LAN and VoIP Submittal

The diagram provided with the case study is for the New York branch of WWTC. This is a single floor of a building on Wall Street. This diagram correlates with the Org Chat that was provided in the reference section of the case study.

Let me go over what you should deliver for the LAN and VoIP design assignment. These are extracts directly from the case study:

* LAN and VoIP design for the New York regional office only
  + design a state of the art network to meet business and technical goals - modular and scalable
  + Redundancy at building core layer and building distribution layer to avoid single point of failure.
  + Provide redundant uplinks for Access layers to the building Distribution layer.
  + Select appropriate Cisco switch model for each part of your enterprise campus model design from the Cisco Product list provided and also use the following assumptions in your selection process.
    - **Selecting the Access layers switches:**
      * Provide one port to each device
      * Make provision for 100% growth
    - **Server farm switches**
      * Assume 6 NIC cards in each server and one NIC card uses one port of switch
      * Dual processors and dual power supply
  + Propose an IP addressing redesign that optimizes IP addressing and IP routing (including the use of route summarization). Provide migration provision to IPv6 protocol in future.
  + Integrate voice and data network to reduce cost.
    - For dialing outside, the World-Wide Trading Company proposes a plan for 100% connectivity with a minimum number of outside lines.
    - For telephone requirements, see the Organization Chart and Telephone Equipment Table.
  + Provide aggregate routing protocols with hierarchal IP scheme.
  + Centralize all services and servers to make the network easier to manage and more cost-effective.
  + Provide LAN speed minimum 100 MB and Internet speed minimum 54 MB.
  + Provide wireless network access to network users and guest users in limited area (Lobby and Conference room). In conference room and the lobby, the user will get a minimum 54 Mbps of bandwidth. (You can assume that site survey is done and no sources of interference or RF were discovered.)
  + Provide provisions for video conference and multicast services.
  + Standardize on TCP/IP protocols for the network. Macintoshes will be accessible only on guest notebook but must use TCP/IP protocols or the Apple Talk Filling Protocol (AFP) running on top of TCP.
  + Provide extra capacity at switches so authorized users can attach their notebook PCs to the network
  + Use DHCP
* Feel free to make assumption on any missing information that you think is critical to the development of the design. Make sure to state your assumptions and provide proper justifications.

At minimum your paper should include the followings:

* Understanding the scope of work
* Creating Equipment List
* Hierarchical IP scheme (includes VLAN design. IP Scheme is usually better shown in table format after initial explanation)
* High Level Diagram
* Bandwith for Voice
* Outside Telephones Lines
* Wireless Design

Though not required do feel free to include WAN connectivity design and also propose an IP scheme for the WAN. This will show how the New York office and other offices will connect together.