

EVERGREEN®



NYSDOT DEMONSTRATION WALL

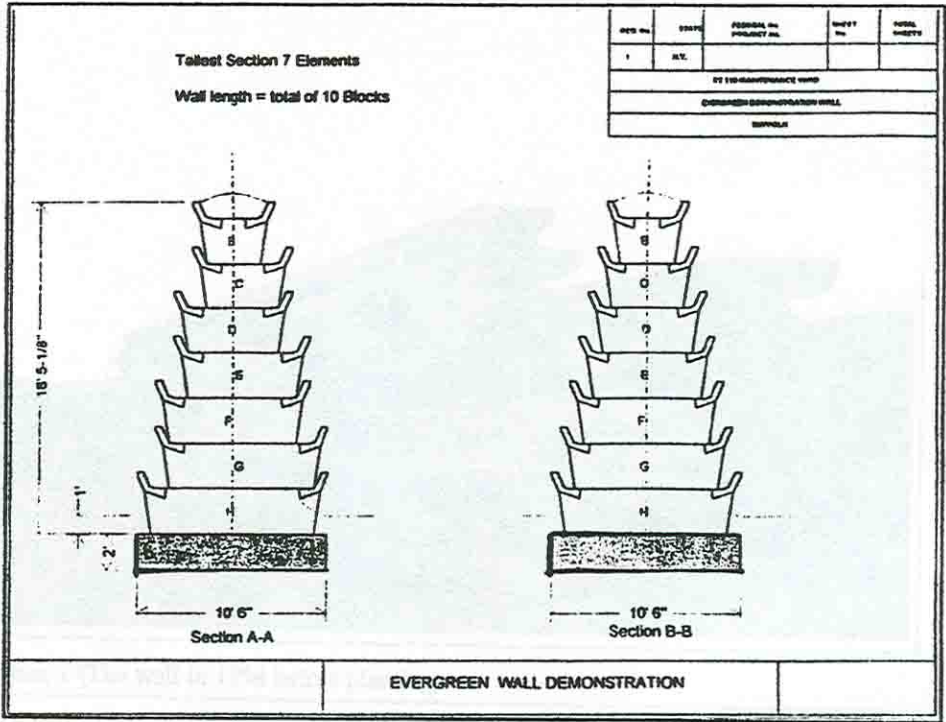
Route 495, Melville, New York

New York State Department of Transportation
Region 10



The attached plans, specifications and photographs are of the New York State Department of Transportation EVERGREEN Demonstration Wall project. This project, let in July 1994, was constructed at the Northwest corner of Route 110 and Route 495 (Long Island Expressway), Melville, New York. The plantings were designed to determine the ability of 49 plant varieties to adapt to the microclimate found on a freestanding Evergreen Sound Wall. Each sixteen-foot tray was planted with a single plant variety.

The Evergreen wall was erected in two different cross sections. In Section A-A the elements were left-right disposed, in Section B-B they are centered one upon the other.



After two and one-half years of growth several species have exhibited excellent growth habits. In addition to the following plants, Cotoneaster Salisflora has flourished on several local Evergreen Walls.

6.3 List of good looking and growing plants

Latin name	English name	evergreen	deciduous
<i>Buddleia davidii</i>	Butterfly-bush		X
<i>Cotoneaster dammeri</i>	Bearberry Cotoneaster	X	
<i>Cotoneaster divaricus</i>	Spreading Cotoneaster		X
<i>Euonymus alatus compacta</i>	Dwarfed Winged Euonymus		X
<i>Euonymus fortunei</i>	Wintercreeper Juniper	X	
<i>Euonymus japonica</i>	Japanese Euonymus	X	
<i>Hedera helix</i>	English Ivy	X	
<i>Ilex crenata 'hetzi'</i>	Japanese holly	X	
<i>Juniperus conferata</i>	Shore Juniper	X	
<i>Juniperus horizontalis' Bar</i>	Bar Harbor Juniper	X	
<i>Pachysandra terminalis</i>	Pachysandra	X	
<i>Salix purpurea</i>	Purpleosier Willow		X
<i>Yucca filamentosa</i>	Adam's needle Yucca	X	

11. Appendix

The following pictures have been taken in the last three years and document the changes at the wall.



Picture 1 (The wall in 1994 before planting)



Picture 2 (South side)



**NYS DOT Demonstration
EVERGREEN WALL**

Melville, New York

May 1997

Notes: Beginning of third season shows increasing establishment of English Ivy. Previous experience has shown that Ivy, over a period of several years, will crowd out other species. The result can be attractive insect, disease and drought resistant landscape.



20 Stiriz Road
Brookhaven, NY 11719



EVERGREEN®



**NYSDOT Demonstration
EVERGREEN WALL**

Melville, New York

May 1997

Notes: Excellent coverage by cascading habit of Cotoneaster (in flower). Procumbens and Blue Rug Juniper in lower trays are crowded by Cotoneaster above and upright habit of deciduous shrub below.



20 Stiriz Road
Brookhaven, NY 11719

EVERGREEN®



Above-- NYSDOT
EVERGREEN NOISE WALL
Route 495, Melville, New York

May 1997

Below-- NYSDOT Post & Panel Noise Wall
(view of residential side)
SOBE-Route 495 Interchange, Plainview New York

May 1997



STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENGINEERING

Albany, New York
June 13, 1994

AMENDMENT NO. 1 TO

CONTRACT NO. D256228
F.A. PROJECT NO. 320-000S-503
NASSAU AND SUFFOLK COUNTIES
CPIN: 0028.73

IN THE LETTING OF
JULY 7, 1994

NOTICE TO PROSPECTIVE BIDDERS

1. Change the ESTIMATE QUANTITIES for the following items:

<u>No.</u>	<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Contract Proposal Page</u>
203.02	Unclassified Excavation and Disposal	CY	279	2
610.0203	Establishing Turf	A	.2	10
613.0101	Topsoil	CY	311	13
615.0301	Water Vegetation	M GAL	55	15

The Bidder shall CROSS OUT the ESTIMATE QUANTITIES for the above items now shown in the Contract Proposal and SUBSTITUTE the above quantities for the appropriate item with the bid based on the above quantities.

If the Bidder fails to make these changes the Department will do so and adjust the AMOUNT BID and TOTAL BID accordingly.

Change the quantities for the above items in the ESTIMATE OF QUANTITIES on the Contract Plans.

