R-96-199

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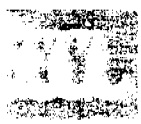
CITY OF TAMARAC

MASTER LANDSCAPE STUDY

FINAL REPORT

July 1996

Consulting Engineers
Surveyors
Planners



Prepared by:

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City of Tamarac
Master Landscape Plan

Summary Report - July 1996

INTRODUCTION/BACKGROUND

In the past year CCL Consultants, Inc. has been working to prepare a Master Landscape Plan for the City of Tamarac; more specifically to establish a long-term, citywide program to enhance the public corridors within the municipal boundaries.

Through a series of design exercises with the City Staff, Urban Forestry Advisory Committee, the Planning Commission and ultimately the City Commission in Workshop on January 17, 1996, we have prepared a set of design guidelines that seek to improve all the City's corridors. Concurrently we have developed an implementation and funding strategy that will optimize joint development potential within the growing areas of the City, as well as creating a revenue source for "renovation" projects in the older, developed corridors.

Additionally at the onset of the project we reviewed the City's Street Tree Inventory prepared by FRM in August of 1993. Most of their recommendations were considered in the formulation of this Master Plan, with many being reinforced as "standards" within the design guidelines.

The overall parameters or framework within which we worked included:

- Traffic and pedestrian safety
- Improved aesthetics and image for the City
- Integration with existing and proposed infrastructure improvements
- Complement zoning and land use objectives
- Creation of an Urban Haven
- Mix and match versatility to allow choice in design solutions
- "Pilot" program or project to "get the ball rolling"
- Ways and means of implementation available

The interface of these overall concerns within the framework of a Citywide Master Landscape Plan, through neighborhood and specific location design refinement appears to have the most potential for a result that not only is easily implementable, but is cost effective and durable in its ability to stand the test of time.

The Plan enhances the concept that pedestrians as well as vehicles will each have a defined 'space' within each corridor. The resulting themes should express the best of the City by enhancing its image and character. Frequently urban vehicular corridors can be menacing, foreboding or simply dangerous. The proposed design solutions should reflect an inviting or friendly character and be comfortable for all the users to operate within.

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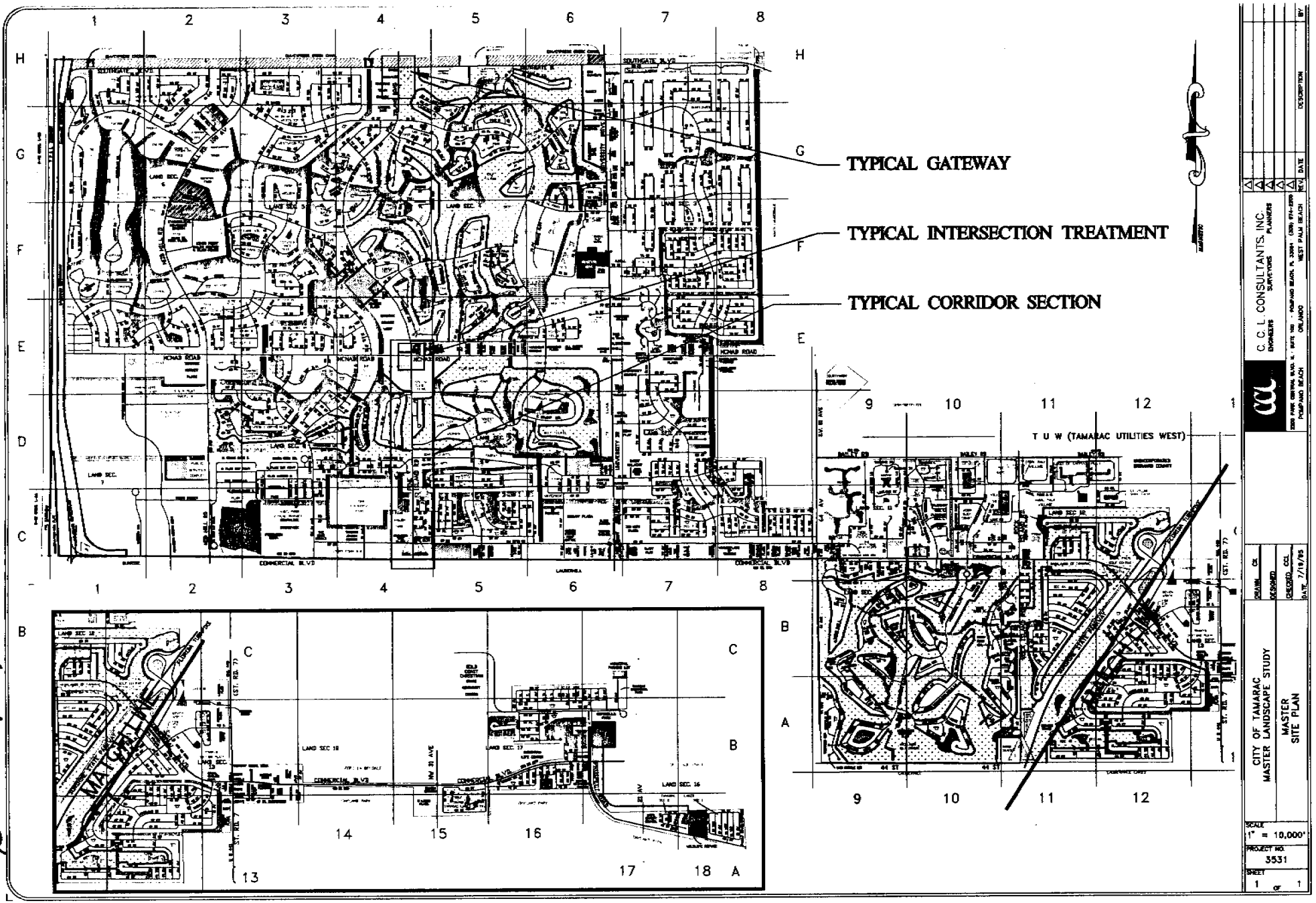
CITY WIDE MAP



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ENGINEERS PLANNERS SURVEYORS

CITY OF TAMARAC
MASTER LANDSCAPE STUDY

MASTER
SITE PLAN

DRAWN: CK
DESIGNED:
CHECKED: CCL
DATE: 7/19/95

SCALE: 1" = 10,000'
PROJECT NO.: 3531
SHEET: 1 OF 1

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PROJECT APPROACH/KEY DESIGN ISSUES

The following key design issues were overriding assumptions that formed the basis of what the design solutions sought to address. Each of these issues when appropriately addressed will contribute to the success of the City's beautification efforts. As the future life of this Master Plan will depend on its ability to adapt to a variety of different implementation situations, all of which cannot possibly be identified at this time, theses general issues should always serve as a reference in meeting those challenges, and in fact illustrating when and how the Master Plan should be updated.

- ⇨ Citywide Beautification Theme
- ⇨ Gateway Identification
- ⇨ Long Term Viability • Species Diversity
- ⇨ Enchanted Property Values
- ⇨ Project Phasing • Budgetary Limitations
- ⇨ Planned and Efficient Maintenance
- ⇨ Seasonal Variety
- ⇨ Safe Sight Visibility • Site Lines
- ⇨ Drainage Enhancement
- ⇨ Utilities Coordination
- ⇨ Property Control • Easements
- ⇨ Water Conservation • Xeriscape
- ⇨ Lighting Enhancement
- ⇨ Traffic Control • Hazardous Conditions Reduction
- ⇨ "Off the Shelf" Components for Cost Savings
- ⇨ Uniform Specifications and Bid Documents
- ⇨ Fair Implementation Strategy
- ⇨ Successful Funding Alternative
- ⇨ "Nursery" Concept Development for Future Phases

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BEAUTIFICATION CORRIDORS

Based on the study's goals and objectives as expressed by the staff during the initial programming phase of our work, it was evident that the first step would be in establishing the corridors within which the City's beautification efforts would focus. In fact, a basis for this "prioritization" had already been set under the 1993 Street Tree Inventory. The focus of that inventory, and the logical selection of the primary and secondary corridors within the municipal limits, remains the Arterial Roadways as they traverse the City. While casual observers may point out that this omits separate pedestrian corridors from the study, reality shows us that in today's urban environment, pedestrian corridors exist almost exclusively within roadway rights-of-way. Therefore, one significant area the design guidelines will need to address is to create a "space" for each of these uses in the same corridor.

The corridors as established in the following list, can also be grouped into primary and secondary categories based on the "volume" of traffic they handle, and hence their impact on the City's aesthetics. The secondary corridors in fact usually have no opportunity for medians due to the narrow widths of R.O.W. Planting efforts will then be naturally focused in the outside swale and pedestrian areas of the R.O.W. A majority of the primary corridors are under the control of FDOT or Broward County. The medians that exist within these corridors will have to respect the permitable landscape standards upheld by each. However, significant improvements can be accomplished in each, (some of which has already been completed in the last ±10 years) with an overall goal of softening the impacts the higher volumes on those roadways have on adjacent pedestrian and residential environments.

Refer to the *Florida Highway Landscape Guide* published by FDOT in April 1995 for their permitting guidelines.

