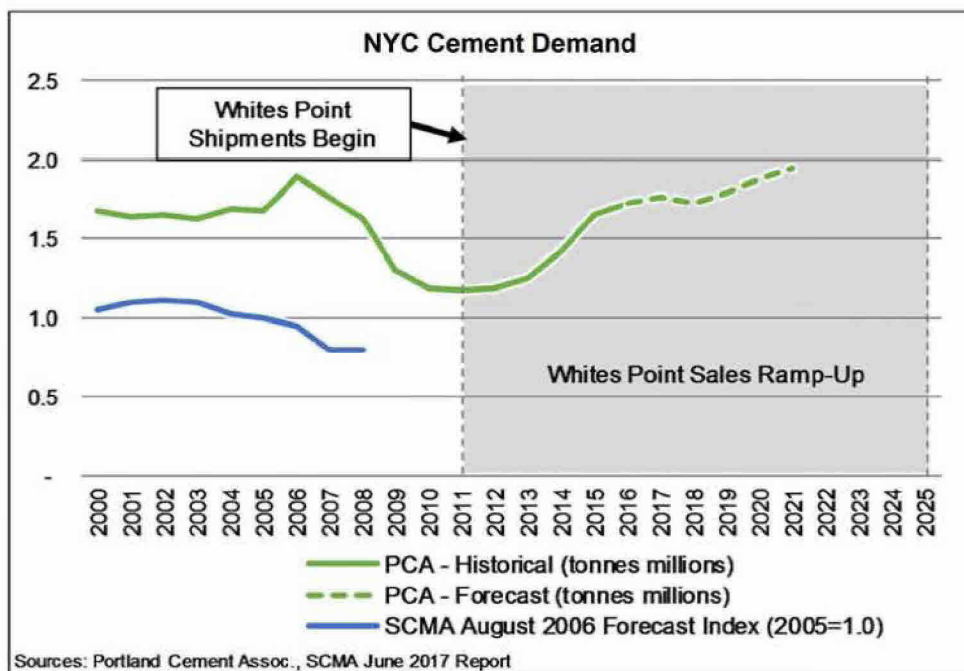


Figure 3: PCA Cement Demand.

36. Currently, as cement consumption rises, materials supply (including ready mix concrete) and labor are in short supply. The situation may become centered on the lack of available stone supply and other building resources. If this occurs, pricing may skyrocket, as delivery barriers to NYC are excessive. Below are excerpts from several recent articles from key players or trade associations:

- a. Construction Outlook 2016 – 2018 – NYC construction activity surges into record territory, fueled by intense demand for new housing and offices. Thanks to continued white-hot demand for new residences and offices, as well as a rebound in government infrastructure investment, New York City construction spending and employment are approaching or exceeding record territory in 2016. (NY Building Congress, October 2016).
- b. Turner Construction – In New York City, its high [construction demand] across every market sector we see, it seems to be continued growth from the last couple years. It's been growing and growing. There are a lot of mega jobs out there, and I foresee the next several years continuing to grow.

The difficulties of working in New York. I'm sure other cities see similar type challenges, but I know our busy market, our complicated site logistics, our

limited labor availability. The market is so busy right now in certain sectors like steel and concrete, we talk to contractors a year or a year and a half in advance to book a spot [Emphasis added]. (March 2017).

- c. Arcadis Design & Consultancy – *The Big Apple is the most expensive place in the world to build. This trend is likely to continue into 2017 and beyond as large-scale construction projects and international investors drive development.* (November 2016).

These references confirm our opinion, and if warranted, a quick internet search will confirm the same theme in hundreds of articles.

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²² Black Point Quarry Project Schedule, www.blackpointquarry.com

²³ SCMA, p.13, para.38.