2. Add the following items:

<u>No.</u>	<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Contract Proposal Page</u>
203.03	Embankment in Place	CY	35	23A
203.07	Select Granular Fill	CY	21	23A
206.01	Structure Excavation	CY	42	23A
611.012663	Planting Fraxinus Pennsylvanica Lanceolata 2-1/2 Inch Caliper, Balled and Burlapped, Nursery Grown	EA	6	23A
611.019911	Planting Major Deciduous Tree Species, See Contract Documents, 1 Inch Caliper, Bare Root, Nursery Grown	EA	64	23B
611.034373	Planting Pinus Strobus, 7 Ft. Height Nursery Grown, Balled and Burlapped	EA	8	23B
611.039910	Planting Coniferous Tree Species, See Contract Documents 2 Foot Height	EA	26	23B
611.042952	Planting Euonymus Alatus Compactus 3 Foot Height	EA	40	23B
611.049910	Planting Deciduous Shrub Species, See Contract Documents 12 Inch Height	EA	276	23C
611.049921	Planting Deciduous Shrub Species, See Contract Documents 15 Inch Height	EA	90	23C

611.049931	Planting Deciduous Shrub Species, See Contract Documents 18 Inch Height	EA	120	23C
611.049941	Planting Deciduous Shrub Species, See Contract Documents 2 Foot Height	EA	48	23C
611.051142	Planting Ilex Crenata 2 Foot Height	EA	80	23D
611.059912	Planting Evergreen Shrub Species, See Contract Documents, 12 Inch Height	EA	155	23D
611.059920	Planting Evergreen Shrub Species, See Contract Documents, 15 Inch Height	EA	59	23D
611.059930	Planting Everygreen Shrub Species, See Contract Documents, 18 Inch Height	EA	25	23D
611.069901	Planting Vines and Ground Cover Species, See Contract Documents	EA	302	23E
611.069921	Planting Vines and Ground Cover Species, See Contract Documents, 2-1/4 Inch Pots	EA	165	23E
611.079920	Planting Special Plant Material, as Specified, See Contract Documents, 8 Inch Height	EA	72	23E
611.079940	Planting Special Plant Material, as Specified, See Contract Documents, 12 Inch Height	EA	15	23E
611.079950	Planting Special Plant Material, as Specified, See Contract Documents, 15 Inch Height	EA	36	23F
611.079960	Planting Special Plant Material, as Specified, See Contract Documents, 18 Inch Height	EA	20	23F

632.0102	Concrete Cribbing (Precast Concrete Wall Unit Type)	SF	2525	23F
632.0602	Backfill for Concrete Cribbing (Precast Concrete Wall Unit Type)	CY	365	23F

The Bidder must RETURN THE ATTACHED PAGES 23A thru 23F with his/her bid for this Contract.

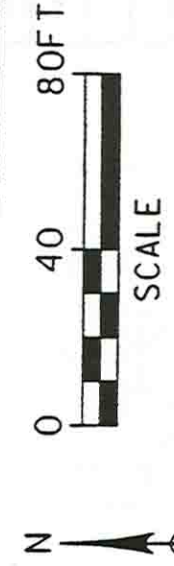
Add the above items and quantities to the ESTIMATE OF QUANTITIES on the Contract Plans.

3. Add the attached pages A1 thru A22 to the Contract Proposal.
4. Add the location map on the attached page A23 to sheet 1 of the Contract Plans.
5. Add the attached plan sheets 35A1 and 35A2 to the Contract Plans.

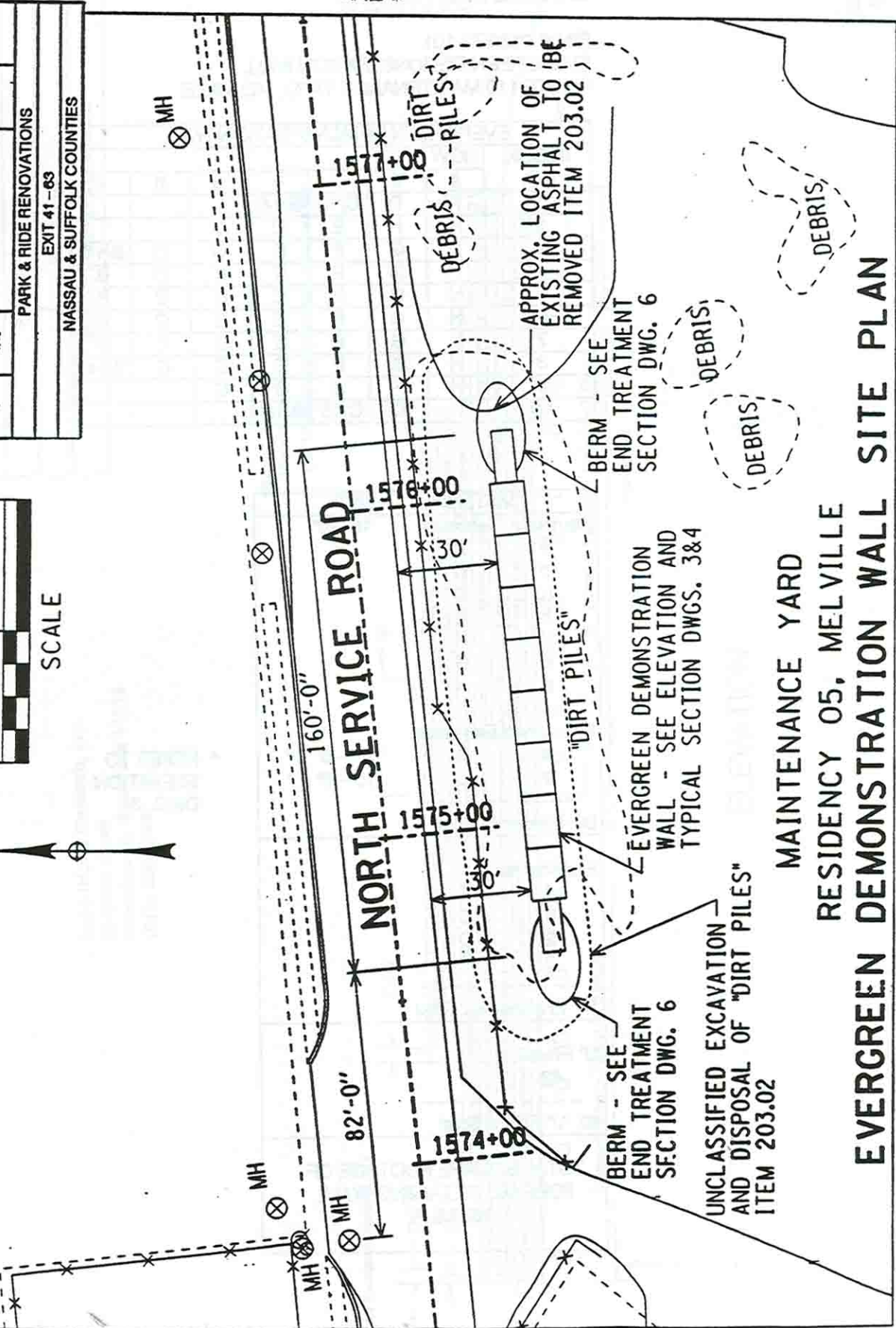
PLEASE BE GOVERNED ACCORDINGLY WHEN SUBMITTING BIDS

4/35

FED. ROAD REG. NO.	SHEET NO.	TOTAL SHEETS
1		
FEDERAL AID PROJECT NO.		
PARK & RIDE RENOVATIONS		
EXIT 41-63		
NASSAU & SUFFOLK COUNTIES		



STATIONING FOR ESTIMATE PURPOSES ONLY. NOT TO BE USED IN LAYOUT.