Additionally, the city will be required to enter into Maintenance Agreement(s) for project areas in FDOT R.O.W. After completion they (FDOT) may continue to contribute to the cost of maintenance, not exceeding those associated with routine mowing and natural area upkeep, depending on the agreement negotiated.

Broward County requires a similar agreement to be executed, and their design standards virtually mirror those established by FDOT, since that would be their most "defensible" position in legal matters surrounding roadway improvements.

In any case, standard setbacks for roadside landscaping can generally be considered when the following minimum standards are met:

Trees - 4' from the face of non-mountable curb or outside roadside recovery zone when no curb exists. Consider sight lines in placement; clear trunk to 6' if inside.

Shrubs - No setback; however, must be maximum 30" height if in sight lines.

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This index of corridors (that follows) may be modified in the future should development in the western fringes of the City warrant new additions. However, it is unlikely any new "primary" corridors will be established, since the City's arterial roadway system has already been defined throughout, even where development has just begun to proceed.

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CORRIDORS/GATEWAYS/INTERSECTIONS

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List of R.O.W. Corridors - (18)		WIDTH	JURISDICTION	TYPE
N	Southgate Boulevard - Sawgrass to 6500 Block (NW)	106'	Cnty/City	Primary
↓	NW 81st Street - Nob Hill to McNab	80'	City	Secondary
↓	NW 77th Street - Nob Hill to Pine Island	80'	City	Secondary
↓	NW 75th Street - Pine Island to 81st	80'	City	Secondary
↓	McNab Road - Proposed Hiatus to 6500 Block (NW)	110'/200'	Cnty/City	Primary
↓	Lagos De Campo Blvd. - Pine Island to McNab	80'	City	Secondary
↓	Commercial Blvd. - Sawgrass to Prospect Road	120'	FDOT/Cnty/Cty	Primary
S	Prospect Road - Commercial to NW 17th Way	100'	County	Secondary
E	Rock Island Road - Bailey Road to NW 44th Street	110'	County	Secondary
↓	NW 64th Avenue - Bailey Road to NW 44th Street	106'	City	Secondary
↓	Brookwood Blvd. - McNab to Commercial	90'	City	Secondary
↓	University Drive - Southgate to Commercial	200'	FDOT	Primary
↓	NW 84th Terrace - Lagos to Commercial	80'	City	Secondary
↓	Pine Island Road - Southgate to Commercial	106'	County	Primary
↓	NW 94th Avenue/Westwood Blvd. - McNab to Commercial	80'	City	Secondary
↓	Nob Hill Road - Southgate to Commercial	106'	County	Primary
↓	Proposed Hiatus Road - McNab to Commercial	80'	City	Secondary
W	NW 108th Terrace - McNab to Nob Hill	80'	City	Secondary

Key Intersections - (7)

McNab Road and Nob Hill Road
McNab Road and Pine Island Road
McNab Road and University Drive
Commercial Boulevard and NW 64th Avenue
Commercial Boulevard and Rock Island Road
Commercial Boulevard and 441 (SR 7)
Commercial Boulevard and Prospect Road

Gateway Locations - (13)

Nob Hill Road @ Southgate and Commercial (2)
Pine Island Road @ Southgate and Commercial (2)
University Drive @ Southgate and Commercial (2)
Southgate @ East Boundary (6500 Block)
NcNab Road @ East Boundary (6500 - 7000 Blocks)
Commercial @ Sawgrass and Turnpike (both directions) (3)
Rock Island Road @ Bailey Road and NW 44th Street (2)

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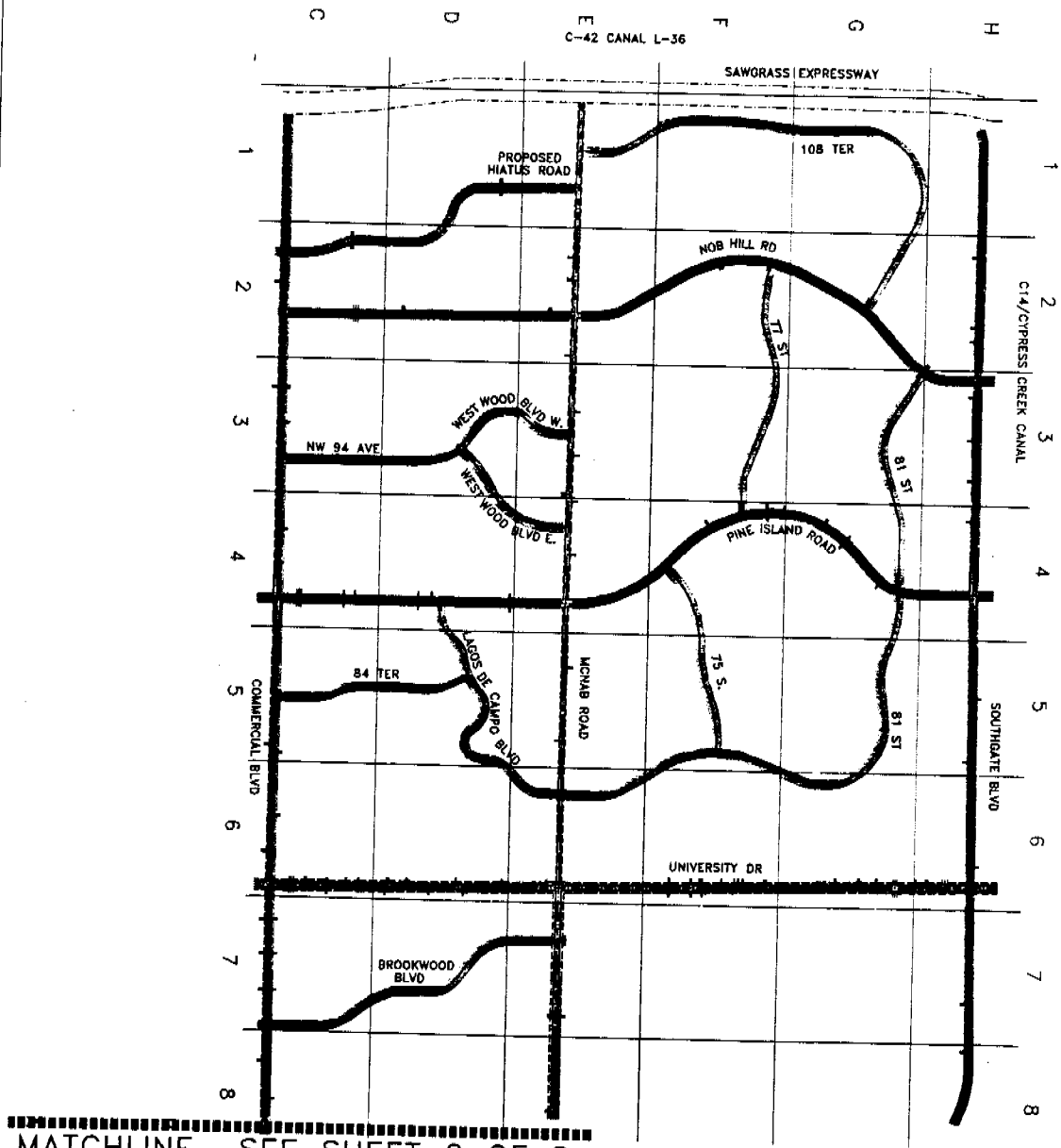

MATCHLINE SEE SHEET 2 OF 2

LEGEND

R.O.W.	LANE WIDTH	MEDIAN
80'	VARIES	VARIES
100'	32'+32'	16' MEDIAN
106'	36'+36'	16' MEDIAN
110'	37'+37'	18' MEDIAN
120'	37'+37'	28' MEDIAN
200'	48'+48'	28' MEDIAN

