PUBLIC WORKS NOTES:

1. All requirements relative to City Code and Public Works Design and Construction Standards shall be complied with before release of site plan.
2. All required bonds, escrows, insurances, cash, etc., shall be submitted and approved before release of site plans.
3. Plan and profile shall be submitted (inked mylar size 24" x 36") for all storm sewers and street projects in public right-of-ways or public easements and approved before release of site plans.
4. Contractor is responsible to notify all utlity companies before construction begins.
5. All datum shall be based on USC and GS datum.
6. Bonds shall not be released until the receipt and approval by the City of as-built site plans, plans and profiles, etc. This does not preclude the partial release of the bond if allowed by the City.
7. All underground utilities and transformers shall be shown on site plan and confirmed per location on as-built plan.
8. The owner shall notify the Director of Public Works in writing three days prior to the beginning of all street or storm sewer work shown on the site plan.
9. The installation of improvements as required in this article shall in no case serve to bind the city to accept such improvements for the maintenance, repair or operation thereof, but such acceptance, shall be subject to the existing regulations concerning the acceptance of each type of improvement.

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10.	WATERMAIN PROFILES
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21.	GRADING PLAN (COMMERCIAL PARCEL)
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27.	ROAD PLAN & PROFILE - HILLWOOD AVENUE STA. 0+00 TO 11+00
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29.	ROAD PLAN & PROFILE - CHERRY STREET
30.	STORMWATER MANAGEMENT COMPUTATIONS
31.	STORMWATER MANAGEMENT COMPS. - EXTENDED DETENTION (FACILITY #1)
32.	STORMWATER MANAGEMENT COMPS. - EXTENDED DETENTION (FACILITY #2)
33.	LIGHTING PLAN
33A.	COMMERCIAL PHOTOGRAMETRIC PLAN
34.	LIGHTING PLAN
34A.	RESIDENTIAL PHOTOGRAMETRIC PLAN

FIRE MARSHALL NOTES:

All requirements relative to the City Fire Code and Virginia Building Code must be complied with.

		MARRIOTT	HOLLADAY TOWNS	HOLLADAY SINGLES
1.	Use group classfication	R-1(HOTEL) B (OFFICE)	R-3	R-3
2.	Type of construction	5A	5B	5B

PUBLIC UTILITIES NOTES:

1. All water main and sanitary sewer construction shall comply with the requirements of the standard specification ans plans of the Department of Public Utilities.
2. All water mains shall have a minimum cover of 4.0' unless otherwise designated on the plans.
3. All water mains shall be installed 8' north or east of the center line of the street unless otherwise designated on the plans.
4. All water mains shall be Class 52 Ductile iron pipe unless otherwise designated on the plans.
5. All Branch valves shall be strapped.
6. All required sanitary sewer, including laterals and storm sewer shall be installed and their ditches compacted for full depth and approved by the agency having jurisdiction and all streets and easements rough graded prior to the installation of any water mains.
7. No water or sanitary sewer main shall be installed until the proper forms and recorded easements are submitted to the Department of Public Utilities.
8. Plans and profiles of any utility crossing of water mains shall be submitted and approved by the Department of Public Utilities prior to construction.
9. The Developer shall notify the Department of Public Utilities 3 days prior to commencing construction of any water or sanitary sewer mains.
10. If a public water service is obtained for temporary construction water or vehicle wash area, a backflow preventor shall be required.
11. If a private interior fire protection system is to be provided, it shall be subject to the approval of the Department of Public Utilities, Fire Marshall, and shall conform to the City plumbing code.
12. Working water pressure shall be 58 p.s.i.
13. If this property is located in a low pressure area, a booster pump may be required in the building plumbing system. If this property is located in an area where th pressure will exceed 80 p.s.i. a pressure regulating valve shall be installed by the property owner in accordance with the local plumbing code in order to eliminate water hammer and unnecessary wastage of water.
14. The Developer agrees to accept complete responsiblity and all costs for the installation of the mains and appurtenances and for any adjustments in alignments and grade or relocations to existing mains due to the development of this property, any repairs and maintenance therefore which may be required prior to the finish grading and surfacing of the streets an/or easements and final acceptance shall not be considered or granted until after the streets have been surfaced or the easements finally graded.

THIS SITE IS TO BE DEVELOPED IN TWO PHASES. SEE SHEET 3 FOR DEVELOPMENT SEQUENCE SCHEDULE.

ARBORIST NOTES:

1. All requirements relative to the City Code and City Landscaping Standards shall be complied with.
2. Bonds are required for Existing Trees and new Landscaping prior to final signoff.
3. Contact the City Arborist at 241-5183 for further information.

CITY OF FALLS CHURCH, VIRGINIA
Action: Approved
Date: 3-24-98
By City Arborist/Development Review
Signed:

A TREE REMOVAL PERMIT AND TREE PRESERVATION AGREEMENT AND BOND HAVE BEEN APPROVED FOR THIS PLAN BY: _____ DATE: 3-24-98

A BOND FOR LANDSCAPE ELEMENTS HAS BEEN APPROVED FOR THIS PLAN. BY: _____ DATE: 3-24-98

RPI MAP INFORMATION:

RPI Map No. SEC. 21 001
Subdivision
Lot(s) 14 Block _____

MISCELLANEOUS NOTES:

1. Upon satisfactory completion of the installation of required improvements, as shown on the approved site plan or a section thereof, the developer shall submit to the Department of Planning five copies of an as-built site plan certified by the engineer, architect and/or surveyor for approval for conformity with the approved site plan.
2. The As-Built Site Plan shall be submitted and approved prior to the issuance of the final Occupancy Permit.
3. Final approval by the Planning Commission of this site plan shall expire five years after the date of such approval if a building permit has not been obtained for construction in accordance therewith, unless an extension is granted by the City.
4. In any development involving a condominium, cooperative, automatic owners' association or other form of ownership in which there is common area within the development, the documents pertaining to this form of ownership shall be approved by the City Attorney prior to issuance of any Occupany permit.
5. Any proposed changes or revisions during the execution of or subsequent to implementation of the approved site plan shall be subject to City review and approval.

The City of Falls Church, Virginia, owner and contract purchasers, The Holladay Corporation and Marriott International, Inc., agree to be bound by all plan requirements.

_____
CITY OF FALLS CHURCH CITY MANAGER

_____ April 8, 1998
WHITTIER PARK, L.L.C.

_____ March 17, 1998
MARRIOTT INTERNATIONAL, INC.

RECORDATION DATA:

	DEED BOOK	PAGE
Easement(s):		
MARRIOTT EASEMENT PLAT		
Subdivision(s):		
FINAL SUBDIVISION PLAT	2881	0359
WHITTIER PARK LLC FEE SIMPLE PLAT		
Dedication(s):		

APPLICATION FOR REVIEW & APPROVAL BY CITY OF FALLS CHURCH, VIRGINIA

Certification
COMMONWEALTH OF VIRGINIA
JAMES W. SCANLON
No. 016193
3-12-98
PROFESSIONAL ENGINEER
Signature

APPROVALS

PLANNING COMMISSION FINAL APPROVAL:

(Date and Conditions of Approval)

11/10/1997 RESOLUTION TR 97-62A AS AMENDED AND APPROVED BY THE CITY COUNCIL. FINAL APPROVAL WAS SUBJECT TO RECEIPT AND APPROVAL BY THE DIRECTOR OF PLANNING OF COMPLETE RECORD COPIES OF THE FINAL APPROVED SITE PLAN DOCUMENTS FROM HOLLADAY PROPERTY SERVICES, INC. & TOWNPLACE MANAGEMENT CORP.

VARIANCES (With date(s) of Approval by BZA):

BOND(S) POSTED (Date(s) and Amount(s)):

MARRIOTT INTERNATIONAL, INC.	DATE	AMOUNT	WHITTIER PARK LLC	DATE	AMOUNT
EXISTING TREE BOND		4,790.00	EXISTING TREE BOND		21,203.00
NEW LANDSCAPING BOND		70,215.00	NEW LANDSCAPING BOND		3,157.92
E & S CONTROLS BOND		10,258.00	E & S CONTROLS BOND		16,500.00
PUBLIC IMPROVEMENTS BOND		56,228.00	PUBLIC IMPROVEMENTS BOND		313,808.00

FINAL STAFF APPROVAL:

	Signature:	Date
Planning		5/1/98
Public Works		6/17/98
Public Utilities		4/30/98

SUBSEQUENT ACTIONS:

BUILDING PERMIT ISSUED (Date): _____
AS-BUILT APPROVED (Date): _____
COMMON AREA DOCUMENTS APPROVED (Date): _____
LANDSCAPE ESCROW ACCEPTED (Date): _____
CERTIFICATE OF OCCUPANCY (Date): _____
OTHER:

Revisions Approved prior to Certificate of Occupancy:

Description	Date Approved

WHITTIER PARK
Name of Project
ALONG HILLWOOD AVENUE, BETWEEN DOUGLASS AVENUE
Address
AND CHERRY STREET

CITY OF FALLS CHURCH — (703) 241-5004
Owner — Telephone No.
300 PARK AVENUE, FALLS CHURCH, VA. 22046
Address

B.C. CONSULTANTS, INC. — (703) 449-8100
Name of Certified Engineer or Surveyor Submitting Plan — Telephone No.
12700 FAIR LAKES CIRCLE SUITE 100, FAIRFAX, VA. 22033
Address

Site Plan SP-97-0051 **Sheet 1 of 34 Sheets**

CADD NAME: 7014CVR.DWG

1/30

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO CITY OF FALLS CHURCH AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
2. WHEN DURING THE COURSE OF CONSTRUCTION, ANY OBJECT OF AN UNUSUAL NATURE IS ENCOUNTERED, THE CONTRACTOR SHALL CEASE WORK IN THAT AREA AND IMMEDIATELY NOTIFY THE PROPER AUTHORITY, CITY OF FALLS CHURCH AND/OR THE ARCHITECT/ENGINEER.
3. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATION THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
4. ALL STEPS WITH THREE OR MORE RISERS SHALL HAVE HAND RAILS.
5. STANDARD GUARD RAIL AND HAND RAILS SHALL BE INSTALLED AT HAZARDOUS LOCATIONS, AS DESIGNATED DURING FINAL FIELD INSPECTION BY THE CITY OF FALLS CHURCH.
6. ALL UTILITIES WHICH WILL BE PLACED UNDER EXISTING STREETS SHALL BE BORED AND JACKED.
7. ALL STREET CUT AND PATCH WORK IN PUBLIC RIGHTS-OF-WAY REQUIRED FOR UTILITIES INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
8. THE DEVELOPER WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING STREET AND UTILITIES WHICH OCCURS AS A RESULT OF HIS CONSTRUCTION PROJECT WITHIN OR CONTIGUOUS TO THE EXISTING RIGHT-OF-WAY.
9. UTILITIES AND POLES LABELED TO RELOCATED SHALL BE RELOCATED AT THE DEVELOPER'S EXPENSE. THOSE RELOCATIONS SHALL BE COMPLETED PRIOR TO CONSTRUCTION.
10. COMPACTION OF BACKFILL IN UTILITY TRENCHES SHALL BE IN ACCORDANCE WITH CITY OF FALLS CHURCH & VDOT STANDARDS AND SPECIFICATIONS.
11. SOLID WASTE DISPOSAL SHALL BE STORED IN INDIVIDUAL HOUSEHOLD CONTAINERS AND COLLECTED BY CITY OF FALLS CHURCH PUBLIC WORKS. FREQUENCY OF PICK UP SHALL BE AT LEAST ONCE A WEEK.
12. THE PERMITTEE SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING THE VDOT RIGHT-OF-WAY, AND IT IS THE PERMITTEES RESPONSIBILITY TO CLEAN STREETS OF MUD AND/OR ALLAY DUST AND TO TAKE WHATEVER MEASURES NECESSARY TO ENSURE THAT THE STREETS ARE KEPT IN A CLEAN AND DUST FREE CONDITION AT ALL TIMES.
13. CONTROLLED FILLS MUST BE COMPACTED AT OPTIMUM MOISTURE, PLUS OR MINUS 2%, TO A DENSITY OF NOT LESS THAN 95% IN ACCORDANCE WITH ASHTO T-99 OR ASTM D-698. DENSITY MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER AND THE RESULTS SUBMITTED TO CITY OF FALLS CHURCH PRIOR TO FOOTING CONSTRUCTION.
14. SOIL CBR TESTS OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF SUBBASE THICKNESS PRIOR TO CONSTRUCTION.
15. ALL BASE, SUBBASE, AND SUBGRADE MATERIALS SHALL BE COMPACTED TO 95% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY VTM-1, WITHIN + OR - 20% OF OPTIMUM MOISTURE FOR THE FULL WIDTH OF ANY DEDICATED RIGHT-OF-WAY AND ALL THE TOWNHOUSE AND COMMERCIAL PARKING LOTS; PRIVATE STREETS; PARKING BAYS; CURB AND GUTTER; AND SIDEWALKS ADJACENT TO STREETS AND PARKING LOTS (NOT INTENDED TO INCLUDE LEADWALKS) (PER VDOT SPECS).
16. A SMOOTH GRADE SHALL BE MAINTAINED FROM CENTERLINE OF EXISTING ROAD TO PROPOSED CURB AND GUTTER/EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND OR THE PONDING OF ANY WATER ON THE ROADWAY.
17. PROPOSED SIDEWALKS MUST BE CONSTRUCTED WITH UD-3 UNDERDRAINS WHEN LONGITUDINAL GRADES ARE 3% OR GREATER UNLESS SOIL TESTS CONFIRM THAT THEY ARE NOT NEEDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (APPLIES TO SIDEWALK IN RIGHT-OF-WAY.)
18. A SEPARATE BUILDING PERMIT WILL BE REQUIRED FOR ALL RETAINING WALLS 2'-0" OR HIGHER.
19. IF THE COST OF THE WORK EXCEEDS $1,500.00, THE CONTRACTOR IS REQUIRED TO BE LICENSED IN ACCORDANCE WITH CHAPTER II OF TITLE 54. 1 (54. 1-1112) OF THE CODE OF VIRGINIA.
20. NO EVIDENCE OF ANY GRAVE, OBJECT, OR STRUCTURE MARKING A PLACE OF BURIAL WAS IDENTIFIED ON THIS SITE.
21. THERE IS AN INGRESS/EGRESS EASEMENT FOR PUBLIC EMERGENCY AND MAINTENANCE VEHICLES OVER ALL TRAVELWAYS.
22. THE STORM WATER MANAGEMENT FACILITIES WILL BE PRIVATELY MAINTAINED. MAINTENANCE WILL BE BY THE HOA ON THE RESIDENTIAL PORTION AND BY THE OWNER ON THE COMMERCIAL PORTION.
23. TOPOGRAPHIC SURVEY PERFORMED BY PHOTOGRAMMETRIC DATA SERVICES, INC. BOUNDARY SURVEY PERFORMED BY BC CONSULTANTS.
24. THIS PROPERTY IS OWNED BY THE CITY OF FALLS CHURCH AND IS CURRENTLY ZONED CD, CREATIVE DEVELOPMENT. THE PROPERTY IS MOSTLY VACANT WITH BALLFIELDS ON THE WEST END.

GENERAL LAND CONSERVATION NOTES

1. ALL LAND CONSERVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
2. NO UNWORKED DISTURBED AREA IS TO REMAIN DENUDED FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR OR HIS AGENT.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
4. ALL STORM AND SANITARY SEWER LINES NOT IN STREETS SHALL BE MULCHED AND SEEDED WITHIN SEVEN DAYS AFTER BACKFILL. NO MORE THAN 500 FEET SHALL BE OPEN AT ANY ONE TIME.
5. ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES SHALL BE COMPACTED, SEEDED AND MULCHED WITHIN SEVEN DAYS AFTER BACKFILL.
6. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT BASIN EMBANKMENTS SHALL BE MACHINE COMPACTED, MULCHED AND SEEDED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO ALL SOIL STOCKPILES.
7. DURING CONSTRUCTION, ALL STORM SEWER INLETS SHALL BE PROTECTED BY SEDIMENT TRAPS, MAINTAINED AND MODIFIED DURING CONSTRUCTION PROGRESS AS REQUIRED.
8. ALL FILLS ARE TO BE LEFT WITH A TEMPORARY FILL DIVERSION AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS OPERATION.
9. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED IMMEDIATELY AFTER COMPLETION OF GRADING.
10. ANY DISTURBED AREA NOT COVERED BY NOTE #2 ABOVE AND NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1 IS TO BE SEEDED WITHIN 7 DAYS WITH OATS, ABRUZZI RYE OR EQUIVALENT AND MULCHED WITH STRAW OR HAY MULCH AT THE RATE OF 2 TONS PER ACRE.
11. AT THE COMPLETION OF ANY CONSTRUCTION PROJECT AND PRIOR TO BOND RELEASE, ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED AND ALL DENUDED AREAS SHALL HAVE AN ADEQUATE STAND OF VEGETATION.

LINEAR PROJECTS LAND CONSERVATION NOTES

1. NO DISTURBED AREA IS TO BE DENUDED FOR MORE THAN 7 DAYS.
2. PROVIDE TEMPORARY DIVERSIONS, SEEDING, MULCHING, SILT FENCE OR OTHER CONTROL MEASURES AS NECESSARY. THEY ARE TO BE PLACED AS INDICATED ON THE DRAWINGS PRIOR TO OR AS THE FIRST STEP IN EXCAVATION.
3. WHERE CONSISTENT WITH JOB SAFETY REQUIREMENTS, ALL EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES. NO MATERIAL IS TO BE PLACED IN STREAMBEDS. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS IS TO BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH. WHERE SPOIL IS PLACED ON DOWNHILL SIDE OF TRENCH IT IS TO BE BACK-SLOPED TO DRAIN TOWARD TRENCH. WHEN NECESSARY TO DEWATER THE TRENCH, THE PUMP DISCHARGE HOSE MUST OUTLET IN A STABILIZED AREA OR A SEDIMENT BASIN.
4. NO MORE THAN 500 FEET OF TRENCH IS TO BE OPEN AT ANY ONE TIME.
5. ALL DISTURBED AREAS ARE TO BE SEEDED AND MULCHED WITHIN 7 DAYS AFTER BACKFILL OF THE APPLICABLE TRENCH SECTION.

CHESAPEAKE BAY ORDINANCE NOTE

THIS SITE DOES NOT CONTAIN ANY RESOURCE PROTECTION AREA (RPA).

GENERAL LEGEND

TOPOGRAPHY

- EX. 2' CONTOUR
- EX. 10' CONTOUR
- PROP. 2' CONTOUR
- PROP. 10' CONTOUR
- WATERCOURSE
- BENCHMARK
- 39.2 — EX. SPOT ELEVATION
- 39.2 — PROP. SPOT ELEVATION
- FLOW DIRECTION
- EX. TREE LINE
- LIMITS OF GRADING
- LIMITS OF CLEARING
- CRITICAL SLOPE

BOUNDARIES

- SITE BOUNDARY
- LOT BOUNDARY
- FENCE LINE

STREETS

- PARKING INDICATOR
- CENTERLINE STATIONING
- EX. EDGE OF PAVEMENT
- PROP. EDGE OF PAVEMENT
- EX. CURB AND GUTTER
- PROP. CURB AND GUTTER (CG-6)
- PROP. CURB & GUTTER (CG-6R)
- (CG-6) TO (CG-6R) TRANSITION
- PROP. SIDEWALK
- HCN — HANDICAP RAMP (STD. VDOT CG-12)
- HANDICAP PARKING SPACE
- STOP SIGN

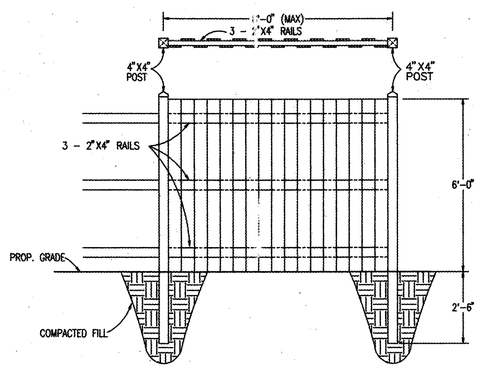
UTILITIES

- EX. STORM SEWER
- PROP. STORM SEWER
- EX. INLET
- PROP. GRATE INLET
- PROP. DRAIN INLET
- PROP. YARD INLET
- EX. STM. SEW. STRUCTURE NO.
- PROP. STM. SEW. STRUCTURE NO.
- PROP. END SECTION
- PROP. END WALL
- EX. SANITARY SEWER
- PROP. SANITARY SEWER
- EX. SAN. SEW. MANHOLE
- PROP. SAN. SEW. MANHOLE
- PROP. SANITARY CLEAN OUT
- EX. SAN. SEW. STRUCURE
- PROP. SAN. SEW. STRUCTURE
- EX. WATERLINE
- PROP. WATERLINE
- PROP. WATER VALVE
- PROP. REDUCER
- EX. FIRE HYDRANT
- PROP. FIRE HYDRANT
- PROP. SINGLE WATER METER
- PROP. 2 WATER METERS
- EX. UTILITY POLE
- PROP. UTILITY POLE
- TEST PIT
- PROP. STREET LIGHT
- EX. STREET LIGHT

PRIVACY FENCE

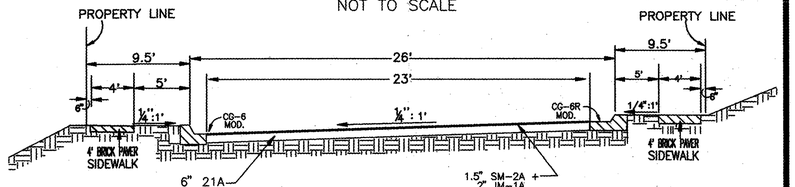
PRESSURE TREATED MATERIALS

(FOR RESIDENTIAL UNITS AND ALONG RESIDENTIAL & COMMERCIAL NORTHERN BOUNDARY)

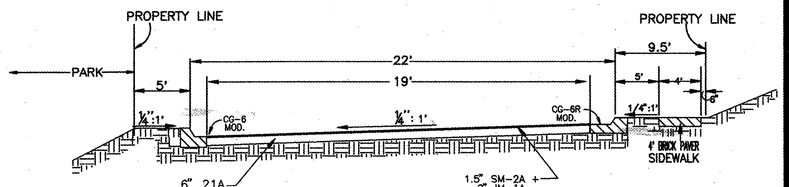


TYPICAL SECTIONS

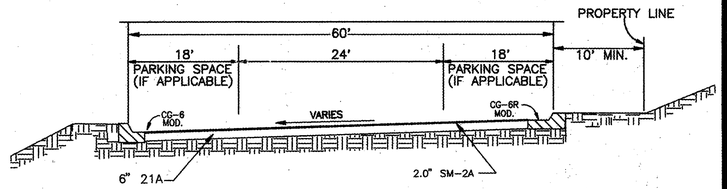
NOT TO SCALE



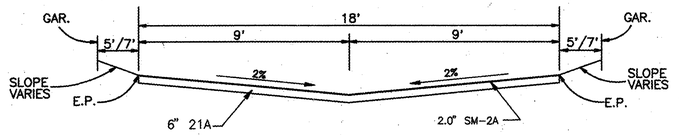
RESIDENTIAL 2-WAY STREET



RESIDENTIAL 1-WAY STREET

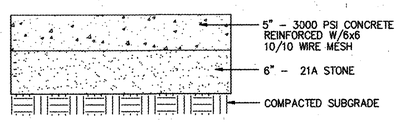


COMMERCIAL PARKING LOT

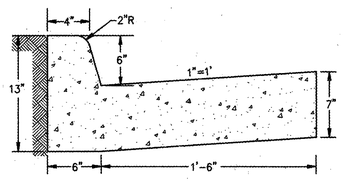


RESIDENTIAL ALLEYS

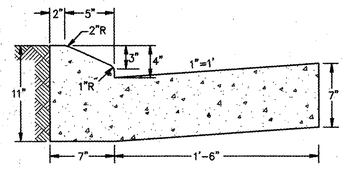
NOTES:
1. PAVEMENT SECTION BASED ON AN ASSUMED CBR OF 10. (SEE NOTE 14.)
2. SEE SHEET 5 FOR SIDEWALK LOCATIONS.



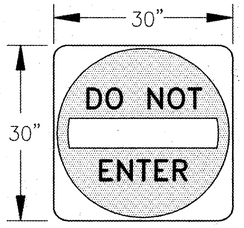
PROPOSED DUMPSTER PAD



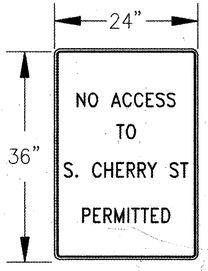
CG-6 MOD.



CG-7 MOD.



MUTCD R5-9 SIGN

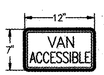


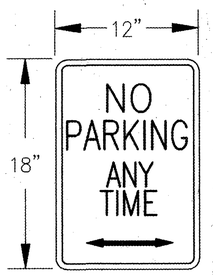
RESTRICTION SIGN
TO BE LOCATED AS SHOWN ON SHEET 6

SIGN TYPE "D"



SIGN TYPE "E"





MUTCD R7-1 SIGN

BC Consultants
Planners • Engineers • Surveyors • Landscape Architects
12700 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
(703)449-8100 (703)449-8106 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — JAMES V. DUNLAP — 019193 — 4-15-98 — REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES & LEGEND

WHITTIER PARK

CITY OF FALLS CHURCH VIRGINIA

BC REVISIONS
3/98-REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY:	DGC
DRAFTED BY:	CAD
CHECKED BY:	DGC
DATE:	MARCH 4, 1998
SCALE: HOR. / VERT.	
SHEET	2 OF 34
CO. NO.	SP 97-0051
FILE NO.	97014 -36
CADD NAME:	97014GEN.DWG

SITE TABULATIONS

MARRIOTT PORTION	1.98967 ACRES
HOLLADAY PORTION	7.35914 ACRES
GRACE LANE DEDICATION	0.27484 ACRES
TOTAL	9.62365 ACRES

HOLLADAY PORTION

LOT AREA	174,664 SQ FT	4.00973 ACRES
STREET DEDICATION	72,821 SQ FT	1.67174 ACRES
DEDICATED OPEN SPACE	25,521 SQ FT	0.58589 ACRES
COMMON OPEN SPACE	47,558 SQ FT	1.09178 ACRES
ALLEY OPEN SPACE	19,620 SQ FT	0.45041 ACRES
GREEN OPEN SPACE	27,938 SQ FT	0.64137 ACRES
TOTAL		7.35914 ACRES

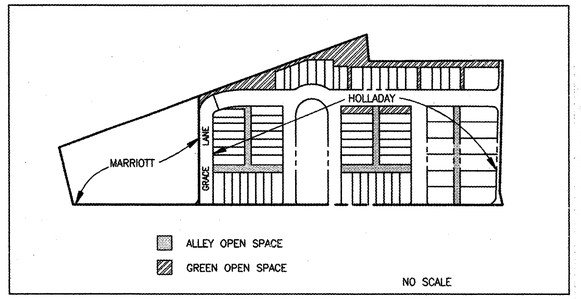
DEVELOPED RECREATION SPACE N/A*
*Refer to ball field improvements south of Hillwood Avenue.

BUILDING HEIGHTS

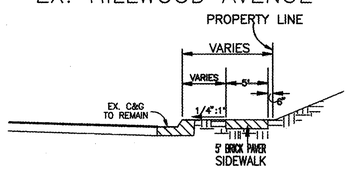
MARRIOTT	45 FT
HOLLADAY	
SINGLES	30 FT
TOWNS	40 FT
CONDO	45 FT

MAXIMUM NUMBER FLOORS

MARRIOTT	4 STORIES
HOLLADAY	3 STORIES



TYPICAL SECTION
EX. HILLWOOD AVENUE



MARRIOTT TOWNEPLACE SUITES

EXISTING ZONE:	C-D
SITE AREA:	1.98967 AC.
NUMBER OF SUITES:	127
SPACES REQUIRED:	127 + (127)(10%)=140 SPACES
TOTAL SPACES PROVIDED:	122 SPACES (NOT INCLUDING PARKING ON HILLWOOD AVE.)
H.C. SPACES PROVIDED:	5 SPACES
LOADING SPACES PROVIDED:	NONE

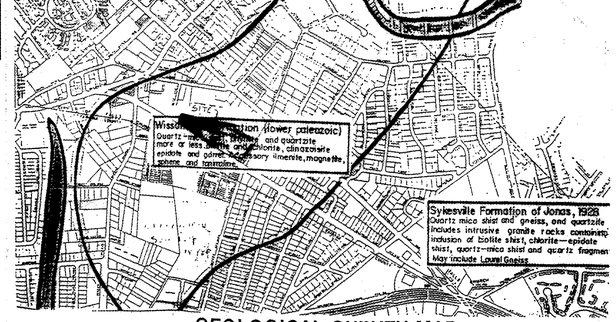
HOLLADAY RESIDENTIAL

EXISTING ZONE:	C-D
SITE AREA:	7.35914 AC.
TOTAL NO. OF UNITS	75
NO. OF SINGLE FAMILY DETACHED UNITS:	13
NO. OF SINGLE FAMILY ATTACHED UNITS:	62 (INCLUDING A.D.U.S)
NUMBER OF AFFORDABLE DWELLING UNITS:	6
SPACES REQUIRED:	13(1/UNIT) + 62(2.5/UNIT) = 168 SPACES
*SPACES PROVIDED:	13 (1 SPACES IN EACH SINGLE FAMILY DETACHED UNITS GARAGE) + 56 (2 SPACES IN EACH STANDARD TOWNHOUSE UNITS GARAGE) + 6 (1 SPACES IN EACH A.D.U.S GARAGE) + 46 PARALLEL SPACES IN THE INTERIOR STREETS = 177 SPACES

* AN ADDITIONAL 1 SPACE IS AVAILABLE IN THE GARAGE OF EACH OF THE SINGLE FAMILY DETACHED UNITS. HOWEVER, ONLY 1 SPACE IS COUNTED SINCE THE EXTRA SPACE IS UNAVAILABLE FOR TOWNHOUSE PARKING.

SITE COVERAGE

HOLLADAY PORTION		
Buildings	99,273 SF	29.8%
Hardscape	105,975 SF	31.9%
Total Coverage	205,248 SF	61.7%
MARRIOTT PORTION		
Buildings	18,407 SF	21.2%
Hardscape	44,962 SF	51.9%
Total Coverage	63,369 SF	73.1%



GEOLOGICAL SURVEY MAP

GENERAL NOTES

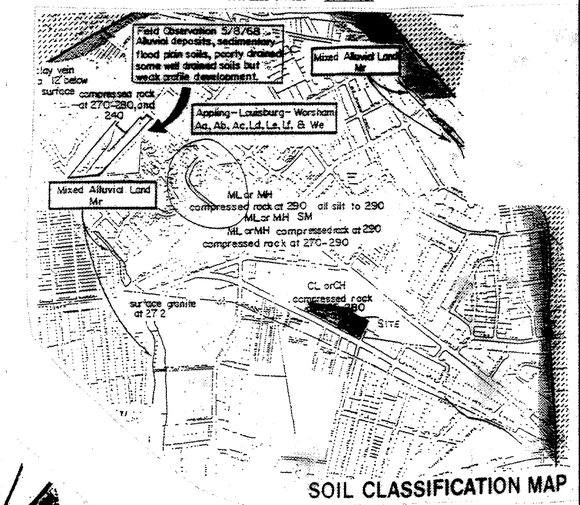
1. NO DENSITY BONUSES ARE REQUESTED.
2. THE COMMERCIAL FLOOR AREA IS LESS THAN 55 PERCENT OF THE TOTAL FLOOR AREA.
3. THIS IS A PHASED DEVELOPMENT CONSTRUCTION PLAN.
4. THIS DEVELOPMENT IS IN CHARACTER WITH THE PLANNED DEVELOPMENT FOR THE CENTRAL BUSINESS DISTRICT. IT WILL BE AN INTEGRAL PART OF NEIGHBORHOOD AND HELP BRING A SENSE OF A SMALL CLOSE-KNIT RESIDENTIAL COMMUNITY IN A DOWNTOWN SETTING. THE INCLUSION OF THE TOWN PLACE SUITES PROVIDES A STABLE COMMERCIAL USE AND WILL NOT DETRACT FROM THE CHARACTER OF THE NEIGHBORHOOD.
5. THE APPROXIMATE CONSTRUCTION COSTS ARE $13,000,000.

PARKING REQUIREMENTS FOR PHASE I

SPACES REQUIRED: 37 (2.5/UNIT) = 93 SPACES
SPACES PROVIDED: 62(SPACES IN EACH STANDARD TOWNHOUSE UNIT) = 6(1 SPACE EACH ADU) + 29 PARALLEL SPACES = 97 SPACES

PARKING REQUIREMENTS FOR PHASE II

SPACES REQUIRED: 13 (1/UNIT) + 25 (2.5) = 75 SPACES
SPACES PROVIDED: 13 (1 UNIT) + 50 (SPACES IN EACH TH) + 17 PARALLEL SPACES = 80 SPACES

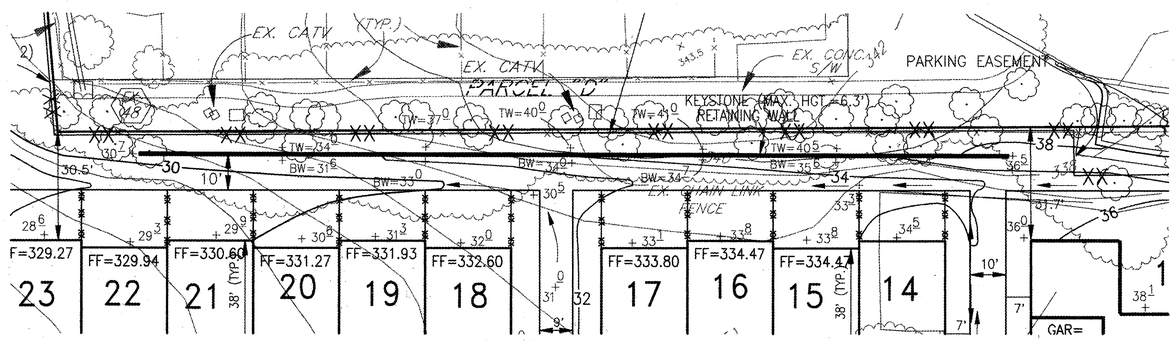


SOIL CLASSIFICATION MAP

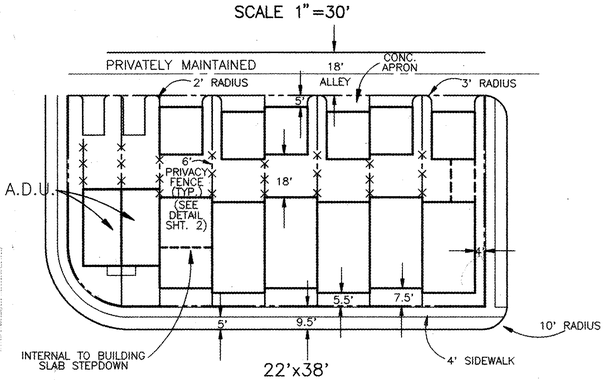
Whittier Park
Development Sequence Schedule

Type of Improvement	Date Planned		Estimated Cost
Land Development	1-Apr-98	1-Jun-98	$ 825,000
Unit Construction			
Phase I:			
Units 34-40	1-Jun-98	15-Oct-98 }	$ 2,125,000
Units 41-48	1-Jun-98	15-Oct-98 }	
Units 49-55	1-Sep-98	30-Dec-98	$ 991,700
Units 25-33	15-Nov-98	15-Mar-99	$ 1,275,000
Units 56-61	1-Feb-99	1-Jun-99	$ 850,000
Phase II:			
Units 62-69	15-Apr-99	15-Aug-99	$ 1,130,000
Units 70-75	1-Sep-99	1-Jan-00 }	$ 1,840,000
Units 18-24	1-Sep-99	1-Jan-00 }	
Units 6,7,8,9	15-Nov-99	15-Mar-00 }	$ 1,130,000
Units 14-17	15-Nov-99	15-Mar-00 }	
Units 4,5,10,11	1-Feb-00	1-Jun-00	$ 566,600
Units 1,2,3,12,13	15-Apr-00	15-Aug-00	$ 708,000
Total Cost			$ 11,441,300

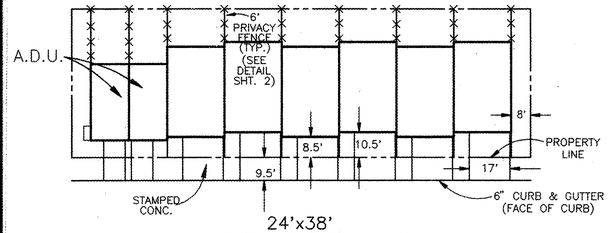
RETAINING WALL DETAIL
SCALE 1"=20'



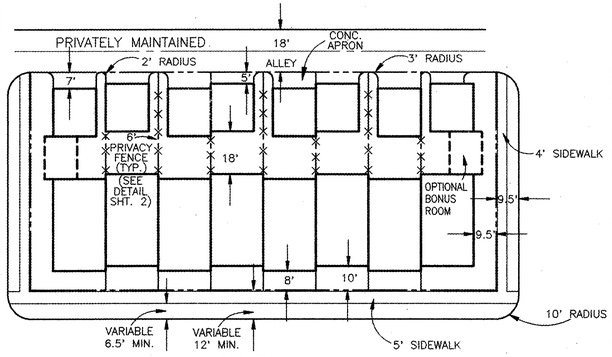
TYPICAL SECTIONS
SCALE 1"=30'



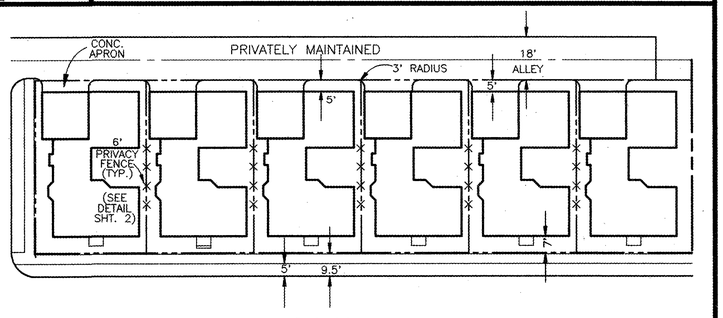
22'x38'
DETACHED GARAGE UNITS



24'x38'
INTEGRAL GARAGE UNITS



22'x38'
DETACHED GARAGE UNITS
HILLWOOD AVE.