- [REDACTED]
39. The price reduction theory is rendered pointless if overall demand is on a long-term upward trajectory. In this instance, the market would easily absorb the additional volume from Whites Point with no price effect on the entire NYC market. All of the oversupply theory and accompanying price reduction are rendered moot if demand is growing and there are high barriers for new competition to enter the market.
40. It is important to note that the majority of the construction market opinions presented in both the SCMA and Brattle reports rely on unsupported assumptions that ignore reality [REDACTED]
- [REDACTED] The entire unfounded market pricing theory rests on the wholesale efforts of the Respondent's experts to convince the reader that the largest city in the United States, whose red-hot construction industry is at record spending levels, is in total decline.

5.0 A Look Through the Lens of the Year 2007

41. Although BOYD has been instructed by Claimant's Counsel that the appropriate timeframe for valuation is the date of the hearing, and that reviewing actual historical data for any time period up to current is permissible, BOYD has alternately viewed the market through the lens of 2007.
42. We have obtained the PCA and NYBC city forecasts that were published in 2007. In summary, both the PCA forecast and the NYBC project a modest increase in growth into the near-term future (2007 to 2010). Logically, the looming financial crisis and corresponding decrease in construction activity from 2008 through 2010 were not forecast in the 2007 data.

Overview

43. Respondent's Experts (Brattle and SCMA) contend that the proper "vantage point" to determine lost profits is October 22, 2007, the date of the breach. Even using 2007 as the point of reference, independent historical and forecast data show a strong and growing construction market in NYC.
44. A long-term financial decision, such as opening a new quarry, requires an understanding of the target market's history and its expected direction. A review of independent historical trends and market insight into the future of the NYC stone and construction industry provide a prospective market entrant vital information

necessary to make sound business decisions. BOYD has relied on information from PCA (cement) and NYBC (construction spending) to formulate our opinions regarding the state of the NYC construction market.

Cement

45. In 2007, there were many years of independent, historical data available that supported a decision to move forward with the quarry development at Whites Point in Nova Scotia, Canada. Since, a quarry is a long-term project (typically more than 50 years) it is essential to look at historical trends as far back in time as practicable. Using a short-term time span does not provide a reasonable picture of general market trends. PCA's cement consumption data were used to determine the state of the construction market in NYC in 2007, as well as their near-term forecast. Figure 4 shows PCA's historical NYC cement consumption (1998-2007) and forecast for the next three years (2008 to 2010):

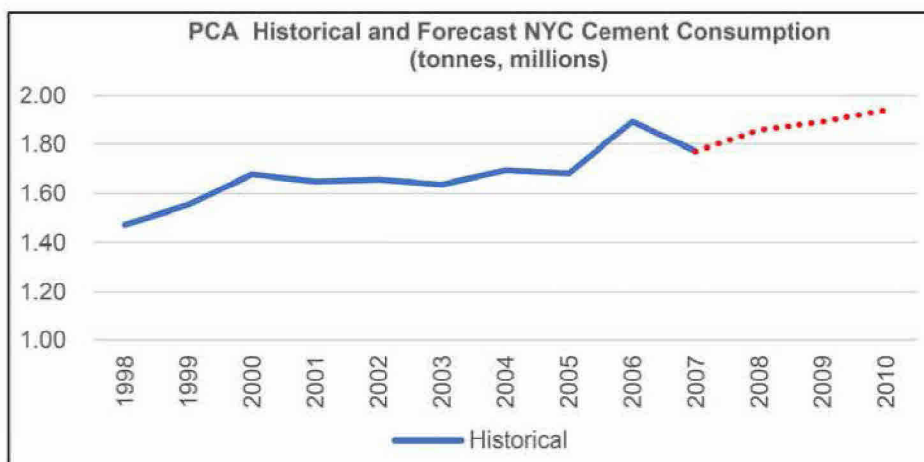


Figure 4: Cement Consumption, Summer/Fall 2007.