CITY OF TAMARAC
MASTER LANDSCAPE STUDY

R.O.W. MAP

DRAWN CK
DESIGNED RAN
CHECKED RAN
DATE 10/27/95

SCALE 1" = 1,000'
PROJECT NO. 3531
SHEET 1 OF 2

C. C. L. CONSULTANTS INC
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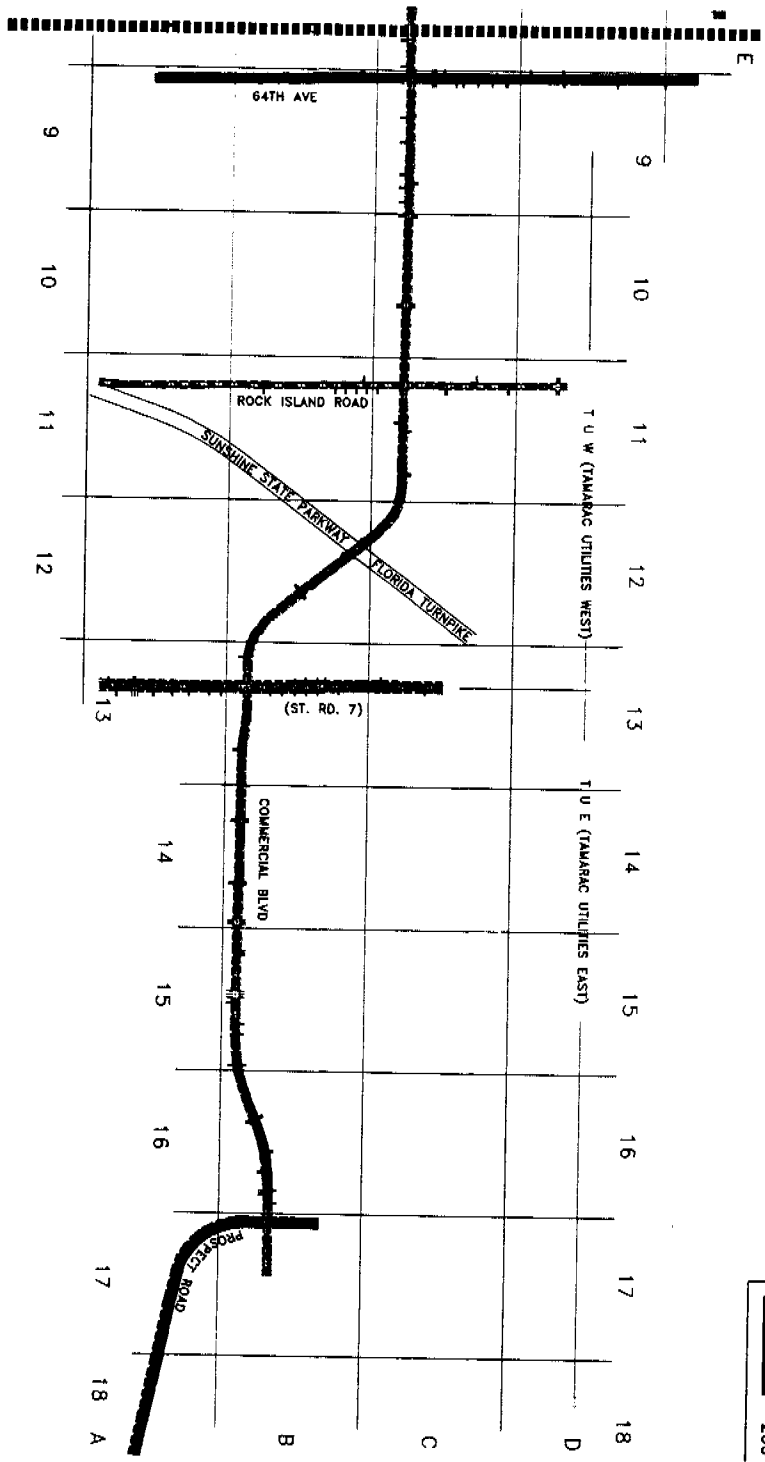
POMPANO BEACH ORLANDO WEST PALM BEACH

REV.	DATE	DESCRIPTION

R-96-199

MATCHLINE SEE SHEET 1 OF 2



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CITY OF TAMARAC
MASTER LANDSCAPE STUDY

R.O.W. MAP

SCALE 1"=1,000'
PROJECT NO. 3531
SHEET 2 OF 2
DRAWN CK
DESIGNED BAN
CHECKED BAN
DATE 10/27/95

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ENGINEERS SURVEYORS PLANNERS
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POMPANO BEACH ORLANDO WEST PALM BEACH

REV.	DATE	DESCRIPTION	BY

R. O. W. CONTROL

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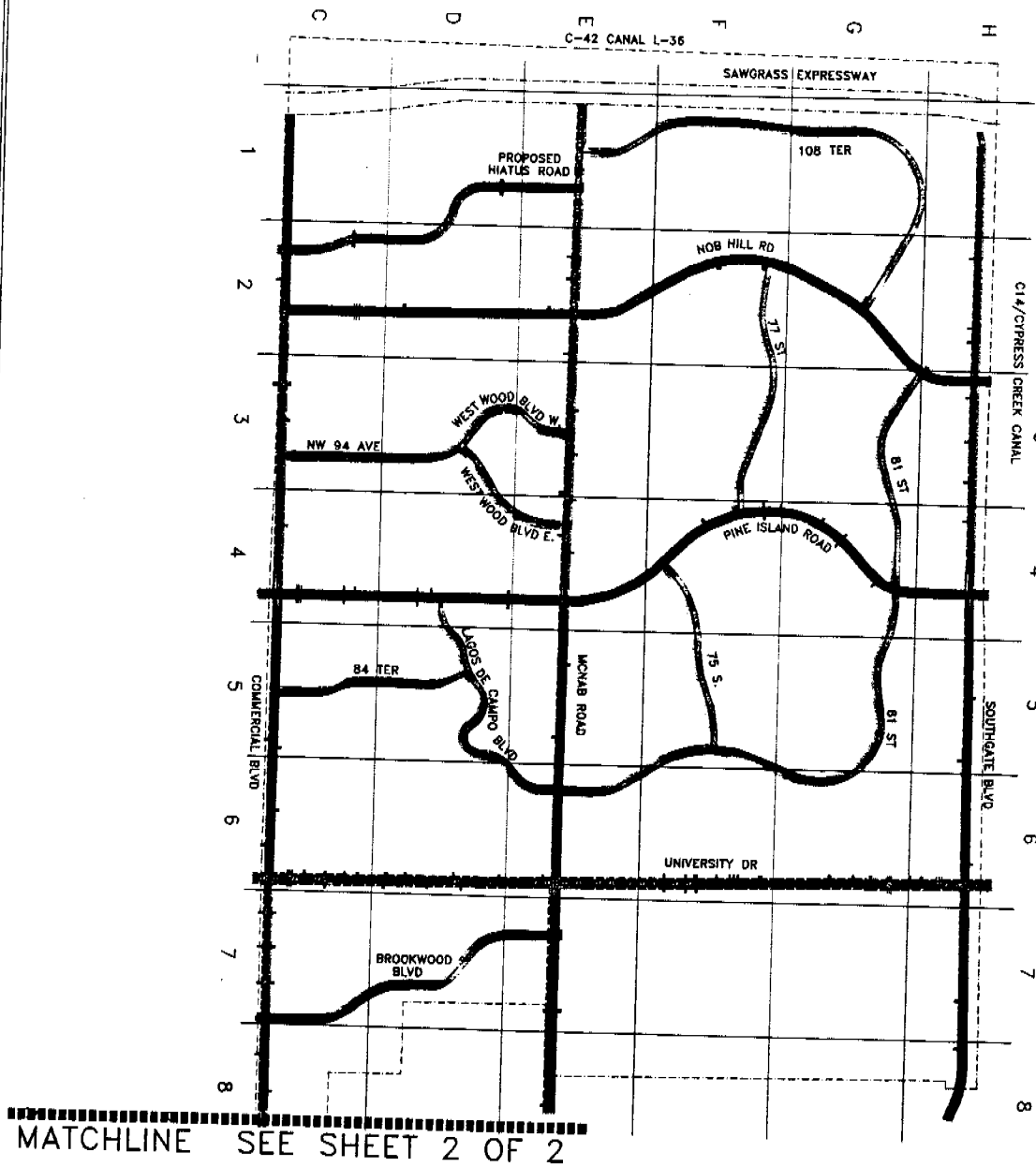

MATCHLINE SEE SHEET 2 OF 2

LEGEND

FDOT ROAD
COUNTY ROAD
CITY ROAD

CITY OF TAMARAC
MASTER LANDSCAPE STUDY

JURISDICTION MAP

SCALE 1" = 1,000'
PROJECT NO. 3531
SHEET 1 OF 2

DRAWN CK
DESIGNED RAN
CHECKED RAN
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POMPANO BEACH ORLANDO WEST PALM BEACH