36'x62'
SINGLE FAMILY DETACHED

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BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — JAMES R. SIMON — 016193 — 4-13-98 — REGISTERED PROFESSIONAL

WHITTIER PARK

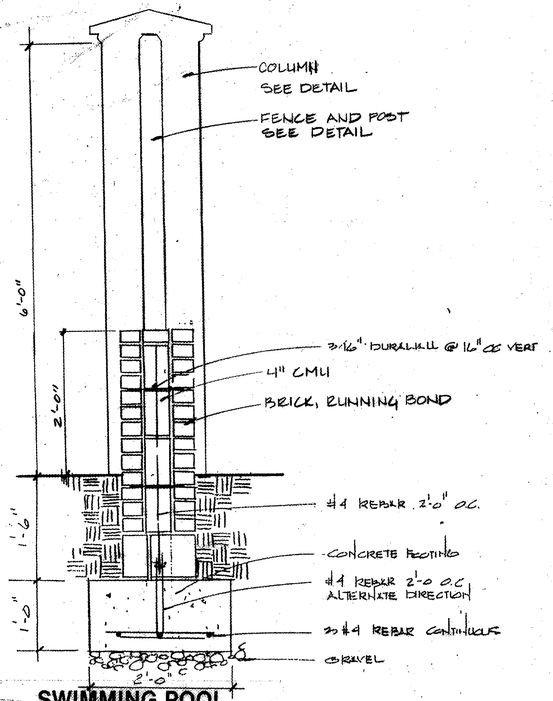
CALCULATIONS AND TYPICAL SECTIONS

CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS
10/97-REV. PER FALLS CHURCH COMMENTS
3/98-REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH
VIRGINIA

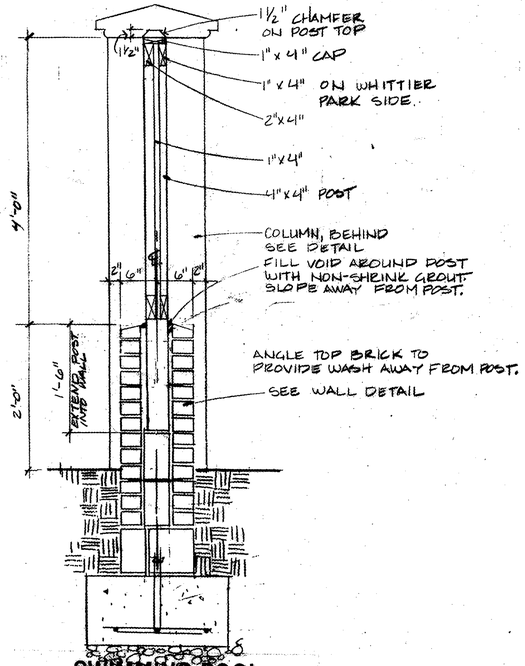
DESIGNED BY:	RJG
DRAFTED BY:	RJG
CHECKED BY:	DGC
DATE:	MARCH 4, 1998
SCALE:	HOR. N/A VERT. N/A
SHEET	3 OF 34
CO. NO.	SP 97-0051
FILE NO.	97014
CADD NAME:	7014CALC.DWG



SWIMMING POOL
WALL SECTION

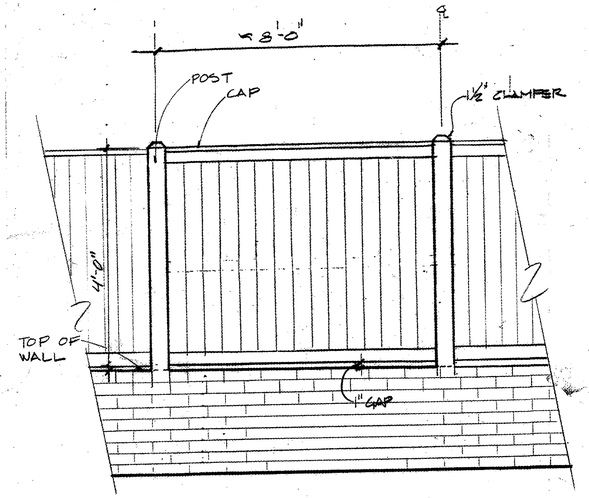
1"=1'

FOR LOCATION, SEE SHEET 26



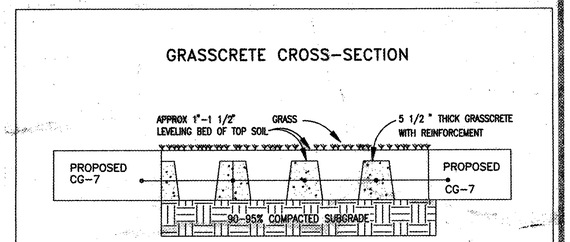
SWIMMING POOL
FENCE DETAIL

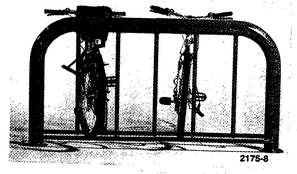
1"=1'



SWIMMING POOL
FENCE AND WALL ELEVATION

NOT TO SCALE

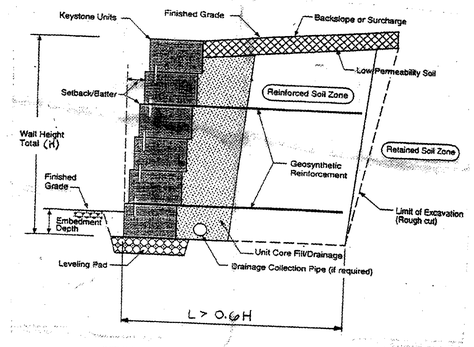




BIKE RACK

NO SCALE

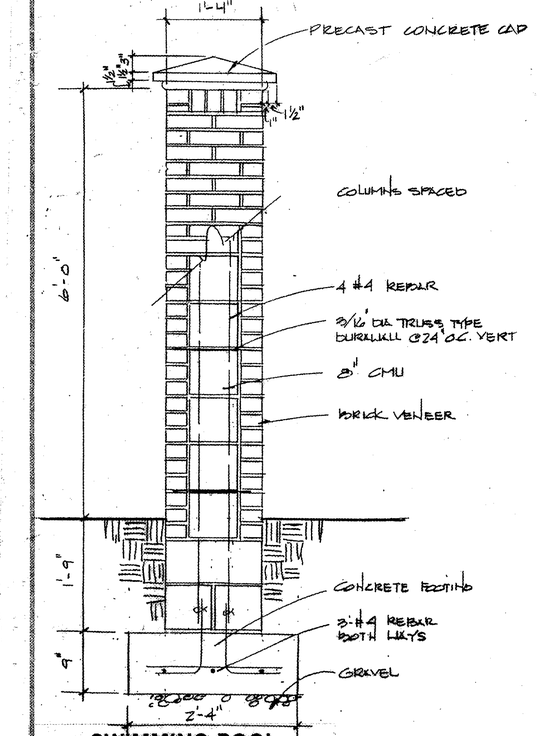
'SUPER CYCLOOPS' BIKE RACK, MODEL 2175-8 (DIRECT EMBEDMENT POST) AS MANUFACTURED BY COLUMBIA CASCADE COMPANY. INSTALL PER MANUFACTURER'S SPECIFICATIONS.



'KEYSTONE' RETAINING WALL AS MANUFACTURED BY KEYSTONE RETAINING WALL SYSTEMS.
BLOCK TYPE: STRAIGHT ROCKFACE
COLOR: BROWN
INSTALL PER MANUFACTURER'S SPECIFICATIONS.

KEYSTONE RETAINING WALL

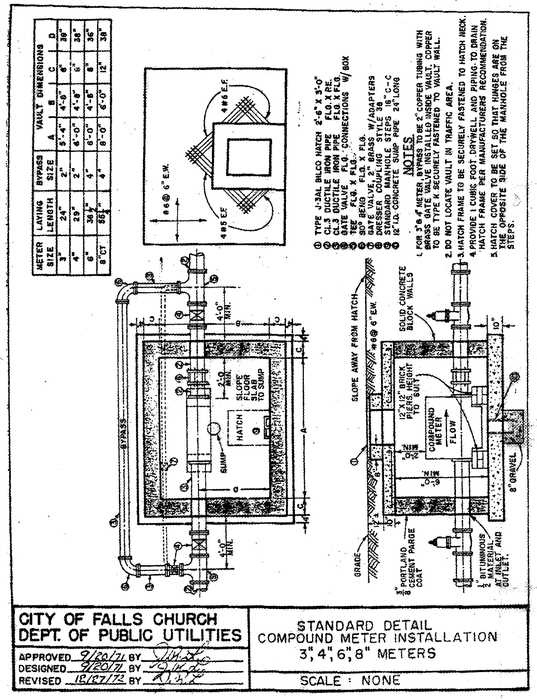
NO SCALE



SWIMMING POOL
COLUMN SECTION

1"=1'

FOR LOCATION, SEE SHEET 26

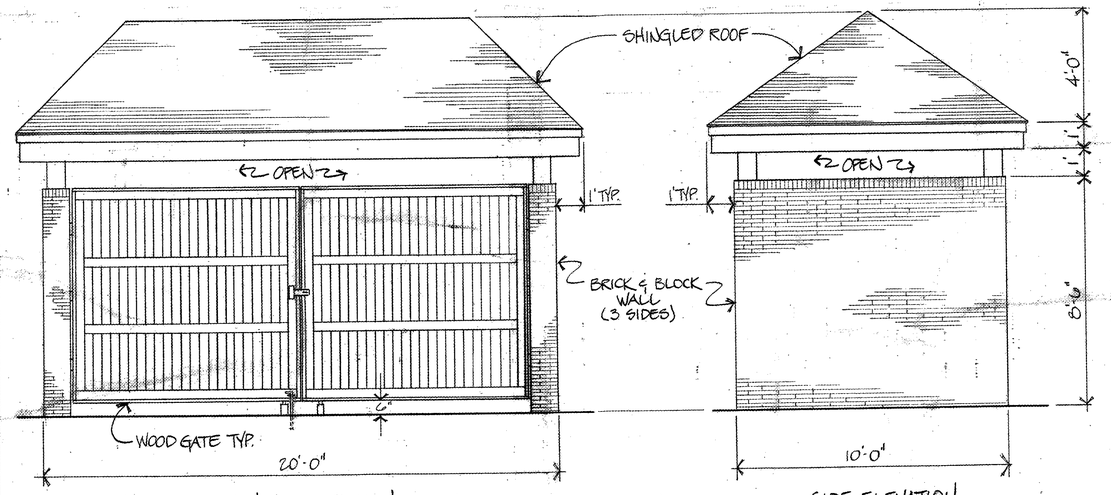


CITY OF FALLS CHURCH
DEPT. OF PUBLIC UTILITIES

APPROVED 9/20/77 BY _____
DESIGNED 9/20/77 BY _____
REVISED 12/27/77 BY _____

STANDARD DETAIL
COMPOUND METER INSTALLATION
3", 4", 6", 8" METERS

SCALE : NONE



FRONT ELEVATION

SCALE: 3/8" = 1'

SIDE ELEVATION
(BACK SIM.)

COLORS & FINISHES TO MATCH BUILDING.

TRASH ENCLOSURE CONCEPT
WHITTIER PARK MARRIOTT
FALLS CHURCH, VA. 9-97
REVISED 9-8-97
REVISED 10-3-97

BC Consultants
Planners • Engineers • Surveyors • Landscape Architects
12700 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
(703)449-6100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA JAMES A. SCANLON No. 026193 PROFESSIONAL ENGINEER 9-8-97

MISCELLANEOUS DETAILS

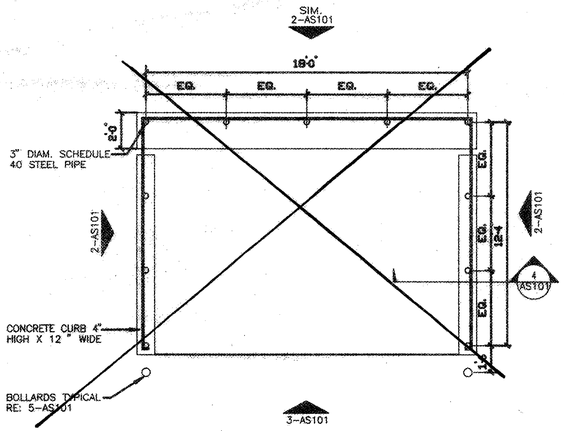
WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

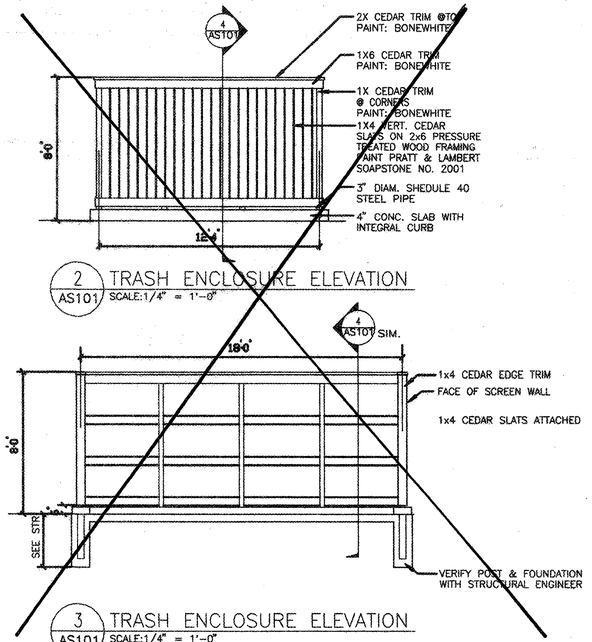
BC REVISIONS
FEBRUARY, 1998

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VA.

DESIGNED BY: RJG
DRAFTED BY: CAD
CHECKED BY: DGC
DATE: OCT. 6, 1997
SCALE: HOR. N/A
VERT. N/A
SHEET 3A OF 34
CO. NO.
FILE NO. 97014
CADD NAME: 7014MSCD.DWG

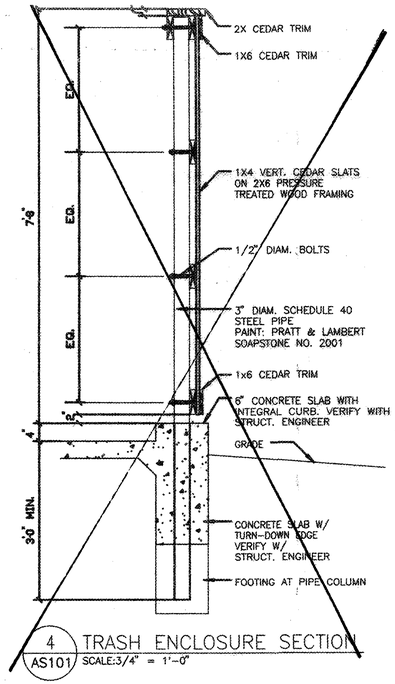


1 AS101 TRASH ENCLOSURE PLAN
SCALE:1/4" = 1'-0"

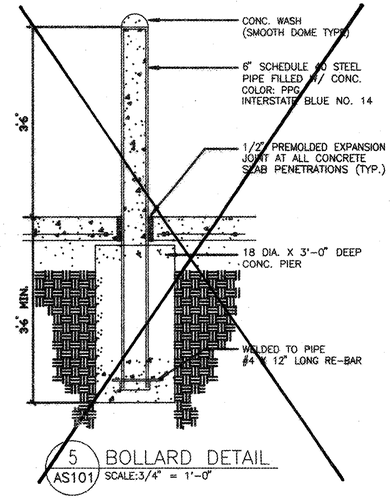


2 AS101 TRASH ENCLOSURE ELEVATION
SCALE:1/4" = 1'-0"

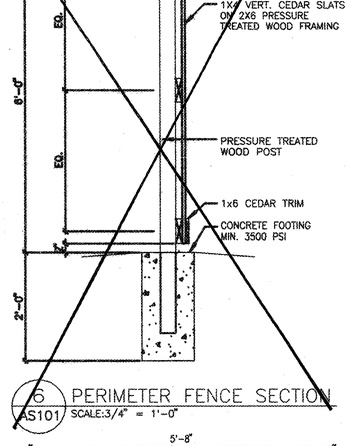
3 AS101 TRASH ENCLOSURE ELEVATION
SCALE:1/4" = 1'-0"



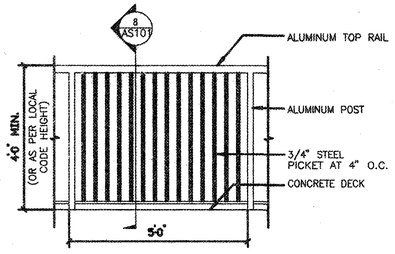
4 AS101 TRASH ENCLOSURE SECTION
SCALE:3/4" = 1'-0"



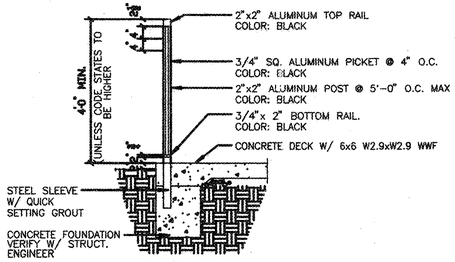
5 AS101 BOLLARD DETAIL
SCALE:3/4" = 1'-0"



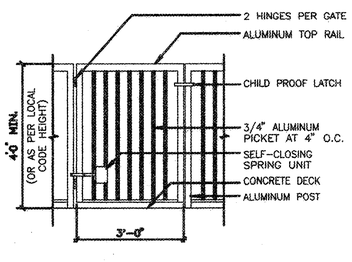
6 AS101 PERIMETER FENCE SECTION
SCALE:3/4" = 1'-0"



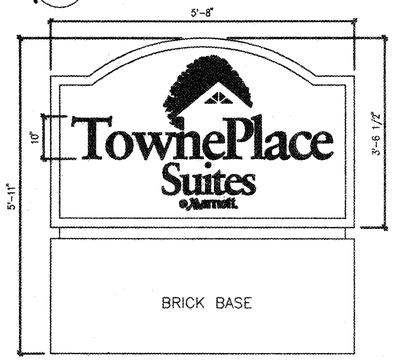
7 AS101 POOL FENCE ELEVATION
SCALE:1/2" = 1'-0"
FOR LOCATION SEE SHEET 26



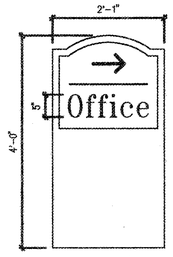
8 AS101 POOL FENCE SECTION
SCALE:1/2" = 1'-0"
FOR LOCATION SEE SHEET 26



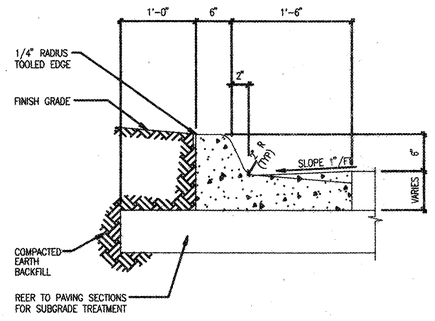
9 AS101 POOL GATE ELEVATION
SCALE:1/2" = 1'-0"
FOR LOCATION SEE SHEET 26



10 AS101 MONUMENT SIGN TPS-20 M
SCALE:3/4" = 1'-0"



11 AS101 DIRECTIONAL SIGN TPS-3 DNI
SCALE:3/4" = 1'-0"



12 AS101 CURB AND GUTTER DETAIL
SCALE:1" = 1'-0"

NO.	DATE	DESCRIPTION

REVISIONS

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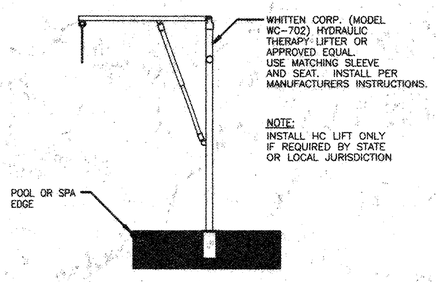
TownePlace Suites Marriott

95 ROOM PROTO

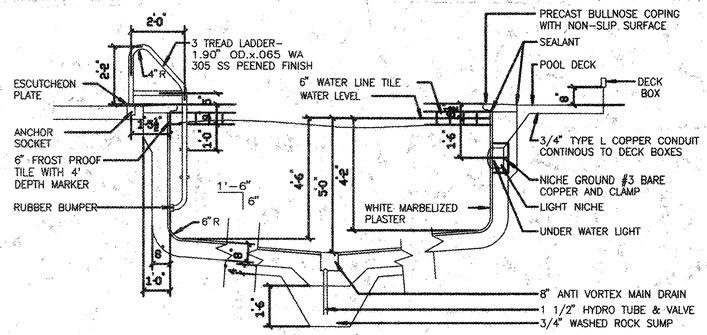
SITE DETAILS

DESIGN CRITERIA SET
NOT
FOR CONSTRUCTION

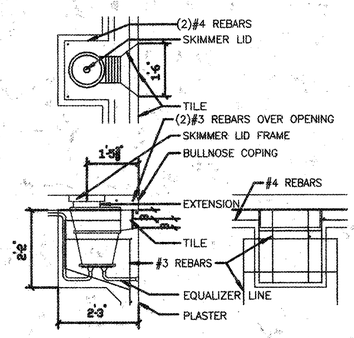
JOB NUMBER	DRAWING FILE 00-AS101.DWG
DESIGNED BY:	
DRAWN BY:	
APPROVED BY:	
DATE: 07/97	
SHEET NUMBER	AS101



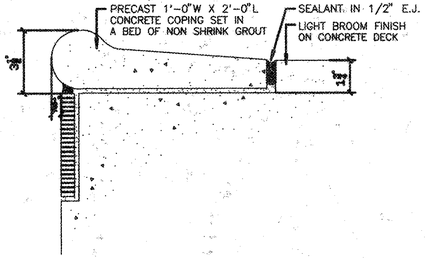
1 PD101 HC LIFT
SCALE: 3/4" = 1'-0"



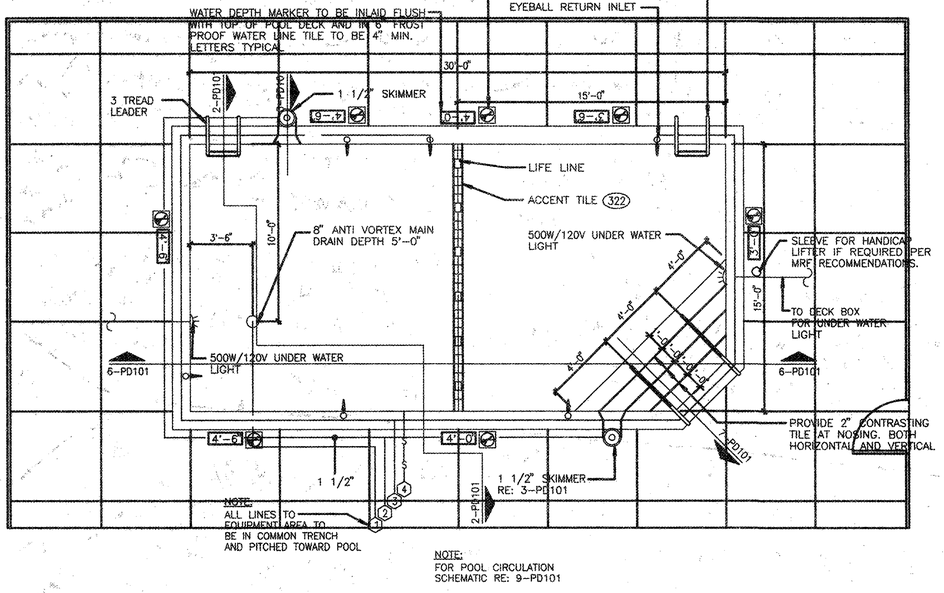
2 PD101 POOL SECTION
SCALE: 3/8" = 1'-0"



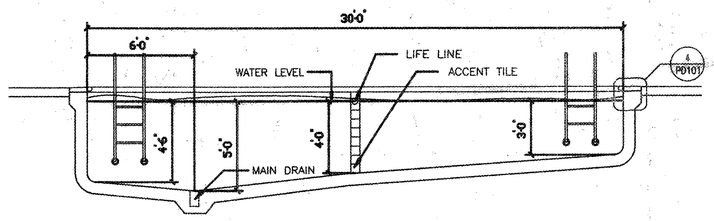
3 PD101 SKIMMER SECTION
SCALE: 1/2" = 1'-0"



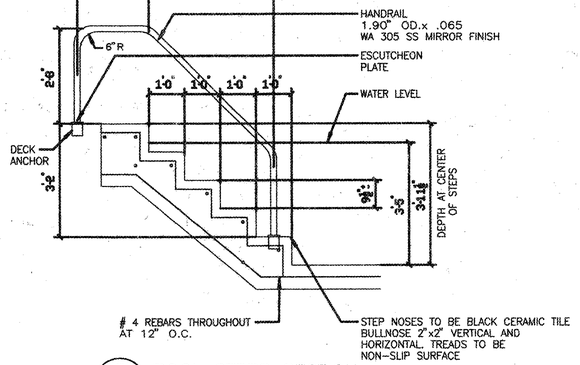
4 PD101 POOL COPING
SCALE: 3" = 1'-0"



5 PD101 POOL PLAN
SCALE: 1/4" = 1'-0"



6 PD101 POOL LONGITUDINAL SECTION
SCALE: 1/4" = 1'-0"



7 PD101 POOL STEPS SECTION
SCALE: 1/2" = 1'-0"

KEY TO PIPING

NO.	KEY	SIZE	DESCRIPTION	G.P.M. EA. FTG.
1	A	3"	POOL MAIN DRAIN 8" ANTI VORTEX	80
2	A	3"	POOL SKIMMER (2) 1 1/2"	80
3	A	2"	POOL EYEBALL RETURN INLET (7) 1 1/2"	11.5
4	A	2"	POOL STILLING	------

LINE CODE

- MAIN DRAIN
- SKIMMER
- RETURN INLET
- JET INLET
- ELECTRIC
- STILLING

GENERAL NOTES:

1. THE POOL DRAWINGS AND RELATED SPECIFICATIONS ARE TO BE CONSIDERED AS MEETING MINIMUM REQUIREMENTS WHICH MAY CHANGE AS A RESULT OF STATE, LOCAL CODE AND HEALTH DEPARTMENT REQUIREMENTS. THE POOL CONTRACTOR IS RESPONSIBLE TO MAKE SURE HIS BID INCLUDES REQUIREMENTS AS NECESSARY TO MEET STATE AND LOCAL CONDITIONS AND OBTAIN NECESSARY PERMITS FOR CONSTRUCTION.
2. THE POOL CONTRACTOR'S DESIGN DRAWINGS MUST BE SIGNED AND SEALED BY A LICENSED ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS BEING CONSTRUCTED.
3. PROVIDE A 2/0 BARE COPPER GROUND WIRE WITH 3/4"x10' COPPER-CLAD GROUND ROD EVERY 20' MINIMUM.
4. BOND ALL METALLIC PARTS INCLUDING REINFORCING STEEL TO 2/0 GROUND RING USING EXOTHERMIC WELD CONNECTIONS. THIS INCLUDES BUT NOT LIMITED TO METAL POOL STRUCTURE, LADDERS, REINFORCING STEEL OF POOL SHELL, COPING STONES AND DECK, METAL PARTS OF ELECTRICAL EQUIPMENT ASSOCIATED WITH POOL WATER CIRCULATING SYSTEM AND ALL OTHER METAL PARTS WITHIN 5'-0" HORIZONTALLY OF THE INSIDE WALLS OF THE POOL AND WITHIN 12' ABOVE THE MAXIMUM WATER LEVEL OF THE POOL.
5. JUNCTION BOXES SHALL NOT BE INSTALLED IN THE POOL DECK AND SHALL BE ABOVE GRADE IN LANDSCAPED AREAS.
6. FOR EACH POOL LIGHT CIRCUIT PROVIDE A DOUBLE POLE, NON-FUSED, 120VAC, WEATHERPROOF, LOCKABLE DISCONNECT. SWITCH BOTH HOT AND NEUTRAL.
7. REFER TO MECHANICAL, PLUMBING, LANDSCAPE, AND ELECTRICAL DRAWINGS FOR RELATED INFORMATION.

NO.	DATE	DESCRIPTION

REVISIONS

TownePlace Suites

95 ROOM PROTO

POOL PLAN AND DETAILS

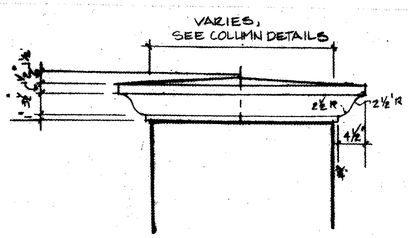
DESIGN CRITERIA SET
NOT
FOR CONSTRUCTION

JOB NUMBER	DRAWING FILE 00-PD101.DWG
DESIGNED BY:	
DRAWN BY:	
APPROVED BY:	
DATE: 07/97	
SHEET NUMBER	PD101

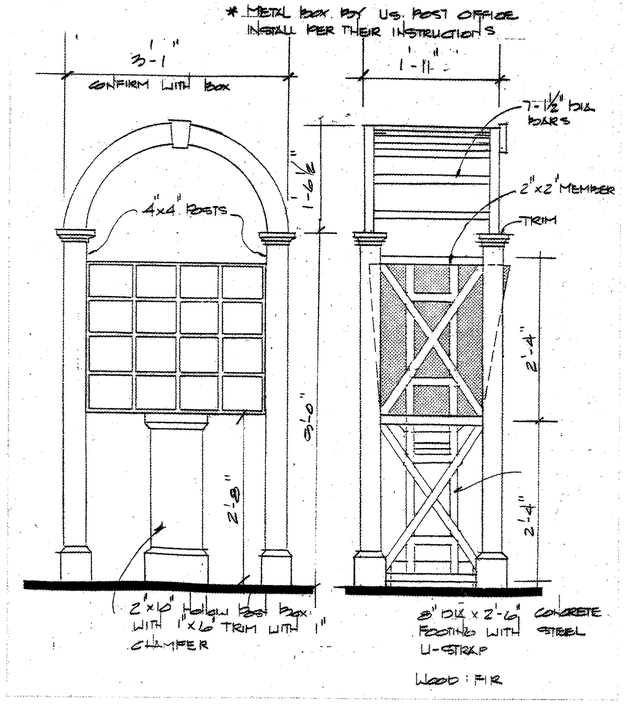


← DECORATIVE ALUMINUM FENCE (HEIGHT = 6')
OR APPROVED EQUAL

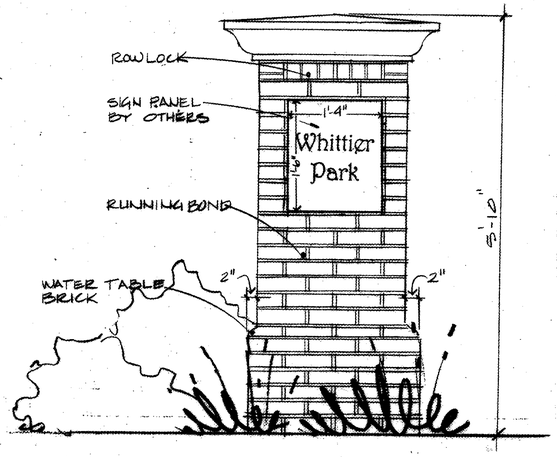
DECORATIVE FENCE



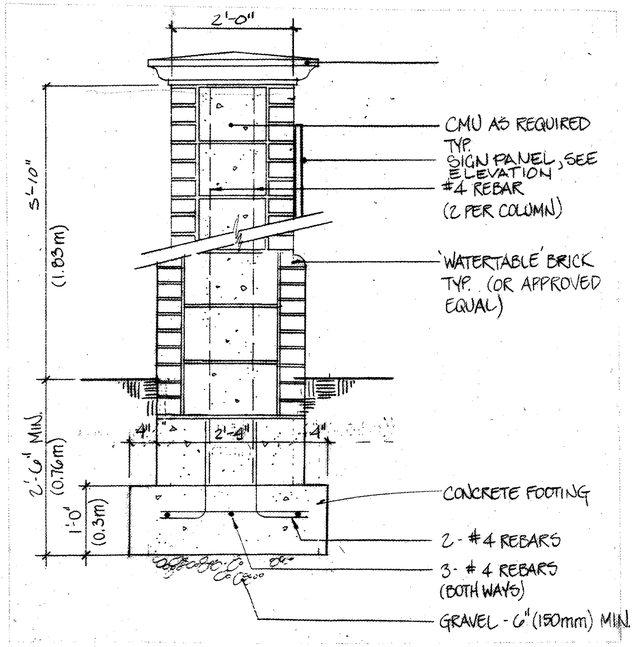
PRECAST CAP



CLUSTER MAILBOX



ENTRY COLUMN ELEVATION

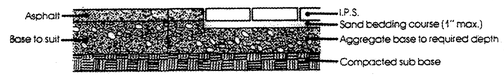


ENTRY COLUMN SECTION

TECHSHEET **Vehicular Edge Treatment Variations**

For working adjacent to Asphalt-Concrete

1. Edge treatment should be as straight as possible to compliment the alignment of paving stones.
2. All edge treatment must be vertical to allow a close fit.
3. When new concrete is planned adjacent to paving stones, the relief tool should be as small as possible (¼ inch) to allow a close fit.*



Designs of the base section should be by a soils engineer.

All surfacing utilities should be encased in concrete to set stones against.

Effective January 1, 1982
Call Balcon, Inc. for the latest information update.

MANUFACTURED BY
BALCON, INC.
P.O. BOX 3398,
2630 CONWAY RD., CROFTON, MD 21114
(301) 731-1900 • FAX (301) 793-0857
BALTIMORE 793-0638
METRO - WASHINGTON 281-0200

MEMBERS OF

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interlocking concrete paving stones

CONCRETE PAVERS

BC Consultants
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12700 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA
JAMES L. SWANSON
016193
PROFESSIONAL ENGINEER

SITE DETAILS

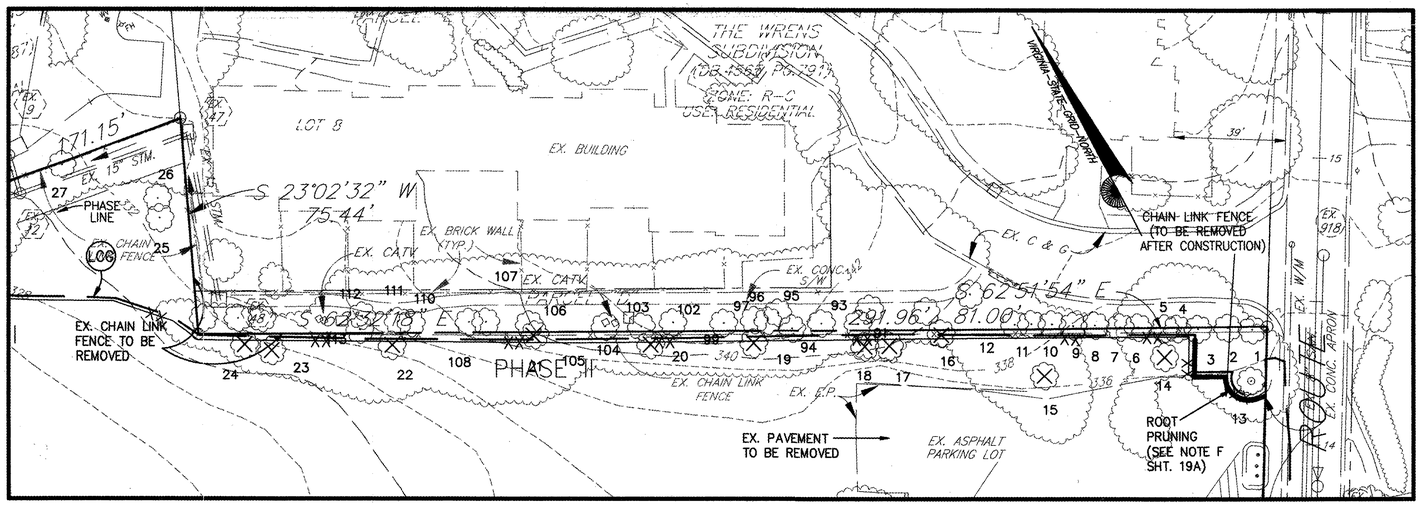
WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS
3/98--REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY: DGC	
DRAFTED BY: CAD	
CHECKED BY: DGC	
DATE: MARCH 4, 1998	
SCALE: HOR. / VERT.	
SHEET 3D OF 34	
CO. NO. SP 97-0051	
FILE NO. 97014	
CADD NAME: 7014MSDT.DWG	



DETAIL OF "THE WRENS" TREES

SCALE: 1" = 25'

EXISTING OFF-SITE TREES ON THE WREN'S PROPERTY ARE TO BE FIELD LOCATED WITH THE CITY ARBORIST PRIOR TO ANY REMOVAL.

NOTES:

1. XXX INDICATES EXISTING TREES TO BE REMOVED.
2. TREE PROTECTION SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
3. EXISTING ONSITE PAVEMENT IS TO BE REMOVED.
4. EXISTING DRIVEWAY APRONS ON HILLWOOD AVENUE AND SOUTH CHERRY STREET ARE TO BE REMOVED & THE CURB & GUTTER REPLACED AT DEVELOPER'S EXPENSE.
5. EXISTING SIDEWALK ON SOUTH CHERRY STREET IS TO REMAIN.
6. EXISTING SIDEWALK ON HILLWOOD AVENUE IS TO BE REMOVED. THE REMOVAL OF THE EXISTING SIDEWALK SHOULD BE DELAYED UNTIL THE PROPOSED SIDEWALK IS READY TO BE BUILT.
7. REMOVAL OF EXISTING CHAIN LINK FENCE IS TO BE DONE UNDER THE SUPERVISION OF THE CITY ABORIST IN AREAS ADJACENT TO EXISTING TREES.
8. SEE SHEET 19A FOR TREE SURVEY.



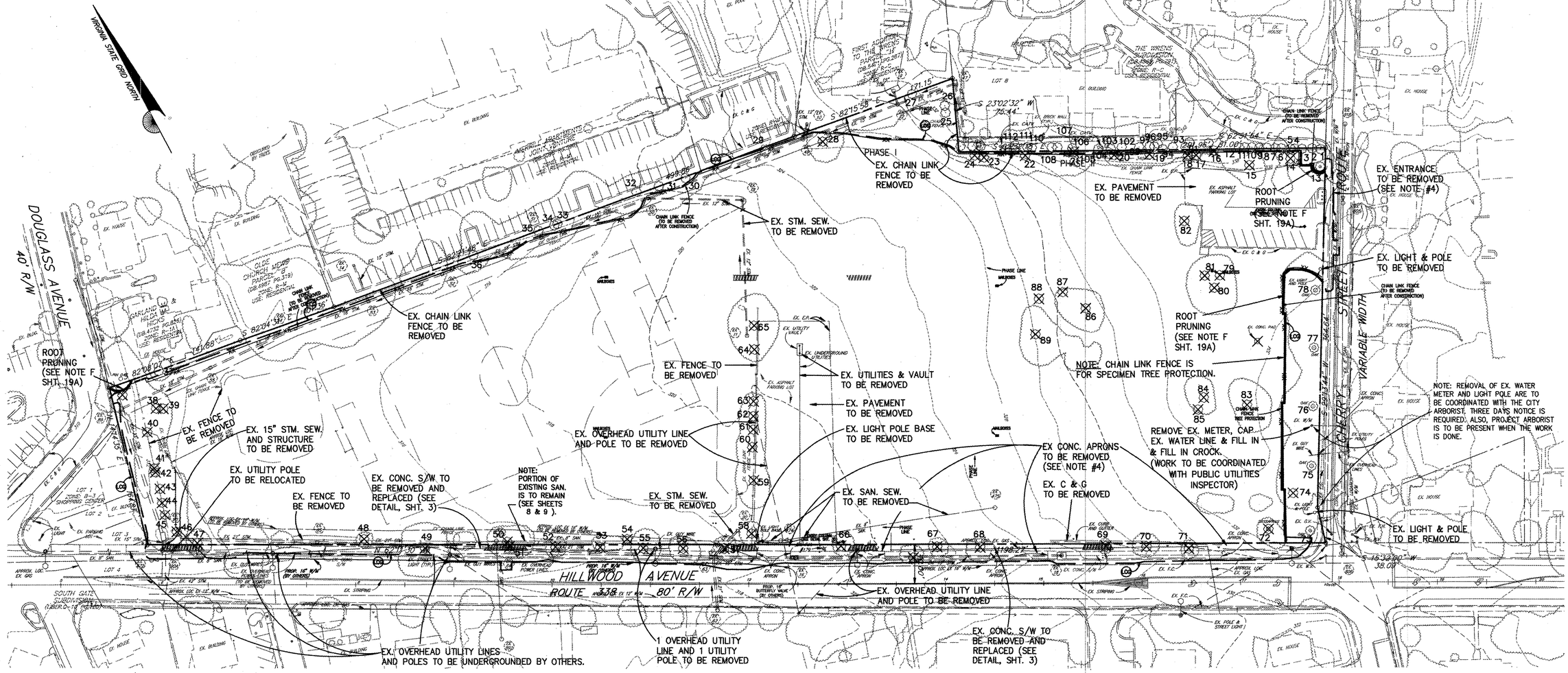
VICINITY MAP

PERMITTED USE #20897498

EROSION & SEDIMENT CONTROL LEGEND

- (SF) SILT FENCE (SPEC. 3.05)
- (IP) INLET PROTECTION (SPEC. 3.07)
- (LOG) LIMITS OF CLEARING AND GRADING
- (TP) TREE PROTECTION (SPEC. 3.38)
- CHAIN LINK FENCE (TREE PROTECTION AREA)
- EX. TREES
- EX. TREE LINE

SPECIFICATIONS PER VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK (1992).