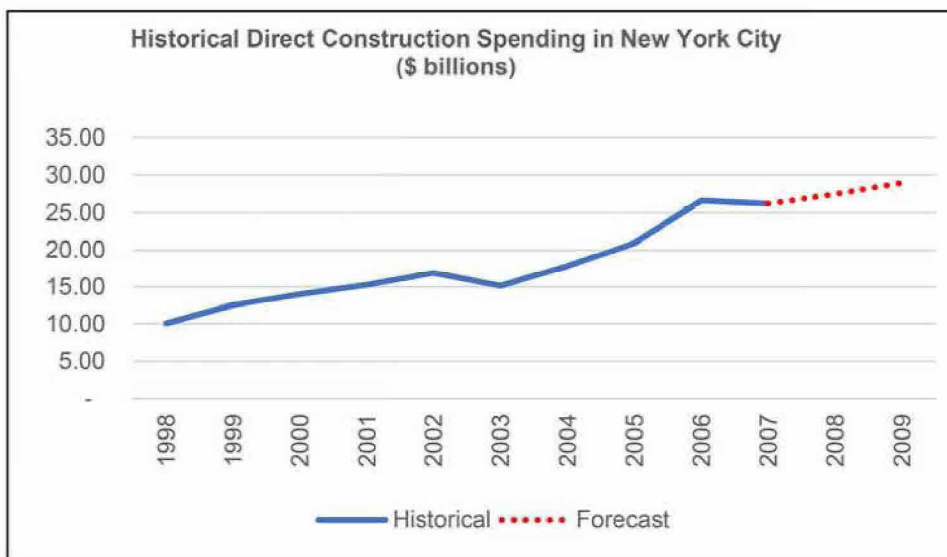
- a. PCA data shows a stable to upwardly trending cement demand from 1998 through 2007. The independent PCA data show actual cement consumption grew at approximately 2.1% per year over the time period shown.
- b. PCA projected continued growth in cement consumption for NYC for 2008 through 2010 at an average annual growth of 3.1% per year.

46. [REDACTED]

Construction Spending

47. Another measure of the NYC construction market is annual construction spending as compiled by NYBC, an independent third party. Annually (approximately October), NYBC publishes their near-term outlook for construction spending in

NYC. BOYD has reviewed the NYBC historical construction spending information for 1998 through 2006, as well as their two-year forecast, as provided in their Construction Outlook 2007-2009.²⁴



Source: NYBC, Construction Outlook 2007.

Figure 5: Construction Spending.

48. With NYC construction spending steadily rising from 1998 through 2007, [REDACTED] Construction spending was increasing at approximately an 11% per annum rate between 1998 and 2007. The only decline over this time period was the short-lived recession in 2002-2003 following the 9-11 Terror Attacks. NYBC's forecast for 2008 and 2009 was for continued strong growth in spending with an expected 5.2% annual growth rate.
49. The tone of NYBC Construction Outlooks did not indicate a declining market as evidenced by the following quotes:
- a. NYBC Construction Outlook 2006-2008
Robust building activity citywide is expected to continue through 2008 and significantly change the face of the City's built environment.

The economic indicators for construction activity and employment through 2008 are so strong as to preclude a significant decline in the forecast period.

Source: New York Building Congress Construction Outlook 2007 to 2009.

²⁴ Figure 5 graphically illustrates historical and projected construction spending as estimated in 2007.

Construction Remains White Hot: \$83 Billion in Spending Projected Over Three Year Period

Construction spending in New York City by government, businesses and institutions will reach \$83 billion in the years 2007 through 2009, continuing a remarkable trend of accelerating growth in construction activity.