MAINTENANCE YARD
RESIDENCY 05, MELVILLE
EVERGREEN DEMONSTRATION WALL SITE PLAN

MATERIAL LIST

PIN # 0288.73.101
 EVERGREEN DEMONSTRATION WALL
 ROUTE 110 MAINTENANCE YARD, MELVILLE

EVERGREEN DEMONSTRATION WALL							
BLOCK NO.	ROW						
	1	2	3	4	5	6	7
1	F	D	C/15'	B/14'			
2	H	F	E	D	C		
3	H	G	F	E	D	C	B/14'
4	H	G	F	E	D	C	B
5	H	G	F	E	D	C	B
6	H	G	F	E	D	C	B
7	H	G	F	E	D	C	B
8	H	G	F	E	D	C	B/14'
9	H	F	E	D	C		
10	F	D	C/15'	B/14'			

MATERIALS LIST			
Standard Elements		16'-0"	
4	B		
8	C		
10	D		
8	E		
10	F		
6	G		
8	H		
Shortened Elements			
4	B	14'-0"	*
2	C	15'-0"	*

60 Elements Total			
Endshelves			
4	B		
6	C		
2	D		
2	F		

14 Endshelves Total			
"J" Fillers			
42			

42 "J" Fillers Total			
TOTAL SQUARE FOOTAGE OF PRECAST RETAINING WALL 2525 S.F.			

* REFER TO
 ELEVATION
 DWG. 3

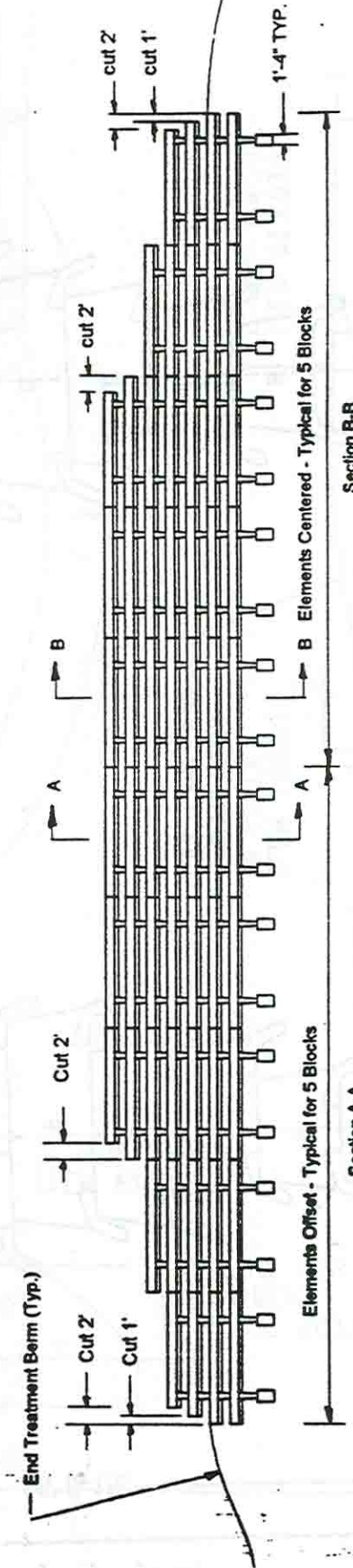
D256228

A3

NSR No.	STATE	FEDERAL No. PROJECT No.	SHEET No.	TOTAL SHEETS
1	N.Y.	PARK & RIDGE RENOVATIONS EXT 41-63		
NASSAU & SUFFOLK COUNTIES				

Long Island Geotech, Inc.
 20 Striz Road
 Brookhaven, New York 11719
 (516) 286-0240

NOTE:
 Use end shelf on elements at end of wall
 Use "J" fillers at any change in element width