BC Consultants
Planners . Engineers . Surveyors . Landscape Architects
12700 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
(703)449-8100 (703)449-8106 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — JAMES H. SCANLON — 016193 — 4-8-98 — REGISTERED PROFESSIONAL

DEMOLITION PLAN

WHITTIER PARK

FALLS CHURCH
VIRGINIA

BC REVISIONS
10/97-REV. PER CITY ARBORIST
10/97-REV. PER FALLS CHURCH COMMENTS
10/97-ADD. TREE LOCATIONS
3/98-REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH,
VIRGINIA

DESIGNED BY:	RJG
DRAFTED BY:	CAD
CHECKED BY:	DGC
DATE:	MARCH 4, 1998
SCALE:	HOR. 1"=50' VERT. N/A
SHEET	4 OF 34
CO. NO.	SP 97-0051
FILE NO.	97014
CADD NAME:	7014DEMO.DWG



MARRIOTT TOWNEPLACE SUITES

EXISTING ZONE: C-D
SITE AREA: 1.98967 AC.
NUMBER OF SUITES: 127
SPACES REQUIRED: 127 + (127)(10%)=140 SPACES
TOTAL SPACES PROVIDED: 122 SPACES (NOT INCLUDING PARKING ON HILLWOOD AVE.)
H.C. SPACES PROVIDED: 5 SPACES
LOADING SPACES PROVIDED: NONE

HOLLADAY RESIDENTIAL

EXISTING ZONE: C-D
SITE AREA: 7.35194 AC.
TOTAL NO. OF UNITS 75
NO. OF SINGLE FAMILY DETACHED UNITS: 13
NO. OF SINGLE FAMILY ATTACHED UNITS: 62 (INCLUDING A.D.U.'S)
NUMBER OF AFFORDABLE DWELLING UNITS: 6
SPACES REQUIRED: 13(1/UNIT) + 62(2.5/UNIT) = 168 SPACES
*SPACES PROVIDED: 13 (1 SPACES IN EACH SINGLE FAMILY DETACHED UNIT'S GARAGE) + 56 (2 SPACES IN EACH STANDARD TOWNHOUSE UNIT'S GARAGE) + 6 (1 SPACES IN EACH A.D.U.'S GARAGE OR PARKING PAD) + 46 PARALLEL SPACES ON THE INTERIOR STREETS = 177 SPACES

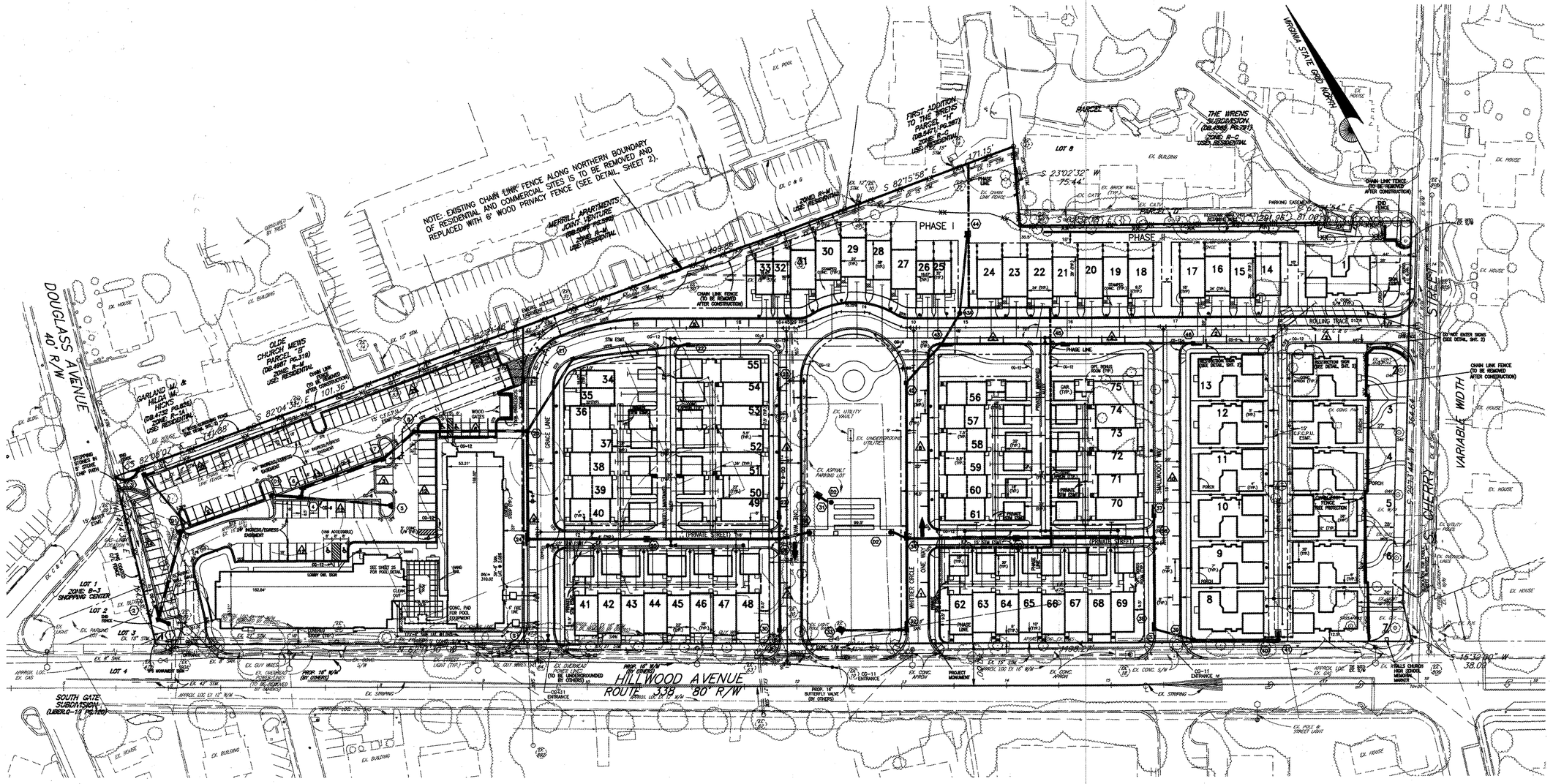
* AN ADDITIONAL 1 SPACE IS AVAILABLE IN THE GARAGE OF EACH OF THE SINGLE FAMILY DETACHED UNITS. HOWEVER, ONLY 1 SPACE IS COUNTED SINCE THE EXTRA SPACE IS UNAVAILABLE FOR TOWNHOUSE PARKING.

PARKING REQUIREMENTS FOR PHASE I

SPACES REQUIRED: 37 (2.5/UNIT) = 93 SPACES
SPACES PROVIDED: 62(SPACES IN EACH STANDARD TOWNHOUSE UNIT) = 6(1 SPACE EACH ADU) + 29 PARALLEL SPACES = 97 SPACES

PARKING REQUIREMENTS FOR PHASE II

SPACES REQUIRED: 13 (1/UNIT) + 25 (2.5) = 75 SPACES
SPACES PROVIDED: 13 (1 UNIT) + 50 (SPACES IN EACH TH) + 17 PARALLEL SPACES = 80 SPACES


NOTE: EXISTING CHAIN LINK FENCE ALONG NORTHERN BOUNDARY OF RESIDENTIAL AND COMMERCIAL SITES IS TO BE REMOVED AND REPLACED WITH 6' WOOD PRIVACY FENCE (SEE DETAIL, SHEET 2).
PHASE I
PHASE II
DOUGLASS AVENUE
40' R/W
HILLWOOD AVENUE
ROUTE 338 80' R/W
CHERRY STREET
VARIABLE WIDTH
VIRGINIA STATE GRID NORTH
MERRILL APARTMENTS JOINT VENTURE
OLDE CHURCH MEWS PARCEL 'B'
GARLAND W. & HILDA W. HICKS
FIRST ADDITION TO THE WRENS PARCEL 'H'
THE WRENS SUBDIVISION
LOT 1 ZONE: C-D SHOPPING CENTER
LOT 2
LOT 3
LOT 4
SOUTH GATE SUBDIVISION
GRACE LANE
WHITTIER CIRCLE
ONE WAY
SHELLWOOD WAY
(PRIVATE STREET)
ROLLING TRACK DRIVE
EX. UTILITY VAULT
EX. UNDERGROUND UTILITIES
EX. ASPHALT PARKING LOT
CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)
CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)
PARKING EASEMENT
PROJECT MONUMENT
EX. CONC. APRON
EX. STRIPING
EX. POLE & STREET LIGHT
EX. HOUSE
EX. BUILDING
EX. SHED
EX. GAZEBO
EX. POOL
EX. BRICK WALL
EX. CATV
EX. OVERHEAD UTILITY LINES
EX. WOOD FENCE
EX. CHAIN LINK FENCE
EX. STM.
EX. SAN.
EX. WATER
EX. GAS
EX. CURB & GUTTER
EX. CURB INLET
EX. GUY WIRES
EX. LIGHT
EX. PARKING
EX. SIGN
EX. TREES
EX. SHRUBS
EX. TELEPHONE PEDESTAL
EX. ELECTRIC MANHOLE
EX. TELEPHONE MANHOLE
EX. STORM MANHOLE
EX. SANITARY MANHOLE
EX. WATER MANHOLE
EX. GAS MANHOLE
EX. STORM INLET
EX. SANITARY CLEANOUT
EX. WATER VALVE
EX. GAS VALVE
EX. FIRE HYDRANT
EX. WATER METER
EX. SIGN
EX. MAILBOX
EX. TRAFFIC SIGNAL
EX. TRAFFIC SIGNAL BOX
EX. TRAFFIC SIGNAL MANHOLE
EX. TRAFFIC SIGNAL HANDHOLE
EX. TRAFFIC SIGNAL CONTROLLER
EX. TRAFFIC SIGNAL POLE
EX. TRAFFIC SIGNAL MAST ARM
EX. TRAFFIC SIGNAL PEDESTAL
EX. TRAFFIC SIGNAL CONDUIT
EX. TRAFFIC SIGNAL CONDUCTOR
EX. TRAFFIC SIGNAL CONTROL CABLE
EX. TRAFFIC SIGNAL INTERCONNECT CABLE
EX. TRAFFIC SIGNAL POWER CABLE
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SEE SHEET 20 & 21 FOR CONTINUATION

HOLLADAY RESIDENTIAL

EXISTING ZONE: C-D
SITE AREA: 7.35194 AC.
TOTAL NO. OF UNITS 75
NO. OF SINGLE FAMILY DETACHED UNITS: 13
NO. OF SINGLE FAMILY ATTACHED UNITS: 62 (INCLUDING A.D.U.'S)
NUMBER OF AFFORDABLE DWELLING UNITS: 6
SPACES REQUIRED: 13(1/UNIT) + 62(2.5/UNIT) = 168 SPACES
*SPACES PROVIDED: 13 (1 SPACE IN EACH SINGLE FAMILY DETACHED UNIT'S GARAGE) + 56 (2 SPACES IN EACH STANDARD TOWNHOUSE UNIT'S GARAGE) + 6 (1 SPACE IN EACH A.D.U.'S GARAGE OR PARKING PAD) + 46 PARALLEL SPACES ON THE INTERIOR STREETS = 177 SPACES

* AN ADDITIONAL 1 SPACE IS AVAILABLE IN THE GARAGE OF EACH OF THE SINGLE FAMILY DETACHED UNITS. HOWEVER, ONLY 1 SPACE IS COUNTED SINCE THE EXTRA SPACE IS UNAVAILABLE FOR TOWNHOUSE PARKING.

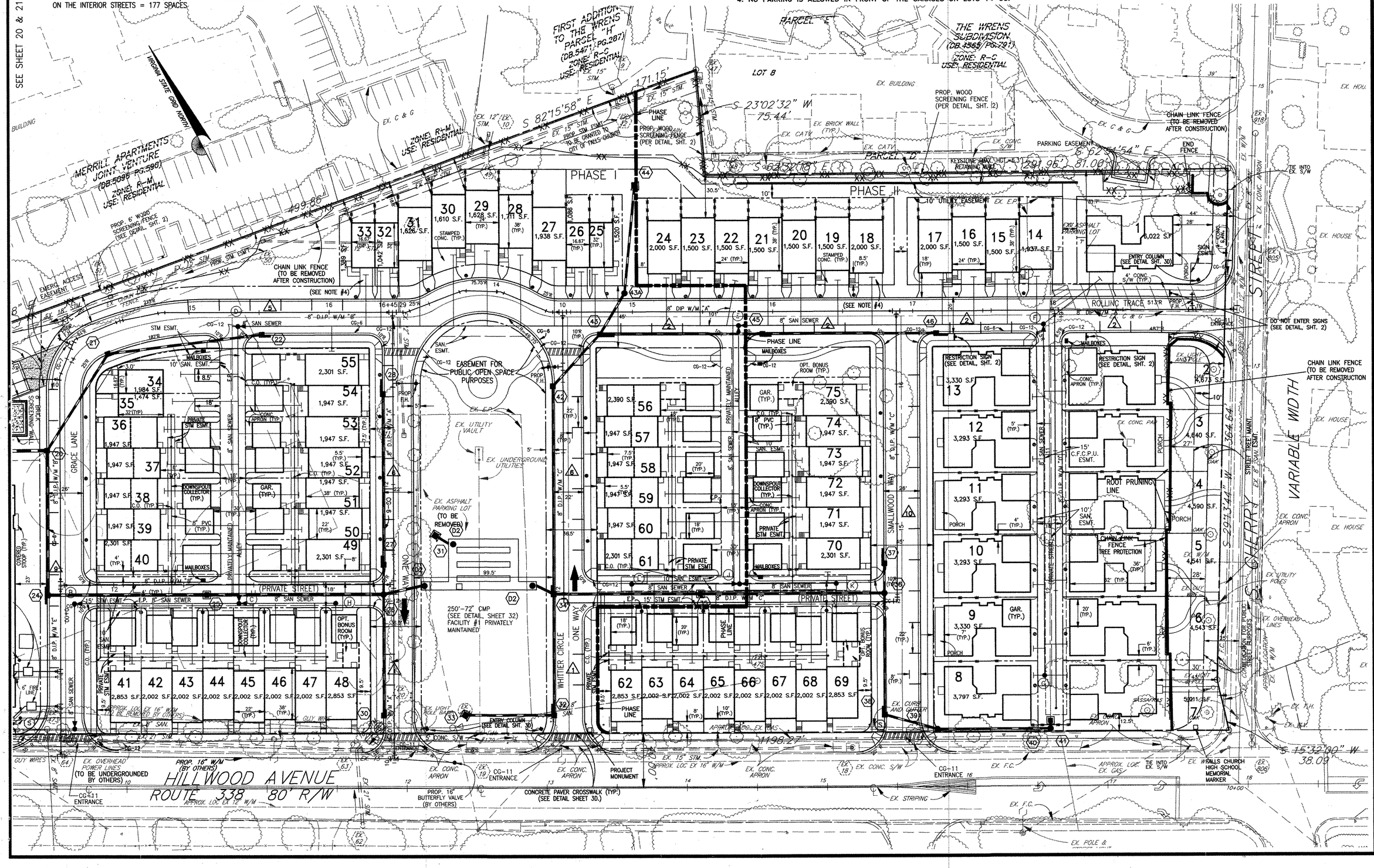
PARKING REQUIREMENTS FOR PHASE I

SPACES REQUIRED: 37 (2.5/UNIT) = 93 SPACES
SPACES PROVIDED: 62(SPACES IN EACH STANDARD TOWNHOUSE UNIT) = 6(1 SPACE EACH ADU) + 29 PARALLEL SPACES = 97 SPACES

PARKING REQUIREMENTS FOR PHASE II

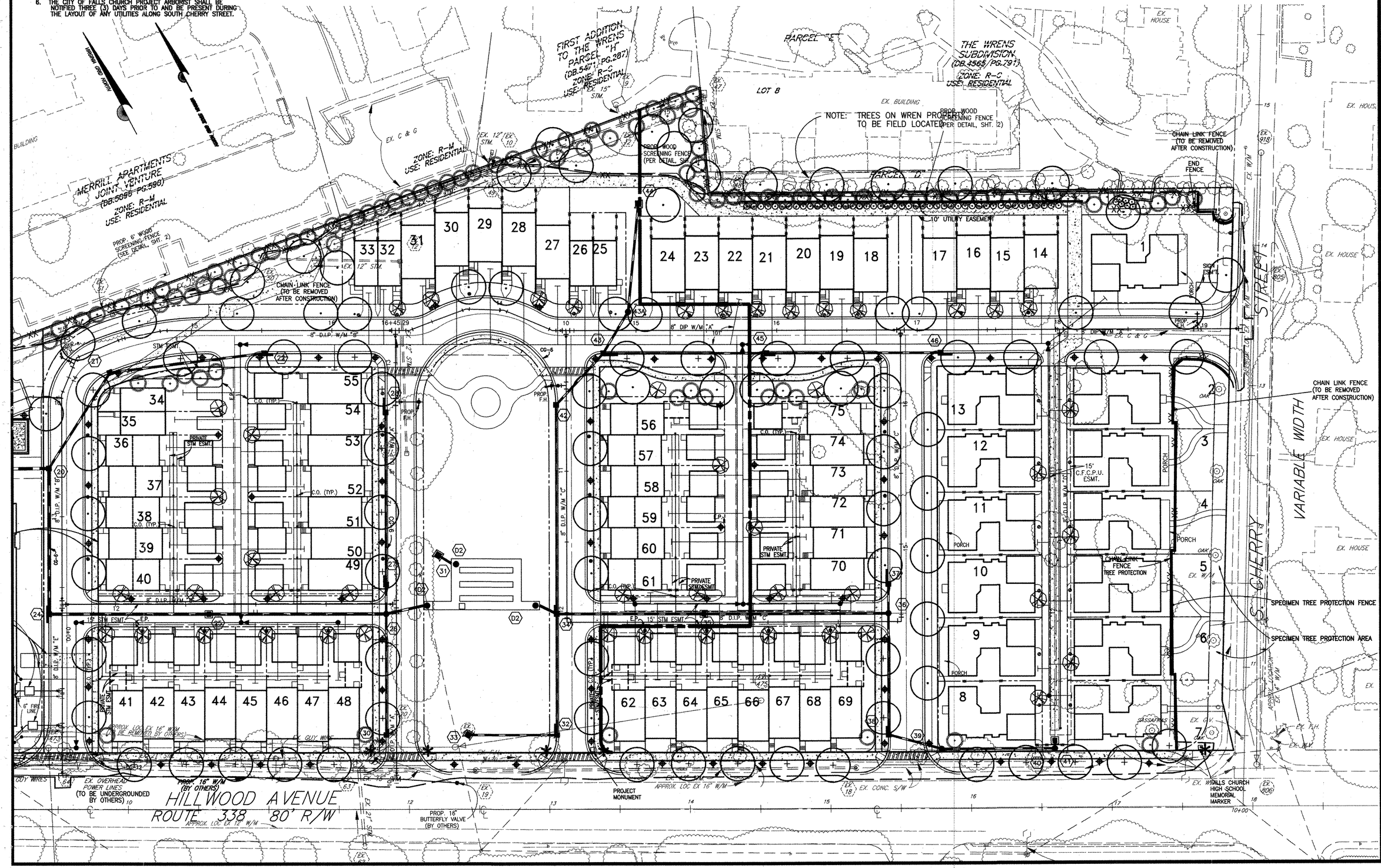
SPACES REQUIRED: 13 (1/UNIT) + 25 (2.5) = 75 SPACES
SPACES PROVIDED: 13 (1 UNIT) + 50 (SPACES IN EACH TH) + 17 PARALLEL SPACES = 80 SPACES

NOTES:
1. THE CITY OF FALLS CHURCH PROJECT ARBORIST SHALL BE NOTIFIED THREE DAYS PRIOR TO AND BE PRESENT DURING THE LAYOUT OF THE SPECIALTY PAVING LEAD WALKS FOR SINGLE FAMILY HOMES ALONG S. CHERRY STREET. ANY AND ALL GRADE CHANGES DUE TO PAVING INSTALLATION SHALL BE HELD TO THAT NECESSARY TO MEET THE EXISTING GRADE WITHIN A FEW FEET OF THE EXISTING SIDEWALK. TREE ROOTS SHOULD NOT BE DISTURBED TO A SIGNIFICANT EXTENT DURING INSTALLATION OF THE PAVING.
2. ALL OVERHEAD ELECTRIC POWER LINES ALONG HILLWOOD AVENUE SHALL BE SET UNDERGROUND IN FRONT OF RESIDENTIAL UNITS, EXCEPT THOSE AT THE CORNER OF HILLWOOD AVE. AND CHERRY ST. AND ON CHERRY ST.
3. NO USE SHALL BE MADE OF THE GARAGES OTHER THAN PARKING.
4. NO PARKING IS ALLOWED IN FRONT OF THE GARAGES ON LOTS 14–33.
5. HOSE BIBS AND WATER METERS FOR STREET TREES SHALL BE INSTALLED AT DEVELOPER'S EXPENSE AND MAINTAINED AT THE CITY OF FALLS CHURCH EXPENSE. WATER METER FEES ARE TO BE PAID BY THE CITY OF FALLS CHURCH.
6. ADDITIONAL TREE REMOVALS/REPLACEMENTS MAY NEED TO BE MADE ON THE WREN'S PROPERTY DEPENDING ON THE AMOUNT OF ROOTS CUT FROM THE LARGER TREES FOR GRADING ON THE ADJACENT HOLLADAY SITE.
7. SEE SHEET 11 FOR STORM SEWER MAINTENANCE RESPONSIBILITIES.
8. DOOR, STOOP AND STAIR LOCATIONS ON THE TOWNHOUSES WILL VARY DEPENDING ON THE HOUSE TYPE.
9. SEE SHEET 3 FOR DEVELOPMENT SEQUENCE SCHEDULE.


FIRST ADDITION TO THE WRENS PARCEL "H" (DB.5477/PG.287) ZONE: R-C USE: RESIDENTIAL
THE WRENS SUBDIVISION (DB.4565/PG.791) ZONE: R-C USE: RESIDENTIAL
PARCEL "E"
PARCEL "D"
LOT 8
MERRILL APARTMENTS JOINT VENTURE (DB.5098 PG.598) ZONE: R-M USE: RESIDENTIAL
ZONE: R-M USE: RESIDENTIAL
VIRGINIA STATE GRID NORTH
PHASE I
PHASE II
PHASE LINE
499.86'
171.15'
S 82°15'58" E
S 23°02'32" W 75.44'
S 62°52'18" E 291.96'
S 62°54'54" E 81.00'
PROP. 6' WOOD SCREENING FENCE (SEE DETAIL, SHT. 2)
PROP. WOOD SCREENING FENCE (PER DETAIL, SHT. 2)
CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)
(SEE NOTE #4)
EX. CHAIN LINK FENCE
EX. BRICK WALL (TYP.)
EX. CATV
EX. CONC. S/W
KEYSTONE WALL HGT. 6.3' RETAINING WALL
PARKING EASEMENT
END FENCE
TIE INTO EX. S/W
EX. CONC. APRON
EX. HOUSE
EX. BUILDING
EMERG. ACCESS EASEMENT
PROP. STM ESMT.
EX. STM ESMT.
EX. 15" STM.
EX. 12" STM.
EX. 18" STM.
EX. 8" SAN.
EX. 8" W/M
EX. 6" W/M
EX. 4" GAS
EX. 8" GAS
EX. 12" W/M
EX. 16" W/M
EX. 20" W/M
EX. 24" W/M
EX. 30" W/M
EX. 36" W/M
EX. 42" W/M
EX. 48" W/M
EX. 54" W/M
EX. 60" W/M
EX. 66" W/M
EX. 72" W/M
EX. 78" W/M
EX. 84" W/M
EX. 90" W/M
EX. 96" W/M
EX.

NOTE:

1. ALL UNDERGROUND ELECTRIC, TELEPHONE, AND CABLE SERVICE TO BE LOCATED IN UNDERGROUND UTILITY ZONES UNLESS DESIGN CONSTRAINTS REQUIRE DIFFERENT LOCATIONS. ALL FIELD ADJUSTMENTS MUST BE COORDINATED WITH THE CITY.
2. INSTALLATION OF EACH UTILITY IN ALL UTILITY ZONES MUST BE COORDINATED BETWEEN EACH UTILITY TO PREVENT DAMAGE TO OTHER IN-PLACE UTILITIES.
3. UNLESS OTHERWISE NOTED OR APPROVED BY THE CITY OF FALLS CHURCH ALL GAS DISTRIBUTION LINES SHALL BE PLACED UNDER THE PAVEMENT IN THE TRAVEL-WAYS.
4. SEE LANDSCAPING SHEETS FOR TREE TYPES.
5. SEE SHEET 3 FOR DEVELOPMENT SEQUENCE SCHEDULE.
6. THE CITY OF FALLS CHURCH PROJECT ARBORIST SHALL BE NOTIFIED THREE (3) DAYS PRIOR TO AND BE PRESENT DURING THE LAYOUT OF ANY UTILITIES ALONG SOUTH CHERRY STREET.



BC Consultants

Planners • Engineers • Surveyors • Landscape Architects
12700 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — JAMES R. CANNON — 016193 — 4-3-98 — PROFESSIONAL ENGINEER

UTILITY PLAN
RESIDENTIAL SECTION

WHITTIER PARK

FALLS CHURCH VIRGINIA

BC REVISIONS

OWNER:
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY: RJG	
DRAFTED BY: RJG	
CHECKED BY: DGC	
DATE: MARCH 4, 1998	
SCALE:	HOR. 1"=30' VERT. N/A
SHEET 6A OF 34	
CO. NO. 97-SP-0015	
FILE NO.97014. -36	
CADD NAME: 7014UTP.DWG	

NOTES:
1. THE CITY OF FALLS CHURCH PROJECT ARBORIST SHALL BE NOTIFIED THREE DAYS PRIOR TO AND BE PRESENT DURING THE LAYOUT OF THE SPECIALTY PAVING LEAD WALKS FOR SINGLE FAMILY HOMES ALONG S. CHERRY STREET. ANY AND ALL GRADE CHANGES DUE TO PAVING INSTALLATION SHALL BE HELD TO THAT NECESSARY TO MEET THE EXISTING GRADE WITHIN A FEW FEET OF THE EXISTING SIDEWALK. TREE ROOTS SHOULD NOT BE DISTURBED TO A SIGNIFICANT EXTENT DURING INSTALLATION OF THE PAVING. REFER TO LANDSCAPE PLANS FOR SPECIALTY PAVEMENT LOCATIONS.
2. SEE SHEET 3 FOR DEVELOPMENT SEQUENCE SCHEDULE.

VIRGINIA STATE GRID NORTH

EX. POOL

FIRST ADDITION TO THE WRENS PARCEL "H" (DB.547, PG.287) ZONE: R-C USE: RESIDENTIAL

PARCEL "L"

THE WRENS SUBDIVISION (DB.1356, PG.791) ZONE: R-C USE: RESIDENTIAL

LOT 8

EX. BUILDING

EX. HOUSE

MERRILL APARTMENTS JOINT VENTURE (DB.5096 PG.590) ZONE: R-M USE: RESIDENTIAL

EX. C & G

ZONE: R-M USE: RESIDENTIAL

BUILDING

PHASE LINE

CHAIN FENCE

BM #1 TOP= 322.98

PARCEL "J2"

CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)

END FENCE

PHASE I

PHASE II

CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)

CG-6R

STM ESMT.

PRIVATE STM ESMT.

EX. ASPHALT PARKING LOT

15' STM ESMT.

EX. CHAIN LINK FENCE

GUY WIRE

EX. UTILITY POLES

EX. OVERHEAD LINES

APPROX. CENTERLINE EX. W/M

EX. LIGHT & POLE

EX. G.V.

EX. W.M.

EX. M.H.

EX. W.V.

DO NOT ENTER SIGNS (SEE DETAIL, SHT. 2)

CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)

RESTRICTION SIGN (SEE DETAIL, SHT. 2)

15' C.F.C.P.U. ESMT.

ROOT PRUNING LINE

CHAIN LINK FENCE TREE PROTECTION FF=335.50

VARIABLE WIDTH

S. CHERRY ST.

EX. OAK

EX. ASSAFRAS

PROP. 16" W/M (BY OTHERS)

HILLWOOD AVENUE
ROUTE 338 80' R/W

BM #2 TOP= 317.23

PROP. 16" BUTTERFLY VALVE (BY OTHERS)

EX. CONC. APRON

EX. CONC. S/W

EX. STRIPING

EX. POLE & GUY WIRES

EX. OVERHEAD POWER LINES

BC Consultants
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(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — JAMES V. SCHOOR — No. 016193 — REGISTERED PROFESSIONAL ENGINEER — 4-15-98

WHITTIER PARK

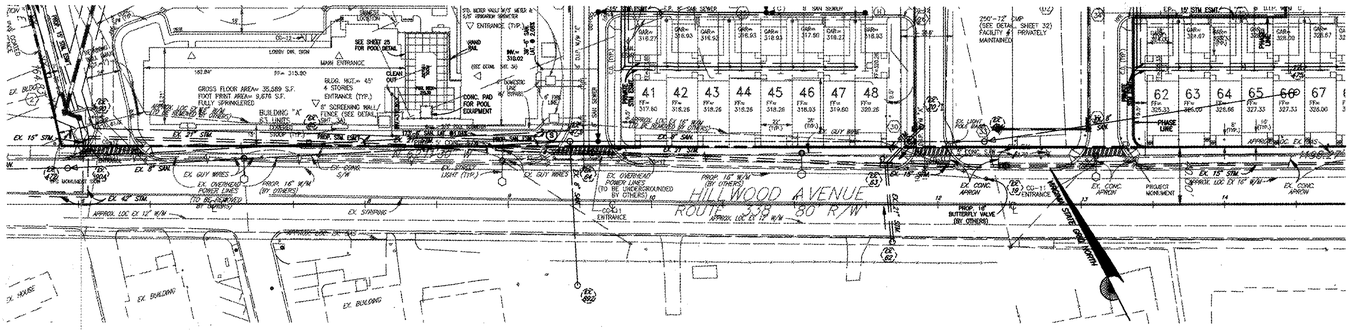
CITY OF FALLS CHURCH
VIRGINIA

GRADING PLAN

NO.	REVISIONS	DATE
1	BC REVISIONS	11/98
2	PER FALLS CHURCH COMMENTS	1/99

OWNER
300 PARK AVENUE
FALLS CHURCH
VIRGINIA

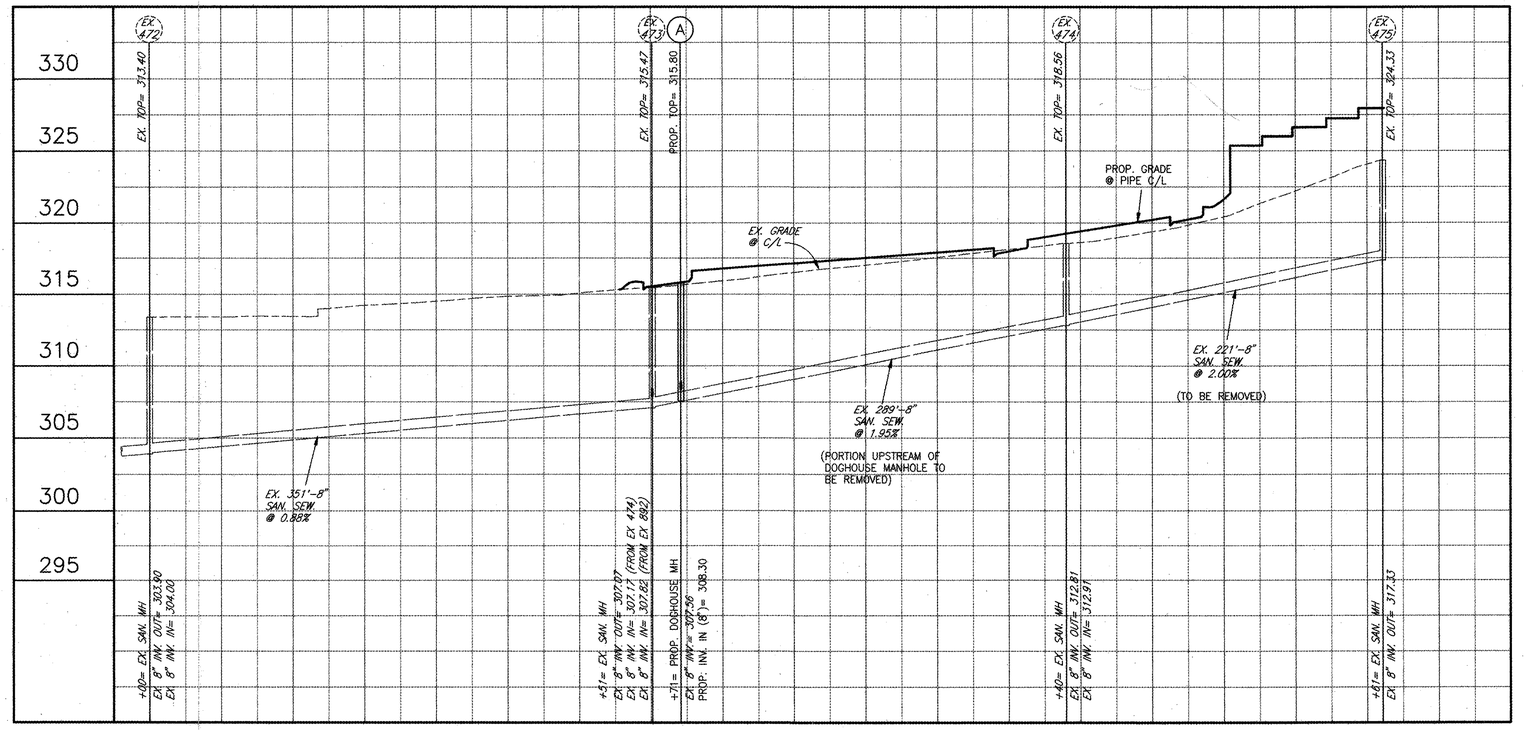
DESIGNED BY:	RJG
DRAFTED BY:	CAD
CHECKED BY:	DGC
DATE:	MARCH 4, 1998
SCALE:	HOR. 1"=30' VERT. N/A
SHEET	7 OF 34
CO. NO.	SP 97-0051
FILE NO.	97014 -36
CADD NAME:	H7014GRD.DWG



SANITARY SEWER DESIGN

n = 0.013 (MANNING)

DESCRIPTION			FLOW				SEWER DESIGN								MISC. DATA	
Location	Manhole No.		Domestic Flow MGD			Total Peak Flow MGD	Length Feet	Slope %	Dia. of Pipe	Flowing Full		Fall Feet	Invert Elevation		Ground Elev. Upper End	M.H. Depth Upper End
	From	To	Incr.	Tot.	Peak Flow Factor					Capacity MGD	Velocity FPS		Upper End	Lower End		
Hillwood Avenue	A	Ex. 473	0.040	0.040	6.3	0.25	30	1.30	8"	0.89	3.95	0.39	307.56	307.17	315.80	8.24'
Hillwood Avenue	Ex. 473	Ex. 472	0.005	0.045	6.2	0.28	351	0.87	8"	0.73	3.24	3.07	307.07	304.00	315.47	8.40'
Hillwood Avenue	Ex. 472	Ex. 471	0.005	0.049	6.2	0.31	316	0.41	8"	0.50	2.22	1.30	304.07	302.77	313.32	9.25'
Hillwood Avenue	Ex. 471	Ex. 470	0.002	0.052	6.2	0.32	155	6.08	8"	1.93	8.53	9.42	302.76	293.34	311.16	8.40'
Hillwood Avenue	Ex. 470	Ex. 463	0.107	0.159	5.7	0.90	219	1.24	8"	0.87	3.85	2.72	293.31	290.59	305.76	12.45'
Hillwood Avenue	Ex. 463	Ex. 475	0.070	0.229	5.4	1.23	186	1.62	8"	0.99	4.40	3.01	289.88	286.87	297.24	7.36'
Hillwood Avenue	Ex. 475	Ex. 461	0.002	0.230	5.4	1.24	204	2.34	8"	1.19	5.29	4.78	286.78	282.00	290.34	3.56'



SANITARY SEWER SCHEDULE

FROM MH	TO MH	BEARING	DISTANCE (ft.)	SIZE (in.)	SLOPE (%)
EX 472	EX 473	S 65°13'38" E	351	8	0.87
EX 473	EX 474	S 62°15'11" E	289	8	1.95
EX 473	A	S 62°15'11" E	20	8	1.95
A	B	N 27°48'30" E	91	8	0.53
B	C	S 62°11'30" E	117	8	0.55
C	D	N 27°48'30" E	197	8	1.11
D	F	S 62°11'30" E	357	8	0.64
E	F	S 62°11'30" E	218	8	2.48
F	G	S 27°48'30" W	250	8	1.03
E	J	S 27°48'30" W	184	8	0.54
J	K	S 62°11'30" E	69	8	2.00
J	L	N 62°11'30" W	77	8	1.00
C	H	S 62°11'30" E	69	8	1.03

ONSITE SANITARY SEWER ANALYSIS

AVERAGE DESIGN FLOWS
MOTEL – 130/UNIT
TOWNHOUSE – 300/UNIT

MOTEL UNITS = 127
TOWNHOUSE UNITS = 75

TOTAL FLOW FROM SITE
75 x 300 + 127 x 130 = 39,910 GPD = 0.04 MGD

SUMMARY
FOR 8" SANITARY SEWER PIPE AT 0.50% SLOPE, THE FLOWING FULL CAPACITY IS 0.55 MGD. SINCE ALL PIPES ON SITE HAVE AT LEAST 0.50% SLOPE, AND 0.04 MGD IS LESS THAN THE FLOWING FULL CAPACITY OF 0.55 MGD, THE ONSITE SANITARY SEWER SYSTEM IS ADEQUATE.

