

Valuation Service Provider Due Diligence

Independent Valuation Advisory Services

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Executive Summary

To the Reader:

The purpose of this document is to provide key information on Duff & Phelps' portfolio valuation ("Portfolio Valuation" or "PV") practice to any party wishing to perform operational due diligence on Duff & Phelps as a service provider to alternative investment managers. The information contained herein is intended to preempt, enhance and supplement the responses typically required as part of the due diligence process.

Due to client confidentiality, we are unable to discuss any specific client relationships without explicit permission, in writing, from the client in question. Therefore, once you have obtained such permission from the engaging party, we would be happy to discuss with you the particulars of any such engagement, subject to any constraints put upon us subject to the engaging party.

Should you have any general inquiries relating to this document, or Duff & Phelps' Portfolio Valuation practice in general, please do not hesitate to contact me.

Kind regards,



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Duff & Phelps' Background and History

Duff & Phelps Corporation is a global valuation and corporate finance advisor. The firm's services include valuation, dispute consulting, mergers and acquisitions, restructuring, alternative assets, tax, transaction opinions, regulatory and compliance consulting, and dispute and legal management consulting. The firm's industry concentrations include consumer and retail, energy and mining, financial services and asset management, healthcare and life sciences, industrials, media and entertainment, real estate and technology and telecom. The firm's clients include publicly traded and privately held companies, law firms, government entities and investment organizations such as private equity firms and hedge funds. Duff & Phelps Corporation was founded in 1932 and is headquartered in New York, New York with operations in North America, Europe and Asia.

Duff & Phelps' Portfolio Valuation practice is the leading provider of independent valuation services to alternative investment managers, limited partners, fund administrators and other industry participants. Our independence ensures that we can help any alternative investment manager with any asset without independence conflicts. Further, Duff & Phelps does not manage assets or give investment advice, further freeing it from potential conflicts of interest in the performance of its valuation services. With over 2,400 professionals operating out of over 70 offices globally, Duff & Phelps has the stability to give clients and their investor's piece of mind that their valuation engagements will be staffed with the most knowledgeable professionals.

2015	Acquired Kinetic Partners and launched the Compliance and Regulatory Consulting Practice. Acquired American Appraisal, significantly enhancing global Valuation Practice.
2014	Acquired RSM Farrell Grant Sparks' Restructuring and Insolvency Division, establishing a presence in the Republic of Ireland
2013	Duff & Phelps transitioned from a public to private entity under ownership of The Carlyle Group, Stone Point Capital, Pictet & Cie, Edmond de Rothschild Group and Duff & Phelps Management Team
2012	Acquired CETERIS® Acquired iEnvision Technology Acquired Harvester Forensics Limited Administrator for Rangers in the largest football club insolvency in UK history
2011	Expert witness regarding the Madoff Estate Acquired Pagemill Partners Acquired RSM Richter's financial restructuring practice in Toronto Acquired MCR, greatly expanding our presence in the UK Acquired Growth Capital Partners
2010	Acquired June Consulting Group Acquired Dynamic Credit Partners' U.S. consulting business Acquired Cole & Partners, establishing a presence in Canada
2009	Valuation advisor for the U.S. Congressional Oversight Committee's Troubled Asset Relief Program (TARP) Valuation advisor to the European Commission Financial advisor to the Examiner in the Lehman Brothers bankruptcy
2008	Acquired Lumin Expert Group Acquired Kane Reece Associates Acquired Dubinsky & Company
2007	Acquired Rash & Associates
2006	Acquired Chanin Capital Partners
2005	Acquired Standard & Poor's Corporate Value Consulting, which included PwC's legacy valuation business
1994	Sold credit rating and investment management business
1932	Duff & Phelps opened to provide investment research; expanded services substantially over subsequent decades

Duff & Phelps Organization

Duff & Phelps is organized into five separate business units, as follows:

Valuation Advisory	Corporate Finance	Dispute & Legal Management Consulting	Tax Services	Compliance and Regulatory Consulting
Technical expertise and specialized support in the areas of complex valuation, alternative assets and real state	Objective guidance to management teams and stakeholders throughout M&A, financing and restructuring transactions	Advisory solutions designed to help law firms and corporations solve complex business issues and improve efficiencies	Expertise in implementing tax solutions surrounding property tax, business incentives, transfer pricing and unclaimed property	Helping financial services firms navigate the compliance and regulatory landscape, mitigating risk throughout the business lifecycle

Duff & Phelps Global Footprint

Duff & Phelps operates out of 70 offices worldwide:

The Americas			Europe and the Middle East			Asia-Pacific	
Atlanta	Houston	Philadelphia	Abu Dhabi	Frankfurt	Munich	Almaty	New Dehli
Austin	Jacksonville	Princeton	Amsterdam	Kiev	Padua	Bangalore	Shanghai
Boston	Los Angeles	San	Athens	Leeds	Paris	Bangkok	Shenzhen
Calgary	Mexico City	Francisco	Barcelona	Lisbon	Pesaro	Beijing	Singapore
Cayman Islands	Miami	Sao Paulo	Berlin	London	Porto	Guangzhou	Taipei
Chicago	Milwaukee	Seattle	Bilbao	Longford	Prague	Hong Kong	Tokyo
Dallas	Montreal	Silicon Valley	Birmingham	Luxembourg	Rome	Mumbai	
Denver	Morristown	Toronto	Bologna	Madrid	Rotterdam		
Detroit	New York	Vancouver	Budapest	Manchester	St.		
Fredericton	Newport	Washington	Chanel	Milan	Petersburg		
	Beach	DC	Islands	Moscow	Turn		
			Dublin		Warsaw		

Portfolio Valuation Practice

Duff & Phelps' Portfolio Valuation practice is part of the Valuation Advisory business unit of Duff & Phelps. The Valuation Advisory business unit includes over 1,200 Duff & Phelps professionals, approximately 60 of whom are full time dedicated to working with alternative investment managers. The dedicated Portfolio Valuation team includes 12 managing directors, __ directors, and __ vice presidents. The balance of the Portfolio Valuation team draws upon other valuation professionals from throughout Duff & Phelps based on client requirements for expertise in various asset classes, security types, geographies, etc. Together, Duff & Phelps' professionals bring unrivaled asset class and/or specific industry expertise to each client engagement.

Portfolio Valuation Clients

Our Portfolio Valuation Practice serves over 400 clients in the alternative investment management sector. Our clients are predominantly general partners (GPs), including private equity fund managers, hedge fund managers, debt fund managers, infrastructure fund managers and other alternative investment managers. In addition, our client base includes limited partners (LPs), including pension funds, endowments, fund of funds, family offices, high net worth individuals and other limited partners. We also serve registered Alternative Investment Fund Managers (AIFMs) as defined by the Alternative Investment Fund Managers Directive (AIFMD) as well as fund administrators. Lastly, we provide various valuation advisory services to other stakeholders in the alternative investment sector including law firms, capital intro groups, plaintiffs and/or defendants (where not conflicted in matters of disputes concerning valuation), audit firms, industry associations, banks and other financial institutions.

Engagement Team Structures

Our engagement teams are typically led by a Managing Director with broad alternative investment sector experience. Directors and Vice Presidents typically manage the day-to-day aspects of the engagement and call upon Associates and Analysts as needed. Our engagements can be scaled as needed and we are able to draw from a large pool of professionals from all levels of the organization to provide expertise in virtually all asset classes, security types, geographies, industries, etc. In addition, where there is an emerging technical complexity, we are able to source input from a number of our Managing Directors who are industry thought leaders. Lastly, each of our engagements is subject to review by a concurring Managing Director.