ELEVATION

EVERGREEN WALL DEMONSTRATION

7/35

DWG 3

D256228

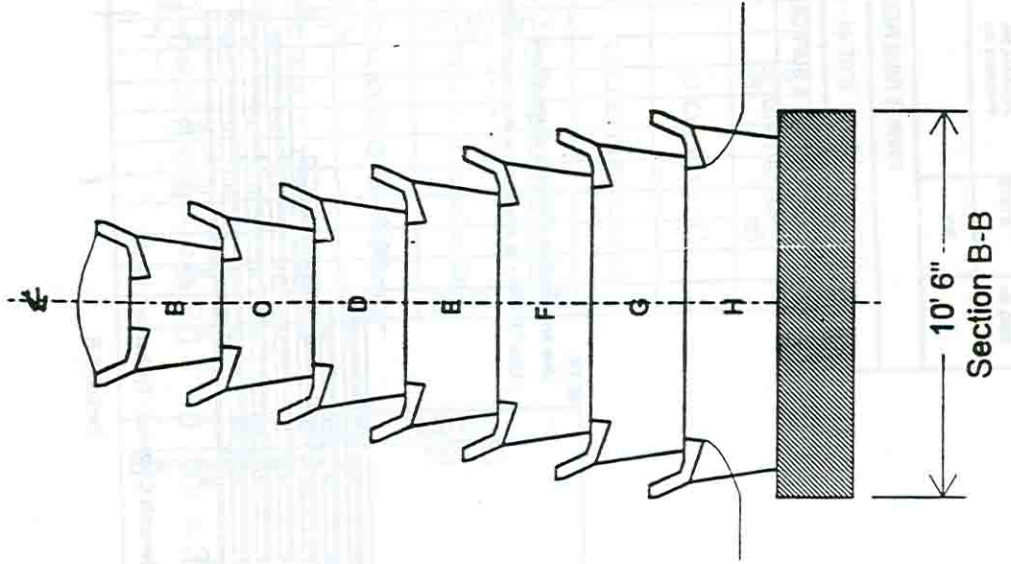
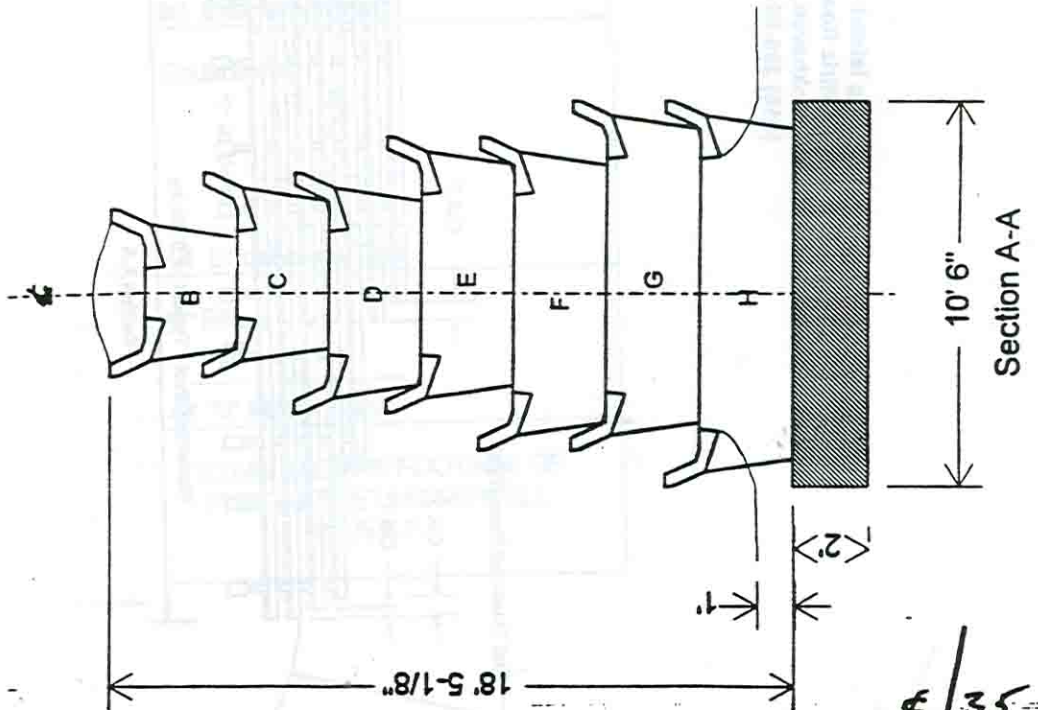
A4

NSA No.	STATE	FEDERAL No. PROJECT No.	SHEET No.	TOTAL SHEETS
9	N.Y.			
PARK & RIDE RENOVATIONS				
EXIT 41-68				
NASSAU & SUFFOLK COUNTIES				

Long Island Geotech, Inc.
 20 Stirliz Road
 Brookhaven, New York 11719
 (516) 286-0240

Tallest Section 7 Elements

Wall length = total of 10 Blocks

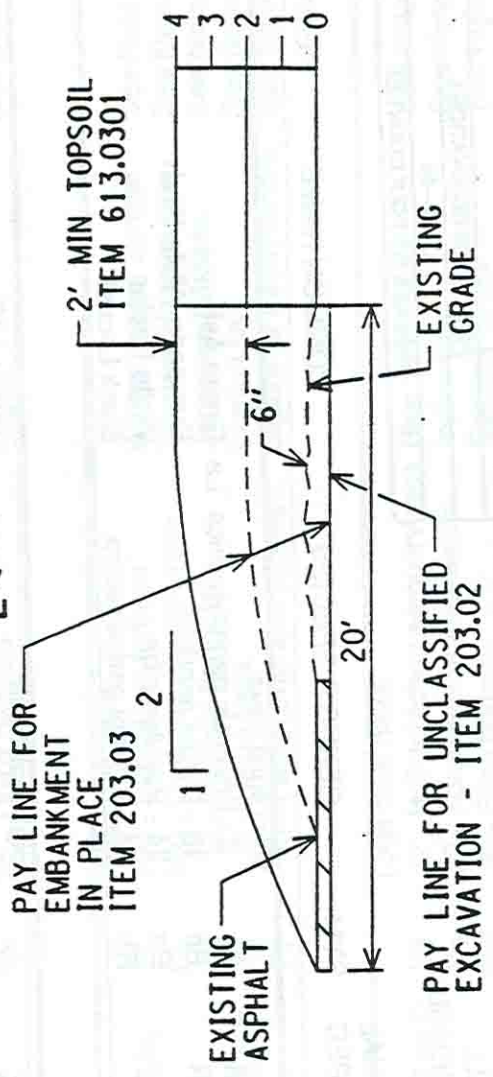
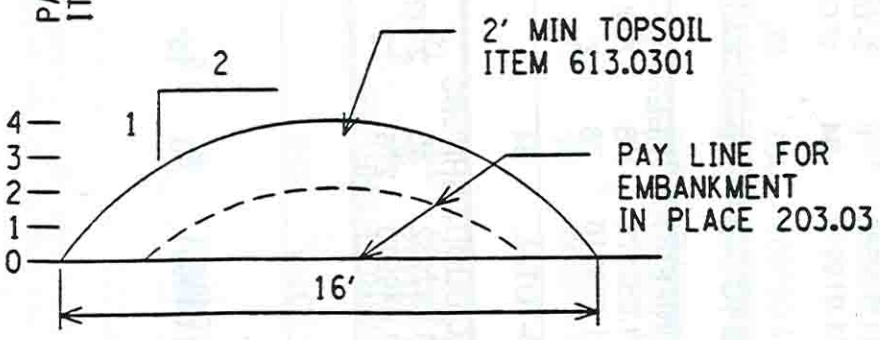
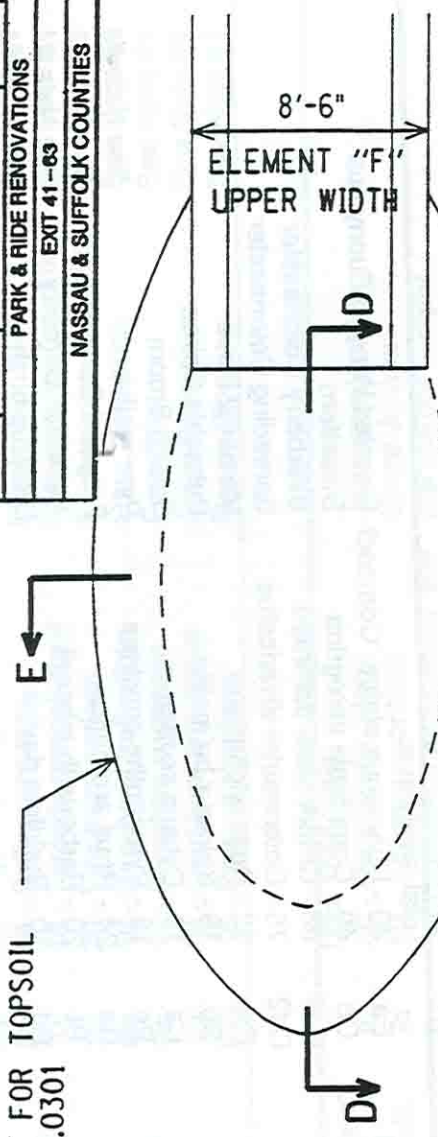