SANITARY LATERAL SCHEDULE
WHITTIER PARK
Calc. by: RJG
Date: July 17,1997
File: 7014site

Lot #	MH–MH	Lateral Station	Lateral Length	Lateral Slope (%)	Lateral Size	Inv. Main @ Lateral	Inv. Lat. @ End	Riser Height	Lat. Invert w/ Riser	Finished Grade (+/–)
BLDG A	A–B	0+08	173'	1.04	6	308.34	310.81	1'	311.81	315.2
BLDG B	A–B	0+45	39'	2.08	6	308.54	310.02	2'	312.02	316.2
41	B–C	0+41	43'	2.08	4	309.10	310.66	3'	313.66	317.0
42	B–C	0+56	41'	2.08	4	309.18	310.70	4'	314.70	317.3
43	B–C	0+84	43'	2.08	4	309.33	310.89	3'	313.89	317.3
44	B–C	1+00	41'	2.08	4	309.41	310.93	3'	313.93	317.3
45	C–H	0+10	43'	2.08	4	309.72	311.29	3'	314.29	317.3
46	C–H	0+26	41'	2.08	4	309.89	311.41	4'	315.41	318.0
47	C–H	0+54	43'	2.08	4	310.18	311.74	4'	315.74	318.6
48	C–H	0+69	41'	2.08	4	310.33	311.85	4'	315.85	319.3
40	C–D	0+35	49'	2.08	4	310.01	311.70	2'	313.70	318.0
49	C–D	0+38	43'	2.08	4	310.04	311.61	3'	314.61	318.0
50	C–D	0+52	45'	2.08	4	310.20	311.80	3'	314.80	318.3
39	C–D	0+55	51'	2.08	4	310.23	311.96	3'	314.96	318.0
51	C–D	0+77	43'	2.08	4	310.47	312.04	3'	315.04	318.3
38	C–D	0+80	53'	2.08	4	310.51	312.28	2'	314.28	318.2
52	C–D	0+96	45'	2.08	4	310.69	312.29	4'	316.29	318.9
37	C–D	0+99	51'	2.08	4	310.72	312.45	3'	315.45	319.1
53	C–D	1+21	43'	2.08	4	310.96	312.53	3'	315.53	318.9
36	C–D	1+24	53'	2.08	4	311.00	312.77	3'	315.77	318.6
54	C–D	1+41	45'	2.08	4	311.19	312.79	3'	315.79	319.0
35	C–D	1+44	47'	2.08	4	311.22	312.87	4'	316.87	319.6
34	C–D	1+63	41'	2.08	4	311.43	312.95	3'	315.95	319.0
55	D–F	0+67	18'	2.08	4	312.43	313.47	3'	316.47	319.6
33	D–F	0+92	33'	2.08	4	312.59	313.95	6'	319.95	322.9
32	D–F	1+02	42'	2.08	4	312.65	314.20	6'	320.20	322.9
31	D–F	1+30	51'	2.08	4	312.83	314.56	6'	320.56	323.5
30	D–F	1+54	54'	2.08	4	312.99	314.78	6'	320.78	324.0
29	D–F	1+78	51'	2.08	4	313.14	314.87	7'	321.87	324.7
28	D–F	2+02	45'	2.08	4	313.29	314.90	7'	321.90	324.8
27	D–F	2+26	39'	2.08	4	313.45	314.93	7'	321.93	325.4
26	D–F	2+45	18'	2.08	4	313.57	314.61	8'	322.61	325.5
25	D–F	2+55	35'	2.08	4	313.63	315.03	8'	323.03	325.6
24	D–F	3+06	33'	2.08	4	313.96	315.31	9'	324.31	327.4
23	D–F	3+30	33'	2.08	4	314.11	315.47	10'	325.47	328.2
22	D–F	3+49	33'	2.08	4	320.66	322.01	4'	326.01	328.9
21	E–F	0+21	35'	2.08	4	315.02	316.42	10'	326.42	329.6
20	E–F	0+45	35'	2.08	4	315.62	317.01	10'	327.01	330.2
19	E–F	0+71	33'	2.08	4	316.26	317.62	10'	327.62	330.8
18	E–F	0+95	35'	2.08	4	316.86	318.25	10'	328.25	331.6
17	E–F	1+45	33'	2.08	4	318.10	319.45	10'	329.45	332.7
16	E–F	1+68	35'	2.08	4	318.67	320.06	7'	327.06	330.0
15	E–F	1+92	33'	2.08	4	319.26	320.62	10'	330.62	333.3
14	E–F	2+12	35'	2.08	4	319.76	321.16	10'	331.16	334.5
1	E–F	2+18	52'	2.08	4	319.91	321.66	10'	331.66	334.4
2	F–G	0+48	16'	2.08	4	320.59	321.60	8'	329.60	332.8
13	F–G	0+51	8'	2.08	4	320.63	321.46	8'	329.46	332.9
3	F–G	0+93	16'	2.08	4	321.06	322.06	7'	329.06	331.9
12	F–G	0+96	8'	2.08	4	321.08	321.93	7'	328.93	332.2
4	F–G	1+38	16'	2.08	4	321.52	322.52	6'	328.52	331.5
11	F–G	1+41	8'	2.08	4	321.55	322.39	7'	329.39	331.9
5	F–G	1+83	16'	2.08	4	321.98	322.99	5'	327.99	330.8
10	F–G	1+85	8'	2.08	4	322.02	322.85	5'	327.85	330.8
6	F–G	2+28	16'	2.08	4	322.45	323.45	4'	327.45	330.3
9	F–G	2+31	8'	2.08	4	322.48	323.32	4'	327.32	330.3
7	F–G	2+50	16'	2.08	4	322.68	323.68	3'	326.68	329.9
8	F–G	2+50	8'	2.08	4	322.68	323.51	3'	326.51	329.9
56	F–J	0+57	51'	2.08	4	314.81	316.54	8'	324.54	328.0
75	F–J	0+60	41'	2.08	4	314.82	316.35	10'	326.35	329.8
57	F–J	0+75	53'	2.08	4	314.91	316.68	8'	324.68	328.2
74	F–J	0+78	43'	2.08	4	314.92	316.49	10'	326.49	329.8
58	F–J	0+93	51'	2.08	4	315.00	316.73	7'	323.73	327.8
73	F–J	0+96	45'	2.08	4	315.02	316.62	9'	325.62	329.1
59	F–J	1+20	53'	2.08	4	315.15	316.92	7'	323.92	327.8
72	F–J	1+23	43'	2.08	4	315.16	316.73	9'	325.73	329.1
71	F–J	1+37	45'	2.08	4	315.24	316.85	9'	325.85	328.5
60	F–J	1+40	51'	2.08	4	315.26	316.99	6'	322.99	327.1
66	J–K	0+07	58'	2.08	4	315.74	317.57	6'	323.57	326.5
67	J–K	0+28	54'	2.08	4	316.12	317.91	6'	323.91	327.1
68	J–K	0+54	56'	2.08	4	316.68	318.51	6'	324.51	327.8
70	J–K	0+63	8'	2.08	4	316.86	317.70	6'	323.70	327.8
69	J–K	0+69	54'	2.08	4	316.98	318.77	6'	324.77	328.5
65	J–L	0+17	54'	2.08	4	315.77	317.56	6'	323.56	326.5
64	J–L	0+34	56'	2.08	4	315.94	317.77	5'	322.77	325.8
63	J–L	0+61	54'	2.08	4	316.21	318.00	4'	322.00	325.1
61	J–L	0+66	56'	2.08	4	316.26	318.09	4'	322.09	324.7
62	J–L	0+77	56'	2.08	4	316.37	318.20	3'	321.20	324.5

All laterals to 4" diameter PVC unless noted.
Risers are to raise laterals to within approx. 3 feet of finished grade.
Risers are not allowed in the sanitary easement.

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JAMES H. SCANLON
016193
4-3-98
PROFESSIONAL ENGINEER

EX. SANITARY SEWER PLAN AND PROFILE

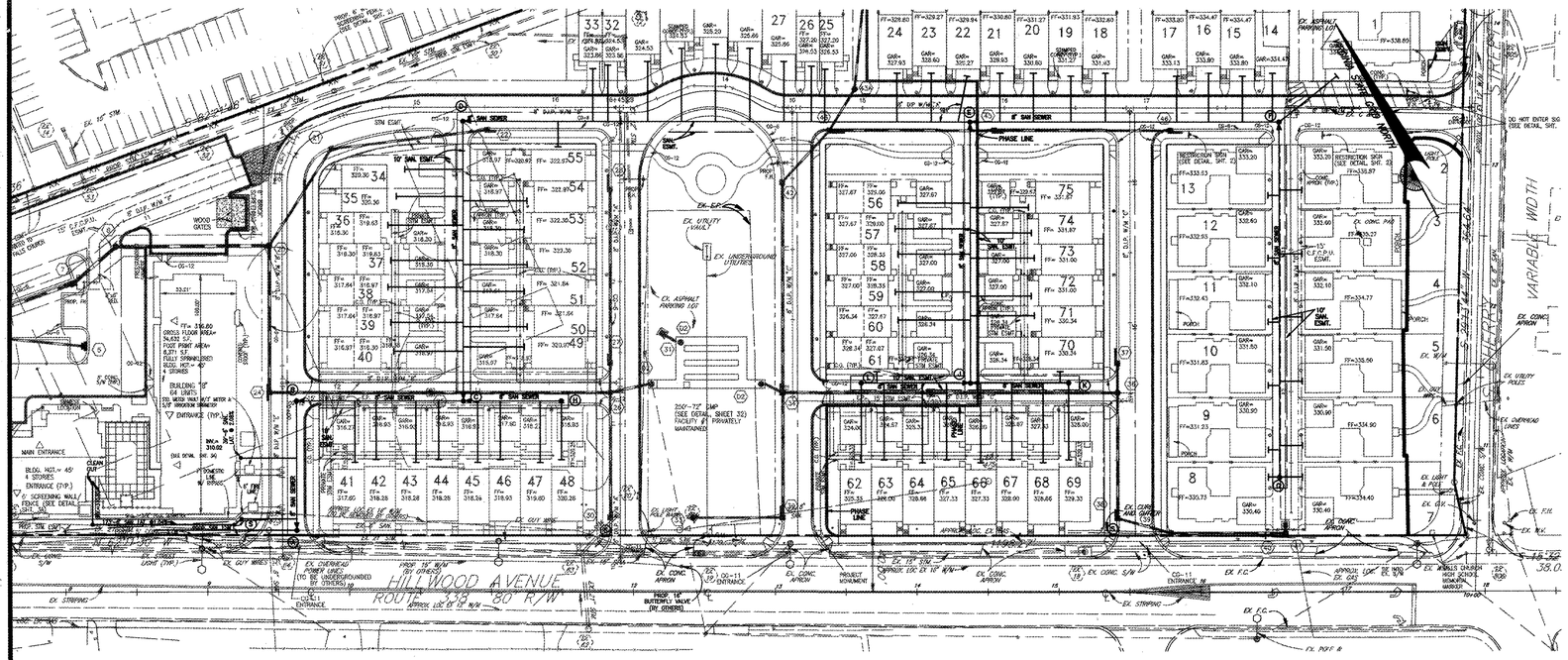
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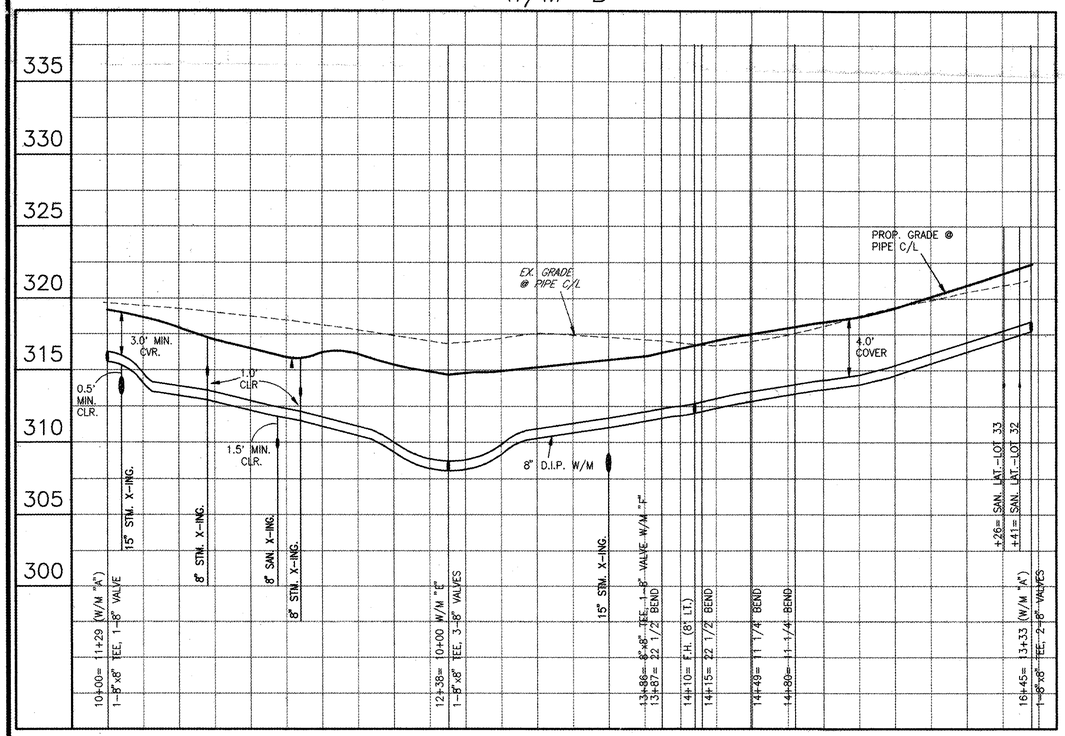
CITY OF FALLS CHURCH
VIRGINIA

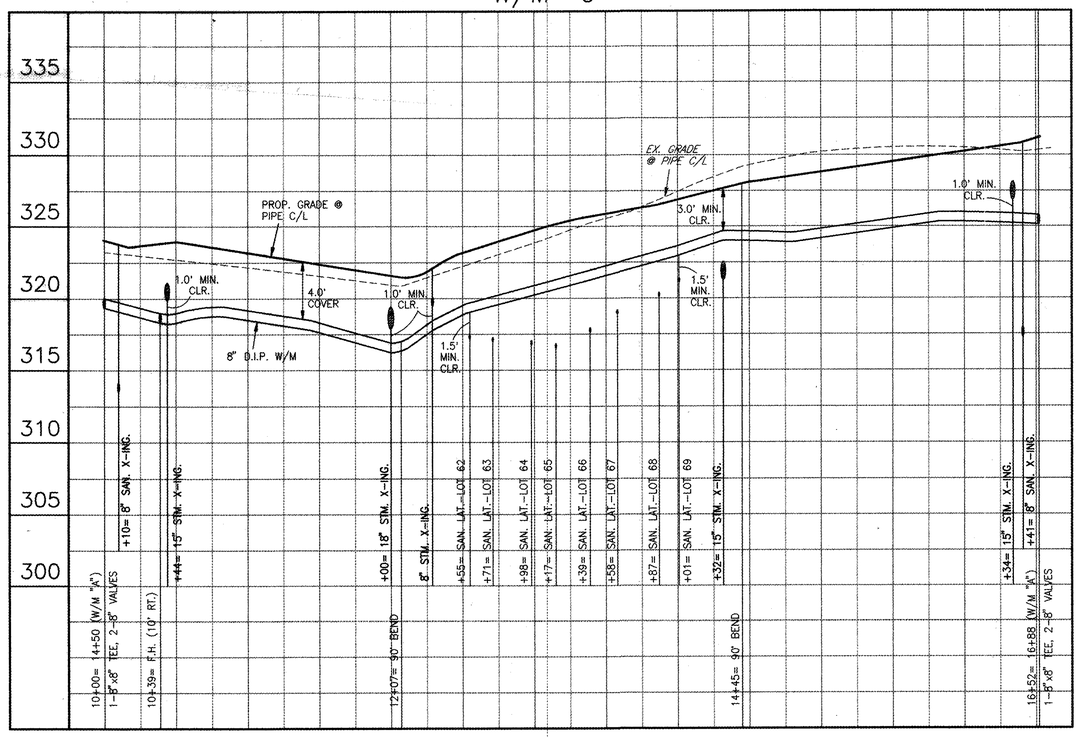
BC REVISIONS
10/97–REV. PER FALLS CHURCH COMMENTS

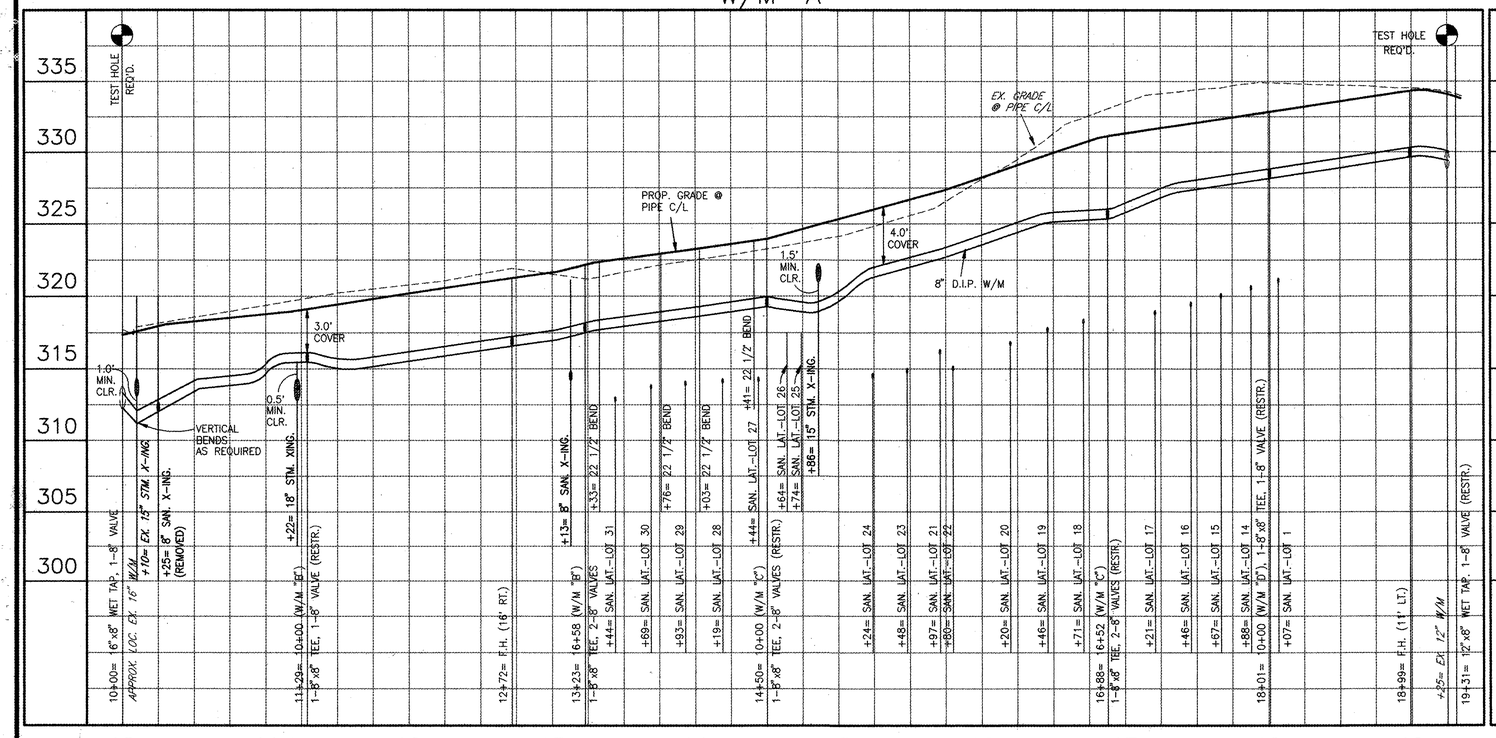
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CITY OF FALLS CHURCH
300 PARK AVE.
FALLS CHURCH, VA.

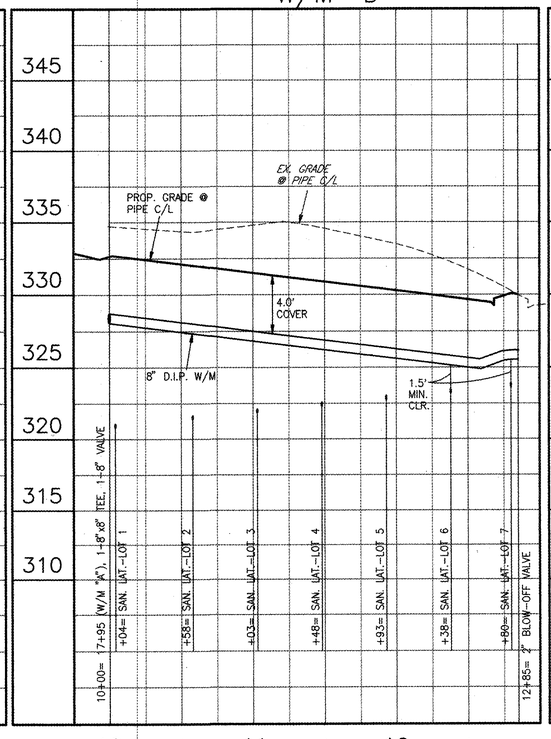
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DRAFTED BY: CAD
CHECKED BY: DGC
DATE: MARCH 4,1998
SCALE: HOR. 1"=50'
VERT. 1"=5'
SHEET 8 OF 34
CO. NO. SP 97–0051
FILE NO. 97014 –36
CADD NAME: 7014SAN1.DWG

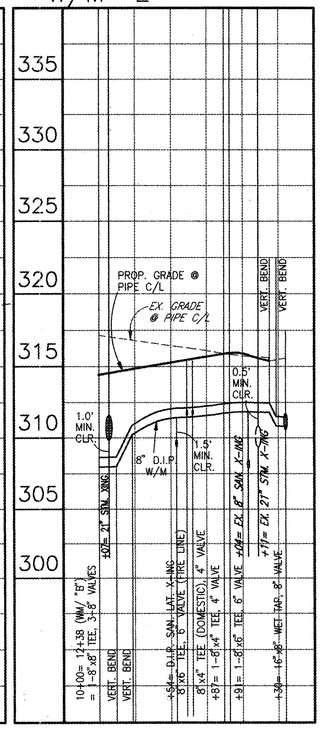

HILLWOOD AVENUE
ROUTE 338 - 80' R/W
WHITTIER PARK
WHITTIER AVENUE
VARIABLE WIDTH
PHASE LINE
EX. ASPHALT PARKING LOT
EX. UTILITY POLE
EX. UNDERGROUND UTILITIES
EX. OVERHEAD WIRES
EX. CONC. APRON
EX. CURB AND GUTTER
EX. STRIPPING
EX. F.H.
EX. W.M.
EX. GAS
EX. LIGHT & POLE
EX. SIGN
EX. TREE LINE
EX. CONC. PAD
EX. CONC. S/W
EX. ASPHALT PARKING LOT
EX. BUILDING
EX. CHAIN LINK FENCE
EX. WOOD FENCE
EX. 15" STM.
EX. 10" W.M.
EX. 8" SAN. SEWER
EX. 8" DUP. W.M.
EX. 6" W.M.
EX. 4" GAS
EX. 1" GAS
EX. 2" GAS
EX. 3" GAS
EX. 4" GAS
EX. 6" GAS
EX. 8" GAS
EX. 10" GAS
EX. 12" GAS
EX. 16" GAS
EX. 20" GAS
EX. 24" GAS
EX. 30" GAS
EX. 36" GAS
EX. 42" GAS
EX. 48" GAS
EX. 54" GAS
EX. 60" GAS
EX. 66" GAS
EX. 72" GAS
EX. 78" GAS
EX. 84" GAS
EX. 90" GAS
EX. 96" GAS
EX.











NOTE: FOR WATERMAIN "F", SEE SHEET 11A.

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WHITTIER PARK

WATERMAIN PROFILES

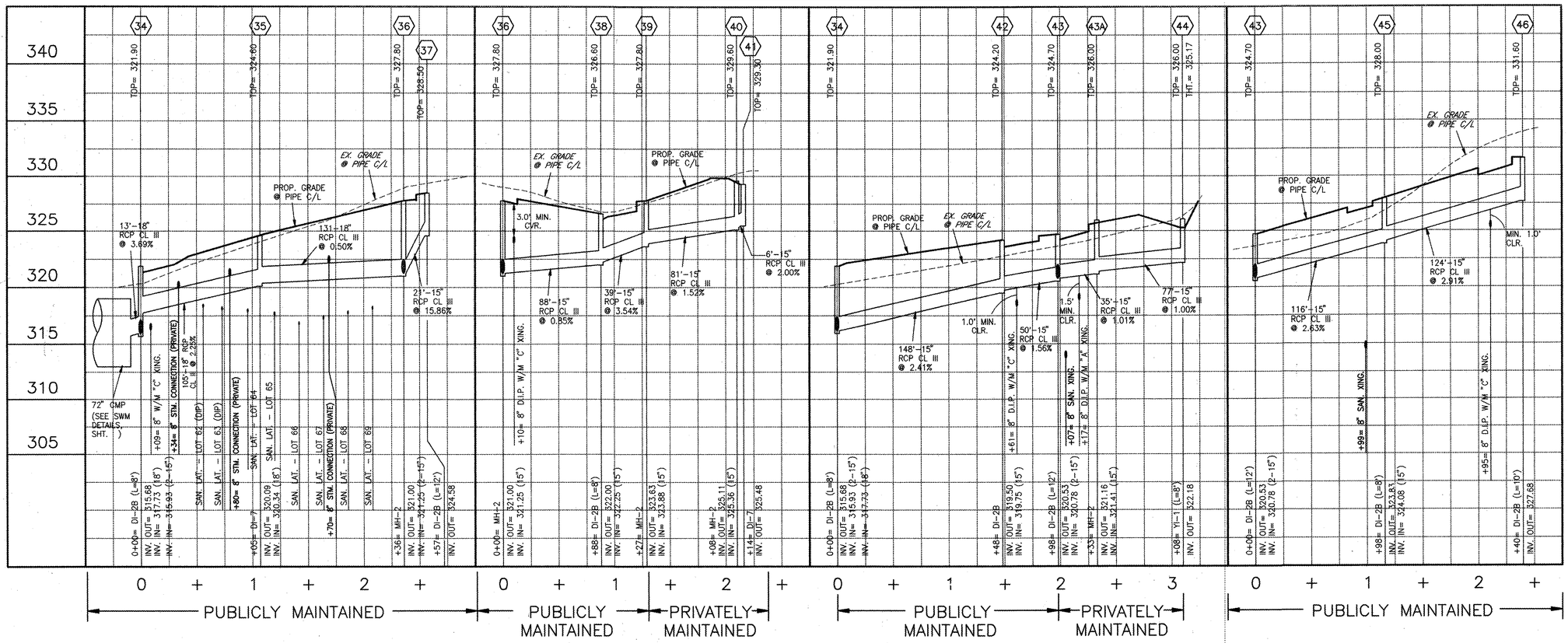
CITY OF FALLS CHURCH
VIRGINIA

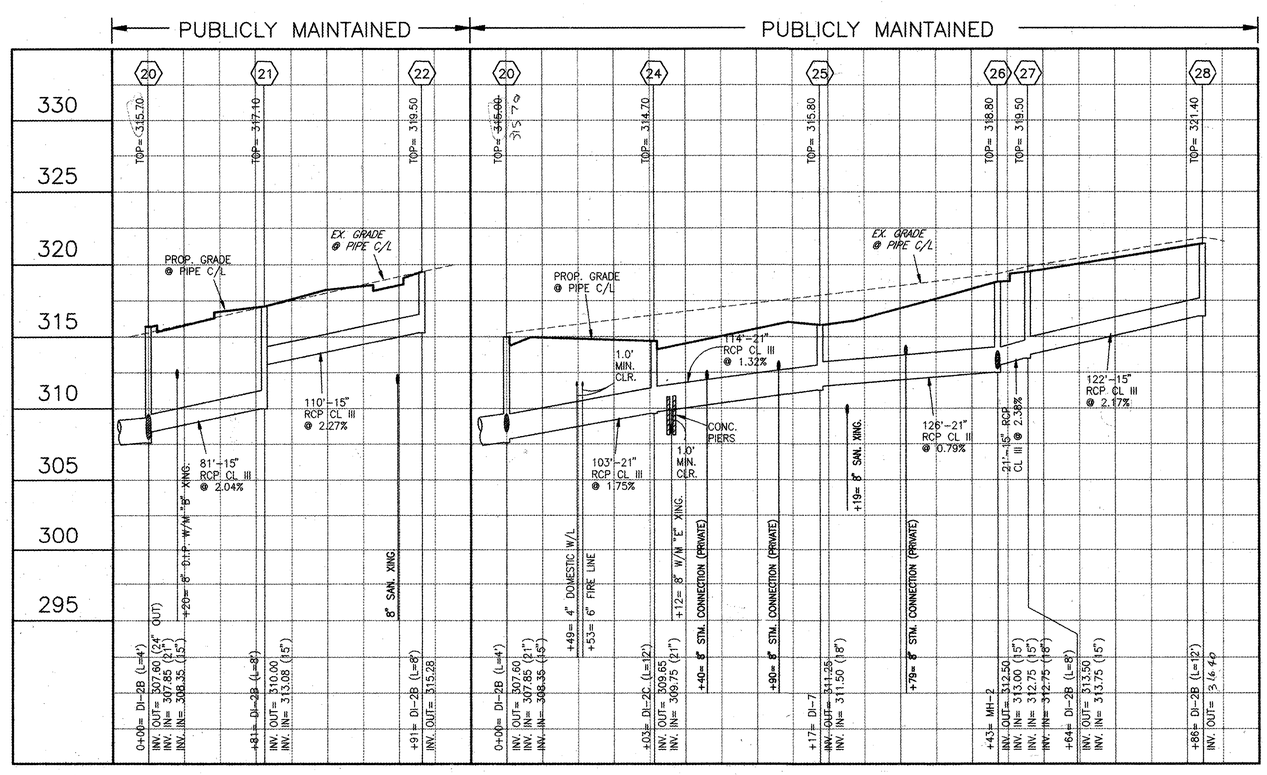
BC REVISIONS
10/97--REV. PER FALLS CHURCH COMMENTS

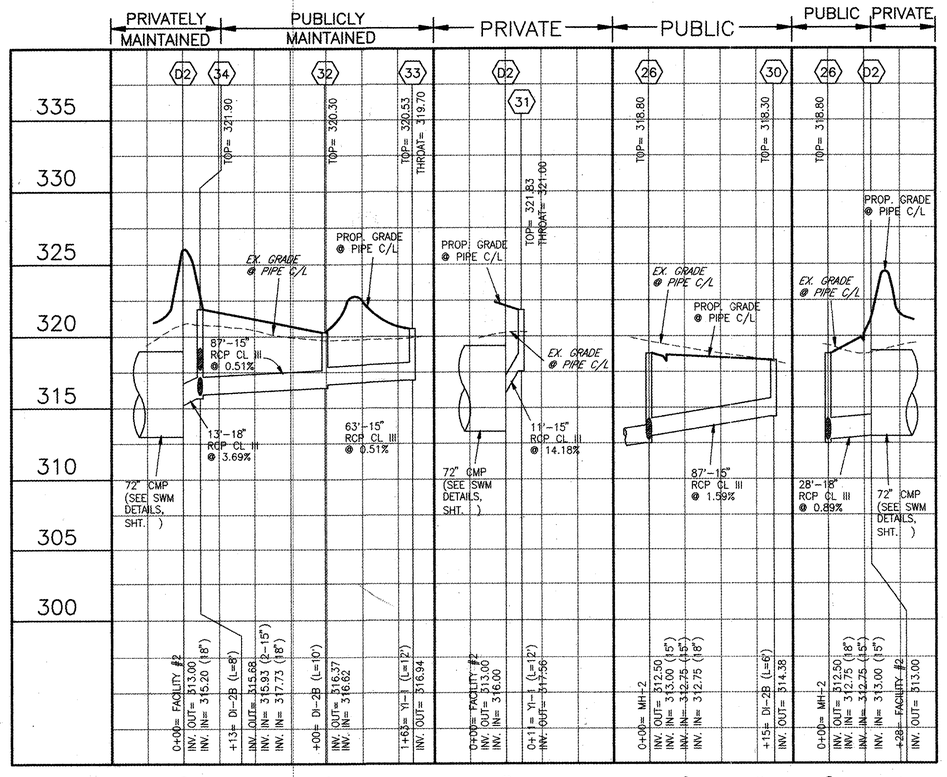
OWNER:
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH,
VIRGINIA

DESIGNED BY: RJG	
DRAFTED BY: CAD	
CHECKED BY: DGC	
DATE: MARCH 4,1998	
SCALE:	HOR. 1"=50' VERT. 1"=5'
SHEET 10 OF 34	
CO. NO. SP 97 -0051	
FILE NO.97014	
CADD NAME: 7014WL1.DWG	

XREFS: 97014UTL







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JAMES R. SCHULTZ
016193
PROFESSIONAL ENGINEER
4-13-98

STORM SEWER PROFILES

WHITTIER PARK

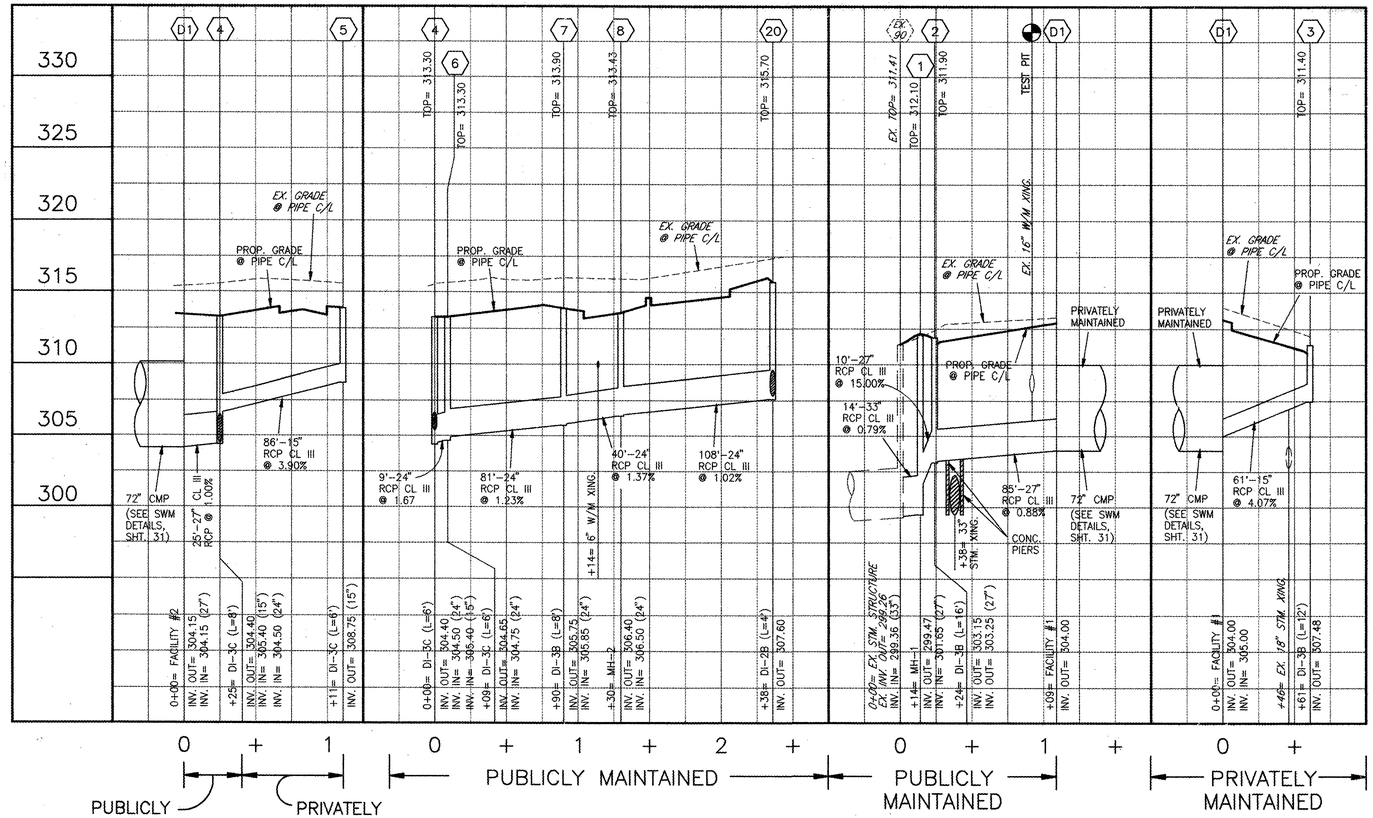
FALLS CHURCH
VIRGINIA

BC REVISIONS
11/97 REV. PER FALLS CHURCH COMMENTS

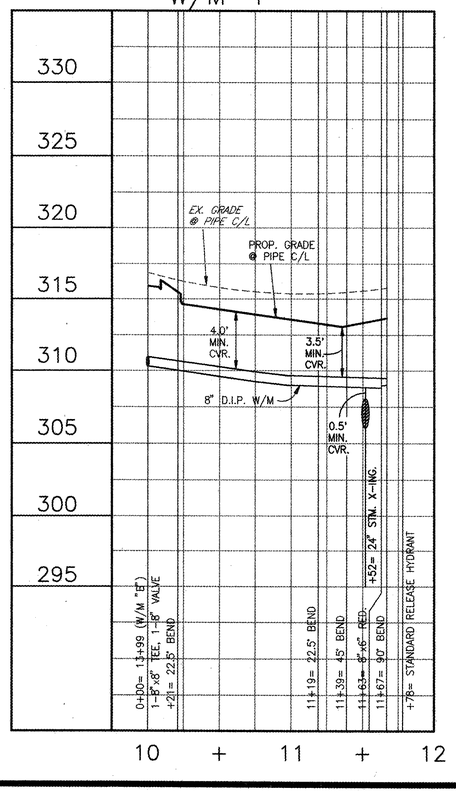
OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY:	RJG
DRAFTED BY:	CAD
CHECKED BY:	DGC
DATE:	MARCH 4, 1998
SCALE:	HOR. 1"=50' VERT. 1"=5'
SHEET 11 OF 34	
CO. NO.	SP 97-0051
FILE NO.	97014 -36
CADD NAME:	7014STM3.DWG

XREFS: 97014TL



W/M "F"



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JAMES E. ARNOLD
No. 016193
3-4-98
PROFESSIONAL ENGINEER