50. The effect of the financial crisis that began in late 2008, was softened for NYC due to the fact there were several major "shovel ready" projects either financed or under construction. NYBC's Construction Outlook 2008-2010 indicated construction spending would reach a record \$33.8 billion in 2008, with 2009 expected to be at \$33.4 billion, nearly equaling 2008. The following is a quote from the Construction Outlook 2008-2010

Given the turmoil in the credit markets throughout 2008, a slowing economy, and warnings of growing budget deficits, the expectation was that construction spending in New York City would begin to ease in 2008 and further decline into 2009. To the contrary, 2008 is expected to set records for overall construction spending and employment

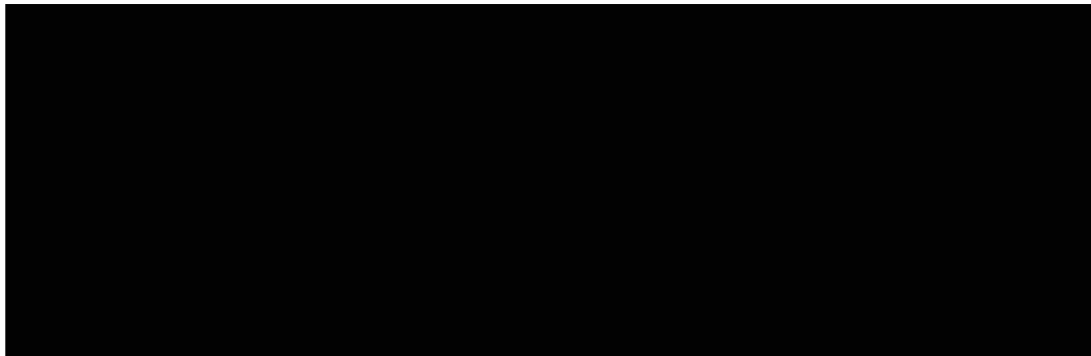
51. NYBC forecasted approximately \$26 billion in NYC construction spending for 2010, representing the lowest level since 2006 and the fourth highest spending level in NYC history.

6.0 Opinions and Conclusion

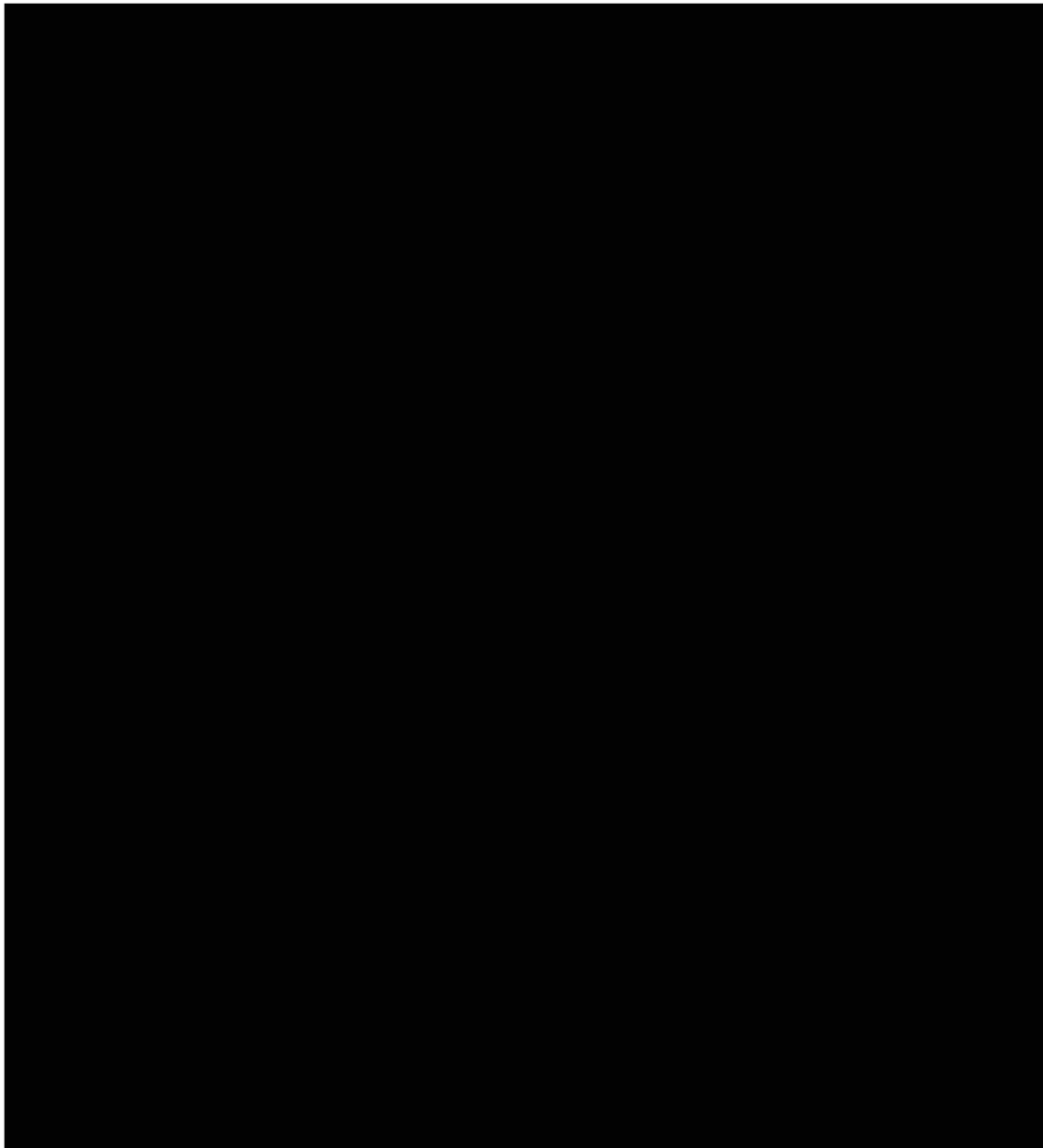
52. NYC's average construction spending increases of 9.1% per annum since 2011, [REDACTED] supports our opinion that additional stone sales from Whites Point would have been absorbed into the growing market with little effect on stone pricing.