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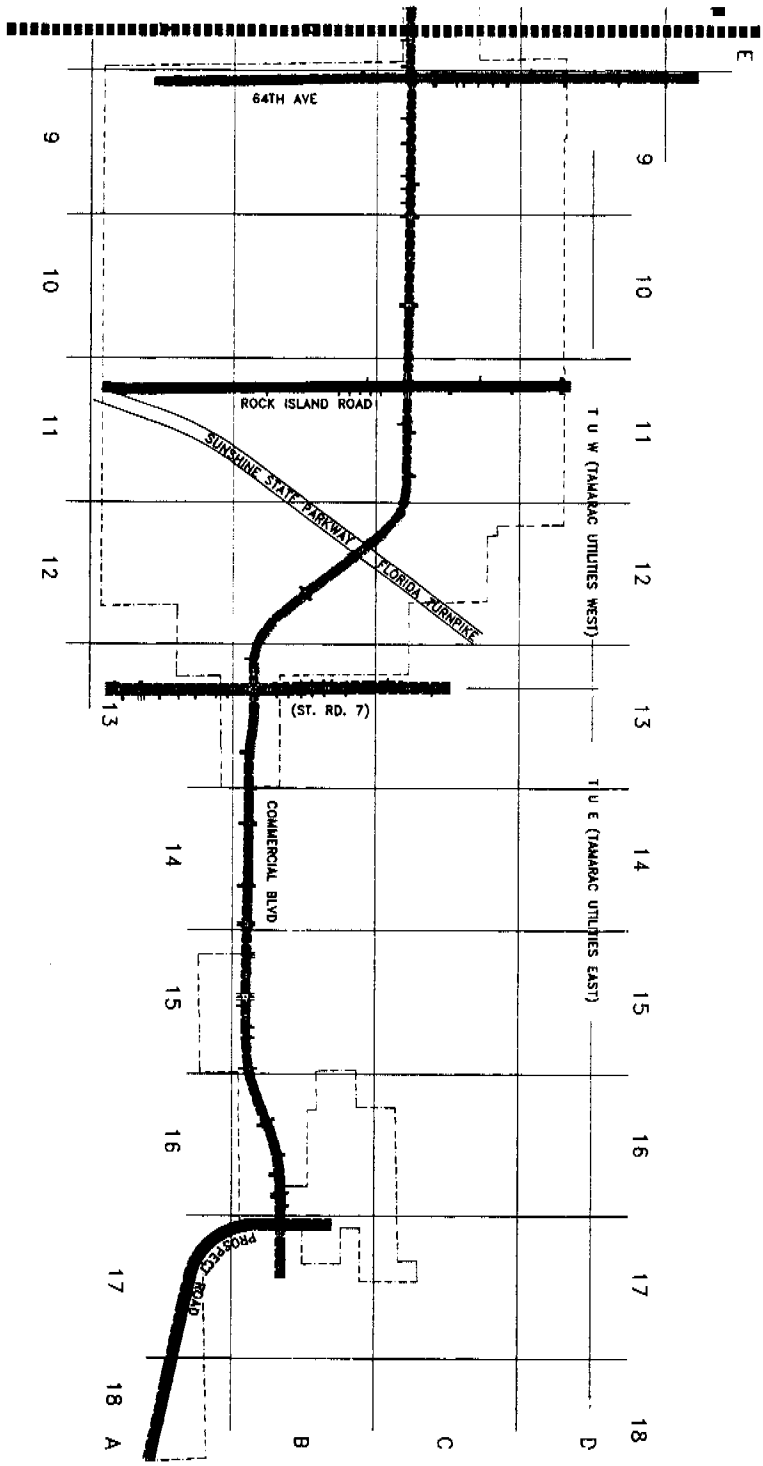
MATCHLINE SEE SHEET 1 OF 2



LEGEND

FDOT ROAD
COUNTY ROAD
CITY ROAD

CITY OF TAMARAC
MASTER LANDSCAPE STUDY

JURISDICTION MAP

DRAWN CK
DESIGNED BAN
CHECKED BAN
DATE 10/27/95

SCALE 1" = 1,000'
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SHEET 2 OF 2

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POMPANO BEACH ORLANDO WEST PALM BEACH

REV. DATE DESCRIPTION BY

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DESIGN GUIDELINES

In the process of establishing overall design guidelines for the City's Master Landscape Pan, five basic objectives must be addressed:

① Location and "space" available for the planned improvements.
② The purpose or goal of the improvements.
③ The desired thematic style of the finished project(s).
④ The materials to be utilized within the design(s).
⑤ Realistic funding available to complete and maintain the improvements.

The first of these will obviously be dictated from the corridor limits established in the previous section by FDOT, County and City Engineering criteria. Additionally FRM's street tree inventory set some basic spatial guidelines for tree plantings as follows:

- For Large Trees - Allow 400 s.f. of space for each, plant at approximately 75' on-center, in spaces greater than 10' in width.
- For Medium Trees - Allow 125 s.f. of space for each, plant at approximately 50' on-center, in spaces greater than 5' in width.
- For Small Trees & Palms - Allow 25 s.f. of space for each, plant at approximately 25' on-center, in spaces greater than 3' in width.

Other limiting factors that should be considered include:

- Overhead wire conflicts
- 6' - 10' clearance away from underground utility lines where possible
- Avoid tree conflicts

Tree conflicts in fact can arise due to poor choices in species selection, poor choice of tree space or location, and insufficient or improper maintenance practices. FRM's 1993 Tree Inventory identified some 3,291 trees total in the R.O.W. corridors with 224 (7%) being recommended for removal or relocation for these reasons. Their report differed in corridor selection from this Master Landscape Plan only in the case of Rock Island Road, which was excluded. Follow-up inventories can be completed for that corridor on an as-needed basis in the future and added to the data base at that time.

The second basic objective (purpose and goals) has been clearly defined as described in the introduction of this report, with City leadership keenly aware of the value the ultimate Master Landscape Plan, once implemented, will provide and the realistic budget available to meet this objective.

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The remaining objectives, desired thematic style and materials to be utilized in fact are closely related. We have prepared several design alternatives for a typical portion(s) of the of the Pine Island Road corridor, between Commercial Boulevard and McNab Road. The Landscape themes present two basic options, a formal regimented layout of palm and canopy tree groupings, with flowering accents at the terminus of islands and intersections. The alternate uses a more mixed palette of canopy trees and palms with flowering accents grouped strategically throughout. It appears that the second scheme was more easily adaptable to the varying conditions in the City, with the numerous existing trees too valuable to remove or relocate. All future designs should follow that general scenario.

The materials selection list that follows establishes a basic planting palette for use in the future designs. While these should not be considered the only species allowable, the majority of any design should utilize a selection of these species to provide a unifying theme throughout the City.

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PROPOSED TREE LIST

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City of Tamarac
Master Landscape Plan

Recommended Landscape Species List

Large Trees

Live Oak	Quercus virginiana	Native/50'
Laurel Oak	Quercus laurefolia	Native/40'
West Indian Mahogany	Swietenia mahogani	Native/45'
Jacaranda	Jacaranda mimosaefolia	Exotic/45'
Wild Tamarind	Lysiloma bahamensis	Native/50'
Gumbo Limbo	Bursera simaruba	Native/50'
Weeping Podocarpus	Podocarpus gracilior	Exotic/35'
Pitch Apple	Clusia rosea	Native/35'
Slash Pine	Pinus elliottii 'densa'	Native/85'
Southern Red Cedar	Juniperous silicicola	Native/35'

Palms

Cabbage Palm (Booted)	Sabal palmetto	Native/50'
Washington Palm	Washington robusta	Exotic/60'
Date Palm	Phoenix spp.	Exotic/70'
Florida Royal Palm	Roystonea elata	Native/80'
Latan Palm	Latania spp.	Exotic/30'

Small Trees

Satin Leaf	Chrysophyllum oliviforme	Native/30'
Tabebuia	Tabebuia spp.	Exotic/15' - 35'
Wax Myrtle	Myrica cerifera	Native/20'
Dahoon Holly	Ilex cassine	Native/25'
Queen's Crape Myrtle	Lagerstroemia speciosa	Exotic/30'
Geiger Tree	Cordia sebestena	Native/20'
Rapanea	Myrsine guianensis	Native/15'
Spanish Stopper	Eugenia foetida	Native/15'

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Shrubs/Groundcovers

Carissa (dwarf)	Carissa macrocarpa	Exotic/3'
Cocoplum (red-tip)	Chrysobalanus icaco	Native/7'
Beach Inkberry	Scaevola frutescens	Native/5'
Indian Hawthorne	Raphiolepsis indica	Exotic/4'
Dwarf Oleander	Nerium oleander 'petite pink'	Exotic/5'
Dwarf Juniper	Juniperous chinensis 'parsonii'	Exotic/2'
Trailing Lantana	Lantana montevidensis	Native/2'
Privet	Ligustrum spp.	Exotic/5'
Dwarf Schefflera	Schefflera arboricola	Exotic/6'
Viburnum	Viburnum suspensum	Exotic/6'
Beach Sunflower	Helianthus debilis	Native/2'

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TYPICAL MEDIAN & SWALE TREATMENTS