STORM SEWER & WATERMAIN PROFILES

WHITTIER PARK

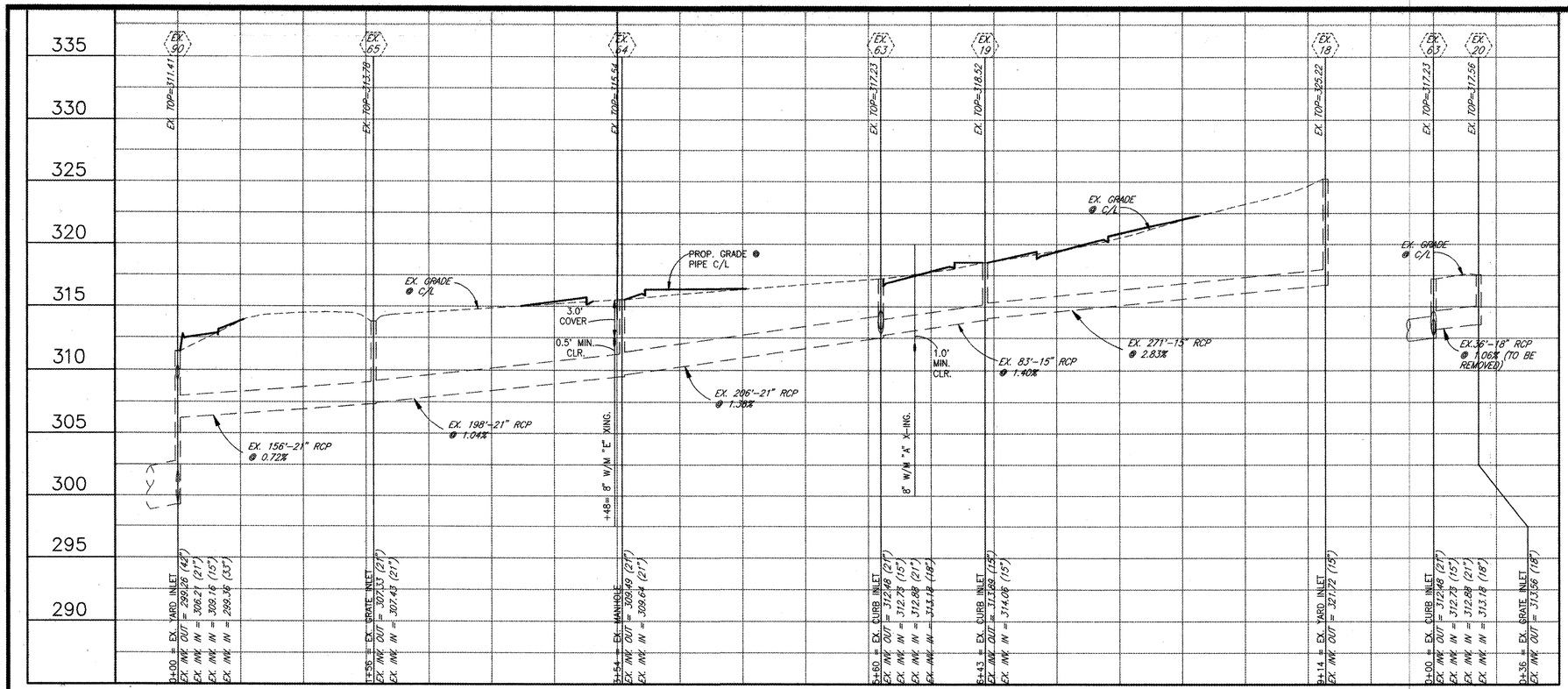
FALLS CHURCH
VIRGINIA

BC REVISIONS
10/97-REV. PER FALLS CHURCH COMMENTS
11/97-REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY: RJG
DRAFTED BY: CAD
CHECKED BY: DGC
DATE: MARCH 4, 1998
SCALE: HOR. 1"=50'
VERT. 1"=5'
SHEET 11A OF 34
CO. NO. SP 97-0051
FILE NO. 97014
CADD NAME: 7014STM4.DWG

XREFS: 97014UTL



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STORM SEWER PROFILES

WHITTIER PARK

FALLS CHURCH
VIRGINIA

BC REVISIONS

OWNER:
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY: RJG	
DRAFTED BY: CAD	
CHECKED BY: DGC	
DATE: MARCH 4, 1998	
SCALE:	HOR. 1"=50' VERT. 1"=5'
SHEET 11B OF 34	
CO. NO. SP 97-0051	
FILE NO.97014	
CADD NAME: 7014STM2.DWG	

XREFS: 9701HDL

STORM WATER INLET COMPUTATIONS

Inlet Number	Type	Length (ft)	Drainage Area (acres)	Runoff C Factor	C * A	C * A (W)	I (in/hr)	Q incr (cfs)	Q carryover (cfs)	Q gutter (cfs)	S gutter (ft/ft)	Sx cross (ft/ft)	T spread	W (ft)	W/T	Sw (ft/ft)	Sw / Sx	Eo (# 10)	a	Sw = a/(12W)	Se (ft/ft) = Sx + SwEo	LT(ft)15	P Effec. Length (ft)	L/LT	d (ft)	F(#16)	h (ft)	Q Intercept (cfs)	d/h	Qb CarryOver (cfs)	T Spread @ Sag (ft)	Remarks
2	DI-3B	16	0.80	0.75	0.60		7.27	4.36	0.00	4.36	0.002	0.021	8.65	1.50	0.10	0.083	4.00												4.36				
			0.10	0.75	0.08		7.27	0.55	0.00	0.55	0.002	0.021		1.50		0.083													0.55				
TOTAL			0.90	0.75	0.68	0.68		4.91	0.00	4.91													18.70		0.24		0.46	4.91	0.59	0.00	7.6	
3	DI-3B	12	0.22	0.75	0.17		7.27	1.20	0.00	1.20	0.002	0.021	8.77	1.50	0.17	0.083	4.00												1.20				
			0.18	0.75	0.14		7.27	0.98	0.00	0.98	0.002	0.021		1.50		0.083													0.98				
TOTAL			0.40	0.75	0.27	0.27		2.18	0.00	2.18													14.70		0.16		0.46	2.18	0.44	0.00	7.71	
4	DI-3C	8	0.16	0.75	0.12		7.27	0.87	0.00	0.87	0.002	0.021	7.62	1.50	0.20	0.083	4.00												0.87				
			0.14	0.75	0.11		7.27	0.78	0.00	0.76	0.002	0.021		1.50		0.083													0.78				
TOTAL			0.30	0.75	0.23	0.23		1.64	0.00	1.64													10.70		0.16		0.46	1.64	0.35	0.00	7.87	
5	DI-3C	6	0.18	0.75	0.14		7.27	0.98	0.00	0.98	0.002	0.021	8.03	1.50	0.19	0.083	4.00												0.98				
			0.06	0.75	0.05		7.27	0.33	0.00	0.33	0.002	0.021		1.50		0.083	4.00												0.33				
TOTAL			0.24	0.75	0.18	0.18		1.31	0.00	1.31													7.78		0.16		0.46	1.31	0.35	0.00		
6	DI-3C	6	0.16	0.75	0.12		7.27	0.87	0.00	0.87	0.002	0.021	7.62	1.50	0.20	0.083	4.00												0.87				
			0.12	0.75	0.09		7.27	0.65	0.00	0.65	0.002	0.021		1.50		0.083	4.00												0.65				
TOTAL			0.28	0.75	0.21	0.21		1.53	0.00	1.53													8.70		0.18		0.46	1.53	0.39	0.00	8.63	
7	DI-3B	8	0.31	0.75	0.23		7.27	1.69	0.00	1.69	0.002	0.021	9.68	1.50	0.15	0.083	4.00												1.69				
			0.12	0.75	0.09		7.27	0.65	0.00	0.65	0.002	0.021																	0.65				
TOTAL			0.43	0.75	0.32	0.32		2.34	0.00	2.34													11.60		0.20		0.46	2.34	0.44	0.00	9.48	
20	DI-2B	4	0.10	0.75	0.08		7.27	0.55	0.00	0.55	0.010	0.021	3.89	1.50	2.59	0.083	4.00	0.84	3.10	0.174	0.167	4.60		0.87					0.53				
21	DI-2B	8	0.16	0.75	0.12		7.27	0.87	0.00	0.87	0.018	0.021	4.35	1.50	0.34	0.083	4.00	0.79	3.10	0.174	0.159	6.90		1.16					0.87				
22	DI-2B	8	0.16	0.75	0.12		7.27	0.87	0.00	0.87	0.031	0.021	3.65	1.50	0.41	0.083	4.00	0.87	3.10	0.174	0.171	7.80		1.03					0.87				
24	DI-2C	12	0.25	0.75	0.19		7.27	1.36	0.02	1.38	0.002	0.021	9.26	1.50	0.16	0.083	4.00												1.38				
			0.24	0.75	0.18		7.27	1.31	0.00	1.31	0.002	0.021		1.50		0.083	4.00																
TOTAL			0.49	0.75		0.37	7.27	2.67	0.02	2.69		0.021		1.50		0.083	4.00																
25	DI-7		0.32	0.75	0.24		7.27	1.74	0.00	1.74		0.021													0.38				1.74		0.00	8.71	
27	DI-2B	8	0.19	0.75	0.14		7.27	1.04	0.00	1.04	0.015	0.021	5.03	1.50	0.30	0.083	4.00	0.73	3.10	0.173	0.147	7.40		1.08					1.04				
28	DI-2B	12	0.38	0.75	0.29		7.27	2.07	0.00	2.07	0.015	0.021	7.11	1.50	0.21	0.083	4.00	0.56	3.10	0.173	0.118	11.30		1.06					2.07				
30	DI-2B	6	0.11	0.75	0.08		7.27	0.60	0.00	0.60	0.010	0.021	4.13	1.50	0.36	0.083	4.00	0.82	3.10	0.173	0.162	4.90		1.22					0.60				
31	YI-1	12	0.21	0.50	0.11		7.27	0.76	0.00	0.76																0.08		0.50	0.76	0.16	0.00		
32	DI-2B	10	0.20	0.75	0.15		7.27	1.09	0.00	1.09	0.010	0.021	5.77	1.50	0.26	0.083	4.00	0.66	3.10	0.173	0.135	7.00		1.43					1.09				
33	YI-1	12	0.22	0.50	0.11		7.27	0.80	0.00	0.80																0.09		0.50	0.80	0.18	0.00		
34	DI-2B	8	0.22	0.75	0.17		7.27	1.20	0.00	1.20	0.017	0.021	5.27	1.50	0.28	0.083	4.00	0.70	3.10	0.173	0.143	8.30		0.96					1.20				
35	DI-7		0.38	0.75	0.29		7.27	2.07	0.00	2.07																0.14			2.07				
37	DI-2B	12	0.36	0.75	0.27		7.27	1.96	0.00	1.96	0.015	0.021	6.96	1.50	0.22	0.083	4.00	0.57	3.10	0.174	0.120	10.90		1.10					1.96				
38	DI-2B	8	0.17	0.75	0.13		7.27	0.93	0.00	0.93	0.019	0.021	4.47	1.50	0.34	0.083	4.00	0.78	3.10	0.174	0.156	7.20		1.11					0.93				
41	DI-7		0.61	0.75	0.46		7.27	3.33	0.00	3.33																0.35			3.33				
43	DI-2B	12	0.24	0.75	0.18		7.27	1.31	0.00	1.31	0.030	0.021	4.74	1.50	0.32	0.083	4.00	0.75	3.10	0.174	0.152	9.80		1.22					1.31				
44	YI-1	8	0.63	0.40	0.25		7.27	1.83	0.00	1.83																0.21		0.50	1.83	0.42	0.00		
45	DI-2B	8	0.17	0.75	0.13		7.27	0.93	0.00	0.93	0.032	0.021	3.76	1.50	0.40	0.083	4.00	0.85	3.10	0.174	0.169	8.10		0.99					0.93				
46	DI-2B	10	0.30	0.75	0.23		7.27	1.64	0.00	1.64	0.015	0.021	6.38	1.50	0.24	0.083	4.00	0.61	3.10	0.174	0.127	9.80		1.02					1.64				

STORM DRAIN DESIGN COMPUTATIONS

From Struct. #	To Struct. #	Structure Type	Drainage Area (acres)	Runoff C Factor	C * A Increm. C * A	C * A Accum. C * A	Time of Concentration tc To Pipe (min.)	Time of Concentration Time In Pipe (min.)	Time of Concentration Accum. Time (min.)	Flow Intensity "I" (in./hr.)	Flow Q Increm. (c.f.s.)	Flow Q Accum. (c.f.s.)	Design Pipe Diameter (inches)	Design Slope (%)	Design Mannings "n" Factor	Design Maximum Q (c.f.s.)	Design Flow Full Velocity (f.p.s.)	Profile Length (ft.)	Profile Fall (ft.)	Profile Upper Invert	Profile Lower Invert	Top Elev.
46	45		0.30	0.75	0.23	0.23	5.0			7.27	1.64	1.64	15"	2.91	0.013	11.01	8.97	124'	3.60'	327.68	324.08	331.60
45	43		0.17	0.75	0.13	0.35	5.0			7.27	0.93	2.56	15"	2.63	0.013	10.47	8.54	116'	3.05'	323.83	320.78	328.00
44	43A		0.63	0.40	0.25	0.25	5.0			7.27	1.83	1.83	15"	1.00	0.013	6.46	5.26	77'	0.77'	322.18	321.41	326.00
43A	43		0.00	0.00	0.00	0.25	5.0			7.27	0.00	1.83	15"	1.09	0.013	6.73	5.48	35'	0.38'	321.16	320.78	326.10
43	42		0.34	0.75	0.26	0.86	5.0			7.27	1.85	6.25	15"	1.56	0.013	8.07	6.57	50'	0.78'	320.53	319.75	324.70
42	34		0.00	0.00	0.00	0.86	5.0			7.27	0.00	6.25	15"	2.41	0.013	10.03	8.18	148'	3.57'	319.50	315.93	324.20
41	40		0.61	0.75	0.46	0.46	5.0			7.27	3.33	3.33	15"	2.00	0.013	9.14	7.44	6'	0.12'	325.48	325.36	329.30
40	39		0.00	0.00	0.00	0.46	5.0			7.27	0.00	3.33	15"	1.52	0.013	7.96	6.49	81'	1.23'	325.11	323.88	329.60
39	38		0.00	0.00	0.00	0.46	5.0			7.27	0.00	3.33	15"	3.54	0.013	12.15	9.90	39'	1.38'	323.63	322.25	327.80
38	36		0.17	0.75	0.13	0.59	5.0			7.27	0.93	4.25	15"	0.85	0.013	5.96	4.86	88'	0.75'	322.00	321.25	326.60
37	36		0.36	0.75	0.27	0.27	5.0			7.27	1.96	1.96	15"	15.86	0.013	25.72	20.96	21'	3.33'	324.58	321.25	328.50
36	35		0.00	0.00	0.00	0.86	5.0			7.27	0.00	6.22	18"	0.50	0.013	7.46	4.22	131'	0.66'	321.00	320.34	327.80
roof drains in from lots 70-75											0.65	6.87	18"	0.50	0.013	7.43	4.20					
35	34		0.38	0.75	0.29	1.14	5.0			7.27	2.07	8.94	18"	2.25	0.013	15.75	8.91	105'	2.36'	320.09	317.73	324.60
roof drains in from lots 56-61											0.65	9.59	18"	2.25	0.013	15.76	8.92					
roof drains in from lots 62-69											0.93	10.52	18"	2.25	0.013	15.76	8.92					
33	32		0.22	0.50	0.11	0.11	5.0			7.27	0.80	0.80	15"	0.51	0.013	4.60	3.75	63'	0.32'	316.94	316.62	320.53
32	34		0.20	0.75	0.15	0.26	5.0			7.27	1.09	1.89	15"	0.51	0.013	4.59	3.74	87'	0.44'	316.37	315.93	320.30
34	D2		0.22	0.75	0.17	2.42	5.0			7.27	1.20	19.86	18"	3.69	0.013	20.18	11.42	13'	0.48'	315.68	315.20	321.90
31	D2		0.21	0.50	0.11	0.11	5.0			7.27	0.76	0.76	15"	14.18	0.013	24.33	19.82	11'	1.56'	317.56	316.00	321.83
30	26		0.11	0.75	0.08	0.08	5.0			7.27	0.60	0.60	15"	1.59	0.013	8.15	6.64	87'	1.38'	314.38	313.00	318.30
28	27		0.38	0.75	0.29	0.29	5.0			7.27	2.07	2.07	15"	2.17	0.013	9.52	7.76	122'	2.65'	316.40	313.75	321.40
27	26		0.19	0.75	0.14	0.43	5.0			7.27	1.04	3.11	15"	2.38	0.013	9.97	8.12	21'	0.50'	313.50	313.00	319.50
D2	26										0.00	8.42	18"	0.89	0.013	9.93	5.62	28'	0.25'	313.00	312.75	
26	25		0.00	0.00	0.00	0.00	5.0			7.27	0.00	12.13	21"	0.79	0.013	14.12	5.87	126'	1.00'	312.50	311.50	318.80
roof drains in from lots 49-55											0.87	13.00	21"	0.79	0.013	14.08						
25	24		0.76	0.32	0.24	0.24	5.0			7.27	1.77	14.77	21"	1.32	0.013	18.18	7.56	114'	1.50'	311.25	309.75	315.80
roof drains in from lots 34-40											0.65	15.42	21"	1.32	0.013	18.18						
roof drains in from lots 41-48											0.93	16.35	21"	1.32	0.013	18.18						
24	20		0.49	0.75	0.37	0.37	5.0			7.27	2.67	19.02	21"	1.75	0.013	20.95	8.71	103'	1.80'	309.65	307.85	314.70
22	21		0.16	0.75	0.12	0.12	5.0			7.27	0.87	0.87	15"	2.18	0.013	9.54	7.78	110'	2.40'	315.58	313.18	319.50
21	20		0.16	0.75	0.12	0.24	5.0			7.27	0.87	1.74	15"	2.04	0.013	9.22	7.51	81'	1.65'	310.00	308.35	317.10
20	8		0.10	0.75	0.08	0.68	5.0			7.27	0.55	21.31	24"	1.02	0.013	22.83	7.27	108'	1.10'	307.60	306.50	315.70
8	7		0.00	0.75	0.00	0.00	5.0			7.27	0.00	21.31	24"	1.37	0.013	26.53	8.44	40'	0.55'	306.40	305.85	313.43
7	6		0.43	0.75	0.32	0.32	5.0			7.27	2.34	23.65	24"	1.23	0.013	25.14	8.00	81'	1.00'	305.75	304.75	313.90
5	4		0.24	0.75	0.18	0.18	5.0			7.27	1.31	1.31	15"	#REF!	0.013	#REF!	#REF!	86'	#REF!	#REF!	305.40	313.70
6	4		0.28	0.75	0.21	0.21	5.0			7.27	1.53	25.18	24"	1.67	0.013	29.20	9.30	9'	0.15'	304.65	304.50	313.30
4	D1		0.30	0.75	0.23	0.62	5.0			7.27	1.64	28.12	27"	1.00	0.013	30.97	7.79	25'	0.25'	304.40	304.15	313.30
3	D1		0.40	0.75	0.30	0.30	5.0			7.27	2.18	2.18	15"	4.07	0.013	13.02	10.61	61'	2.48'	307.48	305.00	311.40
D1	2	SEE SWM SHEET					***					23.50	27"	0.88	0.013	29.09	7.32	85'	0.75'	304.00	303.25	
2	1		0.90	0.75	0.68	0.68	5.0			7.27	4.91	28.41	27"	15.00	0.013	119.95	30.17	10'	1.50'	303.15	301.65	311.90
1	EX. 90		0.00	0.00	0.00	0.00	5.0			7.27	0.00	0.00	33"	0.79	0.013	46.88	7.89	14'	0.11'	299.47	299.36	312.10

OUTFALL NARRATIVE

THE MAJORITY OF STORMWATER WILL FLOW INTO A CLOSED CONDUIT SYSTEM ON THE SITE. THE CLOSED CONDUIT SYSTEM CARRIES THE STORMWATER TO TWO UNDERGROUND DETENTION SYSTEMS BEFORE DISCHARGING INTO AN ADEQUATE EXISTING CLOSED CONDUIT SYSTEM.

RUNOFF FROM 4.14 ACRES OF THE TOWNHOUSE DEVELOPMENT AND 0.13 ACRES OF OFFSITE RESIDENTIAL DEVELOPMENT FLOWS INTO STORMWATER MANAGEMENT FACILITY #1. THIS FACILITY REDUCES THE PEAK OF THE 2 YEAR AND 10 YEAR STORMS BEFORE DISCHARGING STORMWATER BACK INTO THE PROPOSED CLOSED CONDUIT SYSTEM. THIS FACILITY IS NOT DISCHARGING STORMWATER INTO THE EXISTING CLOSED CONDUIT SYSTEM ON HILLWOOD AVENUE THAT IS ADJACENT TO IT SINCE IT WAS DETERMINED THAT THIS EXISTING RUN OF PIPE WAS INADEQUATE.

RUNOFF FROM 3.70 ACRES OF THE HOTEL AND THE REMAINING PORTION OF THE TOWNHOUSE DEVELOPMENT AND RUNOFF FROM 0.29 ACRES OF OFFSITE RESIDENTIAL DEVELOPMENT FLOWS TO FACILITY #2 VIA CLOSED CONDUIT SYSTEM. THIS FLOW COMBINES WITH THE DISCHARGE FROM FACILITY #1 TO MAKE UP THE TOTAL FLOW INTO FACILITY #2 (SEE COMPOSITE HYDROGRAPH, SHEET 32).

THE DISCHARGE FROM FACILITY #2 MATCHES THE RUNOFF FROM THE SITE DURING THE EXISTENCE OF THE SCHOOL (22.5 CFS FOR THE 2 YEAR AND 29.1 CFS FOR THE 10 YEAR), TAKING INTO CONSIDERATION THE POST DEVELOPMENT ONSITE UNDETAINED RUNOFF FROM 1.79 ACRES AND THE POST DEVELOPMENT OFFSITE DETAINED FROM 0.42 ACRES. THE ALLOWABLE DISCHARGE FROM FACILITY #2 DURING THE 2 YEAR AND 10 YEAR STORMS IS 18.4 CFS AND 23.5 CFS (SEE COMPUTATIONS, SHEET 32).

THE DISCHARGE FROM THE FACILITY DURING THE 2 YEAR AND 10 YEAR STORMS IS 18.36 CFS AND 23.50 CFS. THE EXISTING CLOSED CONDUIT SYSTEM THAT FACILITY #2 IS DISCHARGING INTO WAS DETERMINED TO BE ADEQUATE. IT CAN CARRY THE COMBINED FLOW FROM THE EXISTING AND PROPOSED SYSTEM, UNDER PRESSURE FLOW CONDITIONS, WITHOUT THE HYDRAULIC GRADELINE BEING WITHIN A FOOT OF THE FLOWLINE AT THE INLETS (SEE HYDRAULIC GRADELINE COMPS., SHEET 32).

NEITHER THE PROPOSED STRUCTURES NOR ANY OFFSITE STRUCTURES WILL BE FLOODED DURING A 100 YEAR STORM. ALSO, IT IS MY OPINION THAT ALL STORM SEWER SYSTEMS ARE ADEQUATE TO HANDLE THE PROPOSED DISCHARGE AND THE DISCHARGE WILL HAVE NO ADVERSE AFFECT ON DOWNSTREAM PROPERTIES.

100 YEAR STORM ANALYSIS
STORMWATER MANAGEMENT FACILITIES
THE RUNOFF FROM A 100 YEAR STORM WILL BACK UP IN THE CLOSED CONDUIT SYSTEM. THE RUNOFF WILL FLOW FROM THE INLETS OVERLAND DOWN THE DRIVE AISLES AND INTO THE GUTTER ALONG HILLWOOD AVENUE. OVERLAND RELIEF IS BEING PROVIDED SO THAT NO ONSITE STRUCTURES WILL BE FLOODED FROM A 100 YEAR STORM.

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COMMONWEALTH OF VIRGINIA — JAMES L. KANOW — No. 016195 — 3-4-98 — PROFESSIONAL ENGINEER

STORM SEWER COMPUTATIONS

WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS
10/97-REV. PER FALLS CHURCH COMMENTS
11/97-REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY: DGC
DRAFTED BY: CAD
CHECKED BY: DGC
DATE: MARCH 4, 1998
SCALE: HOR. N/A
VERT.
SHEET 11D OF 34
CO. NO. SP 97-0051
FILE NO. 97014
CADD NAME: 7014STMC.DWG

FOR SPECIFICATIONS ON CHAIN LINK FENCE, SEE TREE PRESERVATION NOTES, SHEET 19.

SEE SHEET 14 FOR E&S LEGEND.

SEE SHEET 14 FOR E&S COMPUTATIONS & NARRATIVE.

THIS SHEET FOR EROSION & SEDIMENT CONTROL PHASE ONE PURPOSES ONLY

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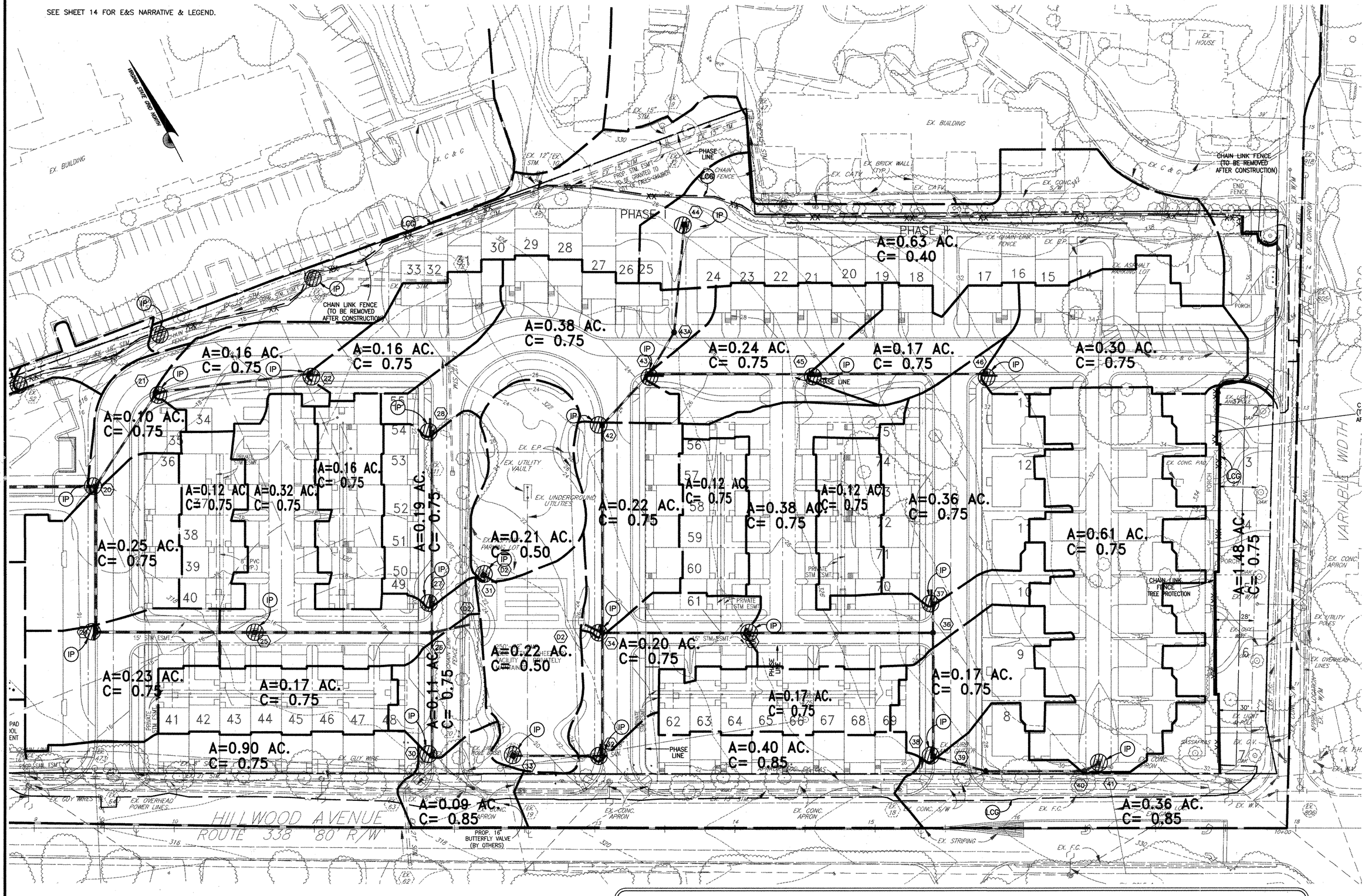
EROSION & SEDIMENT CONTROL- PHASE ONE
RESIDENTIAL PARCEL
WHITTIER PARK
CITY OF FALLS CHURCH, VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH,
VIRGINIA

DESIGNED BY: CDL	
DRAFTED BY: CAD	
CHECKED BY: DGC	
DATE: MARCH 4, 1998	
SCALE:	HOR. 1"=30' VERT. N/A
SHEET 12 OF 34	
CO. NO. SP 97-0051	
FILE NO.97014	
CADD NAME: H7014ES1.DWG	

SEE SHEET 14 FOR E&S NARRATIVE & LEGEND.



THIS SHEET FOR EROSION & SEDIMENT CONTROL PHASE TWO PURPOSES ONLY

BC Consultants

Planners • Engineers • Surveyors • Landscape Architects

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COMMONWEALTH OF VIRGINIA — JAMES R. CONNOR — 016193 — 3-4-98 — PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL– PHASE TWO
RESIDENTIAL PARCEL
WHITTIER PARK
CITY OF FALLS CHURCH, VIRGINIA

BC REVISIONS
1/97 REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH,
VIRGINIA

DESIGNED BY:	RJG
DRAFTED BY:	RJG
CHECKED BY:	DGC
DATE:	MARCH 4,1998
SCALE:	HOR. 1"=30' VERT. N/A
SHEET	13 OF 34
CO. NO.	SP 97-0051
FILE NO.	97014
CADD NAME:	H7014ES2.DWG

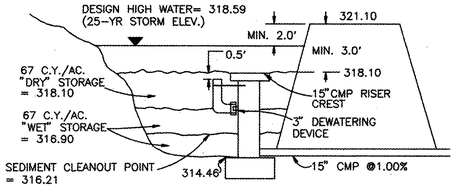
RESIDENTIAL

TRAP ID	TOTAL DRAINAGE AREA	STORAGE REQUIRED	STORAGE PROVIDED	WET STORAGE					DRY STORAGE					EXCAVATED DEPTH	BERM HEIGHT	TOP BERM WIDTH	RISER/ OUTLET HEIGHT(Hr)	CLEANOUT HEIGHT	OUTLET LENGTH
				DEPTH D1	AREA A1	VOLUME V1	VOLUME REQ'D	SURFACE DIMENSION	DEPTH D2	AREA A2	VOLUME V2	VOLUME REQ'D	SURFACE DIMENSION						
	(Acres)	(cu.ft.)	(cu. ft.)	(ft.)	(sq. ft.)	(cu. ft.)	(cu. ft.)	(ft. x ft. x ft.)	(ft.)	(sq. ft.)	(cu. ft.)	(cu. ft.)	(ft. x ft. x ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)
1	0.40	1447	1698	1.50	675	861	724	1 x 15 x 45	1.00	1000	838	724	1 x 20 x 50	0.00	3.50	3	2.50	0.75	4
2	0.98	3546	3743	2.00	900	1530	1773	0.5 x 30 x 60	2.00	1312.5	2213	1773	0.5 x 35 x 75	2.00	5.00	4.5	3.50	1.00	PIPE
3	0.42	1520	1698	1.50	675	861	760	1 x 15 x 45	1.00	1000	838	760	1 x 20 x 50	0.50	3.50	3	2.50	0.75	4
4	0.91	3292	3820	2.00	1100	1870	1646	1 x 20 x 55	1.50	1500	1950	1646	1 x 25 x 60	2.00	4.50	4	3.50	1.00	5

V1 = 0.85 x D1 x A1
V2=[(A1 + A2)/2] x D2

NOTES:
1. TOTAL DRAINAGE AREA IS USED TO DETERMINE THE STORAGE VOLUME REQUIRED. TOTAL DRAINAGE AREAS LESS THAN THREE ACRES ARE ALLOWED TO USE GRAVEL OUTLET STRUCTURES. TOTAL DRAINAGE AREAS FROM MORE THAN THREE ACRES ARE TO USE RISER PIPE OUTLET STRUCTURES.
2. THE REQUIRED STORAGE VOLUME IS BASED UPON 134 CU. YD. PER ACRE (OR 3618 CU. FT. PER ACRE).
3. TOTAL DRAINAGE AREA (IN ACRES) IS USED TO DESIGN THE OUTLET STRUCTURE OF THE TRAP.
4. CONSTRUCTION OF SEDIMENT TRAPS SHALL BE IN ACCORDANCE WITH CHAPTER 11 OF THE PUBLIC FACILITIES MANUAL AND THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.

SEDIMENT BASIN #1 SCHEMATIC



COMMERCIAL

TRAP ID	TOTAL DRAINAGE AREA	STORAGE REQUIRED	STORAGE PROVIDED	WET STORAGE					DRY STORAGE					EXCAVATED DEPTH	BERM HEIGHT	TOP BERM WIDTH	RISER/ OUTLET HEIGHT(Hr)	CLEANOUT HEIGHT	OUTLET LENGTH
				DEPTH D1	AREA A1	VOLUME V1	VOLUME REQ'D	SURFACE DIMENSION	DEPTH D2	AREA A2	VOLUME V2	VOLUME REQ'D	SURFACE DIMENSION						
	(Acres)	(cu.ft.)	(cu. ft.)	(ft.)	(sq. ft.)	(cu. ft.)	(cu. ft.)	(ft. x ft. x ft.)	(ft.)	(sq. ft.)	(cu. ft.)	(cu. ft.)	(ft. x ft. x ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)
5	0.95	3437	3820	2.00	1100	1870	1719	1 x 20 x 55	1.50	1500	1950	1719	1 x 25 x 60	2.00	3.00	2.5	3.50	0.00	PIPE
6	0.52	1881	2223	1.50	900	1148	941	1 x 20 x 45	1.00	1250	1075	941	1 x 25 x 50	0.50	3.50	3	2.50	0.75	3

V1 = 0.85 x D1 x A1
V2=[(A1 + A2)/2] x D2

NOTES:
1. TOTAL DRAINAGE AREA IS USED TO DETERMINE THE STORAGE VOLUME REQUIRED. TOTAL DRAINAGE AREAS LESS THAN THREE ACRES ARE ALLOWED TO USE GRAVEL OUTLET STRUCTURES. TOTAL DRAINAGE AREAS FROM MORE THAN THREE ACRES ARE TO USE RISER PIPE OUTLET STRUCTURES.
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3. TOTAL DRAINAGE AREA (IN ACRES) IS USED TO DESIGN THE OUTLET STRUCTURE OF THE TRAP.
4. CONSTRUCTION OF SEDIMENT TRAPS SHALL BE IN ACCORDANCE WITH CHAPTER 11 OF THE PUBLIC FACILITIES MANUAL AND THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.

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COMMONWEALTH OF VIRGINIA — CARLTON D. LONG — 016193 — PROFESSIONAL ENGINEER — 3-4-98

EROSION & SEDIMENT CONTROL LEGEND

- (CE) TEMPORARY CONSTRUCTION ENTRANCE WITH WASH RACK (SPEC. 3.02) MIN. LENGTH=75'
- (SF) SILT FENCE (SPEC. 3.05)
- (IP) INLET PROTECTION (SPEC. 3.07)
- (OP) OUTLET PROTECTION (SPEC. 3.18)
- (DD) TEMPORARY DIVERSION DIKE (SPEC. 3.09)
- (ST) TEMPORARY SEDIMENT TRAP (SPEC. 3.13)
- (LOG) LIMITS OF CLEARING AND GRADING
- DRAINAGE DIVIDE
- SILTATION DIVIDE
- (RWD) TEMPORARY RIGHT-OF-WAY DIVERSION (SPEC. 3.11)
- (ILOG) INITIAL LIMITS OF CLEARING AND GRADING
- (TP) TREE PROTECTION (SPEC. 3.38)
- (TSD) TEMPORARY SLOPE DRAIN (SPEC. 3.15)
- CHAIN LINK FENCE
- (CD) CHECK DAM (SPEC. 3.20)
- EX. TREES / PROP. TREES
- EX. TREE LINE / PROP. TREE LINE

SPECIFICATIONS PER VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK (1992).

EROSION AND SEDIMENT CONTROL NARRATIVE

DESCRIPTION:
THIS PROJECT IS FOR THE CONSTRUCTION OF TWO FOUR STORY HOTEL BUILDINGS, 62 TOWNHOUSES AND 13 SINGLE FAMILY DWELLINGS ON A PARCEL CONTAINING 9.63 ACRES LOCATED WITHIN THE CITY OF FALLS CHURCH. THE SITE IS LOCATED ON THE NORTH SIDE OF HILLWOOD AVENUE ROUTE #338, WEST OF SOUTH CHERRY STREET AND EAST OF DOUGLASS AVENUE.

EXISTING SITE CONDITIONS:
THE SITE IS A GRASS FIELD WITH SPARSELY SCATTERED HARDWOODS. THE SITE IS GENTLY SLOPING (3.5% GENERALLY) FROM THE EAST TO THE WEST. DRAINAGE FLOWS TO EXISTING GRATE INLETS AND YARD INLETS.

ADJACENT AREAS:
TO THE NORTH IS THE WRENS SUBDIVISION, MERRILL APARTMENTS, AND OLD CHURCH MEWS. TO THE WEST IS A SINGLE RETAIL BUILDING. ADJACENT TO THE SOUTHERN PROPERTY LINE IS HILLWOOD AVENUE, WITH RESIDENTIAL DEVELOPMENT ON THE OPPOSITE SIDE OF THE STREET. ADJACENT TO THE WESTERN PROPERTY LINE IS CHERRY STREET, WITH SINGLE FAMILY DETACHED HOMES ON THE OPPOSITE SIDE OF THE STREET.

EROSION CONTROL PROGRAM: TEMPORARY SEEDING AND MULCHING IS TO BE APPLIED TO ANY AREA WITHIN THE SITE NOT CONTINUOUSLY WORKED FOR 7 DAYS AFTER CLEARING AND ROUGH GRADING.

SEDIMENT CONTROL PROGRAM (PHASE IA):

1. INSTALL TEMPORARY CONSTRUCTION ENTRANCES WITH WASH RACK AND FILTER FABRIC AS SHOWN ON THE PLAN. MUD AND DEBRIS SHALL BE WASHED FROM ALL CONSTRUCTION VEHICLES AND EQUIPMENT BEFORE LEAVING THE SITE. THE SEDIMENT LADEN WATER WILL BE DIVERTED TO NEARBY SEDIMENT TRAPS. WATER TANKS WILL BE USED IF PUBLIC WATER IS NOT AVAILABLE.

2. ONLY CLEAR AND GRUB AREA REQUIRED TO INSTALL ALL PERIMETER SEDIMENT CONTROLS, TEMPORARY DIVERSION DIKES, INLET PROTECTION, AND SEDIMENT BASIN AND TRAPS ACCORDING TO INITIAL CLEARING LIMITS AS INDICATED ON THE PLAN.

3. FOLLOWING THE SATISFACTORY COMPLETION OF THE TEMPORARY SEDIMENT BASIN AND TRAPS AND SEDIMENT CONTROLS, APPROVAL MUST BE GRANTED BY THE INSPECTOR BEFORE THE REMAINDER OF THE SITE CAN BE CLEARED AND GRADED.

SEDIMENT CONTROL PROGRAM (PHASE IB):

1. FOLLOWING COMPLETION OF THE TEMPORARY SEDIMENT TRAPS AND SEDIMENT CONTROLS, CLEAR AND GRADE THE REMAINDER OF THE SITE. ALSO, THE EXISTING 12 RCP SHOULD BE REMOVED FROM EXISTING STRUCTURE 50 TO EXISTING STRUCTURE 11.

2. PRIOR TO INSTALLING THE ENTRANCE ADJACENT TO EXISTING STORM STRUCTURE 63, REMOVE THE 18 RCP BETWEEN EXISTING STORM STRUCTURE 20 AND 63.

3. INSTALL THE UTILITIES, CURB AND GUTTER, THEN APPLY THE BASE STONE FOR THE ROAD WITHIN FIVE DAYS AFTER REACHING FINAL GRADE FOR THE SUBGRADE.

SEDIMENT CONTROL PROGRAM (PHASE II):

1. ONCE THE UTILITIES, CURB AND GUTTER, AND THE ROADS ARE BROUGHT NEAR FINAL GRADE IN A MANNER SUCH THAT THE STORM SEWER SYSTEM IS FUNCTIONAL, THEN THE SILT FENCE PERIMETER CONTROL CAN BE INSTALLED PROVIDED THE CUT AND FILL AREAS ARE NEAR FINAL GRADE (TO BE DETERMINED BY SITE CONDITIONS). THE SITE MUST HAVE CONTROLS IN PLACE AT ALL TIMES.