DWG 4

8/35

D256228

FED. ROAD REG. NO. 1	STATE N.Y.	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
PARK & RIDE RENOVATIONS EXIT 41-83 NASSAU & SUFFOLK COUNTIES				



END TREATMENT SECTIONS

BW4 10

PLANT LIST

PIN # 0228.53.301
 EVERGREEN DEMONSTRATION WALL
 ROUTE 110 MAINTENANCE YARD, MELVILLE

FED. ROAD REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.			
PARK & RIDE RENOVATIONS				
EXIT 41 - 03				
NASSAU & SUFFOLK COUNTIES				

ITEM NO.	QTY	SIZE	QUAL SPEC	SYM	GENUS & SPECIES	COMMON NAME	REMARKS
MAJOR DECIDUOUS TREES							
Total shall have:							
611.012663	6	2-1/2" Cal.	BB	Fa	6 - Fraxinus pennsylvanica	La Green Ash	
611.019911	64	1" Cal.	BR	Bp	16 - Betula pendula	European White Birch	
				Pa	24 - Populus alba	White Poplar	
				Rp	24 - Robinia pseudoacacia	Black Locust	
SUB-TOTAL	70						

CONIFEROUS TREES							
Total shall have:							
611.032173	8	7'-8'	BB	1	8 - Pinus strobus	White Pine	
611.039910	26	2'	BR	Pp	10 - Picea abies Pendula	Weeping Norway Spruce	
				Pr	16 - Pinus rigida	Pitch Pine	
SUB-TOTAL	34						

DECIDUOUS SHRUBS							
Total shall have:							
611.042952	40	2-1/2'	BB	Ea	40 - Euonymus alatus	Compact Dwarfed Winged Euonymus	
611.049910	276	12"	1 GAL	Cp	40 - Comptonia peregrina	Sweetfern	
				Cd1	95 - Cotoneaster dammeri	Bearberry Cotoneaster	
				Cd2	75 - Cotoneaster divaricatus	Spreading Cotoneaster	
				Rw	32 - Rosa wichuriana	Memorial Rose	
				Sb	16 - Spirea x bulmalda	Bulmalda Spirea	
				Cs	18 - Cytisus scoparius	Scotch Broom	
611.049921	90	15"	BR	Pc	16 - Pyracantha coccinea	Pyracantha	See Note #1
				Ra	24 - Rhus aromatica	Fragrant Sumac	See Note #1
				Bt	20 - Berberis thunbergii	Japanese Barberry	See Note #1
				Bd	30 - Buddleia davidii	Butterfly-bush	See Note #1

611.049931	120	18"	BR	Cr	16 - Cornus racemosa	Gray Dogwood	See Note #1
				Ek	20 - Euonymus kiautschovicus	Spreading Euonymus	See Note #1
				Mp	16 - Myrica pensylvanica	Bayberry	See Note #1
				Sp	16 - Salix purpurea	Purpleosier Willow	See Note #1
				Tr	16 - Tamarix ramosissima	Five-stamen Tamarix	See Note #1
				Vc	20 - Viburnum carlesii	Koreanspice Viburnum	See Note #1
				Bh	16 - Baccharis halimifolia	Groundsel-bush	See Note #1
611.049941	48	2'	BR	Fs	16 - Forsythia suspensa	Forsythia	See Note #1
				La	16 - Ligustrum amurense	Amur Privet	See Note #1
				Pm	16 - Prunus maritima	Beach Plum	See Note #1
SUB-TOTAL	574						

EVERGREEN SHRUBS							
Total shall have:							
611.051142	80	2'	BB	Ic	80 - Ilex crenata 'Hetzi'	Japanese Holly	See Note #1
611.059912	155	12"	1 GAL	Jc	50 - Juniperus conferta	Shore Juniper	See Note #1
				Jh1	30 - Juniperus horizontalis 'Bar	Bar Harbor Juniper	
				Jh2	45 - Juniperus horizontalis 'Wilton	Blue Rug Juniper	
				Sh	30 - Sarococca hookerana 'Hum	Sweetbox	
611.059920	59	15"	BR	Ej	45 - Euonymus japonica	Japanese Euonymus	See Note #1
				Yf	14 - Yucca filamentosa	Adam's - needle Yucca	See Note #1
611.059930	25	18"	BR	Tb	25 - Taxus baccata	English Yew	See Note #1
SUB-TOTAL	319						

VINES and GROUNDCOVERS							
Total shall have:							
611.069901	302	12"	1 GAL	Ef	130 - Euonymus fortunei	Wintercreeper Juniper	See Note #2
				Ls	160 - Lonicera sempervirens	Trumpet Honeysuckle	See Note #2
				Wf	12 - Wisteria floribunda	Japanese Wisteria	See Note #2
611.069921	165	2-1/4"	CELL P	Hh	115 - Hedra helix	English Ivy	See Note #2
				Pt	50 - Pachysandra terminalis	Japanese Pachysandra	See Note #2
SUB-TOTAL	467						

ORNAMENTAL GRASSES							
Total shall have:							
611.079920	72	6-8"	BR or Q	Hs	22 - Helictotrichon sempervirens	Blue Oats Grass	See Note #3
				Sa	20 - Sorghastrum Avenaleum	Indian Grass	See Note #3
				Sb1	30 - Stipa barbata	Feather Grass	See Note #3
611.079940	15	10-12"	BR or Q	Er	15 - Erianthus ravennae	Plume Grass	See Note #3

611.079950	36	12-15"	BR or Q	Ms	20 - Miscanthus sinensis `Zebrin	Zebra Grass	See Note #3
				Pv	16 - Panicum virgatum	Switch Grass	See Note #3
611.079960	20	18"	1 GAL	Pn	20 - Phyllostachys nandina `Do	Heavenly Dwarf Bamboo	
SUB-TOTAL	143						

TOTAL 1607

NOTE #1 LIMITATIONS ON BARE ROOT WOODY MATERIAL ARE AS FOLLOWS:

MARCH 1- APRIL 30

NOTE #2 MINIMUM 3 RUNNERS w/ 8" NEW TOP & ROOT GROWTH.