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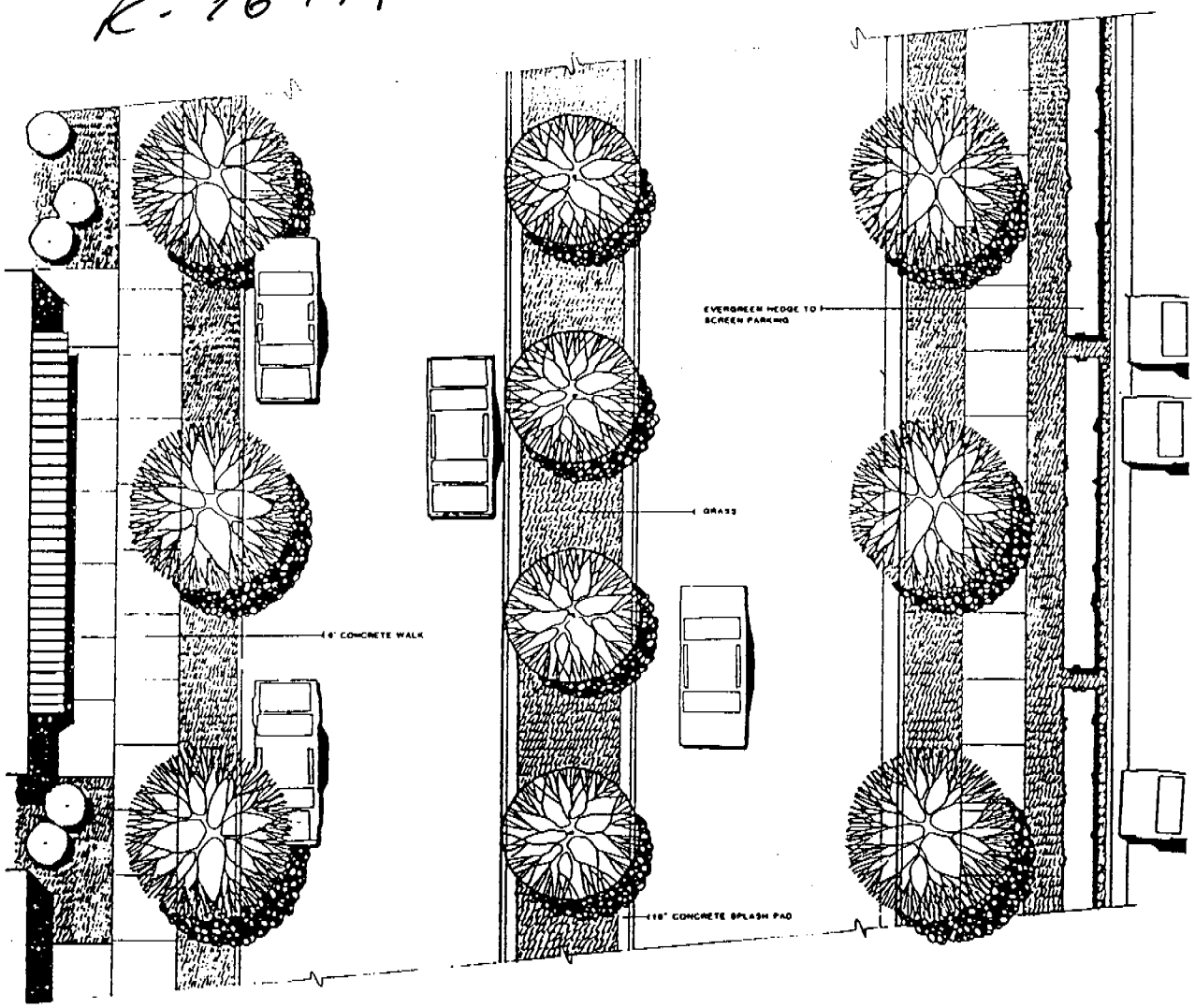

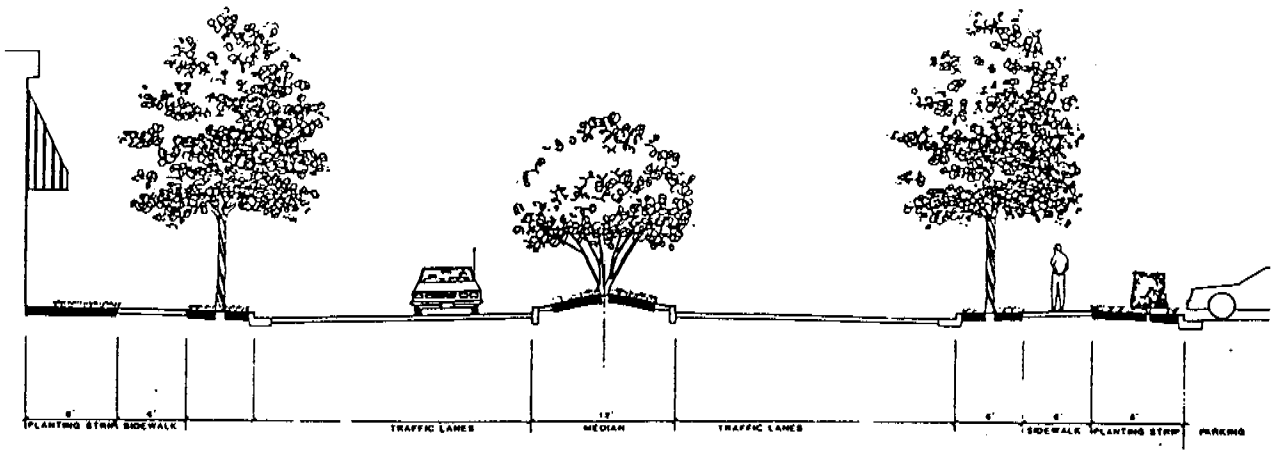

TYPICAL SECTION

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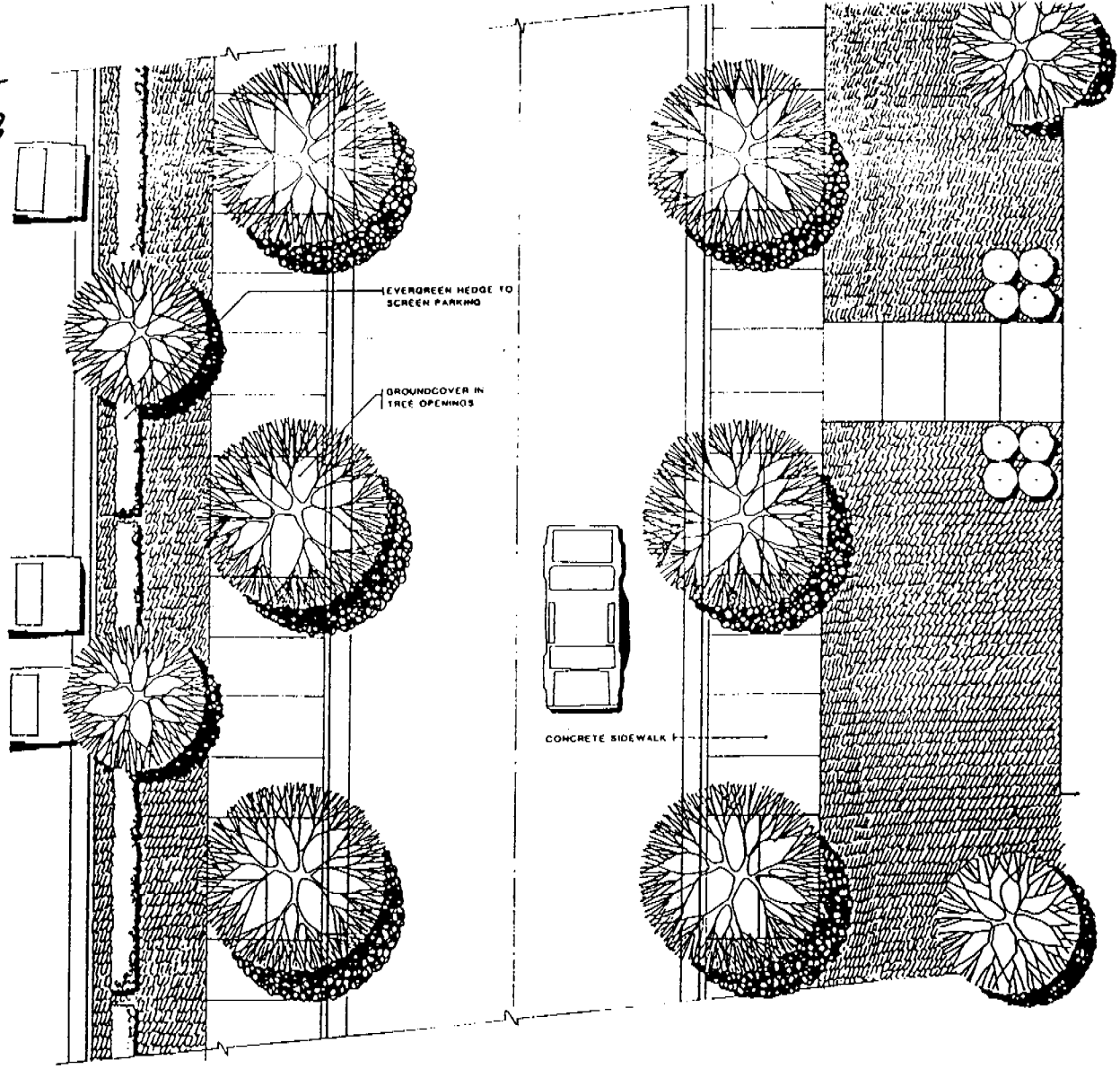