2. FILL SLOPE SURFACES SHALL BE LEFT IN A ROUGHENED CONDITION TO REDUCE SHEET AND RILL EROSION OF THE SLOPES. THE CONTRACTOR SHALL REDIRECT CONCENTRATED FLOW AWAY FROM FILL SLOPES BY INSTALLING EARTH BERMS AND OUTLETTING THE RUNOFF TO A STABILIZED OUTLET OR SEDIMENT TRAPPING DEVICE.

3. FOR TEMPORARY VEGETATIVE STABILIZATION OF ALL DENUDED AREAS, SEE NOTE REFERENCING THE EROSION CONTROL PROGRAM.

4. AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DENUDED AREAS HAVE BEEN STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND THE GROUND PERMANENTLY STABILIZED WITH VEGETATION UPON THE APPROVAL OF THE CITY OF FALLS CHURCH INSPECTOR.

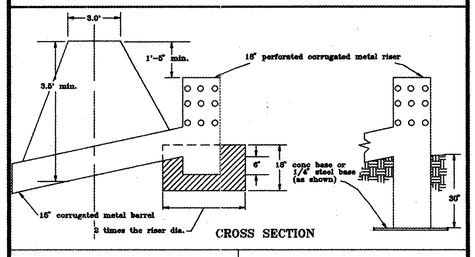
MAINTENANCE PROGRAM:

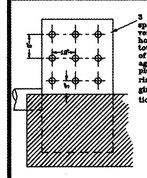
1. THE SITE SUPERINTENDENT, OR HIS/HER REPRESENTATIVE, SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO INSURE THAT ALL CONTROLS ARE MAINTAINED AND PROPERLY FUNCTIONING. ANY DAMAGED CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING AND MULCHING OR RE-SODDING IF NECESSARY.

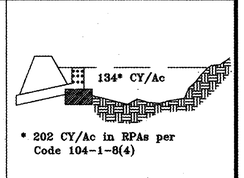
2. ALL SEDIMENT TRAPPING DEVICES SHALL BE CLEANED OUT AT 50% OF WET STORAGE TRAP CAPACITY, AND THE SEDIMENT SHALL BE DISPOSED OF BY SPREADING ON THE SITE OR HAULING AWAY IF NOT SUITABLE FOR FILL.

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

These are the recommended standard specifications for the pipe outlet sediment trap. The design engineer may alter the pipe and perforation sizes, provided engineering calculations can justify it. The desired drawdown times are a minimum of 4 hours and a maximum of 40 hrs. The perforation size and spacing as indicated below represents approximately 17 hr drawdown time. When selecting a drawdown time, the designer must consider the proximity to existing residences and the safety of small children; thus, a shorter drawdown time. For remote sites, a longer drawdown time would be more appropriate.







PIPE OUTLET SEDIMENT TRAP (1 TO 3 AC OF DRAINAGE AREA)	PLATE NO	STD NO
	2-11	

EROSION & SEDIMENT CONTROL COMPUTATIONS
WHITTIER PARK
CITY OF FALLS CHURCH
VIRGINIA

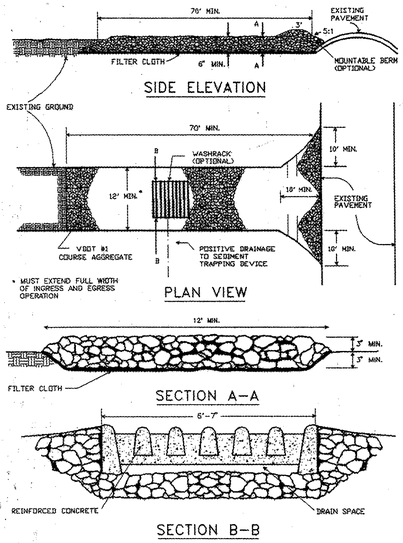
BC REVISIONS

OWNER:
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH,
VIRGINIA

DESIGNED BY:	CDL
DRAFTED BY:	CAD
CHECKED BY:	DGC
DATE:	MARCH 4,1998
SCALE:	HOR. N/A VERT.
SHEET	14 OF 34
CO. NO.	SP 97-0051
FILE NO.	97014 -36
CADD NAME:	97014ESC.DWG

1992 3.02

STONE CONSTRUCTION ENTRANCE



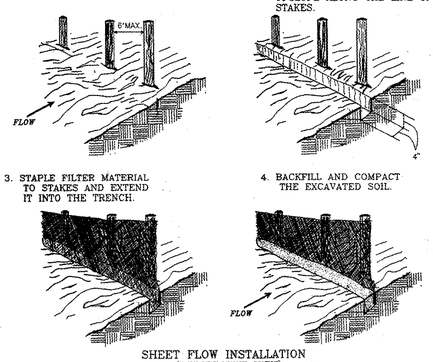
Source: Adapted from 1983 Maryland Standards for Soil Erosion and Sediment Control, and Va. DSWC

Plate 3.02-1

1992 3.05

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

1. SET THE STAKES.
2. EXCAVATE A 4"X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES.
3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

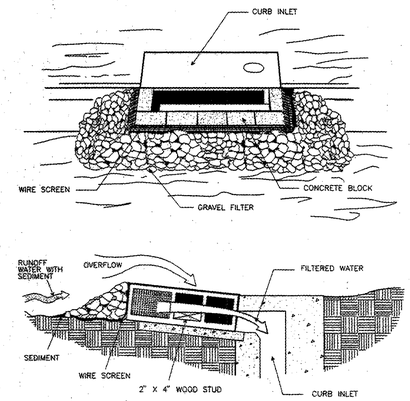


Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

Plate 3.05-2

1992 3.07

BLOCK & GRAVEL CURB INLET SEDIMENT FILTER



SPECIAL APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #367 OR #5 COARSE AGGREGATE

Source: Va. DSWC

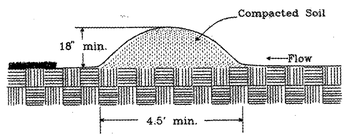
Plate 3.07-8

1992 3.09

Height

The minimum allowable height measured from the upslope side of the dike is 18 inches (see Plate 3.09-1).

TEMPORARY DIVERSION DIKE

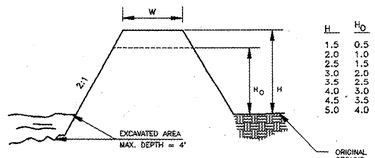


Source: Va. DSWC

Plate 3.09-1

1992 3.13

MINIMUM TOP WIDTH (W) REQUIRED FOR SEDIMENT TRAP EMBANKMENTS ACCORDING TO HEIGHT OF EMBANKMENT (FEET)



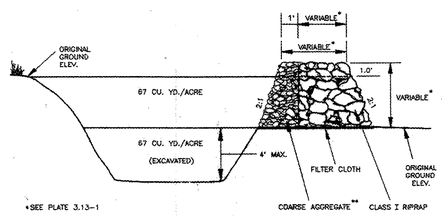
H	H_O	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
3.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

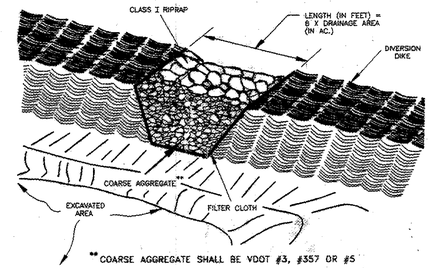
Source: Va. DSWC

Plate 3.13-1

1992 3.13

TEMPORARY SEDIMENT TRAP



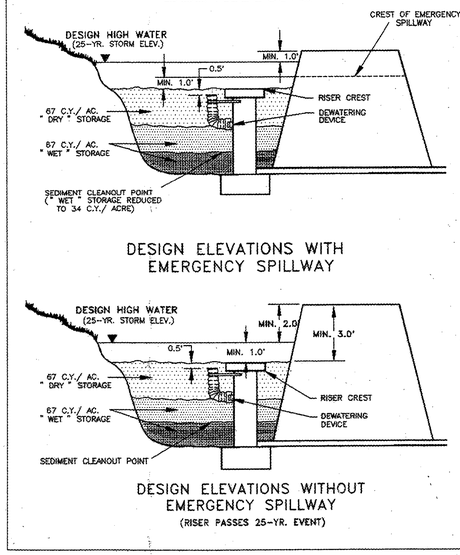


Source: Va. DSWC

Plate 3.13-2

1992 3.14

SEDIMENT BASIN SCHEMATIC ELEVATIONS

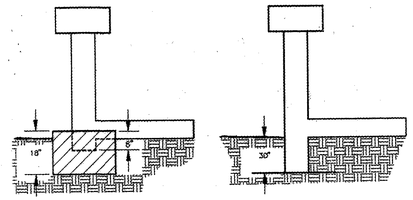


Source: Va. DSWC

Plate 3.14-2

1992 3.14

RISER PIPE BASE CONDITIONS



Source: Va. DSWC

Plate 3.14-3

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BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — JAMES R. DUNLOW — 016193 — 7-9-97 — REGISTERED PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL DETAILS

WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VA.

DESIGNED BY:	RJG
DRAFTED BY:	CAD
CHECKED BY:	DGC
DATE:	MARCH 4, 1998
SCALE:	HOR. N/A VERT. N/A
SHEET 14A OF 34	
CO. NO.	
FILE NO.	97014
CADD NAME:	7014MSCD.DWG

10' LANDSCAPE BUFFER

17'± LANDSCAPE BUFFER

NOTE: 14 ACER RUBRUM (RED MAPLE) TREES TO BE ADDED IN THIS AREA AND FIELD ADJUSTED ON SITE

1-QR 3-CL 3-PS 3-PN 3-CJ 4-PN 3-IN 2-CL 1-PN 3-CL 3-PS 1-PN 3-PS 1-CJ 1-ID 3-PN 1-CJ 2-NG 1-AR 2-AG 10-TA 5-IN 4-CP 5-LS 10-LI 1-IN 1-IN 1-QR 2-QR 1-CJ 1-AR 2-AG 2-TA 4-TA 6-LS 6-LS 1-PN 4-AR 1-IN 10-LI 1-IN 3-PS 2-ID 2-AR 3-PS 1-AR 2-PN 3-PS 3-IN 2-PN 1-CJ 2-PN 2-PN 1-CJ 3-IN 3-PS 1-ID 2-PN 45-PL 1-NG 1-CJ 4-CL 1-PO 6-TA 6-AG 2-TA 2-TA 1-PN 6-IN 1-PR 1-PR 3-CP 6-CP 11-LS 2-IN 1-IN 5-LS 5-LS 5-LS

SEE NOTE 'A' BELOW

SEE SHEET 18 OF 34 FOR PLANTS IN THIS AREA

PHASE ONE

PHASE TWO

PHASE LINE

TREE PROTECTION FENCE

CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)

CHAIN LINK FENCE TREE PROTECTION

EX. ASPHALT PARKING LOT

PROP. 16" BUTTERFLY VALVE (BY OTHERS)

7'± STREET TREE PLANTING AREA (MIN)

8'± STREET TREE PLANTING AREA, (TYP.)

8'± STREET TREE PLANTING AREA (TYP)

NOTE 'A': IF THESE TREES NEED TO BE REMOVED FOR STORM DRAIN MAINTENANCE, ETC., THEY ARE TO BE REPLACED BY THE HOMEOWNERS ASSOCIATION.

THIS SHEET FOR LANDSCAPING PURPOSES ONLY

NOTE: WITHIN ONE YEAR OF GRADING NEAR THE WREN'S PROPERTY, ADDITIONAL REMOVALS/REPLACEMENTS MAY NEED TO BE MADE ON THE WREN'S PROPERTY DEPENDING ON THE AMOUNT OF ROOTS CUT FROM THE LARGER TREES FOR GRADING ON THE ADJACENT HOLLADAY SITE.

NOTE: THIS SHEET IS FOR TREE PLANTING ONLY. SEE SHEET 16, 17 AND 18 FOR SHRUB AND GROUNDCOVER PLANT LOCATIONS.

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(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA PETER L. BIRKY No. 3618 LICENSED LANDSCAPE ARCHITECT

RESIDENTIAL LANDSCAPE PLAN-TREES

WHITTIER PARK

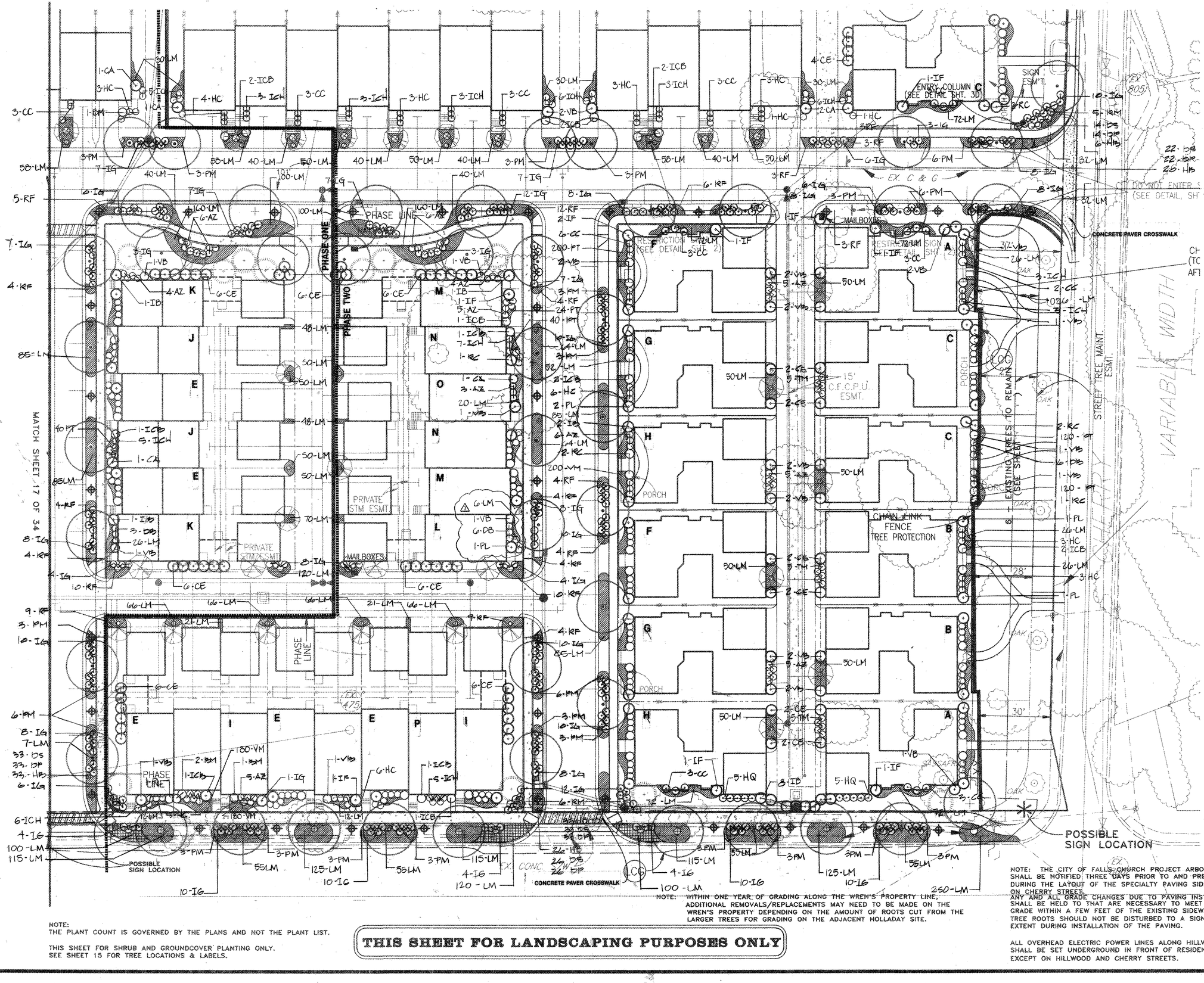
CITY OF FALLS CHURCH VIRGINIA

REVISED APRIL 1998

BY REVISIONS: SEPTEMBER 1997, OCTOBER 1997, NOVEMBER 1997, DECEMBER 1997, MARCH 1998, SEPT. 1998

CITY OF FALLS CHURCH FALLS CHURCH VIRGINIA

DESIGNED BY: AKB/TAL
DRAFTED BY: CAD
CHECKED BY: PLR
DATE: 10 DECEMBER 1997
SCALE: HOR. 1"=30' VERT. N/A
SHEET 15 OF 34
CO. NO.
FILE NO. 97014
CADD NAME: 7014LSCD.DWG



NOTE:
THE PLANT COUNT IS GOVERNED BY THE PLANS AND NOT THE PLANT LIST.

THIS SHEET FOR SHRUB AND GROUNDCOVER PLANTING ONLY.
SEE SHEET 15 FOR TREE LOCATIONS & LABELS.

THIS SHEET FOR LANDSCAPING PURPOSES ONLY

NOTE: WITHIN ONE YEAR OF GRADING ALONG THE WREN'S PROPERTY LINE, ADDITIONAL REMOVALS/REPLACEMENTS MAY NEED TO BE MADE ON THE WREN'S PROPERTY DEPENDING ON THE AMOUNT OF ROOTS CUT FROM THE LARGER TREES FOR GRADING ON THE ADJACENT HOLLADAY SITE.

NOTE: THE CITY OF FALLS CHURCH PROJECT ARBORIST SHALL BE NOTIFIED THREE DAYS PRIOR TO AND PRESENT DURING THE LAYOUT OF THE SPECIALTY PAVING SIDEWALK ON CHERRY STREET.
ANY AND ALL GRADE CHANGES DUE TO PAVING INSTALLATION SHALL BE HELD TO THAT ARE NECESSARY TO MEET THE EXISTING GRADE WITHIN A FEW FEET OF THE EXISTING SIDEWALK.
TREE ROOTS SHOULD NOT BE DISTURBED TO A SIGNIFICANT EXTENT DURING INSTALLATION OF THE PAVING.

ALL OVERHEAD ELECTRIC POWER LINES ALONG HILLWOOD AVENUE SHALL BE SET UNDERGROUND IN FRONT OF RESIDENTIAL UNITS EXCEPT ON HILLWOOD AND CHERRY STREETS.

⚠ REVISED AUGUST 1996 - BID CLARIFICATION
REVISED APRIL 1998

BC Consultants
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(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

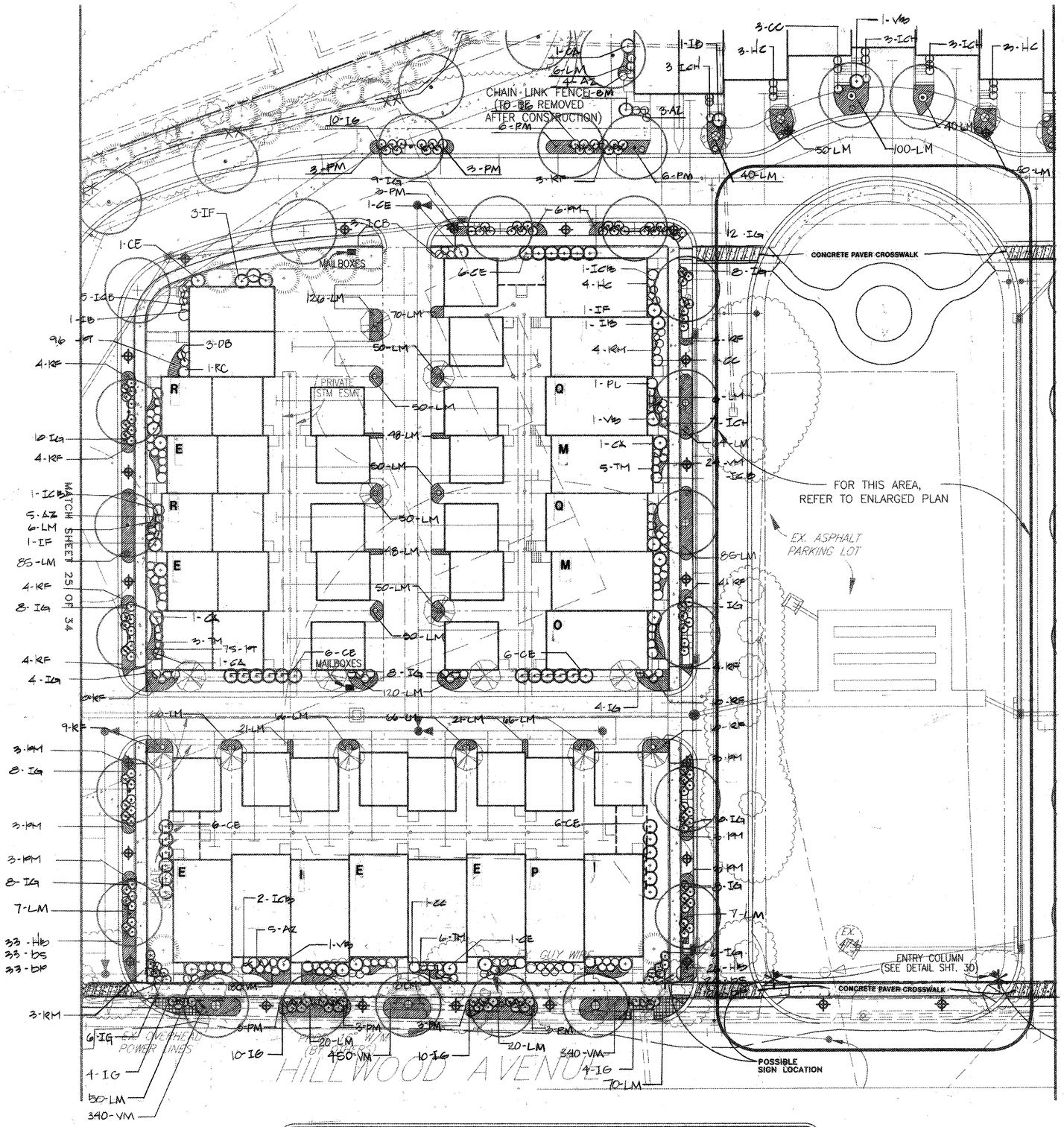
LICENSED LANDSCAPE ARCHITECT No. 388 3-12-98

RESIDENTIAL LANDSCAPE PLAN–SHRUBS
WHITTIER PARK
CITY OF FALLS CHURCH VIRGINIA

BC REVISIONS	
SEPTEMBER	1997
OCTOBER	1997
NOVEMBER	1997
DECEMBER	1997
MARCH	1998

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY:	TAL
DRAFTED BY:	CAD
CHECKED BY:	PLR
DATE:	10 DECEMBER 1997
SCALE:	HOR. 1"=20' VERT. N/A
SHEET	16 OF 34
CO. NO.	
FILE NO.	97014 .01
CADD NAME:	7014LSC3.DWG



THIS SHEET FOR SHRUB AND GROUNDCOVER PLANTING ONLY.
SEE SHEET 15 FOR TREE LOCATIONS & LABELS.

THIS SHEET FOR LANDSCAPING PURPOSES ONLY

NOTE:
THE PLANT COUNT IS GOVERNED BY THE PLANS AND NOT THE PLANT LIST.

ALL OVERHEAD ELECTRIC POWER LINES ALONG HILLWOOD AVENUE SHALL BE SET UNDERGROUND IN FRONT OF RESIDENTIAL UNITS.

WITHIN ONE YEAR OF GRADING ALONG THE WREN'S PROPERTY LINE, ADDITIONAL REMOVALS/REPLACEMENTS MAY NEED TO BE MADE ON THE WREN'S PROPERTY DEPENDING ON THE AMOUNT OF ROOTS CUT FROM THE LARGER TREES FOR GRADING ON THE ADJACENT HOLLADAY SITE.

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REVISED APRIL, 1998

RESIDENTIAL LANDSCAPE PLAN-SHRUBS

WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS	
SEPTEMBER 1997	
OCTOBER 1997	
NOVEMBER 1997	
DECEMBER 1997	
MARCH 1998	

OWNER
CITY OF FALLS CHURCH
VIRGINIA

DESIGNED BY:	TAL
DRAFTED BY:	CAD
CHECKED BY:	PLR
DATE:	10 DECEMBER 1997
SCALE:	HOR. 1"=20'
	VERT. N/A
SHEET	17 OF 34
CO. NO.	
FILE NO.	97014 .01
CADD NAME:	7014LSC3.DWG

STAMPED CONCRETE CROSSWALK TYP. PATTERN TO BE DETERMINED

STREET LIGHT TYP.

STAMPED CONCRETE WALK

Plan is Symmetrical to Centerline

APPROXIMATE LOCATION UNDERGROUND SWM FACILITY

EX. UNDERGROUND UTILITIES

EX. ASPHALT PARKING LOT

EX. CHAIN LINK FENCE

EX. 12" STM

8" D.I.P. W/M "A"

8" D.I.P. W/M "C"

EX. 8" SAN.

5' CONC. SAW

CG-6

CG-6R

CG-12

22

20

24

15-HS
4-LA
16-PP
3-HS
600 MP
1-NS
3-IN
BENCH (TYP)
1-LI
3-MS
3-CE
2.5-MV
444-LM
20-HC
288-EP
2470-PT
11-AZ
10-AZ
13-HC
5-CE
2-LI
6-PM
3-HQ
280-LM
ANNUALS @ 12" OC (BY OTHERS)
1-IO
7-VO
10-QPP
3-MV
43-SS
8-TM
31-AT
1-RB

NOTE: THE PLANT COUNT IS GOVERNED BY THE PLANS AND NOT THE PLANT LIST

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COMMONWEALTH OF VIRGINIA PETER L. RINEK 3805 LANDSCAPE ARCHITECT

WHITTIER PARK

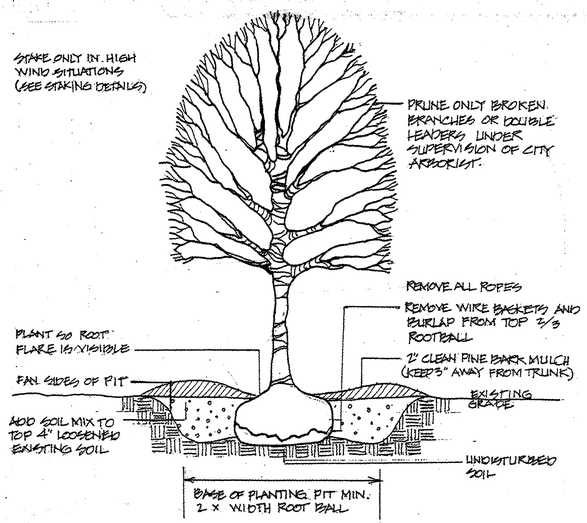
PARK LANDSCAPE DETAIL

FALLS CHURCH VIRGINIA

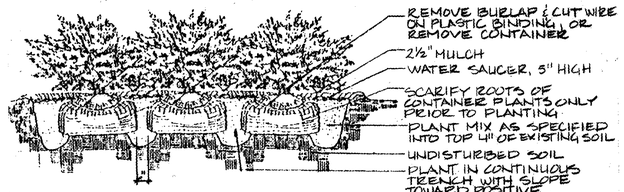
BC REVISIONS
REV. 2 10-97
REV. 1 8-97
REV. 0 OCT 97

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

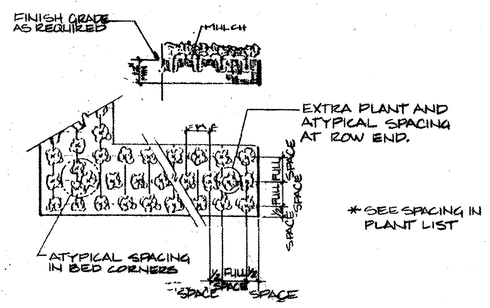
DESIGNED BY: AKB	
DRAFTED BY: CAD	
CHECKED BY: PLR	
DATE: AUGUST 4, 1997	
SCALE:	HOR. 1"=30'-0"
	VERT. N/A
SHEET 18 OF 34	
CO. NO.	
FILE NO.97014	
CADD NAME: PWHTLSC.DWG	



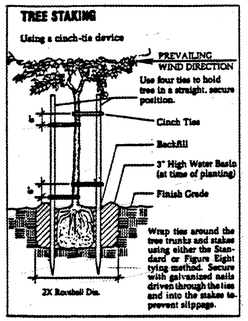
TREE DETAIL

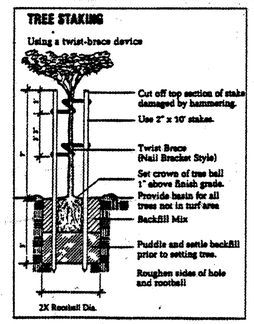


SHRUB DETAIL



GROUNDCOVER DETAIL





TREE STAKING



TYPICAL BENCH

COUNTRY CASUAL: (#4602)
5' WOOD BENCH, OR EQUIVALENT

PLANTING SPECIFICATIONS

1. Contractor shall verify existing conditions and utility locations, and make all adjustments required as part of this contract.

2. The Contractor shall furnish and pay for all plant material, the installation of all plant material , including preparation of planting area, excavation, planting mix, drainage, aeration, and the specified guarantee of all plant materials, and the continuous protection of all plant material upon their arrival to the site. ALL WEEDS AND INVASIVE EXOTIC PLANT MATERIALS SHALL BE REMOVED FROM THE PLANTING AREA PRIOR TO EXCAVATION OF PLANTING BEDS.

3. All plant material must conform to the American Standard for Nursery Stock, latest edition. All plants shall be free of injury, insect infestations and disease.

4. All plant material (unless otherwise indicated in these Specifications and Planting Details) shall conform to the standards set forth in the Landscape Specification Guidelines for the Baltimore-Washington Metropolitan Areas, approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the ASLA. In case of discrepancies, the more stringent condition shall apply.

5. Plan shall govern quantities of plants over Plant List, if a discrepancy arises. Landscape Contractor shall be responsible for verifying all plant quantities and species.

6. The Landscape Contractor must notify the City Arborist three (3) days prior to installation and secure an appointment for inspection and approval of the plant material and installation. Any substitutions in plant material and sizes specified on the plan will not be accepted, unless approved by the City Arborist prior to installation. Adjustments to locations of plant materials due to field conditions and final grading must also be approved by the City Arborist prior to installation.

7. All planting beds shall be excavated to the depth of the deepest rooted material in that bed, rather than excavating individual planting holes. Beds shall be graded to provide drainage away from plant materials in the direction of established flow for the site. CARE MUST BE TAKEN TO PREVENT INJURY TO ROOTS OF EXISTING TREES BEING SAVED ON SITE DURING INSTALLATION OF NEW PLANT MATERIAL.

8. A soil test shall be made and results submitted to the City Arborist prior to installation of plant material. Soil amendments stipulated by the results of the soil test shall be added as required in addition to the following planting mix: 1/3 pine bark superfines, 1/3 Leaf-Grow, Bio-Com or approved equal, and 1/3 topsoil. Contractor shall submit a certificate of analysis of the topsoil to the City Arborist prior to installation. The Contractor must secure an appointment from the City Arborist to perform the mixing of the soil amendments.

9. The soil amendments shall be mixed into the top four (4) inches of the excavated planting bed at a ratio of 3 parts existing soil to 1 part planting mix.

10. Tree pits shall be a minimum of 2 1/2 times the width of the root ball and no deeper than the height of the root ball. All ropes shall be removed and burlap peeled to base of planting hole. Wire baskets shall be cut and removed from the top 2/3 of the root ball. Trees shall be planted so that their root flares are visible. Fertilizer and soil amendments shall be added to the top 4" of soil at a ratio of 1 part soil mix to 3 parts existing soil.

11. Only broken branches or double leaders shall be pruned from trees at the time of planting. The Contractor shall perform all pruning with the approval of and in the presence of the City Arborist. Circling roots on container plants shall be "butterflied" (ie. cut on both sides of root system).

12. Mulch shall be pine bark mulch or if double-shredded hardwood bark mulch is used it shall be composted with nitrogen and be compatible with the pH of the plant material used. A sample of the mulch shall be submitted to the City Arborist with an analysis of the Ph prior to installation. No analysis of pine bark mulch is required.

13. Mulch shall be applied to a depth of 2 inches over the roots trees and shrubs. NO MULCH SHALL TOUCH THE TRUNKS OF TREES OR ROOT COLLARS OF SHRUBS. MAINTAIN A DISTANCE OF 3" BETWEEN MULCH AND PLANT TRUNKS OR COLLARS. Only pine bark mulch shall be used on perennials and applied to a depth of 1". For Mediterranean-type perennials such as lavender, use no mulch at all.

14. Fertilizer for plant materials shall be commercial mixture, delivered to the site in the original unopened containers which shall bear the manufacturer's guaranteed statement of analysis, and shall be in a dry, free flowing condition. All fertilizer shall be granular, packet of pellet with 75% of the nitrogen in a slow release form.

    Organic fertilizers, such as ROOTS or approved equal are acceptable. Other complete fertilizers shall have a minimum analysis of 10% nitrogen, 6% phosphorus and 4% potassium. Sulfur coated and IBDV fertilizers shall not be used. For perennials and bulbs, fertilizer shall be a time-released high phosphate fertilizer such as 7:40:6 or approved equal. Bone Meal mix for bulbs shall be commercial raw finely ground with an analysis of 4% nitrogen and 20% phosphorus acid.

    Application shall be in accordance with manufacturer's directions, unless approved otherwise by the City Arborist:

    a. Trees: Use 1/2lb of 10:6:4 fertilizer per inch of trunk diameter.

    b. Shrubs: Use 1/4lb of 10:6:4 fertilizer per foot of height or spread per plant or 3-5 lbs. per 100 square feet of bed area.

    c. Perennials: Use 3 lbs. of time-released , high phosphate fertilizer per 100 square feet of bed area.

15. All plant material shall be watered during and immediately following planting. The owner shall be responsible for seeing that plants are watered on a regular basis to maintain their health. The owner shall also be required to see that planting beds stay weed free.

16. Planting Season - Planting shall be done only within the following dates. If special conditions exist which may warrant a variance in the planting dates, a written request shall be submitted to the City Arborist stating the conditions and the proposed variance.

    a. Deciduous Trees and Shrubs: March 1 - May 30 or September 15 - December 1. (Oak, tupelo and beech shall be planted only in the spring).

    b. Evergreen Trees, Shrubs, Groundcover and Perennials: March 1 - May 15 or September 15 - November 15.

17. Work shall include a maintenance period which shall begin immediately after each plant installation and shall continue until acceptance by the City Arborist. Maintenance of new plants shall consist of all maintenance normally required to keep the plantings healthy, vigorous, trim and neat.

18. All plant material shall be guaranteed by the Contractor for one year from the date of acceptance by the City Arborist to be in good, healthy and flourishing condition.

LANDSCAPE MAINTENANCE GUIDELINES (The following are general guidelines to be utilized in addition to regular monthly care by landscape maintenance professionals.)

SOIL TESTS - Perform soil tests each spring prior to fertilization and mulching. Amend soil as directed by soil test results to correct deficencies. Include organic matter content and soluable salts in the items tested by the laboratory.

TREES

FERTILIZATION - Beginning two years after installation, apply a slow-release fertilized in accordance with manufacturer's recommendations (fall application). Follow with a 2 inch application of pine bark or nitrogen-composted shreaded hardwood bark mulch being careful to not allow any mulch to touch the trees' trunks. KEEP MULCH 3 " FROM TREE TRUNKS!

PRUNING - Beginning two years after installation, prune trees in accordance with the INTERNATIONAL SOCIETY OF ARBORICULTURE's (ISA) guidelines for "Structural Pruning of Young Trees". Prune mature trees in accordance with ISA standards only.

DISEASE/PEST CONTROL - Have trees checked every other year by an ISA certified arborist for signs of pest damage or disease.

Example: Oaks will likely develop obscure scale. This pest can be controlled by spraying with dormant oil in late March.

SHRUBS

FERTILIZATION - In spring, beginning one year after installation, remove old mulch and apply 1-2 inches of compost (BIO-COM, LEAF-GROW, or approved equal) throughout planting bed. Add 2 inches pine bark mulch.

PRUNING - Prune dead or broken branches from all shrubs each spring. Prune shrubs to retain natural forms or for formal hedges, prune top of hedge narrower than bottom to allow sunlight to reach all of plant. Prune spring flowering shrubs following flowering. Prune summer flowering shrubs in early spring. Prune evergreen shrubs in fall, winter or early spring. Never prune in summer heat. Prune shrubs in accordance with specific requirements of plants.

GRASSES

Cut ornamental/native grasses to ground February-early March of each year.
Fertilize annually in spring with compost (see SHRUBS/GROUND COVERS above.)

PERENNIALS, VINES & OTHER GROUND COVERS

Cut perennial to ground in February-early March of each year.
Fertilize with 1" compost (see SHRUBS above)
Apply 1" pine bark (fines) mulch only. For Mediteranian type perennials, such as lavendar, do not apply any mulch.

WATERING -

Following the establishment period the first year when plants are watered on a weekly basis, provide supplimental watering during droughts.