NOTE #3 LIMITATIONS ON BARE ROOT & CONTAINER MATERIAL ARE AS FOLLOWS:

MARCH 1-APRIL 30: BARE ROOT - MINIMUM SIZE = 1" DIA. CROWN.
 APRIL 30-JUNE 1 & 1 QUART CONTAINER - EVIDENCE OF NEW TOP GROWTH & ROOT GROWTH
 AUG 15-SEPT 15: OUTSIDE BOTTOM OF CONTAINER, MINIMUM SIZE AS STATED.
 SEPT 15-DEC15: BARE ROOT - MINIMUM SIZE = 1" DIA. CROWN.

FED. ROAD REC. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.			
PARK & RIDE RENOVATIONS				
EXIT 41 -03				
NASSAU & SUFFOLK COUNTIES				

PLANTING TRAY POCKETS PLAN

PIN # 0228.73.101
 EVERGREEN DEMONSTRATION WALL
 ROUTE 110 MAINTENANCE YARD, MELVILLE

SOUTH WALL

ROW	BLOCK	2	3	4	5	6	7	8	9	10
7		B 14'	B 8Hs	B 8Ra	B 12Rw	B 10Rw	B 10Sb1	B 10Sb1 14'		
6		C	C 8Vc	C 8Fs	C 8Ek	C 8Cr	C 8Pm	C 8Cs 2Pp		
5		C 7Yf	D 15Jh1	D 15Jh1	D 25Hh	D 15Cd1	D 15Cd1	D 15Jh2	C 8Pv	
4	B 14' 15'	D 10Sa	E 15Cd2	E 15Cd1	E 15Jc	E 4Bp 5Bt	E 4Bp 5Bt	E 4Pt 6Sb	D 10Ms	B 5Er 14' 10Jc
3	C 8Pc	E 8Bh	F 20Ef	F 20Ef	F 15Jc	F 15Jh2	F 15Jh2	F 10Cp	E 10Cp	C 5Bd 15' 4Wf
2	D 10Pn	F 8Tr	G 4Pa 5Ej	G 25LS	G 8La	G 8Sp	G 4Rp 5Tb	G 4Pa 5Tb	F 4Rp 5Ej	D 4Pt 5Ej
1	F 4Pa 5Ej	H 4Rp 5Ej	H 20LS	H 25LS	H 25Hh	H 20Hh	H 15Cd2	H 15Cd2	H 10Bd	F 8Mp

TOTALS FOR SOUTH WALL

MAJOR DECIDUOUS	DECIDUOUS SHRUBS	VINES/GROUNDCOVERS	GRASSE
Bp-8	Cp-20	Mp-8	Er-5
Pa-12	Cr-8	Pm-8	Hs-8
Rp-12	Cd1-45	Pc-8	Ms-10
CONIFEROUS TREES	Cd2-45	Ra-8	Pv-8
Pp-4	Ek-8	Rw-22	Sa-10
Pr-8	Fs-8	Sp-8	Sb1-20
	La-8	Sb-6	Pn-10
		Tr-8	
		Vc-8	
		Bh-8	
		Bt-10	
		Bd-15	
		Cs-8	
		Jc-50	
		Jh1-30	
		Jh2-45	
		Tb-10	
		Ej-25	
		Sh-0	
		Yf-7	
		Ef-40	
		Hh-70	
		Ls-70	
		Wf-4	
		Pt-0	

FED. ROAD REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.		9	10
PARK & RIDE RENOVATIONS EXIT 41-03 NASSAU & SUFFOLK COUNTIES				

PLANTING TRAY POCKETS PLAN

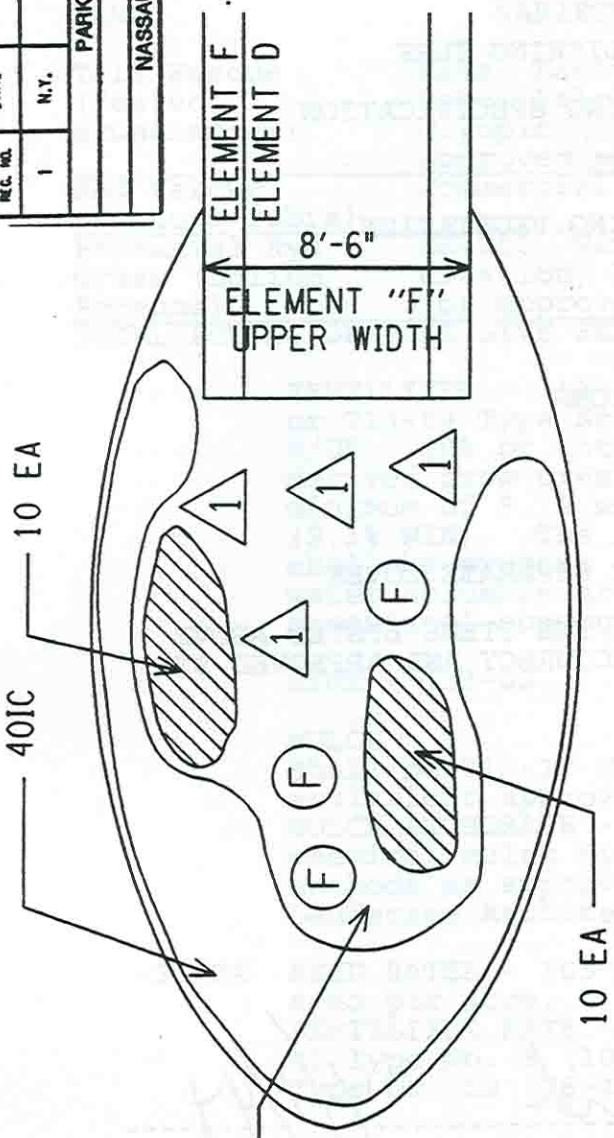
PIN # 0228.73.101
 EVERGREEN DEMONSTRATION WALL
 ROUTE 110 MAINTENANCE YARD, MELVILLE