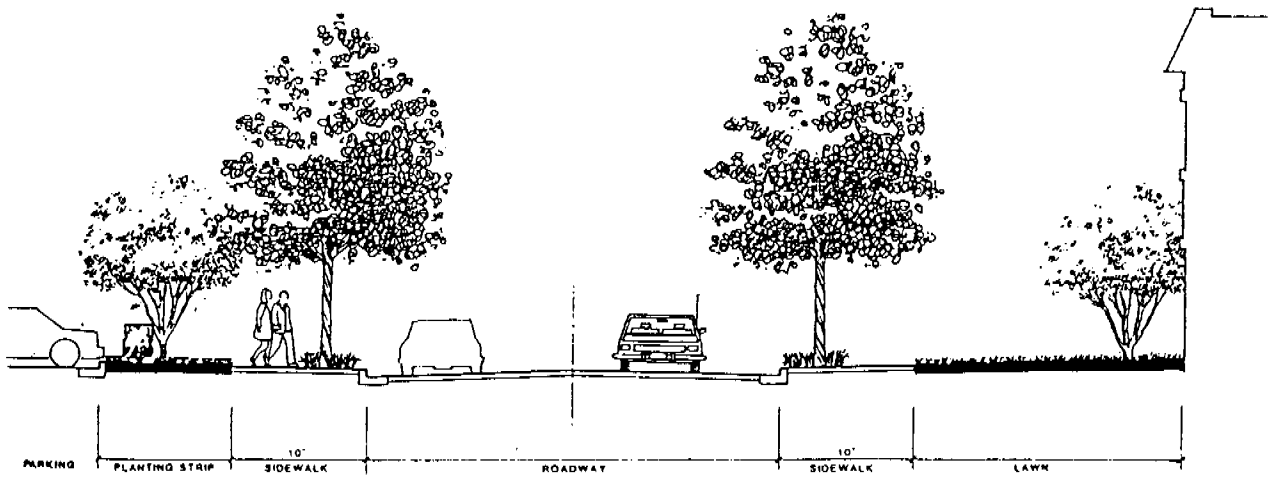

TYPICAL SECTION

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IMPLEMENTATION

To establish an implementation strategy for the Master Landscape Plan we first had to estimate the ultimate potential cost for the entire project, and then explore the funding possibilities available to the City to finance the project over the next 5 - 10 years. While the proposed ordinances modifying Chapters 10 and 11 of the City's code seek to provide this mechanism, it is important to examine the cost basis for the funding level sought.

The following cost estimates were prepared to "generally" evaluate the conceptual costs associated with implementing the selected design themes on a Citywide basis. To do this we first used as an example the sample "Pine Island Road' corridor from McNab Road to Commercial, a ±1 mile section. This was selected because we had the best existing roadway information for this area (as-builts) and the Street Tree Inventory was accurate and depicted all the existing trees in this area. Included were gateway features with intersection treatment, median improvements and R.O.W./pedestrian zone improvements, each broken out separately. Average installed unit costs were assigned to each based on current market values.

The results showed that Citywide the Master Plan could cost 6 to 7 million dollars to implement. This estimate, however, must continue to be viewed as "conceptual" with no deduction for all the City's existing improvements factored in. As the first few projects are implemented, a refined "per linear foot" cost can then be recalculated and utilized to revaluate the budget for the Citywide Master Plan.

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COST ESTIMATES/SCHEDULE

R-96-199

CITY OF TAMARAC
CCL PROJECT NO. 3531

CONCEPTUAL COST ESTIMATE - CITY GATEWAY FEATURES (SIGN WALL TYPES)

PROPOSED ITEM	QTY.	AVERAGE COST PER UNIT	TOTAL COST
SHADE TREES	8	$65.00	$520.00
ORNAMENTAL TREES	8	$75.00	$600.00
PALM TREES (SPECIME	8	$1,500.00	$12,000.00
SHRUBS	120	$4.00	$480.00
GROUNDCOVER	400	$1.50	$600.00
		SUBTOTAL	$14,200.00
LABOR FACTOR		1.5 FACTOR	$21,300.00
ENTRY WALL FEATURE	70 L.F.	$75.00 PER L.F.	$5,250.00
SOD	5,600 S.F.	$.15 PER SQ. FT.	$840.00
IRRIGATION	5,600 S.F.	$.28 PER SQ. FT.	$1,568.00
SPECIAL PAVING	7,600 S.F.	$3.5 PER SQ. FT.	$26,600.00
		TOTAL	$55,558.00

CONCEPTUAL COST ESTIMATE - PINE ISLAND ROAD/McNAB TO COMMERCIAL CORRIDOR

MEDIANS

PROPOSED ITEM	QTY.	AVERAGE COST PER UNIT	TOTAL COST
SMALL SHADE TREES	39	$85.00	$3,315.00
ORNAMENTAL TREES	37	$75.00	$2,775.00
PALM TREES	36	$70.00	$2,520.00
GROUND COVER	15,248 SQ. FT.	$1.15 PER SQ. FT.	$17,535.00
		SUBTOTAL	$26,145.00
LABOR FACTOR		1.5 FACTOR	$39,218.00
SOD	22,872 SQ. FT.	$.15 PER SQ. FT.	$3,430.00
IRRIGATION	38,120 SQ. FT.	$.30 PER SQ. FT.	$11,436.00
PAVERS	15, 200 SQ. FT.	12,000 SQ. FT. @ $2.5 PER SQ. FT.	$30,000.00
		3,200 SQ. FT. @ $3.5 PER SQ. FT.	$11,200.00
		*TOTAL	$95,284.00

***computes to an average cost of $18.33/L.F.**

CONCEPTUAL COST ESTIMATE - PINE ISLAND ROAD/McNAB TO COMMERCIAL CORRIDOR

R. O. W.

PROPOSED ITEM	QTY.	AVERAGE COST PER UNIT	TOTAL COST
SHADE TREES	268	$65.00	$17,420.00
ORNAMENTAL TREES	90	$75.00	$6,750.00
PALM TREES	286	$70.00	$20,020.00
		SUBTOTAL	$44,190.00
LABOR FACTOR		1.5 FACTOR	$66,285.00
SOD	219,800 SQ. FT.	$.15 PER SQ. FT.	$32,970.00
IRRIGATION	219,800 SQ. FT.	$.30 PER SQ. FT.	$65,940.00
		*TOTAL	$165,195.00

***computes to an average cost of $31.77/L.F.**

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CITY OF TAMARAC
CCL PROJECT NO. 3531

CONCEPUTAL COST ESTIMATE SUMMARY - LANDSCAPE MASTER PLAN / CITY WIDE

ROADWAY	LENGTH	R.O.W. LANDSCAPE	R.O.W. IRRIGATION	MEDIAN LANDSCAPE	MEDIAN PAVERS	MEDIAN IRRIGATION	CURBING	TOTAL
SOUTHGATE BLVD.	18,200 L.F.	$340,704.00	$226,408.00	$146,328.00	$182,546.00	$39,312.00	$364,000.00	$1,299,298.00
MCNAB ROAD	18,500 L.F.	$346,320.00	$230,140.00	$148,740.00	$185,559.00	$39,960.00	$370,000.00	$1,320,719.00
COMMERCIAL BLVD.	18,400 L.F.	$344,448.00	$228,896.00	$147,936.00	$184,552.00	$39,744.00	$368,000.00	$1,313,576.00
NOB HILL ROAD	13,600 L.F.	$254,592.00	$169,184.00	$109,344.00	$136,408.00	$29,376.00	$272,000.00	$970,904.00
PINE ISLAND ROAD	13,800 L.F.	$258,336.00	$171,672.00	$110,952.00	$126,525.00	$29,808.00	$276,000.00	$973,293.00
UNIVERSITY DRIVE	12,600 L.F.	$235,872.00	$156,744.00	$101,304.00	$126,378.00	$27,216.00	$252,000.00	$899,514.00
SUBTOTAL		$1,780,272.00	$1,183,044.00	$764,604.00	$941,968.00	$205,416.00	$1,902,000.00	$6,777,304.00
BROOKWOOD BLVD.	5,500 L.F.	$87,560.00	$68,420.00					$155,980.00
LASOS DE CAMPO BLVD.	5,000 L.F.	$79,600.00	$52,850.00					$132,450.00
84TH TERRACE	3,500 L.F.	$55,720.00	$36,995.00					$92,715.00
WESTWOOD BLVD. E.	2,600 L.F.	$41,392.00	$27,482.00					$68,874.00
NORTHWEST 94TH AVE./WESTWOOD BLVD. W.	5,500 L.F.	$87,560.00	$58,135.00					$145,695.00
PROPOSED HIATUS ROAD	5,500 L.F.	$87,560.00	$58,135.00					$145,695.00
108TH TERRACE	8,800 L.F.	$140,096.00	$93,016.00					$233,112.00
81ST STREET	13,400 L.F.	$213,328.00	$141,638.00					$354,966.00
77TH STREET	4,600 L.F.	$73,232.00	$48,622.00					$121,854.00
75TH STREET	3,500 L.F.	$55,720.00	$36,995.00					$92,715.00
TOTAL		$2,702,040.00	$1,805,332.00	$764,604.00	$941,968.00	$205,416.00	$1,902,000.00	$8,321,360.00

NOTE: Average computed costs for total improvements on a linear foot basis are as follows:
Primary Corridors (with medians) - $71.39/L.F.
Secondary Corridors (no medians) - $26.49/L.F.

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CCL PROJECT NO. 3531

To evaluate how the City may implement a portion of the conceptual design, CCL prepared a specific design for Pine Island corridor between McNab Road and Commercial Boulevard.