Most Common Types of Valuation Engagements

Our Portfolio Valuation practice most commonly provides valuation services in the context of assisting GPs in demonstrating independence in their determination of the fair value of their investments. For the avoidance of doubt, irrespective of whether a GP has engaged independent third party assistance, the GP always retains their fiduciary responsibility for determining fair value, and cannot abdicate that responsibility to any third party. A GP may consider advice from an external valuation advisor such as Duff & Phelps, but the ultimate determination of fair value rests with the GP. The involvement of Duff & Phelps as an independent third party is an enhancement to the GP's internal controls, demonstrates independence and objectivity, and provides LPs with a level of comfort in the robustness of the GP's valuation process. Our engagements with GPs take a variety of forms. In some cases, we provide either a review of the fair values determined by the GP's for their investments. In other cases, we provide an estimated fair value range or a point estimate of fair value, which the GP may consider in their determination of fair value. The following table provides a summary of the most common engagement scope for our various services to GPs.

	Independent Valuation Advisor		Independent Valuation Advisor (typically meets the External Valuer standard under AIFMD)	
	Positive Assurance	Range of Values	Limited Scope Valuation	Full Scope Valuation
Scope	Review of Management's valuation and support based on a set of Limited Procedures.	Independent determination of a Fair Value Range. Typically, may be compared to mark determined by Management.	Independent determination of a point estimate of Fair Value. Typically, no mark provided by Management.	Independent determination of a point estimate of Fair Value. Typically, no mark provided by Management.
Source of Data	Information on the Company (financial and operational) and investment security are provided by investment manager. No independent verification, audit our quality check performed on the information provided by investment manager. Investment manager may also provide market and industry information; however, such market and/or industry information may also be independently sourced and/or validated.			
Frequency of Site Visits	Interaction with investment manager only. No site visits to portfolio company.			Direct interaction with underlying portfolio company management. Potential site visits, as requested by the investment manager.
Valuation Approach	Review of Management's valuation approach(es), inputs, assumptions and conclusions of Fair Value.	Independent Fair Value range based on consideration of multiple approaches (such as market comparables approach, income approach, cost recovery approach, option pricing model, etc) as appropriate. Inputs and assumptions to each approach are independently determined and supported but may consider input from the investment manager.		
Final Opinion	Opinion expressing whether managements' concluded Fair Value is "reasonable".	Opinion expressing a range of estimated Fair Values.	Opinion expressing either a range of Fair Values or a point estimate of Fair Value.	

Additionally, we provide a variety of other valuation related services to GPs. Such services include, but are not limited to:

- ✓ We assist LPs and GPs in drafting and developing valuation policies and procedures that are consistent with industry and accounting guidelines based on strategy, asset class and governance structure.
- ✓ We assist LPs in performing operational due diligence on GPs, including on the GP's valuation process, which entails vetting and adjusting the net asset value (NAV) statements provided by GPs.
- ✓ We provide valuations of the fund managers for a variety of purposes, including tax reporting, employee incentives, transactions and founder retirements.
- ✓ We provide fairness opinions for transactional purposes.
- ✓ We provide valuations of fund interests for secondary transactional purposes

Portfolios of Assets Valued

Duff & Phelps' Portfolio Valuation practice reviews thousands of positions monthly, quarterly, semi-annual or annually across a broad range of industries and clients. Illiquid assets and securities we value include:

Alternative Asset Classes	Corporate Securities	Structured Products	Contract Agreements	Options and Derivatives
✓ Private/Direct Loans	✓ Convertible debt	✓ US Agency and Non-Agency RMBS:	✓ Executive compensation plans	✓ Futures & Forwards
✓ Real Estate	✓ Private Secured and Unsecured Loans	Subprime, Option ARM's	✓ Contracts with contingent payments	✓ Swaps - Interest Rate, Variance, Dividend, Energy and Volatility Swaps
✓ Private Equity and Venture Capital	✓ Distressed Debt	✓ European Agency and Non-Agency RMBS:	✓ Employee stock options (FAS 123/IFRS2)	✓ Options - Equity, Interest Rate, Currency, Commodity & Energy Options
✓ Private Equity and Venture Capital	✓ Other Debt	Socialist Capitalist	✓ Management Incentive plans associated with portfolio companies (FAS123R/IFRS2)	✓ Credit Default Swaps and other credit derivatives
✓ Hedge Fund and Private Equity General Partnerships	✓ Preferred Equity	Master Trusts, Pass-Throughs and Bonds		✓ Warrants (Debt)
✓ Hedge Fund and Private Equity Limited Partnership Interests (LPs)	✓ PIPEs	✓ Asset-Back Securities and Structured Notes		✓ Other OTC derivatives
✓ In-Kind Distributions	✓ Illiquid Common and Restricted Stock	✓ CMBS		✓ Catastrophe bonds
✓ Other Illiquid investments	✓ ESOP (FAS 123/IFRS2) and Warrants and embedded derivatives	✓ Various types of CDOs including ABS CDO, CBO, CRE CDO, CLO, CDO2, Synthetic CDOs,		
✓ Non-performing loan pools	✓ Allocation of value amongst claimants	✓ Collateralised Fund Obligations (CFOs)		
	✓ Contingent stock	✓ ARS		

Industry Expertise

Our Portfolio Valuation practice draws from Duff & Phelps' pool of over 1,200 valuation professionals with expertise across virtually all industries. Duff & Phelps has appointed practice leaders across several key industries, including Financial Services, Real Estate, Pharma and Healthcare, Industrials, Infrastructure and several others. In addition, we possess deep qualifications across numerous industries, including, but not limited to, the following:

- | | |
|--|---|
| ✓ Financial Services, Banking and Asset Management | ✓ Retail, Apparel and Accessories |
| ✓ Real Estate | ✓ Agriculture |
| ✓ Energy, Mining and Infrastructure | ✓ Transportation and Trucking |
| ✓ Technology and Communications | ✓ Manufacturing, Industrial, and Chemical |
| ✓ Pharmaceuticals, Healthcare and Biotech | ✓ Food, Beverage and Tobacco |
| ✓ Defense and Aerospace | ✓ Automotive |
| ✓ Media, Publishing, Sports, Entertainment and Broadcast | ✓ Education |
| ✓ Consumer and Retail | ✓ Consulting |

Geographic Dispersion of Client Investments

Duff & Phelps' client based in the Alternative Investment sector invests in all geographic regions across the globe, both in the developed world, as well as emerging markets. In valuing such a wide geographic dispersion of assets, Duff & Phelps' portfolio valuation team draws from resources across the firm's 70 offices and 2,500 employees worldwide.

Dedication to Technical Excellence

Stakeholder requirements for more robust and transparent information have been increasing in recent years and will continue to increase. For this reason, Duff & Phelps' Portfolio Valuation practice has put in place a number of initiatives to ensure that we maintain a key role at the leading edge of technical excellence. These initiatives include the following:

- » D&P University: All new hires are required to attend a two week, off-site, immersive training session that covers all technical topics that are fundamental to valuation – both theoretical and practical.
- » “Core” Valuation Training: Duff & Phelps’ staff-level valuation professionals are exposed to regular training sessions specific to the alternative investment management sector as well as general valuation topics, evolving valuation standards, and other topics impacting the valuation sector.
- » Quarterly Continuing Education (CE) Sessions: Each quarter Duff & Phelps’ Portfolio Valuation practice conducts a practice wide WebEx session for all professionals involved in the valuation of portfolio assets for alternative investment managers. This session covers technical accounting updates related to valuation, market updates, as well as a technical focus session on a selected industry or asset class.
- » White Paper Initiative: Teams of valuation professionals led by Managing Directors from our Portfolio Valuation practice are regularly assembled to write ‘white papers’ on key technical topics related to the valuation of a particular industry or asset class.
- » Speaking Engagements: Duff & Phelps valuation professionals are regularly invited to speak at conferences covering various technical topics related to the valuation of assets held by alternative investment managers.
- » Other Staff Development Initiatives: Duff & Phelps’ staff are required to attend external training sessions, conference and other events to ensure they are kept up-to-date on hot topics and/or developments (e.g. macro-economic, political, and/or regulatory) that may impact us or our clients.