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COMMONWEALTH OF VIRGINIA PETER L. BINEK No. 388 REGISTERED LANDSCAPE ARCHITECT 9.8.97

LANDSCAPE DETAILS AND SPECIFICATIONS
WHITTIER PARK
FALLS CHURCH VIRGINIA

BC REVISIONS
8.28.97 Specs, Details
OCTOBER 1997

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY:	KB
DRAFTED BY:	KB
CHECKED BY:	PR
DATE:	MARCH 4, 1997
SCALE:	HOR. VERT.
SHEET	19 OF 34
CO. NO.	
FILE NO.	97014.01
CADD NAME:	

TREE INVENTORY

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
1	3"	Canadian hemlock	poor / fair						Adelgid
2	2"	Canadian hemlock	fair / good						Tip dieback
3	2"	Canadian hemlock	good / good						
4	2"	Canadian hemlock	good / good						Remove vines
5	2"	Canadian hemlock	good / good						Remove vines
6	3"	Canadian hemlock	good / good						
7	2"	Canadian hemlock	good / good						Remove vines
8	3"	Canadian hemlock	good / good						Remove vines
9	2"	Canadian hemlock	good / good						Remove vines
10	3"	Canadian hemlock	good / good						
11	3"	Canadian hemlock	fair / fair						
12	2"	Canadian hemlock	fair / poor						Suppressed
13	23"	Sweetgum	good / good		X	X	X		Deadwood, open wound, no trunk flare
14	23"	Black walnut	fair / fair	X					Upper cavity, deadwood
15	21"	Norway spruce	fair / fair	X					Deadwood, one sided
16	18"	Black cherry	fair / poor	X					Leaning, trunk scar, deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
17	11"	Black cherry	poor / poor	X					Suppressed, leaning toward parking area
18	11"	Black walnut	poor / poor	X					Suppressed, leaning toward parking area
19	2"	Black locust	fair / fair	X					
20	10"	Flowering dogwood	poor / poor	X					Suppressed, deadwood, decay, stressed
21	16"	English walnut	fair / poor	X					Suppressed, deadwood
22	2"	Black locust	fair / fair	X					
23	5"	Black cherry	fair / fair	X					
24	4"	Black cherry	fair / fair	X					2 leads
25	4"	Black locust	fair / fair	X					Lawnmower damage
26	3"	Black locust	fair / fair	X					Lawnmower damage
27	8"	Black locust	fair / poor	X					Deadwood, suppressed
28	27"	Black cherry	poor / fair	X					Heavy deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
29	2"	Mulberry	fair / fair	X					multistem
30	10"	Mulberry	fair / fair	X					multistem, embedded fence wire
31	22"	Silver maple	fair / fair		X				deadwood, weak branch union
32	24"	Black cherry	fair / fair		X				Deadwood
33	16"	Red maple	fair / fair						Leaning
34	18"	Silver maple	poor / poor	Lead near parking	X				2 leads, decay, weak branch union, embedded wire
35	27"	Silver maple	fair / fair		X				Deadwood
36	21"	Black cherry	fair / fair		X				Deadwood
37	21"	Silver maple	very poor / very poor	X					Missing top, decay
38	21"	Scarlet oak	fair / fair	X					Deadwood
39	2"	Mulberry	fair / fair	X					
40	10"	Silver maple	fair / fair	X					
41	16"	Sassafras	fair / fair	X					Deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
42	22"	Sassafras	fair / fair	X					Deadwood, weak branch union
43	22"	Black walnut	fair / fair	X					Deadwood, weak branch union, vines
44	20"	Silver maple	fair / fair	X					Weak branch union, vines
45	18"	White ash	fair / fair	X					Deadwood, vines
46	2"	Mulberry	fair / poor	X					
47	11"	Norway maple	good / good	X					
48	10"	Catalpa	very poor / very poor	X					Multistem, vines
49	30"	Silver maple	very poor / very poor	X					2 leads, overhead wires, root damage, poor pruning cuts, decay, sidewalk/curb conflict
50	14"	Silver maple	fair / fair	X					Weak branch union
51	9"	Norway maple	fair / fair	X					3 leads, embedded fence wire
52	9"	Norway maple	good / good	X					
53	9"	Norway maple	poor / poor	X					Lawnmower damage, deadwood, stressed
54	2"	Catalpa	poor / poor	X					

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
55	15"	Norway maple	fair / fair	X					Deadwood, conflicting branches, overhead wires
56	12"	Norway maple	fair / good	X					Deadwood, conflicting branches, overhead wires
57	12"	Norway maple	fair / good	X					Deadwood, conflicting branches, overhead wires
58	10"	Mulberry	poor / very poor	X					
59	16"	Trident maple	fair / fair	X					Deadwood, embedded wire
60	14"	Catalpa	fair / poor	X					Overhead wires
61	2"	Mulberry	poor / poor	X					
62	2"	Mulberry	poor / poor	X					
63	2"	Mulberry	poor / poor	X					
64	2"	Trident maple	fair / poor	X					
65	16"	American elm	fair / fair	X					Multistem, deadwood, embedded fence wire, conflicting branches
66	10"	Norway maple	fair / good	X					Deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
67	1"	Norway maple	poor / poor	X					Deadwood, decay, basal damage
68	14"	Sugar maple	fair / fair	X					Deadwood, conflicting branches
69	10"	Norway maple	very poor / very poor	X					Deadwood, decay, basal damage
70	11"	Norway maple	fair / good	X					Deadwood
71	12"	Norway maple	very poor / very poor	X					
72	28"	Sassafras	fair / fair	X					
73	20"	Scarlet oak	fair / fair		X	X	X		Deadwood
74	21"	Pin oak	poor / poor	X					Heavy deadwood
75	33"	Red oak	fair / good		X	X	X		Deadwood
76	28"	Red oak	good / good		X	X	X		
77	28"	Red oak	good / good		X	X	X		Deadwood
78	30"	Red oak	good / good		X	X	X		Deadwood
79	18"	Crabapple	very poor /poor	X					Deadwood, decay

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
80	18"	Black cherry	fair / fair	X					3 leads, deadwood
81	6"	Flowering dogwood	poor / fair	X					Deadwood, trunk wound, basal damage
82	18"	Canadian hemlock	poor / poor	X					Dead top, deadwood, stress
83	26"	Pin oak	fair / good	X					Heavy deadwood
84	12"	Mulberry	fair / fair	X					2 leads, deadwood
85	4"	Flowering dogwood	fair / fair	X					Deadwood
86	18"	Red maple	good / good	X					Weak branch union
87	14"	Southern red oak	fair / fair	X					Chlorosis, trunk scar, rubble at base,
88	12"	Red maple	fair / fair	X					Deadwood, conflicting branches
89	16"	Mulberry	fair / fair	X					Multistem, deadwood, conflicting branches
90	24"	Pin oak	good / good		X	X	X		Adjacent property
91	10"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
92	12"	Sassafras	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
93	10"	Black cherry	very poor/poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
94	12"	Black cherry	very poor/poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern. Severe lean
95	20"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
96	11"	Black locust	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
97	20"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
98	4"	Flowering dogwood	poor / poor	X					
99	10"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern. Severe lean
100	5"	Black cherry	fair / fair	X					

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
101	12"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
102	12"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
103	12"	Mulberry	fair / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
104	16"	Black cherry	fair / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
105	3"	Canadian hemlock	fair / good				X		Prune roots at limit of excavation
106	16"	Black cherry	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
107	10"	Black cherry	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
108	14"	Black cherry	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
109	3"	Eastern redcedar	poor / poor	X					Conflicts with walkway

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
110	8"	Black locust	poor / poor	X					
111	24"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
112	20"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
113	18"	Black locust	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.

August 28, 1997

Re: Whittier Park
BC Project #: 97014.01

Tree Preservation Guidelines

A. All Trees to be preserved as indicated in Contract Documents and Tree Preservation Activities Schedule shall be prepared and treated to maximize their potential for survival and improve their health and condition as specified in the Tree Preservation Schedule. All work will be performed to meet or exceed current industry standards. Minimum standards shall be those most recently published by the American National Standards Institute, A.N.S.I. or National Arborist Association, N.A.A.. Work will be performed as required by these notes and as shown in details and schedules incorporated in plans. All work shall be performed under direct supervision of an arborist certified by the Mid-Atlantic Chapter of the International Society of Arboriculture.

B. No other construction activity may occur on site until tree preservation fencing and site fencing designated in conjunction with tree preservation fencing has been installed and approved and root pruning has been done according to plan . The city Arborist must be notified and present at the start of the operation. Three (3) days notice is required for the city Arborist. All weather signs reading "Tree Preservation Fencing Do Not Remove" shall be posted every 20 feet.

1. Fencing must be maintained in place by the contractor throughout construction. In the event fencing must be temporarily removed for any reason, approval must be recieved first from the City Arborist.

2. Specifications For Temporary Chain Link Fence Panels

   Materials: Six (6) foot high, twelve (12) foot width panels; one and five-eights (1-5/8) inch outside diameter pipe with eleven (11) gauge mesh in two (2) inch diamond; panel set in rectangular concrete blocks at base and secured at top with saddle clamp.

C. All construction activity within the areas fenced off around the trees shall be prohibited. This shall include the following activities:

1. Parking or driving of equipment, machinery or vehicles of any type.

2. Storage of any construction materials, equipment, stockpiling, excavation or fill, soil, gravel, etc.

3. Dumping of any chemicals, (i.e. paint thinner from cleaning brushes), wash-out materials from cleaning equipment, concrete or motor remainder, trash, garbage, or debris of any kind.

4. Burning within or in proximity to protected areas.

5. Felling trees into protected areas.

6. Trenching or grading within the root zone of protected trees for any purpose, drainage, etc.

D. Contractor may not operate equipment within the root zone of Tree Preservation areas.

E. Fencing shall be installed at limits of clearing and grading wherever clearing and grading is to occur within root zones of trees to be preserved. Fencing shall be installed prior to construction and will consist of 6' chain link. Signs prohibiting entrance shall be installed 30 feet along fencing. Signs shall be bright yellow with red/black letters reading *"TREE PRESERVATION AREA - KEEP OUT"*.

F. Root pruning shall be performed in conjunction with fencing. Root pruning shall be performed at the edge of the Tree Preservation area as shown on the plan. Root pruning shall be to a depth of 18 inches. A trencher or vibratory plow shall be used to prune roots. Roots over 2" in diameter shall have a clean cut made on the surface of the root which is still attached to the tree. This cut shall be made with a hand saw or chain saw as soon as root is severed.

G. Silt fencing shall be installed as necessary to prevent silt from entering preserved areas. Silt fence shall be installed wherever potential runoff may cause silt to enter preservation area. Silt fencing will be coordinated with the erosion and sediment control plans for the project. Where silt fence and tree protection fence are installed contiguously, silt fence shall be attached to the tree protection fence in such a way that the two fences function as a single unit.

H. Pruning shall conform to A.N.S.I. A300, as published June 1, 1995. Trees numbered 73, 75, 76, 77, 73 and 13 shall receive maintenance pruning. This shall consist of crown cleaning, including removal of all deadwood one inch (1") and larger in diameter at its point of attachment. The removal of damaged and/or conflicting branches shall be included. Under no circumstances shall the interior of trees be stripped. Interior branches shall be selectively pruned to reduce conflict or where branches are damaged. All other trees to be preserved shall receive a hazard reduction prune. This shall consist of the removal of any dead branches two inches (2") and larger in diameter and the correction of any other problems related to safety. Items not correctable by pruning shall be brought to the owners attention in writing.

I. All trees designated to be preserved with root zones impacted by construction shall be mulched with wood chips or shredded hardwood. Mulch shall be applied four inches in depth. Mulch shall be kept at least two inches from the trunk of all trees. Wood chips generated on site during pruning and removal operations are acceptable material. Additional wood chips shall be supplied by contractor as needed to complete this task.

1. All invasive exotic plant material shall be removed from the "tree protection area", prior to application of mulch or chips.

J. All trees shall receive a liquid fertilization. Fertilizer shall be a slow release formulation applied at a rate of 1.5 pounds of nitrogen per 1,000 square feet of root zone treated. A root stimulation shall be added for all Key trees impacted by construction. Fertilizer shall be injected using a soil probe at a depth of six inches. Fertilizer shall be applied in a three foot grid pattern evenly distributed throughout the root zone. Trees numbered 73, 75, 76, 77, 78 and 13 shall be inoculated with mycorrhizae according to manufacturers specifications and as approved by the city Arborist. This work will be done prior to construction.

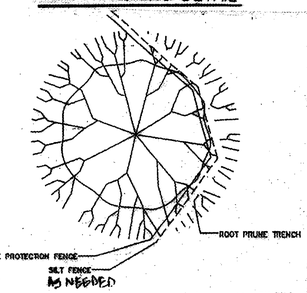
K. All other trees shall be fertilized using granular application to surface of soil within the root zone. Application rate shall be three pounds of nitrogen per thousand square feet of root zone. Fertilizer shall dispersed using mechanical broadcast equipment.

L. Contractors and sub-contractions are accountable for observing all tree protection requirements and for securing permission from the City Arborist (3 days notice is required) for any deviation from approved plans. Any damage resulting from failure to obtain permission is the responsibility of the contractors and sub-contractors and may result in additional cost to them. Property owners are advised to impose fines in their contract with construction companies if TREE PRESERVATION MEASURES are violated.

M. 'Selective clearing' in wooded areas will be allowed only under the direction of the City Arborist. Trees to be removed will be felled by a licensed tree contractor, protecting at all times trees to be saved. The City Arborist must be present for this operation. The brush will be chipped and chips used as cushioning material in traffic areas. Selective clearing is to be done by chainsaw only and stumps to be within 2" above grade, but not ground or pulled out unless approved in writing by the City Arborist.

N. A preconstruction meeting with the project Arborist and City Arborist (241-5183), Job Supervisor, Foreman and Crew is required prior to commencement of construction

ROOT PRUNING DETAIL



RESIDENTIAL PLANT LIST

WHITTIER PLACE

KEY	QUANT	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
		LARGE TREES			
AR	25	ACER RUBRA 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B&B
GB		GINKGO BILOBA 'SENTRY'	SENTRY GINKGO (MALE ONLY)	3" CAL.	B&B
LS	25	LIQUIDAMBAR STYRACIFLUA ROTUNDILOBA	AMERICAN SWEETGUM (FRUITLESS)	3" CAL.	B&B
NS	9	NYSSA SYLVATICA	BLACK GUM	21/2" CAL	B&B
PO	18	PLATANUS ACERIFOLIA 'COLUMBIA'	COLUMBIA LONDON PLANETREE	3" CAL.	B&B
QOP	20	QUERCUS PHELLOS	WILLOW OAK	3" CAL.	B&B ***
QP	-	QUERCUS PHELLOS	WILLOW OAK	31/2" CAL.	B&B ***
QR	4	QUERCUS RUBRA 'RED SUNSET'	RED SUNSET RED OAK	3" CAL.	B&B ***
TA	26	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	3" CAL.	B&B
		ORNAMENTAL TREES			
AA		AMELANCHIER ARBOREA	DOWNY SERVICEBERRY	2" CAL.	B&B
AG	15	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2" CAL.	B&B
CF	14	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2" CAL.	B&B**
LI	28	LAGERSTROEMIA INDICA 'NACHEZ'	NACHEZ CREPE MYRTLE (WHITE)	2" CAL.	B&B
MV	11	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	2" CAL.	B&B*
PK	2	PRUNUS OKAME	OKAME CHERRY	2" CAL.	B&B
SJ	-	STYRAX JAPONICA	JAPANESE SNOWBELL	2" CAL.	B&B
		EVERGREEN TREES			
CJ	10	CRYPTOMERIA JAPONICA	JAPANESE CRYPTOMERIA	6' HT	B&B
CL	15	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	6' HT	B&B
CLL	-	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	12' HT	B&B
IN	32	ILEX X 'NELLIE R STEVENS'	NELLIE STEVENS HOLLY	6' HT	B&B
IO	4	ILEX OPACA	AMERICAN HOLLY	6' HT	B&B
PN	24	PINUS NIGRA	AUSTRIAN PINE	6' HT	B&B
PS	18	PINUS STROBUS	WHITE PINE	6' HT	B&B
		SHRUBS			
AZ	181	AZALEA SATSUKI 'GUMPO PINK'	GUMPO PINK AZALEA	18"	CONT.
BM	8	BUXUS MICROPHYLLA 'COMPACTA'	COMPACT BOXWOOD	24"	B&B
CA	13	CALYCANTHUS FLORIDUS	COMMON SWEETSHRUB	24"	B&B
CE	110	CLETHRA ALNIFOLIA	CLETHRA	24"	B&B
CC	67	CARYOPTERIS CLANDONENSIS	BLUEBEARD	24"	B&B
DB	34	DAPHNE X BURKWOODII	BURKWOOD DAPHNE	24"	B&B
HQ	16	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	24"	B&B
HC	129	HYPERICUM PATULUM	GOLDENCUP ST. JOHNSWORT	18"	CONT
JB	5	ILEX CORNUTA 'BURFORDII'	BURFORD HOLLY	24"	B&B
ICH	158	ILEX CRENATA 'HELLERI'	HELLER HOLLY	18"	CONT
IF	19	ILEX X ATTENUATA 'FOSTERII'	FOSTERS HOLLY	4' HT	B&B
IG	466	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	24"	B&B
ICB	20	ILEX X MISERVEAE 'BLUE PRINCESS'	BLUE PRINCESS HOLLY ****	24"	B&B
PL	66	PRUNUS LAUROCERASUS 'SCHIPKAENSIS'	SCHIPKA CHERRY LAUREL	24"	B&B
RC	18	RHODODENDRON CAROLINIANUM	CAROLINA RHODODENDRON	24"	B&B
TM	34	TAXUS X MEDIA 'HICKSII'	HICKS YEW	24"	B&B
RM	13	ROSA MEIDILAND (RED)	MEIDILAND ROSES (RED)	24"	B&B
VB	57	VIBURNUM BURKWOODII	BURKWOOD VIBURNUM	24"	B&B
VD	14	VIBURNUM DENTATUM 'ARROWWOOD'	ARROWWOOD VIBURNUM	24"	B&B
VP	9	VIBURNUM PLICATUM TOMENTOSUM 'MARIESII'	MARIES DOUBLEFILE VIBURNUM	24"	B&B
		GROUNDCOVER			
CH	-	CHRYSOGONUM VIRGINIANUM	GOLDEN STAR	1 PINT *	1' O.C.
HS	34	HEUCHERA SANGUINEA 'PURPLE PALACE'	PURPLE PLACE HEUCHERA	1 PINT	1' O.C.
LM	7,848	LIRIOPE MUSCARI	LIRIOPE	1 PINT	1' O.C.
PT	6,631	PACHYSANDRA TERMINALIS	PACHYSANDRA	21/4" P.P.	6" O.C.
VM	3,068	VINCA MINOR	PERIWINKLE	21/4" P.P.	6" O.C.
		ORNAMENTAL GRASSES			
MS	12	MISCANTHUS SINENSIS 'VARIEGATUS'	VARIEGATED SILVERGRASS	1 GAL.	CONT.
PM	28	PENNISETUM ALOPECUROIDES 'MOUDRY'	PURPLE MOUDRY FOUNTAIN GRASS	1 GAL.	CONT.
		PERENNIALS, BULBS AND VINES			
AT	64	ASTILBE 'RED SENTINEL'	RED SENTINEL ASTILBE	2 QT.	CONT.
RF	178	CROCOSMIA 'LUCIFER'	LUCIFER CROCOSMIA	2 QT.	CONT.
HB	287	HEMEROCALLIS 'BLACKEYED STELLA D'ORO'	BLACKEYED STELLA D'ORO DAYLILY	2 QT.	CONT.
HP	-	HYDRANGEA PANICULATA	CLIMBING HYDRANGEA	2 QT.	CONT.
IS	94	IRIS SIBERICA 'PERSIMMON'	PERSIMMON SIBERIAN IRIS	2 QT.	CONT.
LA	8	LAVENDULA ANGUSTIFOLIA 'GROSSO'	GROSSO LAVENDER	2 QT.	CONT.
LS	-	LYTHRUM SALICARIA 'ROBERT'	PURPLE LOOSTRIFE	2 QT.	CONT.
SS	86	SEDUM SPECTABILE 'AUTUMN JOY'	AUTUMN JOY SEDUM	2 QT.	CONT.
DS	3,289	TULIPIFERA (DARWIN HYBRID) SORBET	SORBET TULIPS	2 QT.	CONT.
DP	785	TULIPIFERA (DARWIN HYBRID) PINK IMPRESSION	PINK IMPRESSION TULIPS	2 QT.	CONT.

* FULL AND HEAVY SPECIMEN
** TREE FORM
*** SPRING DIG/SPRING PLANT ONLY FOR ALL OAKS
**** THREE (3) OF THE ICB ARE TO BE ILEX X MESERVAE 'BLUE BOY' TO
SURROUND THE BLUE PRINCESS HOLLIES

NOTE: FINAL PLANT COUNTS TO BE VERIFIED AT FINAL REVISIONS. PLANT MATERIAL MAY BE SUBSTITUTED WITH CITY ARBORIST APPROVAL.

BC Consultants
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COMMONWEALTH OF VIRGINIA — JAMES L. SCHULTZ — 10-6-97 — PROFESSIONAL ENGINEER

LANDSCAPE DETAILS AND SPECIFICATIONS

WHITTIER PARK

FALLS CHURCH VIRGINIA

BC REVISIONS
8/28/97 - TREE PRES. GUIDELINES
9/8/97 - REVISIONS
9/16 REVISIONS, 9/25 Plant List
10/6 REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH
VIRGINIA

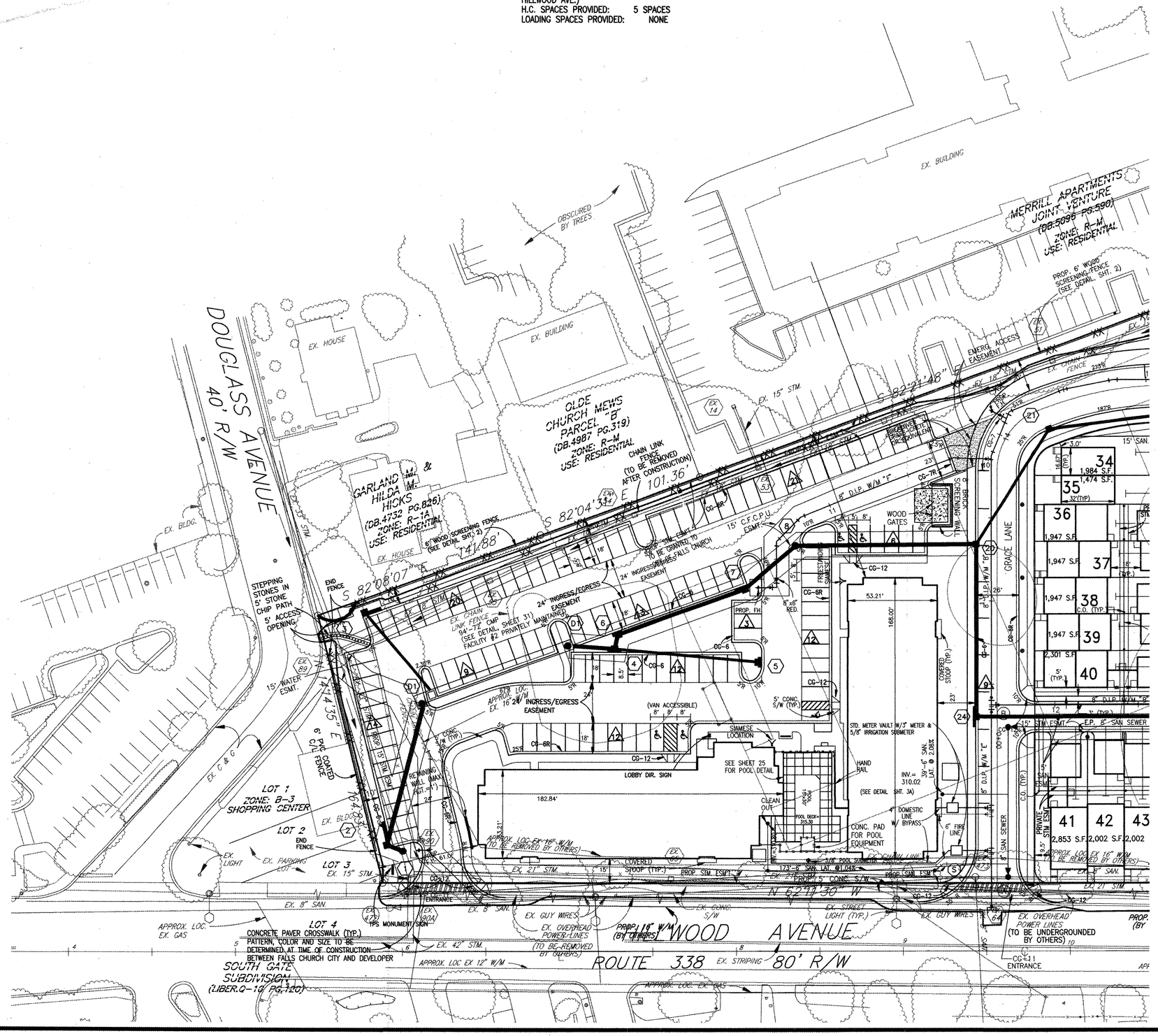
DESIGNED BY: KB
DRAFTED BY: KB
CHECKED BY: PR
DATE: OCT. 6, 1997
SCALE: HOR.
VERT.

SHEET 19A OF 34

CO. NO. SP 97-0051
FILE NO. 97014.01
CADD NAME:

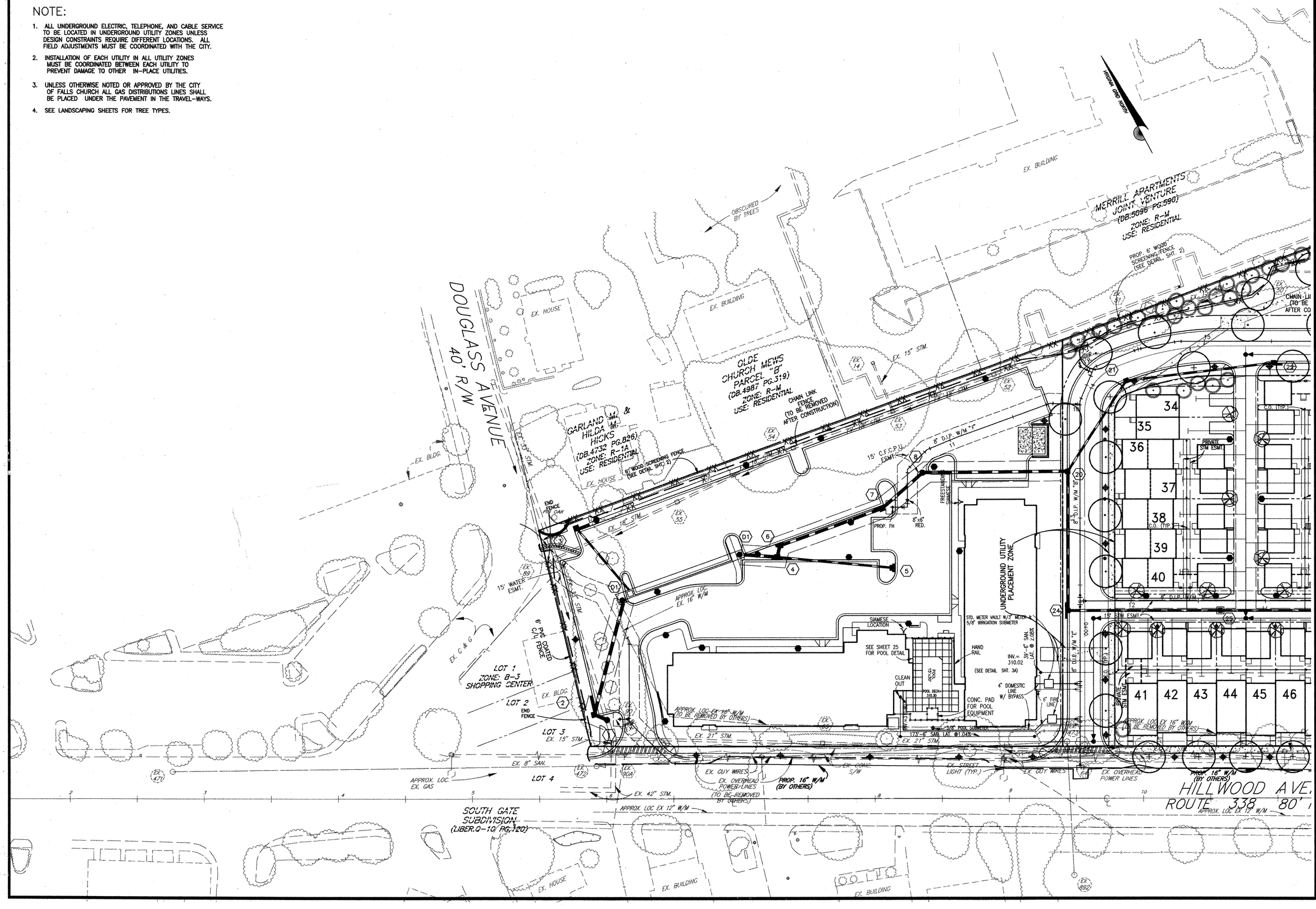
MARRIOTT TOWNEPLACE SUITES

EXISTING ZONE: C-D
SITE AREA: 1.98967 AC.
NUMBER OF SUITES: 127
SPACES REQUIRED: 127 + (127)(10%)=140 SPACES
TOTAL SPACES PROVIDED: 122 SPACES (NOT INCLUDING PARKING ON HILLWOOD AVE.)
H.C. SPACES PROVIDED: 5 SPACES
LOADING SPACES PROVIDED: NONE


EX. BUILDING
MERRILL APARTMENTS JOINT VENTURE (DB.5096 PG.590) ZONE: R-M USE: RESIDENTIAL
OBSCURED BY TREES
DOUGLASS AVENUE 40' R/W
EX. HOUSE
EX. BUILDING
OLDE CHURCH MEWS PARCEL "B" (DB.4987 PG.319) ZONE: R-M USE: RESIDENTIAL
GARLAND M. & HILDA M. HICKS (DB.4732 PG.826) ZONE: R-1A USE: RESIDENTIAL
CHAIN LINK FENCE (TO BE REMOVED AFTER CONSTRUCTION)
6' WOOD SCREENING FENCE (SEE DETAIL SHT. 2)
PROP. 6' WOOD SCREENING FENCE (SEE DETAIL SHT. 2)
EMERG. ACCESS EASEMENT
EX. 15" STM.
S 82°21'48" E 141.88'
S 82°04'33" E 101.36'
S 82°08'07" E 141.88'
N 14°44'35" E 164.83'
N 62°11'30" W
EX. CHAIN LINK FENCE 31/2"R
EX. CHAIN LINK FENCE 94'-7" CMP SHEET 31 (SEE DETAIL #2 PRIVATELY MAINTAINED FACILITY #2
15' C.F.C.P.U. ESMT.
24' INGRESS/EGRESS EASEMENT
24' INGRESS/EGRESS EASEMENT TO BE GRANTED TO CITY OF FALLS CHURCH
15' STM. ESMT.
STEPPING STONES IN 5' STONE CHIP PATH
5' ACCESS OPENING
END FENCE
EX. BLDG.
EX. C & G
15' WATER ESMT.
6" PVC C/L COATED FENCE
LOT 1 ZONE: B-3 SHOPPING CENTER
LOT 2
LOT 3
LOT 4
EX. PARKING LOT
EX. LIGHT
EX. 8" SAN.
APPROX. LOC. EX. GAS
CONCRETE PAVER CROSSWALK (TYP.) PATTERN, COLOR AND SIZE TO BE DETERMINED AT TIME OF CONSTRUCTION BETWEEN FALLS CHURCH CITY AND DEVELOPER
SOUTH GATE SUBDIVISION (LIBER.Q-10 PG.120)
TPS MONUMENT SIGN
EX. 42" STM.
APPROX. LOC EX 12" W/M
EX. GUY WIRES
EX. OVERHEAD POWER LINES (TO BE REMOVED BY OTHERS)
PROP. 16" W/M (BY OTHERS)
WOOD AVENUE
ROUTE 338
EX. STRIPING
80' R/W
EX. STREET LIGHT (TYP.)
EX. OVERHEAD POWER LINES (TO BE UNDERGROUNDED BY OTHERS)
CG-11 ENTRANCE
GRACE LANE
WOOD GATES
PROP. FH
CG-6
CG-6R
CG-12
CG-8R
CG-7R
53.21'
168.00'
182.84'
LOBBY DIR. SIGN
SEE SHEET 25 FOR POOL DETAIL
SIAMESE LOCATION
STD. METER VAULT W/3" METER & 5/8" IRRIGATION SUBMETER
HAND RAIL
(SEE DETAIL SHT. 3A)
INV.= 310.02
39'-6" SAN. LAT. @ 2.08%
4" DOMESTIC LINE W/ BYPASS
6" FIRE LINE
CONC. PAD FOR POOL EQUIPMENT
CLEAN OUT
POOL DECK= 315.30
COVERED STOOP (TYP.)
PROP. 5' CONC. S/W
PROP. SAN. ESMT.
EX. CONC. S/W
RETAINING WALL (MAX. HGT.=1')
APPROX. LOC. EX 16" W/M TO BE REMOVED BY OTHERS)
APPROX. LOC. EX 8" W/M
APPROX. LOC. EX. GAS
8" D.I.P. W/M "E"
8" D.I.P. W/M "F"
8" D.I.P. W/M "G"
15' SAN. ESMT.
E.P. 8" SAN. SEWER
4" SAN. SEWER
PRIVATE STM ESMT.
34 1,984 S.F.
35 1,474 S.F.
36 1,947 S.F.
37 1,947 S.F.
38 C.O. (TYP.) 1,947 S.F.
39 1,947 S.F.
40 2,301 S.F.
41 2,853 S.F.
42 2,002 S.F.
43 2,002 S.F.
32'(TYP.)
5' (TYP.)
3.0' (TYP.)
16.67' (TYP.)
EX. 8" SAN.
EX. 21" STM.
EX. 18" STM.
EX. 10" STM.
EX. 8" STM.
EX. 6" STM.
EX. 4" STM.
EX. 3" STM.
EX. 2" STM.
EX. 1" STM.
EX. 12" W/M
EX. 8" W/M
EX. 6" W/M
EX. 4" W/M
EX. 3" W/M
EX. 2" W/M
EX. 1" W/M
EX. 8" GAS
EX. 6" GAS
EX. 4" GAS
EX. 3" GAS
EX. 2" GAS
EX. 1" GAS
EX. 12" SAN.
EX. 10" SAN.
EX. 8" SAN.
EX. 6" SAN.
EX. 4" SAN.
EX. 3" SAN.
EX. 2" SAN.
EX. 1" SAN.
EX. 12

NOTE:

1. ALL UNDERGROUND ELECTRIC, TELEPHONE, AND CABLE SERVICE TO BE LOCATED IN UNDERGROUND UTILITY ZONES UNLESS DESIGN CONSTRAINTS REQUIRE DIFFERENT LOCATIONS. ALL FIELD ADJUSTMENTS MUST BE COORDINATED WITH THE CITY.
2. INSTALLATION OF EACH UTILITY IN ALL UTILITY ZONES MUST BE COORDINATED BETWEEN EACH UTILITY TO PREVENT DAMAGE TO OTHER IN-PLACE UTILITIES.
3. UNLESS OTHERWISE NOTED OR APPROVED BY THE CITY OF FALLS CHURCH ALL GAS DISTRIBUTIONS LINES SHALL BE PLACED UNDER THE PAVEMENT IN THE TRAVEL-WAYS.
4. SEE LANDSCAPING SHEETS FOR TREE TYPES.



BC Consultants

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COMMONWEALTH OF VIRGINIA — JAMES H. ARNOLD — No. 013193 — PROFESSIONAL ENGINEER — 3-442

UTILITY PLAN

TOWNPLACE SUITES

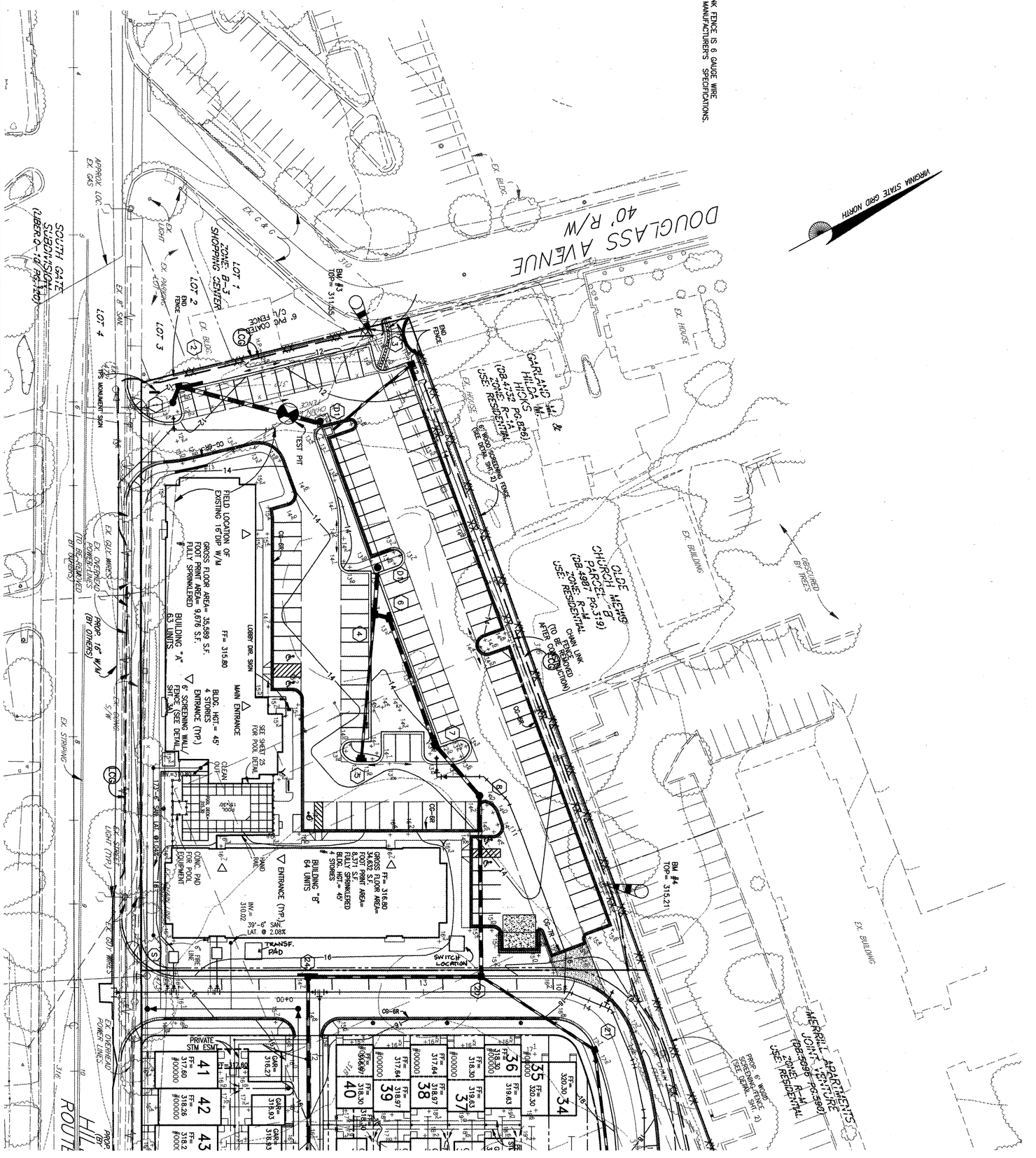
WHITTIER PARK

FALLS CHURCH VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY: RJG	
DRAFTED BY: RJG	
CHECKED BY: DGC	
DATE: MARCH 4, 1998	
SCALE:	HOR. 1"=30' VERT. N/A
SHEET 20AOF 34	
CO. NO. 97-SP-0015	
FILE NO.97014. 36	
CADD NAME: 7014UTP.DWG	



BC REVISIONS
11/97 REV. PER FALLS CHURCH COMMENTS

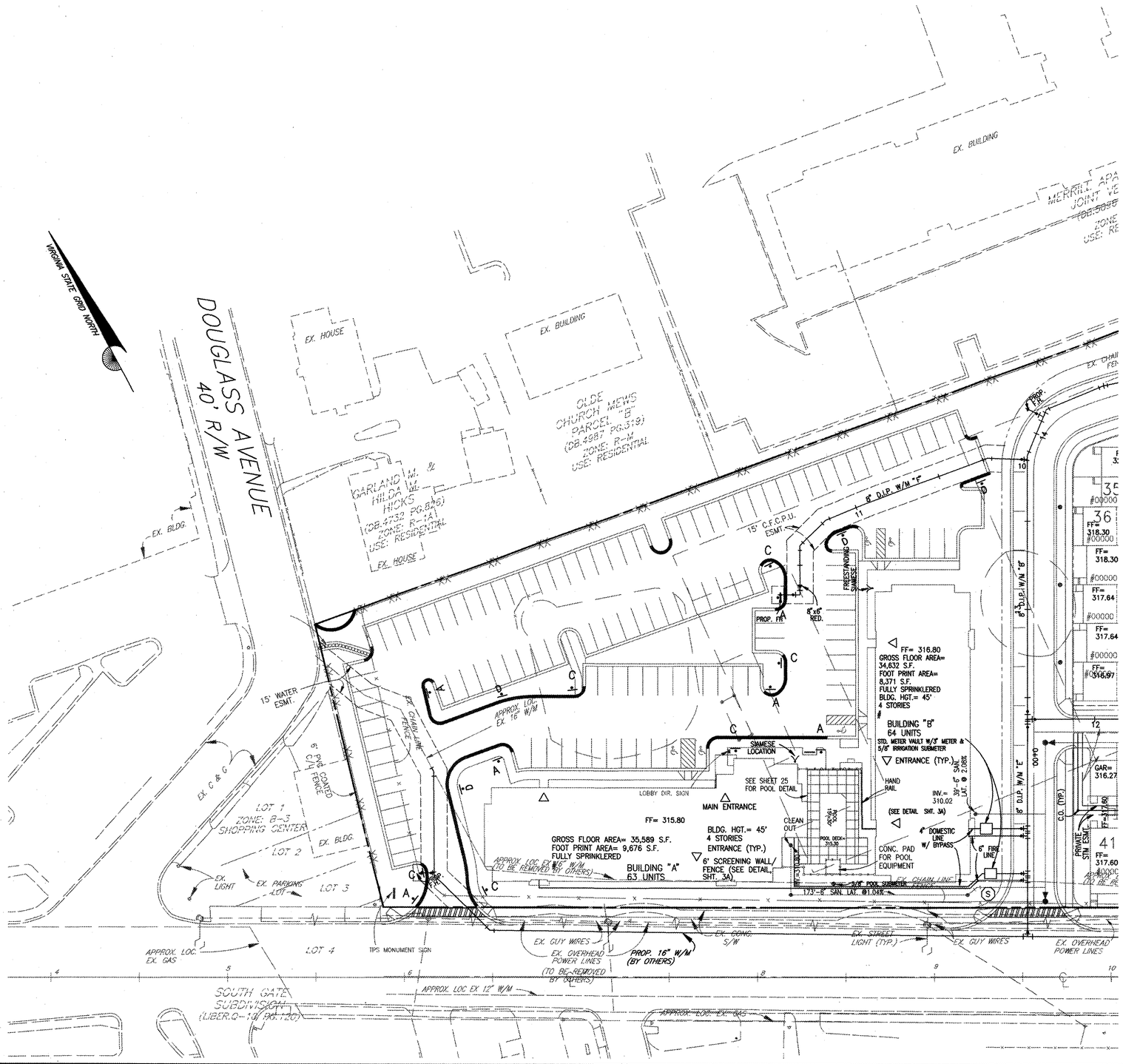
OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VA.

