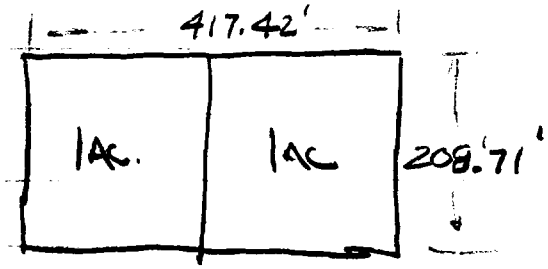
Row St. John

1/

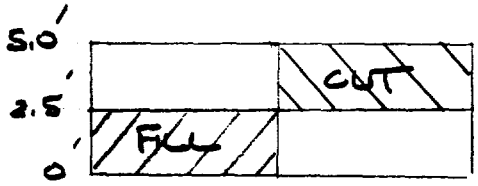
146377

PARKING LOT ESTIMATE

SITE DIMENSIONS



ASSUMPTION:
ONE ACRE AVERAGES 5' HIGHER IN ELEVATION THAN OTHER!



TOTAL FILL

$(43560\ ft^2)(2.5') = 108900\ ft^3$

$= 4033\ yd^3$

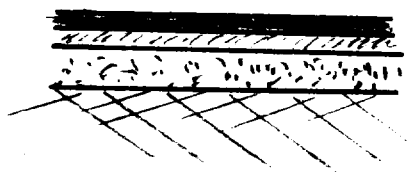
TOTAL CUT

$(43560\ ft^2)(2.5') = 108900\ ft^3$

$= 4033\ yd^3$

NOTE:
1) STORM SEWER NOT INCLUDED
2) RETENTION FACILITY NOT INCLUDED
3) ASSUME NO TOPSOIL
4) ASSUME SUBGRADE MATERIAL IS SUITABLE & CAN BE COMPACTED TO ACCEPTABLE STANDARDS.
5) ASSUME CONTAMINANTS IN SUBGRADE WILL NOT TRAVEL UPWARDS TO GROUND LEVEL. (NOTE: SOLVENTS COULD DESTROY ASPHALT BY DEGRADATION.)
6) MAY REQUIRE IMPERMEABLE VINYL MEMBRANE!

EARTHWORK



1½ SURFACE COURSE
1½" BASE COURSE
6" GRADED CRUSHED STONE
PROPER & COMPACTED SUBGRADE

CUT -

TOTAL CUT 4033 yd^3

200 HP DOZER W/OPERATOR - DAILY OUTPUT 1060 yd^3 @ 58¢/yd^3 + \$442/day

a) $\frac{(4033\,yd^3)}{(1060)\,yd^3/day} = 3.8$ days $\quad (3.8\,days)(\$442/day) = \$1679.60$

b) $(\$.58/yd^3)(4033\,yd^3) = +2339.14$

→ TOTAL CUT \$4018.74

FILL

TOTAL FILL 4033 yd^3

200 HP DOZER W/OPERATOR - DAILY OUTPUT 1060 yd^3 @ 58¢/yd^3 + \$442/day (NO COMPACTION)

a) $\frac{(4033\,yd^3)}{(1060\,yd^3/day)} = 3.8$ days $\quad (3.8\,days)(\$442/day) = \$1679.60$

b) $(\$.58/yd^3)(4033\,yd^3) = +2339.14$

TOTAL FILL → \$4018.74

COMPACTION OF SUBGRADE

- 6"-12" LIFTS W/SHEEPS FOOT ROLLER
DAILY OUTPUT 510 yd^3/day @ \$1.34/yd^3

200 HP DOZER W/ SHEEPSFOOT ROLLER

a) DOZER $\frac{(4033\ yd^3)}{(510\ yd^3/day)} = 7.91$ days (7.91 days)(\$442/day) = 3496.22

b) SHEEPSFOOT ROLLER $\frac{(4033\ yd^3)}{(510\ yd^3/day)} = 7.91$ days (7.91 days)(\$62/day) = 490.42