In addition, Duff & Phelps Portfolio Valuation professionals play a key role in various industry groups:

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|--|---|
| » ILPA (Board member) | » Appraisal Institute |
| » IPEV (Lead Author of IPEV Valuation Guidelines) | » IVSC |
| » AIMA (Steering Group Lead on Valuation Guidelines) | » BVCA |
| » IASB | » EVCA (Contributor to EVCA reporting Guidelines) |
| » FASB | |

In addition, Duff & Phelps hosts two alternative investment conferences in New York and London as well as regular LP and GP roundtables.

Office of Professional Practice

Duff & Phelps’ Office of Professional Practice (“OPP”) oversees the firm’s technical expertise and Duff & Phelps’ interactions with financial reporting standard setters and regulators, tax authorities, audit firms and professional associations and serves as a technical resource to our professionals and clients. The OPP establishes and ensures firm quality standards are employed and develops internal valuation guidelines and standard models. The OPP promotes firm thought leadership through publishing and speaking on valuation issues.

Office of Risk Management

Duff & Phelps maintains a dedicated risk management function, including a dedicated Chief Risk Officer (“CRO”). The CRO may be consulted from time to time in relation to a specific investment or industry or market issues that arise requiring Duff & Phelps to make policy determinations (e.g. AIFMD). The Office of Risk Management (“ORM”), established by the Executive Committee, acts to identify, evaluate and mitigate financial, reputational and regulatory risk inherent in Duff & Phelps’ day-to-day operations. Specifically, ORM identifies and evaluates engagement risk, concludes on best practices, promulgates and implements related policies and procedures and assesses compliance with its directives. ORM works closely with and the Office of General Counsel in carrying out its duties.

In addition, the ORM oversees a Peer Review Process (“PRP”). PRP is a mandatory program for each Business Unit where an audit of engagements within each Service Line is performed. The purpose of the PRP is to facilitate a peer review that results in commentary and critique of overall engagement management and performance. The goal of the PRP is to improve quality and consistency of work product, as well as the handling of administrative

tasks associated with engagements. The PRP will be rolled out in October in the VAS business unit, with other business units to follow.

Compliance

To assist in the management of conflicts and provide best in class policies. Duff & Phelps has engaged a world class compliance management firm called Compliance11.

Annual Policy Certifications

Each year, each Duff & Phelps employee must read and certify their understanding of Firm policies. Employees are required to certify their understanding of the firm's internal policy documents. Each quarter, each Managing Director is required to certify the accuracy of the revenue associated with each of their clients.

Restricted List

Duff & Phelps maintains a restricted list of securities in which Duff & Phelps employees may not invest. The Duff & Phelps restricted list includes companies for which Duff & Phelps has been provided what it deems to be material non-public information. Most of the companies that are on the restricted list are publicly traded, but companies which we believe may initiate an initial public offering are also included on this list.

Access to Client Data

Our clients' proprietary data is among the most valuable of each respective client's assets. Therefore, we take data confidentiality seriously. As such, the only Duff & Phelps valuation professionals who can access a given client's data on our Global Directory (the name of our global network) are those assigned to that particular engagement. When a new Duff & Phelps professional is assigned to an engagement, they must complete an "over-the-wall" request for access to the engagement directory on the Global Directory. Requests are reviewed and approved by two managing directors before access is provided.