Using the costs generated in the Conceptual Estimate on the previous page, but including the labor in each item, we can now prepare a refined estimate for this Phase I Pine Island Road "sample project" based on the specific design completed for this section. It is important to note that this design takes into account existing trees which will be "reused" by being integrated into the new layout. It also limits the use of shrubs, groundcovers, and other irrigated areas to manageable size tracts, with ornamental pavers and/or native drought tolerant groundcovers applied to the remaining non-irrigated areas.

In summary, please note that the computed cost for this project on a linear foot basis (L.F.) totals $59.65 including curbing. This results in a significant reduction from the $71.39 cost per L.F. computed in the Conceptual Estimate for the primary corridors. Using this 16.5% reduction, and factoring in those projected savings for the entire citywide project, the resulting total cost could theoretically be reduced to $6,948,350.00.

REFINED COST ESTIMATE - PINE ISLAND ROAD - PHASE I
McNAB TO COMMERCIAL CORRIDOR

DIANS AND R.O.W. (6,150 L.F.)

PROPOSED ITEM	QTY.	AVERAGE COST PER UNIT	TOTAL COST
SMALL SHADE TREES	58	$125.00	$7,250.00
ORNAMENTAL TREES	44	$110.00	$4,840.00
PALM TREES	340	$175.00	$59,500.00
GROUND COVER/SHRUBS	15,248 SQ. FT.	$1.65 PER SQ. FT.	$25,160.00
LARGE SHADE TREES	262	$175.00	$45,850.00
CURBING (MEDIANS)	11,030 L.F.	$10.00 PER L.F.	$110,300.00
SOD	242,672 SQ. FT.	$.18 PER SQ. FT.	$43,681.00
IRRIGATION	125,200 SQ. FT.	$.30 PER SQ. FT.	$37,560.00
PAVERS	9,300 SQ. FT.	$3.50 PER SQ. FT.	$32,550.00
		*TOTAL	$366,691.00

***computes to an average cost of $59.65/L.F.**

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CITY OF TAMARAC
CCL PROJECT NO. 3531

REFINED CONCEPTUAL COST ESTIMATE SUMMARY - LANDSCAPE MASTER PLAN / CITY WIDE
Based on Pine Island Road, Phase I estimate, McNab Road to Commercial Boulevard

ROADWAY	LENGTH (L.F.)	COST PER LINEAR FOOT	TOTAL
SOUTHGATE BLVD.	18,200	$59.65	$1,085,630.00
MCNAB ROAD	18,500	$59.65	$1,103,525.00
COMMERCIAL BLVD.	18,400	$59.65	$1,097,560.00
NOB HILL ROAD	13,600	$59.65	$811,240.00
PINE ISLAND ROAD	13,800	$59.65	$823,170.00
UNIVERSITY DRIVE	12,600	$59.65	$751,590.00
SUBTOTAL			$5,672,715.00
BROOKWOOD BLVD.	5,500	$22.14	$121,770.00
LASOS DE CAMPO BLVD.	5,000	$22.14	$110,700.00
84TH TERRACE	3,500	$22.14	$77,490.00
WESTWOOD BLVD. E.	2,600	$22.14	$57,564.00
NORTHWEST 94TH AVE./WESTWOOD BLVD. W.	5,500	$22.14	$121,770.00
PROPOSED HIATUS ROAD	5,500	$22.14	$121,770.00
108TH TERRACE	8,800	$22.14	$194,832.00
81ST STREET	13,400	$22.14	$296,676.00
77TH STREET	4,600	$22.14	$101,844.00
75TH STREET	3,500	$22.14	$77,490.00
SUBTOTAL			$792,612.00
GRAND TOTAL			$6,465,327.00

NOTE: The total project cost stipulated above exclude design, engineering, permitting and construction administrative costs, which are normally valued at +/- 10% of the project construction estimate.

Additional cost savings may be realized through grants and/or County participation in R.O.W. improvements under their control.

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Proposed Master Landscape Plan

Cost Estimates

(Revised Per Resurfacing Program)

ROADWAYS	LENGTH (L.F.)	COST PER LINEAR FOOT	TOTAL
SOUTHGATE BLVD.	18,200	$ 34.75	$ 632,450
McNAB ROAD	18,500	$ 34.75	$ 642,875
COMMERCIAL BLVD.	18,400	$ 34.75	$ 639,400
NOB HILL ROAD	13,600	$ 34.75	$ 472,600
PINE ISLAND ROAD	13,800	$ 34.75	$ 479,500
UNIVERSITY DRIVE	12,600	$ 34.75	$ 437,850
SUBTOTAL			**$3,304,675**
BROOKWOOD BLVD.	5,500	$ 22.14	$ 121,770
LAGOS DE CAMPO BLVD.	5,000	$ 22.14	$ 110,700
NW 84TH TERRACE	3,500	$ 22.14	$ 77,490
NW 57TH STREET	11,494	$ 22.14	$ 254,496
NW 94TH AVE./WESTWOOD BLVD. W.	5,500	$ 22.14	$ 121,770
PROPOSED HIATUS ROAD	5,500	$ 22.14	$ 121,770
NW 81ST STREET	13,400	$ 22.14	$ 93,210
NW 70TH STREET	3,697	$ 22.14	$ 81,867
NW 77TH STREET	4,600	$ 22.14	$ 35,904
NW 70TH AVENUE / NW 82ND STREET	5,723 2,600	$ 22.14 $ 22.14	$ 126,720 $ **
NW 108TH TERRACE	8,800	$ 22.14	$ **
WESTWOOD BLVD.	2,600	$ 22.14	$ **
SUBTOTAL			**$1,145,697**
ENTRANCEWAY SIGNS (13)			$ 722,254
GRAND TOTAL			**$5,172,626**

** Roadway not being funded but is placed on the Master Landscape Plan due to Pulte Home Corp. providing landscaping within the medians and along p[ortions of the right-of-way.

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FINAL RECOMMENDATIONS

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RECOMMENDATIONS

- A balanced revenue generation strategy that seeks 25% of the funding by future development activity, and 75% by a combination of grants, City issued bonds and redevelopment activity.

- Establish pre-approved landscape concepts for work within the FDOT and County controlled streetscape corridors. These repetitive type submittal should simplify the permitting processes.

- Develop R.O.W. maps for each corridor that are to be kept on AUTOCAD master files for easy reference. Identify clear sight zones, roadside recovery areas, and minimum setbacks in the base file before preparing any design plans for construction.

- Encourage private partnership in completing the streetscape improvements by providing impact fee credits for those properties completing portions of the streetscape in conjunction with their development.

- Seek use of "free nursery" space for tree cultivation along the corridors where both private and public open space or recreational uses are adjacent. The irrigated and fertigated edges of golf courses are ideal for this use.

- Consider tree space allocations when granting variances to minimum parking requirements.

- Encourage enhanced property frontage requirements in relation to site plan approvals.

- Consider signage bonus in conjunction with improved frontage treatment or partial streetscape completion.

- Consider appointment/selection of City Urban Forester or Landscape Architect to oversee implementation of Master Plan, supervised by Director of Community Development. This employee or consultant would also have responsibilities related to the review of submitted streetscape plans and final site plans which include frontage improvements.

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STREETSCAPE IMPROVEMENT FUND REVENUE

based on

TAMARAC FUTURE LAND USE ACTIVITY
(Developer Pays 25% of Entire Program)

Land Use Type	Fee Per Unit	Comprehensive Plan Capacity Remaining	Projected Revenue
Residential	200.00/du	3,767 du	$ 753,000.00
Commercial/Office/Retail	400.00/ac	217.5 ac	$ 87,000.00
Industrial	450.00/ac	350.7 ac	$ 157,000.00
Community Facility	100.00/ac	3.0 ac	$ 300.00
Utilities	100.00/ac	3.4 ac	$ 340.00
Private Recreation	100.00/ac	56.9 ac	$ 5,690.00
		Subtotal:	$1,004,545,000
		plus 10% redevelopment activity & interest	100,454.50
		TOTAL:	**$1,104,999.50**

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CITY PARKS AND/OR OTHER PUBLIC LAND

AREAS AVAILABLE FOR IMPROVEMENT

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The following maps were developed and based on the recommendation to seek use of "free nursery" space within the City and to utilize each where possible for cultivation of future Street Trees.

They identify public owned parcels within the City, public and private recreational areas which in this case are golf courses, and the water bodies that traverse or are contained within the City.

The first priority would be to seek planting easements where these parcels abut the previously identified Streetscape Corridors. If these areas are already irrigated (and sometimes fertigated as is the case with the golf courses) multi-row plantings of trees could be established as close as 15' on-center, with planned relocations of every other tree before mature spreads are attained. These trees would then be utilized in other areas of the Master Streetscape with those remaining forming the basis of a completed sectional streetscape.

When additional nursery areas are necessary, utilization of other public lands "off the corridors" would be the next logical choice for cultivation. For example, irrigated perimeter areas behind the City's municipal complex or public services complex might allow additional tree plantings (for cultivation) without interference to existing operations. The residential perimeters of the sports complex might also be available for cultivation use, which would result in the desirable effect of additional screening or buffering for the adjoining properties.

Whatever the areas selected, utilization of sites with existing irrigation systems would be favorable, thereby limiting establishment costs to the City. If significant irrigation installation costs are anticipated, or the selected sites does not benefit from natural drainage water supply, the real costs might actually outweigh the costs of commercially grown new trees.