ROW	BLOCK	1	2	3	4	5	6	7	8	9	10
7		B 14'	B 10Sb1	B 7Yf	B 10Rw	B 25Ls	B 8Ra	B 8Ra	B 8Hs		
6		C	C 15Sh	C 15Sh	C 25Ls	C 25Ls	C 25Ls	C 15Cd2	C 15Cd2		
5		C	C 8Pv	D 8Fs	D 8Cr	D 8Cr	D 8Ek	D 4Ek 4Vc	D 8Vc	C 10Ef	
4	B 14'	D 25Ef	D 25Ef	E 25Ef	E 10Cd1	E 10Cd1	E 20Ls	E 20Ls	E 20Ef	D 20Ef	B 14'
3	C 15'	E 8Bh	F 10Pn	F 10Pn	F 2Pp 6Hs	F 4Bp 5Bt	F 4Bp 5Bt	F 8Pc	F 8Mp	E 4Pr 10Sb	C 10Cs
2	D	F 10Bd	G 10Cp	G 10Cp	G 10Cp	G 20Hh	G 25Hh	G 15Cd1	G 15Cd1	F 8La	D 8Tr
1	F 5Ej	H 4Rp 5Ej	H 4Rp 5Tb	H 4Pr 5Tb	H 4Rp 5Tb	H 8Sp	H 25Pl	H 25Pl	H 4Pa 5Tb	H 4Rp 5Ej	F 4Pa 5Ej

TOTALS FOR NORTH WALL

MAJOR DECIDUOUS	DECIDUOUS SHRUBS	EVERGREEN SHRUBS	VINES/GROUNDCOVERS	GRASSES
Bp-8	Cp-20	Mp-8	Jc-0	Ef-10
Pa-12	Cr-8	Pm-8	Jh1-0	Hs-14
Rp-12	Cd1-50	Pc-8	Jh2-0	Ms-10
CONIFEROUS TREES	Cd2-30	Ra-16	Tb-15	Pv-8
Pp-6	Ek-12	Rw-10	Ej-20	Sa-10
Pr-8	Fs-8	Sp-8	Sh-30	Sb1-10
	La-8	Sb-10	Yf-7	Pn-10

FED. ROAD REC. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.			
PARK & RIDE RENOVATIONS				
EXIT 41 - 63				
NASSAU & SUFFOLK COUNTIES				



TURF ESTABLISHMENT
ITEM 610.0203
0.05 ACRE

TYPICAL PLAN FOR ENDS OF WALL

SYMBOL	QUANTITY	NAME	ITEM
△ 1	8	PINUS STROBUS	611.034373
○ F	6	FRAXINUS PENNSYLVANICA LANCEOLATA	611.012663
○ IC	80	ILEX CRENATA 'HETZI'	611.051142
▨ EA	40	EUONYMUS ALATUS COMPACTA	611.042942

END TREATMENT PLANTING PLAN

PIN # 0228.73.301

TITLE: EVERGREEN DEMONSTRATION WALL

COUNTY: SUFFOLK COUNTY

SUPPLEMENTAL LANDSCAPE DEVELOPMENT SPECIFICATIONS

ITEM NUMBERS:

- 610.0203 ESTABLISHING TURF
- 611 PLANTING SPECIFICATION
- 613.0101 TOPSOIL
- 615.0301 WATERING VEGETATION

OTHER INFORMATION:

- COVER SHEET
- GENERAL SPECIFICATIONS
- PLANT LIST
- TOTAL OF SHEETS
- ESTIMATE SENT UNDER SEPARATE COVER

THE FOLLOWING SHEETS FOR THE ITEMS LISTED ABOVE HAVE BEEN REVIEWED FOR ACCURACY AND APPROVED BY:

R. J. Edwards *4/1/94*

 REGIONAL LANDSCAPE ARCHITECT DATE

610.0203 ESTABLISHING TURF
 -2.02 MATERIALS
 SEEDS: 713-04, as follows:

DETAIL SPECIFICATIONS FOR SEED

A - Min. Germination
 B - Min. % Germination and Hard Seed
 C - Pounds Pure Live Seed per Acre

NAME	VARIETY	A	B	C
Tall Fescue (Festuca arundinacea)	Alta, Kentucky 31, Rebel Falcon, Olympic (or approved equal)	85		55
Red Fescue (Festuca rubra)	Commercial	85		10
Perennial Rye Grass (Lolium Perenne)	NK-200, Penn Fine, Citation, Derby (or approved equal)	90		40
TOTAL POUNDS OF PURE LIVE SEED PER ACRE				105

FERTILIZER - 713-03 type No. 3 (10-6-4),
 or 713-03 Type No. 12 (26-15-11) 50%
 N/UF. 50% of total nitrogen shall be
 derived from urea form furnishing a
 minimum of 9.1% water insoluble nitrogen
 (9.1% WIN). The balance of nitrogen
 shall be present as methylene urea,
 water soluble urea, nitrate, and
 ammoniacal compounds.

LIME - 713-02

MULCH

Shall be 713-18 Hay, 713-19 Straw; or
 equivalent approved material.

MULCH ANCHORAGE - for straw shall be
 chemical mulch binder - 713-12 or other
 methods as approved by the Regional
 Landscape Architect.

-3.02A SEED RATES - 105 pounds of pure live
 seed per acre.
 FERTILIZER RATE - 1,000 pounds per acre
 of Type No. 3 (10-6-4) or 400 lbs of
 Type No. 12 (26-15-11).

LIME RATE - As follows:

Approved PH	Tested Topsoil Lbs/100 Sq Ft	Lbs/Ac
6.5 - 7.0	0	0
6.0 - 6.5	25	1000
5.5 - 6.0	50	2000

MULCH RATE:

Hay or straw mulch shall be placed at a minimum rate of approximately two (2) tons per acre. Mulching is required on all seeded areas.

MULCH ANCHORAGE RATE - manufacturer's recommended rate.

-3.02D GROUND PREPARATION AND SEEDING:

Method No. 1 shall be used for all slopes 1 on 3 and steeper with all stones and other undesirable material removed as per Method No. 2. Method No. 2 for all other areas with harrowing, disking and tillage to a depth of 6 inches, which shall be completed prior to placing of topsoil.

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611.

PLANTING:

Plant location shown on the plans are approximate and the exact location will be determined by the Regional Landscape Architect.

-2.01

PLANTS: 713-06 see the landscape plant list on the plans. All plants shall be B&B, BR, or container grown. Ball diameters shown are for B&B material. Bare root material shall conform to American Standard for nursery stock. Container grown plants with root ball 25% less in diameter and depth than that specified for B&B material will be acceptable for plants specified as B&B. A 15% tolerance will be allowed in diameter and depth providing that the volume of the resultant root ball is not less than the volume of the root ball specified.

-2.02

PLANTING MATERIAL:

TOPSOIL: 713-01 Alternate 3, premixing of fertilizer not required. Approved organic material shall be premixed with topsoil at the rate of one part organic material to seven parts topsoil. In Evergreen wall elements, polymers shall be premixed with topsoil at the rate of 1.5 lbs per cu. yd. Plant material may be planted in existing premixed soil with the incorporation of an approved organic material equal to one-quarter (1/4) the pit volume A.O.B.E.