Duff & Phelps employs various physical, electronic, and managerial measures designed to protect the personal information Duff & Phelps creates, collects or maintains from loss, misuse, unauthorized access, disclosure, alteration or destruction. Duff & Phelps processes personal data only in ways that are compatible with the purposes for which it was collected or subsequently authorized by the individual, and to the extent necessary Duff & Phelps will take steps to ensure that personal information is accurate, complete, current and consistent with its intended use.

Network Access

Only Duff & Phelps employees have access to the Duff & Phelps network. Members of neither Duff & Phelps' Board of Directors nor any staff from Duff & Phelps' equity sponsors are granted access to Duff & Phelps' network.

Duff & Phelps' Information Technology (IT) group has in place secure user authentication protocols, including the control of user IDs and other identifier and a reasonably secure method of assigning and selecting passwords. IT assigns unique log in IDs that are designed to maintain the integrity of the security of the access controls. IT restricts access to sites containing personal information about individuals to only those authorized users with a need to access such personal information in order to perform their job duties. IT requires computer and network passwords to be changed periodically, but at least every 90 days. After multiple unsuccessful attempts to gain electronic access to records or files containing personal information, access will be blocked where technically feasible. IT blocks access to personal information by former employees. IT promptly terminates and prohibits electronic access by former employees and other individuals who are no longer authorized users. Voicemail access, email access, network access and passwords are promptly disabled or blocked within 48 hours of an individual leaving Duff & Phelps.

IT monitors all computer systems for unauthorized use of or access to records and files. IT maintains reasonably up-to-date firewall protection and operating system security patches on all systems, including but not limited to those containing personal information. IT has and will maintain reasonably up-to-date versions of malware protection and reasonably up-to-date patches and virus definitions, installed on all systems processing personal information.

As a last resort, if personal information must be transmitted across a public network, the information will be encrypted using reasonable and commercially available means whenever technically feasible. IT encrypts all personal information stored on laptops or other portable devices, to the extent technically feasible. All emails sent between employees of Duff & Phelps are encrypted. Emails sent to persons outside of Duff & Phelps are not encrypted unless additional steps are taken.

Building Security

While all Duff & Phelps offices are not located in buildings where there is separate building security to enter the building, all Duff & Phelps offices require an electronic key card for access. All visitors – including members of Duff & Phelps' board of directors and staff members of Duff & Phelps' equity sponsors – to Duff & Phelps offices must be either registered with building security and/or must be personally invited into our office space.

Duff & Phelps prohibits physical access to records and files containing personal information by any individual without authorization to access such records. At the point of termination or resignation, or earlier if requested by the Data Security Coordinators, all keys, IDs, access codes, badges, login IDs/passwords, business cards, and the like, that permit access to the Firm electronically or in paper form, must be returned promptly.

Crisis Management

Duff & Phelps' Crisis Management Plans identify actions taken after Emergency Response Plan activities have been initiated and life/safety issues have been addressed. The Crisis Management Plans provide the Duff & Phelps Global and Local Crisis Management Teams guidance through the initial response to a situation, assessment of situation variables, subsequent business and technology recovery activation determinations, and to manage and monitor the response and recovery through to its end.

During an event that significantly disrupts any of Duff & Phelps' locations; a foundational Local Crisis Management Team (LCMT) will be activated. Each LCMT handles issues impacting local Duff & Phelps sites and provides operational and tactical support to respond and ensure business continuity after an incident or major business interruption. The Global Crisis Management Team (GCMT) is activated for issues with enterprise-wide ramifications. The GCMT provides direction, coordination and support for Duff & Phelps' crisis response activities for situations of sufficient magnitude by providing a level of executive monitoring, management, and support above the LCMTs.

The Business Continuity Teams (BCT) are responsible for the actual recovery and restoration of business operations under the direction of the LCMTs. As such, the IT Recovery Teams (ITRT) are responsible for the recovery of the technical environment under the same direction of the LCMT. Figure 1 below identifies the relationship between the BCTs, ITRTs, the Crisis Management Teams, Duff & Phelps' executive leadership, and supporting resources.