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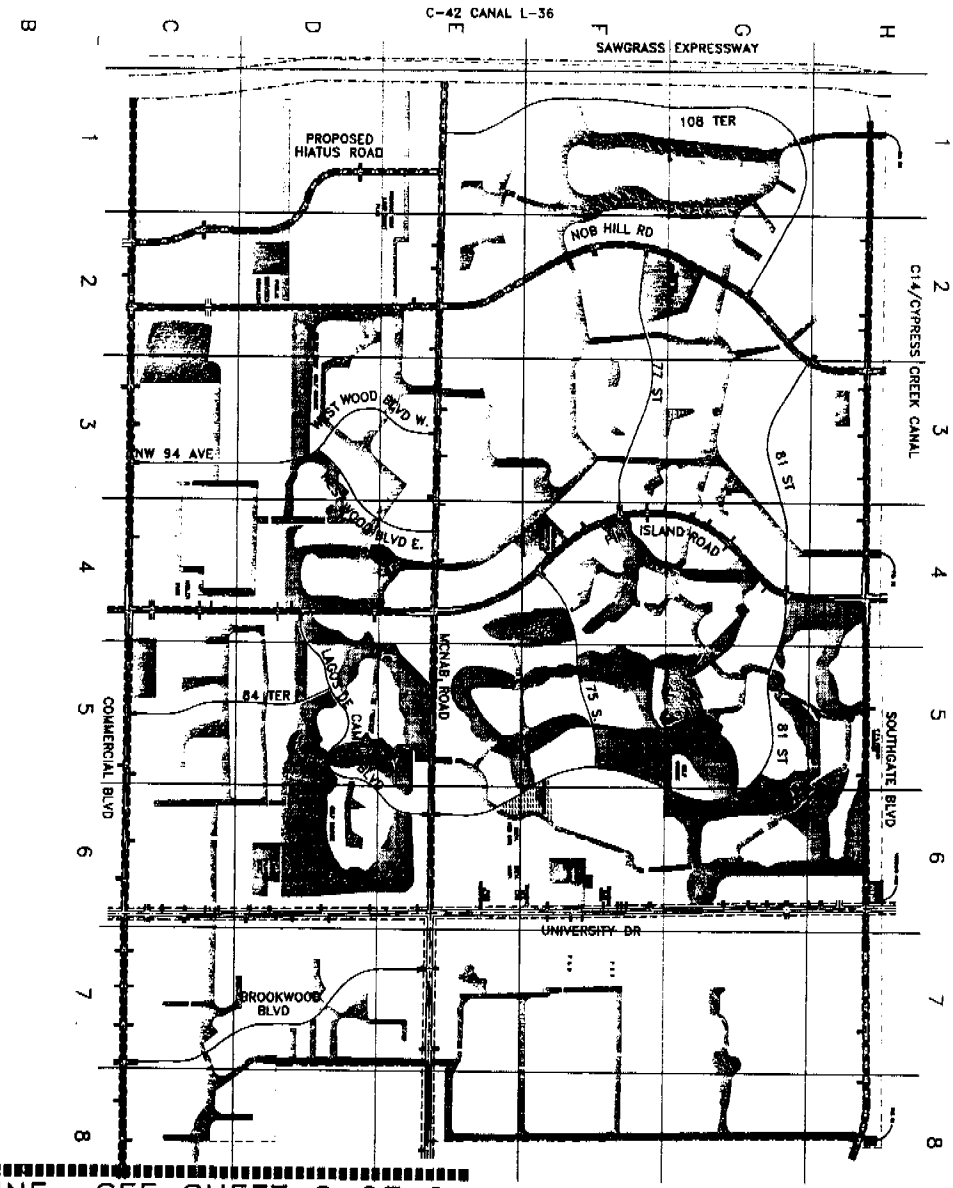


MATCHLINE SEE SHEET 2 OF 2

LEGEND

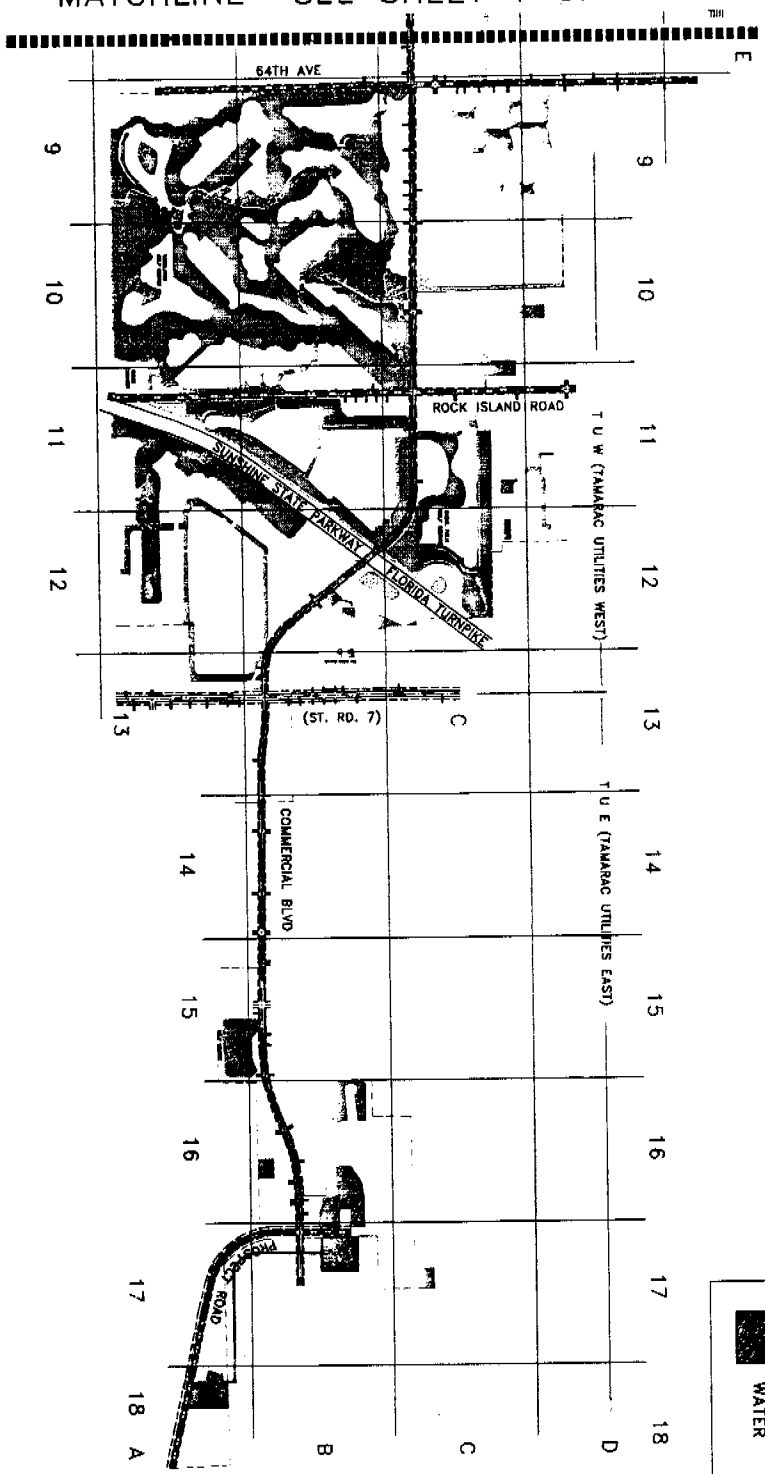
- WATER
- GOLF COURSES
- PUBLIC LAND AREAS

SHEET 1 OF 2	CITY OF TAMARAC MASTER LANDSCAPE STUDY	DRAWN CK	C. C. L. CONSULTANTS INC. ENGINEERS SURVEYORS PLANNERS
PROJECT NO. 3331	PUBLIC LAND MAP	DESIGNED RAN	2300 PARK CENTRAL BLVD. N. · SUITE 100 · POMPANO BEACH, FL 33064 · (305) 974-6200 POMPANO BEACH ORLANDO WEST PALM BEACH
SCALE 1"=1,000'		CHECKED RAN	
		DATE 10/27/95	

REV.	DATE	DESCRIPTION	BY

R96-199

MATCHLINE SEE SHEET 1 OF 2



LEGEND

- PUBLIC LAND AREAS
- GOLF COURSES
- WATER

SHEET 2 OF 2	PROJECT NO. 3531	SCALE 1"=1,000'	CITY OF TAMARAC MASTER LANDSCAPE STUDY	DRAWN CK	C.C.L. CONSULTANTS INC. ENGINEERS SURVEYORS PLANNERS	REV.	DATE	DESCRIPTION
			PUBLIC LAND MAP	DESIGNED BAN	2800 PARK CENTRAL BLVD. N. SUITE 100 POMPANO BEACH, FL 33064 (305) 974-6900			
				CHECKED BAN	POMPANO BEACH ORLANDO WEST PALM BEACH			
				DATE 10/27/95				

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