ORGANIC MATERIAL: 713-16 Humus or Peat or 713-17 Rotted Manure or other as approved.

Fertilizer for mulch shall be 713-03 type No. 3 (10-6-4).

Fertilizer: for all plants shall be 713-03 type No. 12, Triple Superphosphate (0-46-0) with a minimum of 44% Phosphoric Acid, and either slow release fertilizer formulated (14-3-3) with Isobutylidene Diurea in the form of a 17 gram briquette or slow release fertilizer formulated (20-10-5) with urea-formaldehyde as the nitrogen source in the form of a 21 gram tablet, or other equal as approved by the Regional Landscape Architect.

MULCH: 713-05 shall be shredded mulch/
bark as approved by the Regional
Landscape Architect.

- 3.01A PLANTING SEASON:
DECIDUOUS B&B MATERIAL: March 1 to May 1
October 15 to December 15
DECIDUOUS C.G. MATERIAL: Mar. 1 to June 1
August 15 to December 15
EVERGREEN MATERIAL: March 1 to May 15
August 15 to November 1
BARE ROOT MATERIAL: March 1 to April 30
- 3.01D Plants not protected as specified, that
have not been planted within two (2)
calendar days of delivery shall be
rejected A.O.B.E.
- 3.02C PLANT PIT DIAMETER:
Pit sizes for ground cover shall be
large enough to permit satisfactory
planting, A.O.B.E.
- 3.02E PLANTING BEDS: All planting areas on end
treatment berms and within the planting
trays or the wall are considered
planting beds and shall be mulched. All
plant beds adjacent to pavement, walls,
fencing, guide rail or other fixed
objects shall extend to the structural
element.
- 3.02F DRAINAGE:
When there is standing water in dug
plant pits, the plant shall be relocated
as directed by the Regional Landscape
Architect.
- 3.03 SETTING PLANTS:
- 3.03A GENERAL:
Where trees and shrubs are located
together, the tree pits should be dug
before the shrub pits are dug.

Plants within the planting trays on the
wall shall be flush as stated in Section
611-3.03 Setting Plants. Saucer depth
for plants on the end treatment berm
shall be three (3) inches, A.O.B.E.
Five (5) waterings, one (1) per day for
the compaction of the planting soil

after setting plants, and before applying mulch shall be provided A.O.B.E.

All the provisions of 611.303 Setting Plants, shall be accomplished within seven (7) calendar days after the plant is set in the pit except that the Engineer shall take into consideration unexpected interruptions in work due to emergencies, storms, etc. severe enough to stop work. Scheduled non-work days such as weekends, holidays, etc. shall not be a reason for extending the seven (7) day limitation.

If this sequence is not adhered to, and as a result the operations subsequent to setting and backfilling are not being accomplished within the specified time, the Engineer may stop all setting and backfilling of plants, and any other planting operations he may deem necessary, until such time as he is satisfied that the sequence of planting operations is again on schedule.

-3.03B BALLED PLANTS:

Synthetic burlap shall not be used on the root ball. Wire baskets shall not be used on the root ball.

-3.03D BARE ROOT PLANTS:

After delivery and inspection, shall be puddled, as directed by the Landscape Architect.

-3.03F STAKING, GUYING AND ANCHORING:

All trees shall be firmly staked, guyed or anchored at the time of planting as shown on the current standard sheet unless otherwise approved. Stakes shall not injure plant balls. Wires used for tying the trunk to stakes or for guying shall be secured to the tree by passing through an approved hose to prevent chafing and injury to the trees. Guy wires fastened to stakes shall be tightened by driving the stakes, leaving the wires to be twisted for tightening during establishment.

-3.03H MULCHING:

A two (2) inch layer of shredded mulch shall be uniformly placed in the area of all plant pits and planting beds. Areas shall be remulched during the project and period of establishment as required. After mulching fertilizer type No. 3 (10-6-4) shall be evenly applied to all mulched areas at a rate of .15 pounds of fertilizer per square foot. A second application of 10-6-4, at the same rate, shall be made on the mulched areas at the end of the Period of Establishment.

-3.03I FERTILIZING:

Fertilize plant pit before setting plants at the following rates:

	0-46-0 Super phosphate 20-10-5 21 gm tablets
Major Deciduous Trees 2" Cal & over	1/2 pound + 8 ea
Major Deciduous Trees up to 2" Cal	1/2 pound + 7 ea
Minor Trees & Evergreen Trees	1/4 pound + 6 ea
Shrubs	1/8 pound + 4 ea
Ornamental Grasses	2 ounces + 2 ea
Ground Cover	1 ounce + 1 ea*

* 10 gram tablet may be used.

611-3.04 RESTORATION:

The outer portions of the tree pit saucers shall be restored to a satisfactory condition as specified for existing turf areas.

-3.05C WATERING:

Plants shall be watered as directed between April 1 and October 1. Each watering shall provide fifteen (15) gallons of water per square yard (2" layer of water). Vines and ground cover shall be watered until ground areas are saturated A.O.B.E.

All Evergreen wall plantings shall be watered a minimum of once (1) per week from March 1 to June 1 and twice (2) a week from June 1 to August 31 unless otherwise directed by the Engineer-in-Charge.

-3.05H ANTI-DESICCANTS:

Unless otherwise approved, all plants, except seedlings and rooted cuttings, shall be sprayed with an anti-desiccant meeting the requirements of 713-08, Materials for Protection of Plants. The anti-desiccant shall be applied according to the manufacturer's directions to thoroughly cover all above ground parts. The time of application shall be as follows, unless otherwise approved:

Evergreen: Apply with ten (10) days following planting.

Deciduous: Spring Planting - Apply when leaves have reached at least seventy-five percent (75%) of mature size.

Fall Planting - Apply in October or November when the temperature is 40½F or above.

-3.06 PERIOD OF ESTABLISHMENT:

The contractor shall be required to continue the work specified under 611-3.05 "Care of Plantings" for a period of two years following the satisfactory completion of all of the planting and the contract as confirmed in writing by the Engineer or the duration of the contract whichever is later. The Period of Establishment applies to all planting unless otherwise specified.

-5

BASIS OF PAYMENT:

No extra payment shall be made for excavation of plant pits in areas where rocks, stumps, or other undesirable material is encountered.

- 613.0101 TOPSOIL:
- 3.02 TOPSOIL THICKNESS: four (4) inches.
 - 5 No payment under this item will be made for topsoil under Item 611 Planting or 612.01 Sodding.

615.0301 WATERING VEGETATION

-1 Watering plants only required.

-3.03 PLANTS: all plants in the wall element shall be watered as planting beds using a water wand supplied with water under low pressure. Watering method to be approved by E.I.C.