c) $(4033\ yd^3)(\$1.34/yd^3)$ = +5404.22

TOTAL COMPACTION OF SUBGRADE → \$9390.86

GRADING

- SELF PROPELLED SCRAPER @ 760 yd^3/day
@ \$735/day + \$1.45/yd^3

ASSUME ENTIRE SITE W/.5' LAYER TO BE GRADED

a) $(43560\ ft^2)(2)(.5\ ft) = 43560\ ft^3$ → 1613 yd^3

$\frac{(1613\ yd^3)}{760\ yd^3/day} = 2.12$ days (2.12 days)(\$735/day) = \$1560

b) $(\$1.45/yd^3)(1613\ yd^3)$ = +2338.85

TOTAL GRADING → \$3898.85

SUBBASE PLACEMENT

- 6" CRUSHED STONE DELIVERED
@ $1.86/yd² for 6" depth

a) $(43560\ ft^2)(2)\left(\frac{1\ yd^2}{9\ ft^2}\right) = 9680\ yd^2$

for 6" $(9680\ yd^2)(\$1.86/yd^2) =$ $18,004.80

TOTAL SUBBASE → $18,004.80

SUBBASE PREPERATION & ROLLER

@ $1.01/yd²

$(9680\ yd^2)(\$1.01/yd^2) =$ $9776.80

TOTAL S.BASE PREP → $9776.80

PRIME

- TANK TRUCK $191/day
@ $1.21/yd² @ 1450 yd²/day

a) $\frac{(9680\ yd^2)}{1450\ yd^2/day} = 6.67\ days$ $(6.67\ days)(\$191/day) =$ $1273.97

b) $(9680\ yd^2)(\$1.21/yd^2)$ $= 11712.80$

$12,986.77

BASE COURSE - ASPHALT 2" in thick

- Paving Machine 2300 yd²/day
@ $2.89/yd²
paving machine - $425/day
roller - $117/day

a) $\frac{(9680\,yd^2)}{(2300\,yd^2/day)} = 4.21$ days

Paving Machine (4.21 days) ($425/day) = 1789.25

b) $\left(\frac{9680\,yd^2}{2300\,yd^2/day}\right) = 4.21$ days

Roller (4.21 days) ($117/day) = +492.57

c) (9680 yd²) ($2.89/yd²) +27975.20

TOTAL BASE COURSE → $30257.02

SURFACE COURSE

$1\frac{1}{2}''$ THICK

PAVING MACHINE 3300 yd^2/day
@ \$425/day

ROLLER \$117/day
\$ 2.13/yd^2

a) $\frac{(9680\,yd^2)}{(3300\,yd^2/day)} = 2.93$ days

PAVER (2.93 days)(\$425/day) = 1245.25

b) ROLLER
$\frac{(9680\,yd^2)}{(3300\,yd^2/day)} = 2.93$ days

(2.93 days)(\$117/day) = 342.81

c) (\$2.13/yd^2) (9680 yd^2) = 20618.40

TOTAL SURFACE COURSE → \$22206.46

TOTAL PARKING AREA → $114 559.04

ENGINEERING (13%) + 14 892.68

$129,451.72

OTHER

Base $\frac{(8'')(43560\ ft^2)(2)}{(12)\ 27\ ft^2} \times \$6/yd^3 =$ $12906.67

Prime $\frac{.4\ gal}{yd^2}\left(\$1/gal\right)\left(\frac{43560}{9}\right)(2) =$ 3872

Asphalt 3"

$\left(\frac{(43560)(2)}{9}\right)\left(370\ lb/yd^2\right)\left(\frac{\$32}{ton}\right)\left(\frac{1}{2000}\right) =$ 57,305.60

(120 lb/in/yd²)

$74,084.27

W/O excavation or grading

		(SUB TOTAL) + 4(ENGR)	TOTAL
RANGE	$74,084.27 + 21327.19 =	$95 411.46 + 12403.49 =	$107,814.95
	$93,231.85 + 21327.19 =	$114559.04 + 14892.68 =	$129,451.72

TDD# 8203-01

*Explosimeter - Methane

for Entry Site

O_2
Explo
Rad
HCN - Draeger tubes

<20% Ok.
20%-50% continuous monitor
>50% leave

O_2 <19.5 & >25%
Rad - action level is anything above background
Draeger tube action levels are individual

IDLH = Immediately Dangerous to life & Health
TLV = Toxic limit value ?
IDLH = <19.5 O_2

* Factors affecting ultra-twin cartridges
- concentration of material
- Nature of material
- humidity of air
- age of cartridge