



bridge work. In several areas, construction activities would have to be coordinated with on-going commuter and freight rail operations.

<b>TABLE 5-15 CONSTRUCTION ELEMENTS BY ELEVATION</b>		
<b>Construction Location and Activities</b>		<b>Typical Construction Equipment Used *</b>
<b>At-Grade LRT Construction</b>		
Clearing and grubbing		1,4,5,6
Storm water and erosion control		6,10,24
Utility and street relocation		4,6,10,11,13,16
Demolition of existing facilities		1,4,5,6,17,26
Drainage and storm water systems		6,10,11,15
Excavation, embankment and subgrade preparation		1,4,11,23
Retaining walls and ballast walls		3,10,22,25
Lime subgrade		4,11,23
Subballast		4,11
Chain link fencing		6,22,24
<b>At-Grade Stations</b>		
Station platform slab and Special Use Platform		3,5,8,11,22,25
Structural steel canopies and roofing systems		2,12,14,15,20
Electrical systems		3,10,11,20
Mechanical systems		3,10,6,12
Architectural finishes		3,14,18
Painting		18,19,20
<b>Street, Driveway and Parking Lot Construction</b>		
Street pavement and LRT street at-crossing headers		3,4,6,11,13,22
Permanent street signage and pavement markings		12,18,24,27
<b>Aerial LRT Construction</b>		
Drilled shaft construction		2,8,21,22
MSE wall construction at bridge approaches		5,6,11,25
Bridge pier construction		2,3,22
Bridge deck and parapet		2,3,9,20,22
Grounding system		3,6
<b>Aerial Stations</b>		
Station platform		2,20,9,12
<b>Cut-and Cover Tunnel</b>		
Street bridging		2,6,11,15,13
U-structure and Double box tunnel section		3,5,6,11,12
Backfill and final grading		4,5,11
<b>*Construction Equipment</b>		
1 Dozer	10 Ditcher/trencher	19 Paint Sprayers
2 Tracked crane	11 Compaction equipment	20 Man lift
3 Rubber tired crane	12 Air compressor	21 Water pump
4 Motor grader	13 Paving machine	22 Concrete vibrators
5 Dump trucks, haul trucks	14 Welding machine	23 Tiller (lime manipulation)
6 Loader/Backhoe	15 Rubber tired loader	24 Tractor with hole auger
7 Water truck	16 Excavator	25 Bucket grading machine
8 Drilled pier rig	17 Jackhammer, ramjack	26 Concrete saw
9 Concrete pump	18 Sand blaster	27 Street sweeper

Source: Chiang, Patel and Yerby, March 2006.

All station construction would commence with subsurface utility / drainage and foundation work. This would be followed by platform, canopy and ancillary construction including architectural finishes. Subsurface stations would be constructed in a similar fashion, but would be phased with tunnel construction. Parking lots can be constructed at any time during the contract, but they usually follow the LRT station construction.