53. [REDACTED]

54. [REDACTED]



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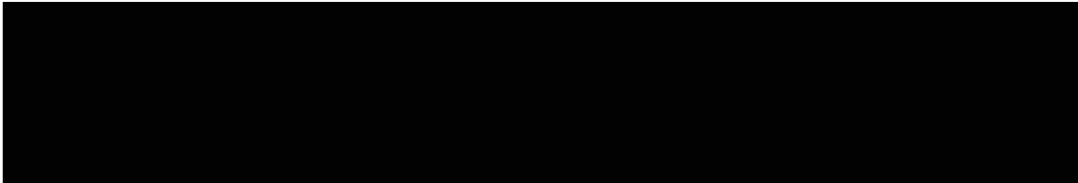

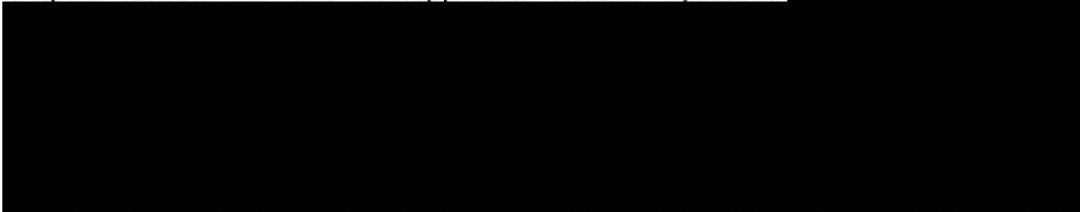


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²⁶ Brattle, footnote 184.

²⁷ First BOYD Report, P. 3-3.

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58. At first glance, the SCMA market report may offer the reader the initial impression that the Respondent's experts have arrived at their opinions based upon diligent analysis of independent data. In reality, the forecasts and associated opinions are based predominantly on proprietary information, forecasts, and "calculations" that were developed internally by the author with little source data provided. The Brattle Report builds on the unsupported SCMA opinions 
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59. It makes little difference what timeframe was utilized to make the decision to move ahead with the Whites Point Project. A mining development is a long-term decision process and is not based on short-term market fluctuations that are commonplace in the construction industry.

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²⁸ SCMA, P.14, para. 40.