DESIGNED BY: RJG
DRAFTED BY: CAD
CHECKED BY: DGC
DATE: MARCH 4, 1998
SCALE: HOR. 1"=30'
VERT. N/A
SHEET 21 OF 34
CO. NO. SP 97-0051
FILE NO. 97014
CADD NAME: M7014GRD.DWG

GRADING PLAN
TOWNEPLACE SUITES
WHITTIER PARK
CITY OF FALLS CHURCH
VIRGINIA

COMMONWEALTH OF VIRGINIA
JAMES D. SCANLON
No. 046193
PROFESSIONAL ENGINEER
3-498

BC Consultants
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FIRE LANE NOTES:

I. APPROVED SIGN SPECIFICATIONS

A. Metal construction, 12" X 18"

B. Red letters on reflective white background with 3/8" red strip around entire outer edge of sign

C. Lettering on sign to be: "NO PARKING OR STANDING FIRE LANE"

D. Lettering size to be as follows: "NO PARKING" and "STANDING" –2", "OR" –1", "FIRE LANE" –2 1/2", arrows 1"X6" solid shaft with a solid head 1 1/2" wide and 2" deep.

E. Signs are to be mounted 7' from the ground to the bottom of the sign unless otherwise directed by the City of Falls Church.

F. Posts for signs, when required, shall be metal and securely mounted, unless written permission for alternatives is obtained prior to installation from the City of Falls Church.

II. CURB DESIGNATION

All curbs or paved spaces designated as fire lanes shall be indicated by yellow paint as approved by the Fire Official In areas without curbing, a 6" wide yellow stripe shall be applied to the edge of the pavement. Paint shall be highway traffic grade.

SIGN TYPE "A"



Standard wording with an arrow at bottom pointing to the right. One sign mounted parallel to the line of curbing or pavement edge at end of painted area.

SIGN TYPE "C"



Standard wording with an arrow at bottom pointing to the left. One sign mounted parallel to the line of curbing or pavement edge at end of painted area.

SIGN TYPE "D"



Standard wording with no arrow. One sign mounted parallel to line of curbing or pavement edge.

LEGEND:

CURB PAINTED WITH YELLOW FOR FIRE LANE

"A","C" OR "D" SIGN LOCATION & TYPE

BC Consultants
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(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — JAMES D. CUNION III — 016195 — REGISTERED PROFESSIONAL ENGINEER — 3-4-98

FIRE LANE PLAN
COMMERCIAL PARCEL
WHITTIER PARK
CITY OF FALLS CHURCH, VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY: CDL	
DRAFTED BY: CAD	
CHECKED BY: DGC	
DATE: MARCH 4, 1998	
SCALE:	HOR. 1"=30' VERT. N/A
SHEET 22 OF 34	
CO. NO. SP 97-0051	
FILE NO.97014 -36	
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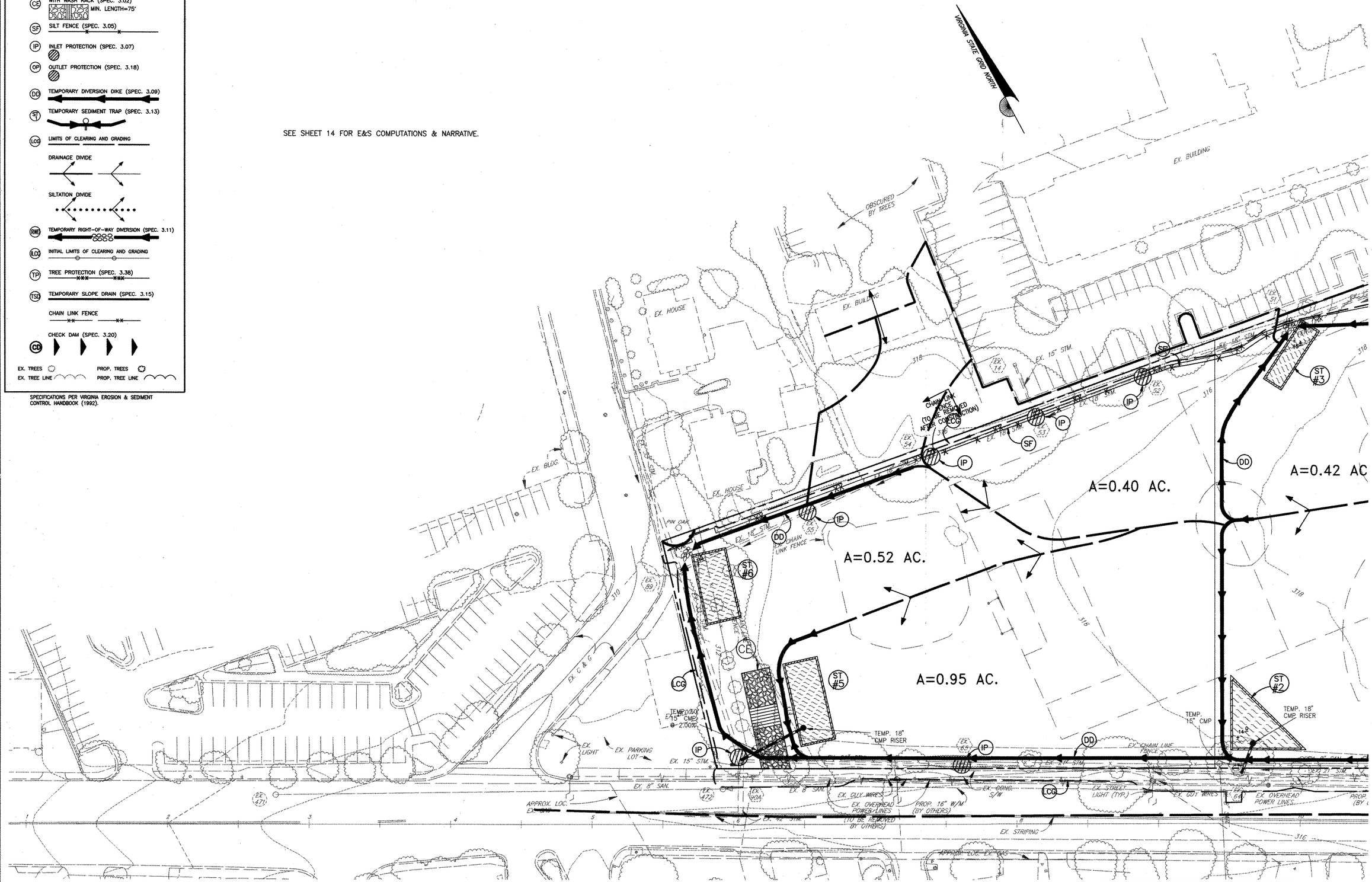
EROSION & SEDIMENT CONTROL LEGEND

- (CE) TEMPORARY CONSTRUCTION ENTRANCE WITH WASH RACK (SPEC. 3.02) MIN. LENGTH=75'
- (SF) SILT FENCE (SPEC. 3.05)
- (IP) INLET PROTECTION (SPEC. 3.07)
- (OP) OUTLET PROTECTION (SPEC. 3.18)
- (DD) TEMPORARY DIVERSION DIKE (SPEC. 3.09)
- (ST) TEMPORARY SEDIMENT TRAP (SPEC. 3.13)
- (LCG) LIMITS OF CLEARING AND GRADING
- DRAINAGE DIVIDE
- SILTATION DIVIDE
- (RWD) TEMPORARY RIGHT-OF-WAY DIVERSION (SPEC. 3.11)
- (ILCG) INITIAL LIMITS OF CLEARING AND GRADING
- (TP) TREE PROTECTION (SPEC. 3.38)
- (TSD) TEMPORARY SLOPE DRAIN (SPEC. 3.15)
- CHAIN LINK FENCE
- (CD) CHECK DAM (SPEC. 3.20)

EX. TREES / PROP. TREES
EX. TREE LINE / PROP. TREE LINE

SPECIFICATIONS PER VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK (1992).

SEE SHEET 14 FOR E&S COMPUTATIONS & NARRATIVE.



THIS SHEET FOR EROSION & SEDIMENT CONTROL PHASE ONE PURPOSES ONLY

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COMMONWEALTH OF VIRGINIA — JAMES H. CANNON — LIC. NO. 013193 — 3-4-98 — PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL- PHASE ONE
COMMERCIAL PARCEL
WHITTIER PARK
CITY OF FALLS CHURCH, VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY: CDL	
DRAFTED BY: MEC	
CHECKED BY: DGC	
DATE: MARCH 4,1998	
SCALE:	HOR. 1"=30' VERT. N/A
SHEET 23 OF 34	
CO. NO. SP 97 -051	
FILE NO.97014	
CADD NAME: C7014ES1.DWG	

EROSION & SEDIMENT CONTROL LEGEND PHASE TWO

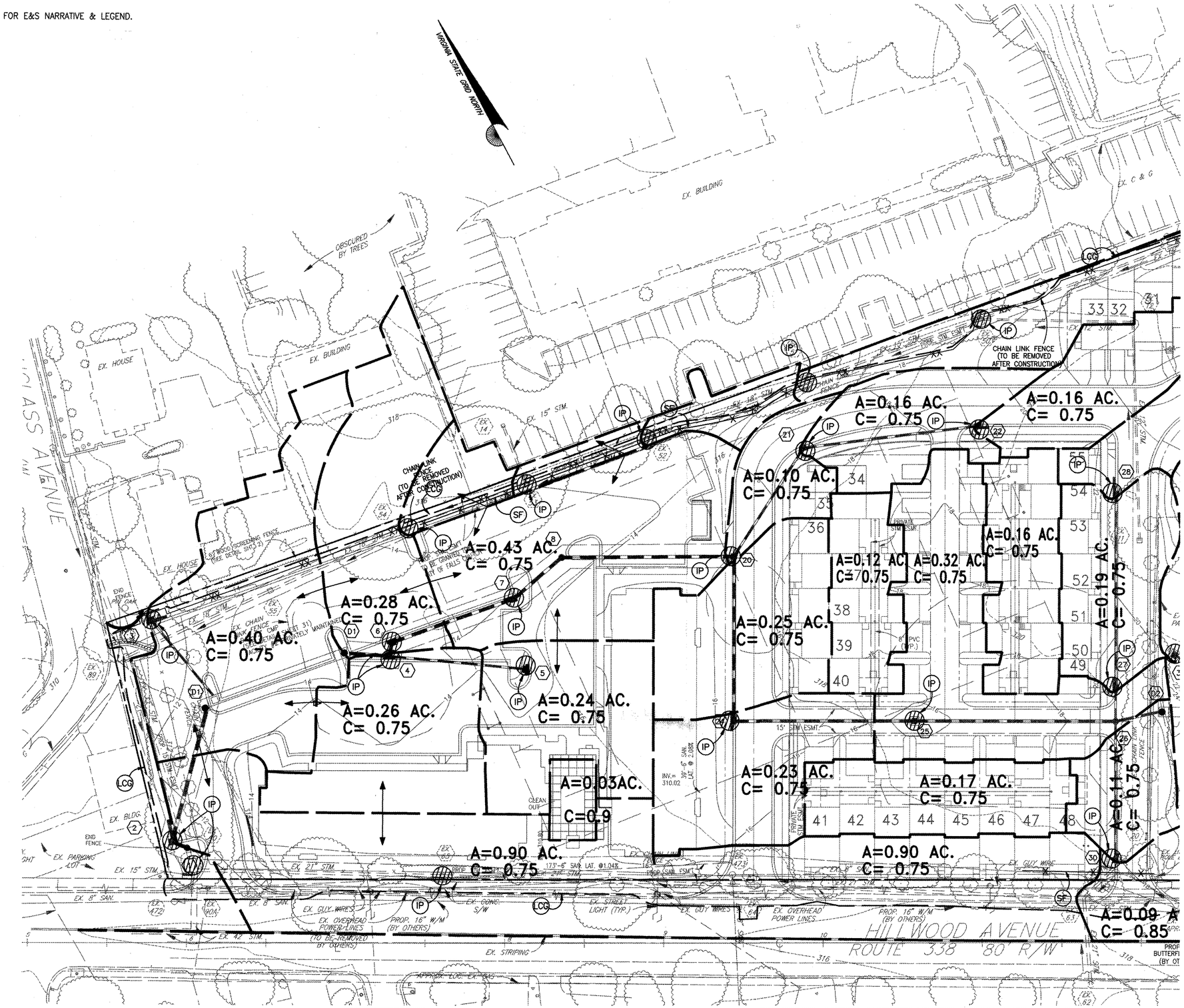
- (CE) TEMPORARY CONSTRUCTION ENTRANCE WITH WASH RACK (SPEC. 3.02) MIN. LENGTH=75'
- (SF) SILT FENCE (SPEC. 3.05)
- (IP) INLET PROTECTION (SPEC. 3.07)
- (OP) OUTLET PROTECTION (SPEC. 3.18)
- (DD) TEMPORARY DIVERSION DIKE (SPEC. 3.09)
- (ST) TEMPORARY SEDIMENT TRAP (SPEC. 3.13)
- (LOG) LIMITS OF CLEARING AND GRADING
- DRAINAGE DIVIDE
- SILTATION DIVIDE
- (RWD) TEMPORARY RIGHT-OF-WAY DIVERSION (SPEC. 3.11)
- (ILOG) INITIAL LIMITS OF CLEARING AND GRADING
- (TP) TREE PROTECTION (SPEC. 3.38)
- (TSD) TEMPORARY SLOPE DRAIN (SPEC. 3.15)
- CHAIN LINK FENCE
- (CD) CHECK DAM (SPEC. 3.20)

EX. TREES / PROP. TREES
EX. TREE LINE / PROP. TREE LINE

SPECIFICATIONS PER VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK (1992).

SEE SHEET ___ FOR E&S NARRATIVE.

SEE SHEET 14 FOR E&S NARRATIVE & LEGEND.



THIS SHEET FOR EROSION & SEDIMENT CONTROL PHASE TWO PURPOSES ONLY

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COMMONWEALTH OF VIRGINIA — JAMES C. JOHNSON — 016193 — 3-4-98 — PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL– PHASE TWO

COMMERCIAL PARCEL

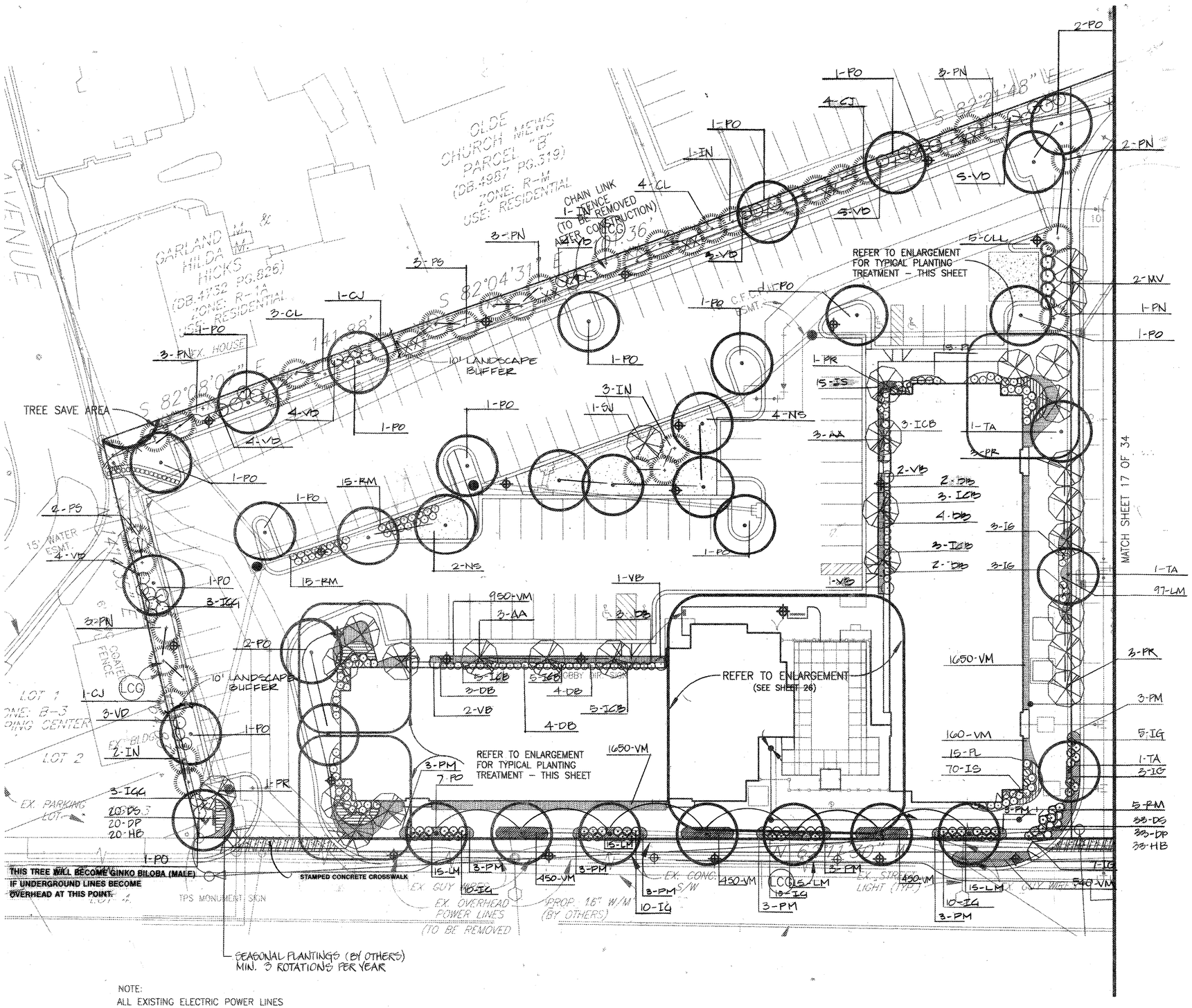
WHITTIER PARK

CITY OF FALLS CHURCH, VIRGINIA

BC REVISIONS
10/97–REV. PER FALLS CHURCH COMMENTS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY:	CDL
DRAFTED BY:	MEC
CHECKED BY:	DGC
DATE:	MARCH 4,1998
SCALE:	HOR. 1"=30' VERT. N/A
SHEET	24 OF 34
CO. NO.	SP 97–0051
FILE NO.	97014
CADD NAME:	C7014ES2.DWG



NOTE:
ALL EXISTING ELECTRIC POWER LINES TO BE UNDERGROUNDED BY OTHERS IN FRONT OF THE HOTEL.

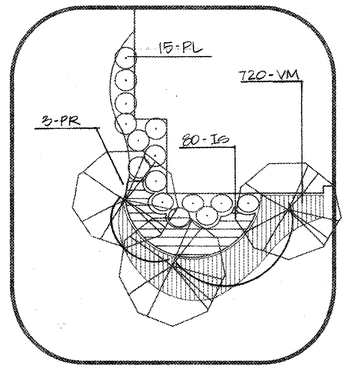
THE PLANT COUNT IS GOVERNED BY THE PLANS AND NOT THE PLANT LIST.

THIS SHEET FOR LANDSCAPING PURPOSES ONLY

TABULATIONS:

GROSS SITE AREA (G.S.A.):	2.0 Ac. ±	(87,120 S.F. ±)
PARKING LOT AREA:	42,820 S.F. ±	
REQUIRED LANDSCAPING AREA: (5% OF PARKING LOT AREA)	2,141 S.F. ±	
PROPOSED LANDSCAPING AREA: (5.1% OF PARKING LOT AREA)	2,180 S.F. ±	

REPRESENTS PLANTING AREA



TYPICAL CORNER PLANTING TREATMENT
SCALE: 1"=10'

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COMMONWEALTH OF VIRGINIA — TIMOTHY A. LAWLOR — 016933 — 12-23-97 — REGISTERED LANDSCAPE ARCHITECT

LANDSCAPE PLAN (COMMERCIAL)
WHITTIER PARK
CITY OF FALLS CHURCH VIRGINIA

BC REVISIONS
SEPTEMBER 1997
OCTOBER 1997
NOVEMBER 1997
DECEMBER 1997
MARCH 1998

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY:	AKB/TAL
DRAFTED BY:	CAD
CHECKED BY:	PLR
DATE:	MARCH 4, 1998
SCALE:	HOR. 1"=20' VERT. N/A
SHEET	25 OF 34
CO. NO.	
FILE NO.	97014.01
CADD NAME:	7014LSC2.DWG

COMMERCIAL PLANT LIST:

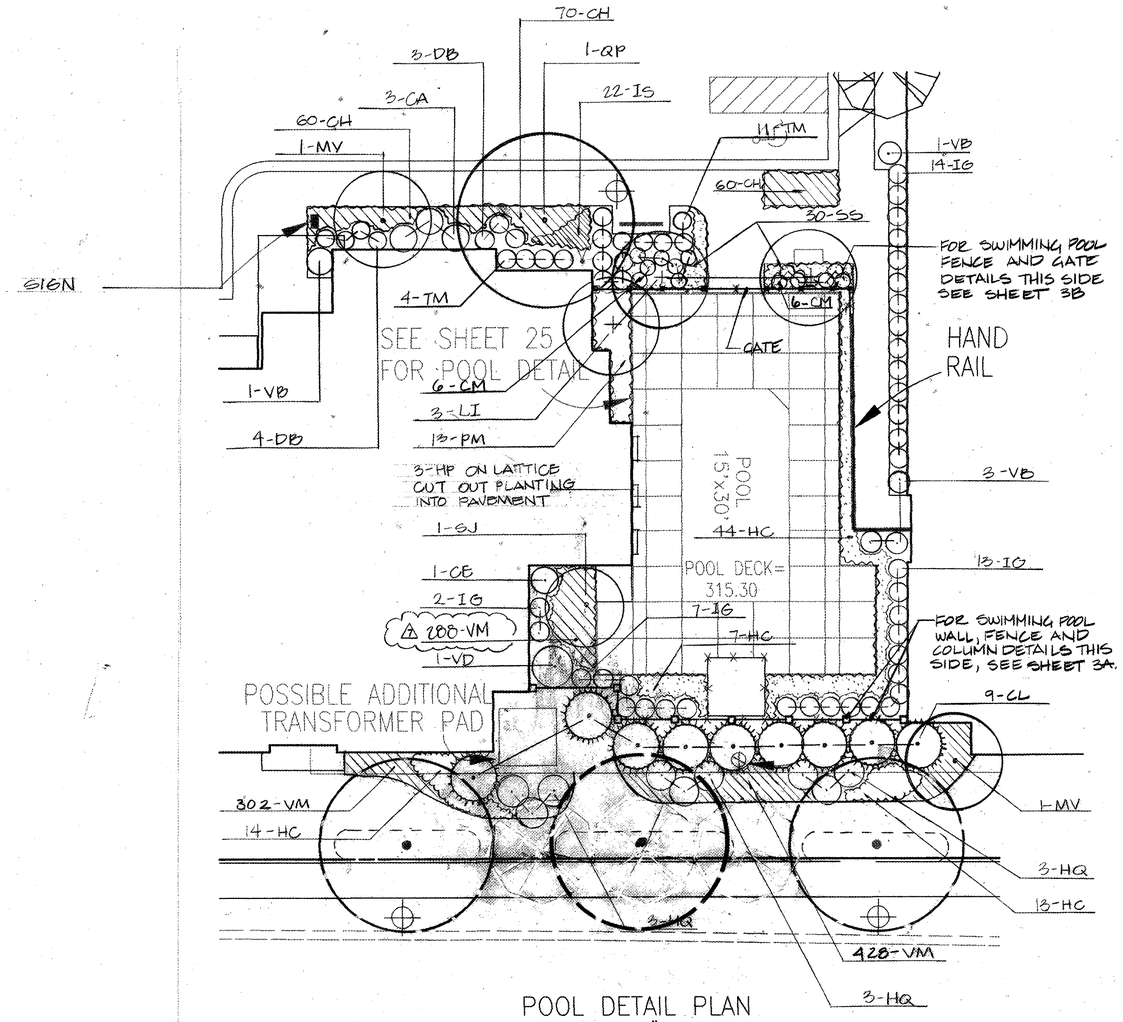
KEY	QUANT	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
		LARGE TREES			
AR	-	ACER RUBRA 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B&B
GB	****	GINKGO BILOBA 'SENTRY'	SENTRY GINKGO (MALE ONLY)	3" CAL.	B&B
LS	-	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	AMERICAN SWEETGUM (SEEDLESS)	3" CAL.	B&B
NS	6	NYSSA SYLVATICA	BLACK GUM	12'-14' CAL.	B&B
PO	21	PLATANUS ACERIFOLIA 'COLUMBIA'	COLUMBIA LONDON PLANETREE	3" CAL.	B&B
QOP	-	QUERCUS PHELLOS	WILLOW OAK	3" CAL.	B&B **
QP	1	QUERCUS PHELLOS	WILLOW OAK	3 1/2" CAL.	B&B **
QR	-	QUERCUS RUBRA 'RED SUNSET'	RED SUNSET RED OAK	3" CAL.	B&B **
TA	3	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	3" CAL.	B&B
		ORNAMENTAL TREES			
AA	6	AMELANCHIER ARBOREA	DOWNY SERVICEBERRY	3" CAL.	B&B
AG	-	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	3" CAL.	B&B
CF	-	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	3" CAL.	B&B **
LI	8	LAGERSTROEMIA INDICA 'NACHEZ'	A 'NACHEZ' CREPE MYRTLE (WHITE)	2" CAL.	B&B
MV	4	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	2" CAL.	B&B *
PR	17	PRUNUS SERAME	SERAME CHERRY	2" CAL.	B&B
SJ	2	STYRAX JAPONICA	JAPANESE SNOWBELL	3" CAL.	B&B
		EVERGREEN TREES			
CJ	4	CRYPTOMERIA JAPONICA	JAPANESE CRYPTOMERIA	9' HT.	B&B
CL	16	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	6' HT.	B&B
CLL	5	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	12' HT.	B&B
IN	7	ILEX X 'NELLIE R STEVENS'	NELLIE STEVENS HOLLY	8' HT.	B&B
IO	-	ILEX OPACA	AMERICAN HOLLY	6' HT.	B&B
PN	13	PINUS NIGRA	AUSTRIAN PINE	6' HT.	B&B
PS	5	PINUS STROBUS	WHITE PINE	6' HT.	B&B
		SHRUBS			
AZ	-	AZALEA 'SATSUKI GUMPO PINK'	GUMPO PINK AZALEA	18"	CONT.
BM	-	BUXUS MICROPHYLLA 'COMPACTA'	COMPACT BOXWOOD	24"	B&B
CA	3	CALYCANTHUS FLORIDUS	SWEETSHRUB/SPICEBUSH	36"	B&B
CE	1	CLETHRA ALNIFOLIA	CLETHRA	24"	B&B
CC	-	CARYOPTERIS CLANDONENSIS	BLUEBEARD	24"	B&B
DS	29	DAPHNE X BURKWOODII	BURKWOOD DAPHNE	24"	B&B
HQ	9	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	24"	B&B
HC	78	HYPERICUM PATULUM	GOLDENCUP ST. JOHNSWORT	18"	CONT.
IB	-	ILEX CORNUTA 'BURFORDII'	BURFORD HOLLY	24"	B&B
ICH	-	ILEX CRENATA 'HELLERI'	HELLER HOLLY	18"	CONT.
IF	-	ILEX X ATTENUATA 'FOSTERI'	FOSTERS HOLLY	4' HT.	B&B
IG	197	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	24"	B&B
ICB	24	ILEX X MESERVEAE 'BLUE PRINCESS'	BLUE PRINCESS HOLLY	24"	B&B
PL	75	PRUNUS LAUROCERASUS 'SCHIPKAENSIS'	SCHIPKA CHERRYLAUREL	24"	B&B
RC	-	RHODODENDRON CAROLINIANUM	CAROLINA RHODODENDRON	24"	B&B
TM	14	TAXUS X MEDIA 'HICKSII'	HICKS YEW	24"	B&B
VM	1030	VIBURNUM BURKWOODII	BURKWOOD VIBURNUM	24"	B&B
VD	11	VIBURNUM DENTATUM 'CHRISWOOD'	CHRISWOOD VIBURNUM	24"	B&B
VP	-	VIBURNUM PLICATUM TOMENTOSUM 'MARESII'	MARIES DOUBLEFILE VIBURNUM	24"	B&B
IGG	2	ILEX X MESERVEAE 'BLUE PRINCE'	BLUE PRINCE HOLLY	36"	B&B
		GROUNDCOVER			
CH	188	CHRYSOGONUM VIRGINIANUM	GOLDEN STAR	1 PINT	1' O.C.
HS	-	HELOSTERA SANGUINEA 'PURPLE PALACE'	'PURPLE PLAGE' HYGOHERA	1 PINT	1' O.C.
LM	998	LIRIOPE MUSCARI	LIRIOPE	1 PINT	1' O.C.
PT	4280	PACHYSANDRA TERMINALIS	PACHYSANDRA	2 1/4" P.P.	6" O.C.
VM	4280	VINCA MINOR	PERIWINKLE	2 1/4" P.P.	6" O.C.
		ORNAMENTAL GRASSES			
MS	-	MISCANTHUS SINENSIS 'VARIEGATUS'	VARIEGATED SILVERGRASS	1 GAL.	CONT.
PM	69	PENNISETUM ALOPECUROIDES 'MOUDRY'	PURPLE MOUDRY FOUNTAIN GRASS	1 GAL.	CONT.
		PERENNIALS, BULBS AND VINES			
AT	-	ASTILBE 'RED SENTINEL'	RED SENTINEL ASTILBE	2 QT.	CONT.
EF	-	CROCOSMIA 'LUCIFER'	LUCIFER CROCOSMIA	2 QT.	CONT.
HB	30	HEMEROCALLIS 'BLACKEYED STELLA D'ORO'	BLACKEYED STELLA D'ORO DAYLILY	2 QT.	CONT.
HP	3	HYDRANGEA PANICULATA	CLIMBING HYDRANGEA	2 QT.	CONT.
IS	342	IRIS SIBERICA 'PERSIMMON'	PERSIMMON SIBERIAN IRIS	2 QT.	CONT.
LA	-	LAVENDULA ANGUSTIFOLIA 'GROSSO'	GROSSO LAVENDER	2 QT.	CONT.
LR	-	LYTHRUM SALICARIA 'MORDEN'	PURPLE LOOSESTRIFE	2 QT.	CONT.
SS	90	SEDUM SPECTABILE 'METEOR'	METEOR SEDUM	2 QT.	CONT.
DS	53	TULIPIFERA 'DARWIN HYBRID SCARLET'	SCARLET TULIPS	2 QT.	CONT.
DP	53	TULIPIFERA 'DARWIN HYBRID PINK IMPRESSION'	PINK IMPRESSION TULIPS	2 QT.	CONT.
CM	12	CURCUMINA MASORCHIUM	CURCOMINA	3 QT.	CONT.

* FULL AND HEAVY SPECIMEN
** TREE FORM
*** SPRING DIG/SPRING PLANT ONLY FOR ALL OAKS
**** SEE NOTE ON SHEET 25 OF 34

97014PL.XLS

REVISED MARCH 17, 1998

6430



POOL DETAIL PLAN
SCALE: 1"=10'

NOTE: THE PLANT MATERIAL IS GOVERNED BY THE PLANS AND NOT THE PLANT LIST.

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COMMONWEALTH OF VIRGINIA — JAMES A. TALON — No. 016193 — 12-23-97 — REGISTERED PROFESSIONAL

DETAILS & PLANT LIST
(COMMERCIAL)

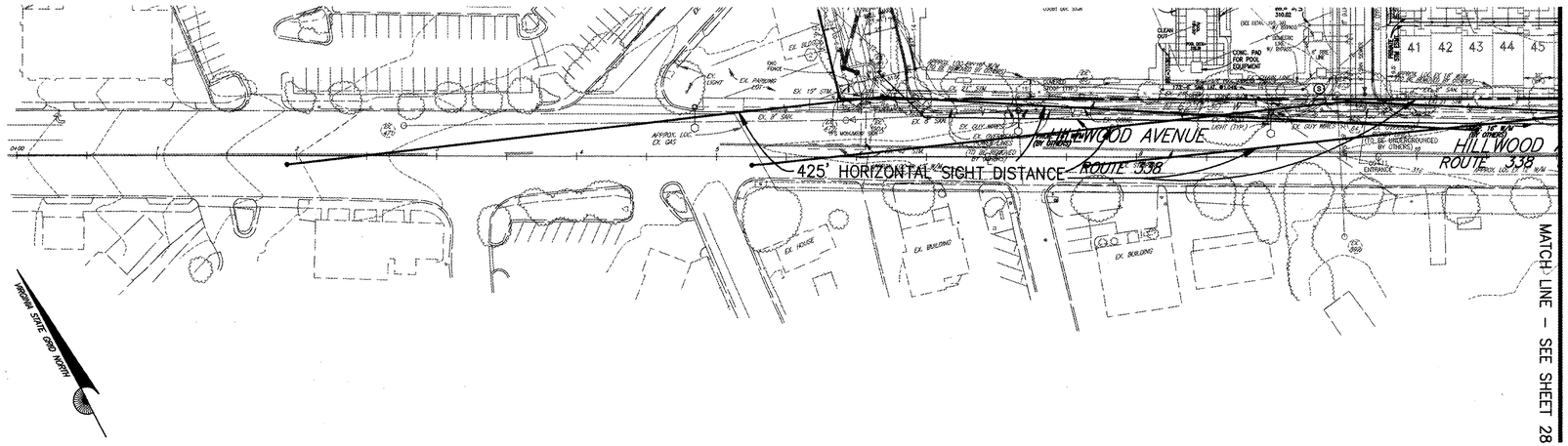
WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS
SEPTEMBER 1997
DECEMBER 1997
FEBRUARY, 1998
MARCH, 1998
A AUGUST 1998 BID CLARIFICATION

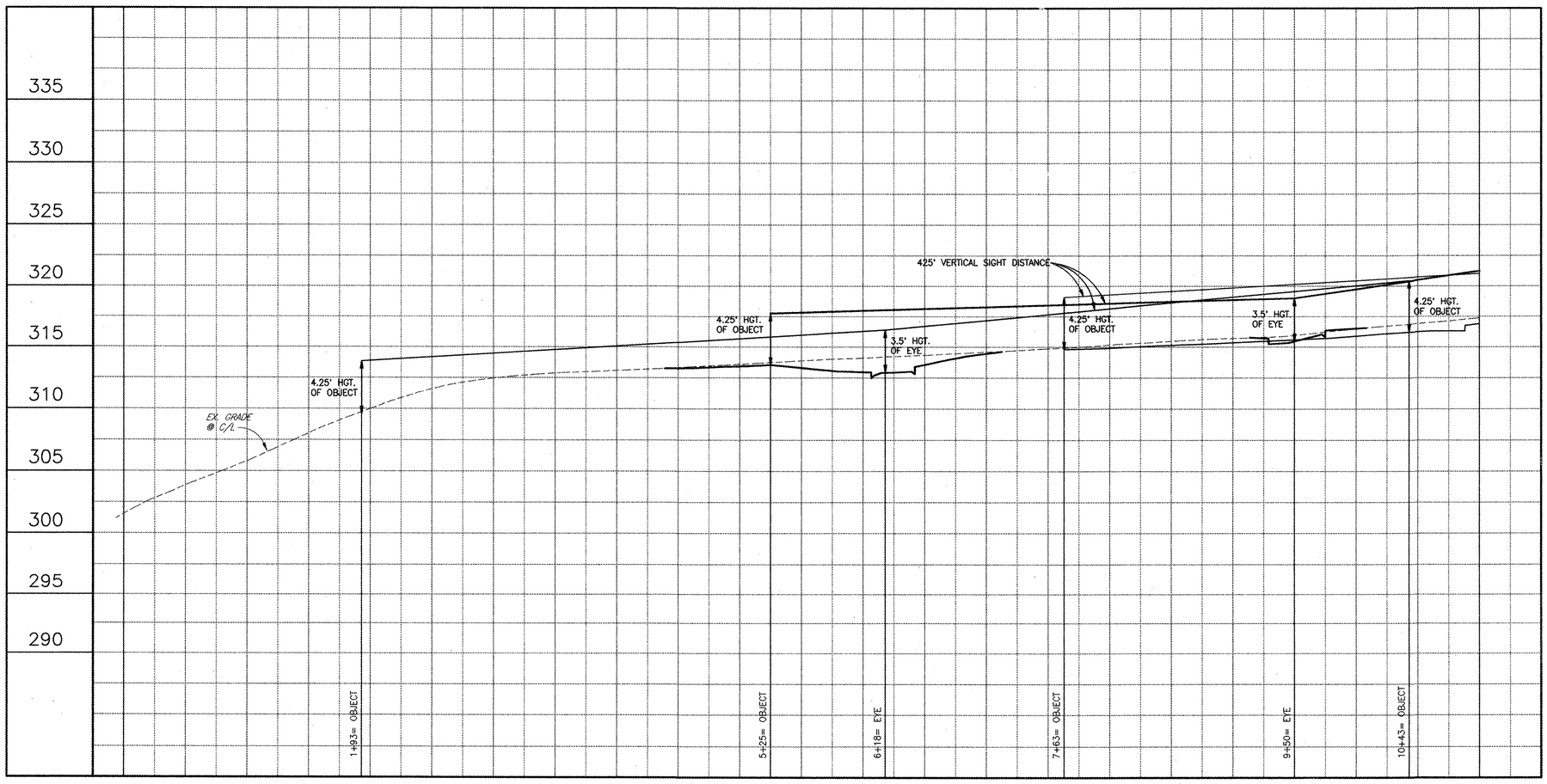
OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY:	AKB/TAL
DRAFTED BY:	CAD
CHECKED BY:	PLR
DATE:	10 DECEMBER 1997
SCALE:	HOR. 1"=10' VERT. N/A
SHEET	26 OF 34
CO. NO.	
FILE NO.	97014LSC4.DWG
CADD NAME:	



EX. HILLWOOD AVENUE

ROUTE #338
R.O.W: 80'
DESIGN SPEED = 35 MPH



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COMMONWEALTH OF VIRGINIA — JAMES E. DUNLOP — 016193 — REGISTERED PROFESSIONAL ENGINEER — 1-4-98

ROAD PLAN & PROFILE - HILLWOOD AVENUE
STA. 0+00 TO 11+00

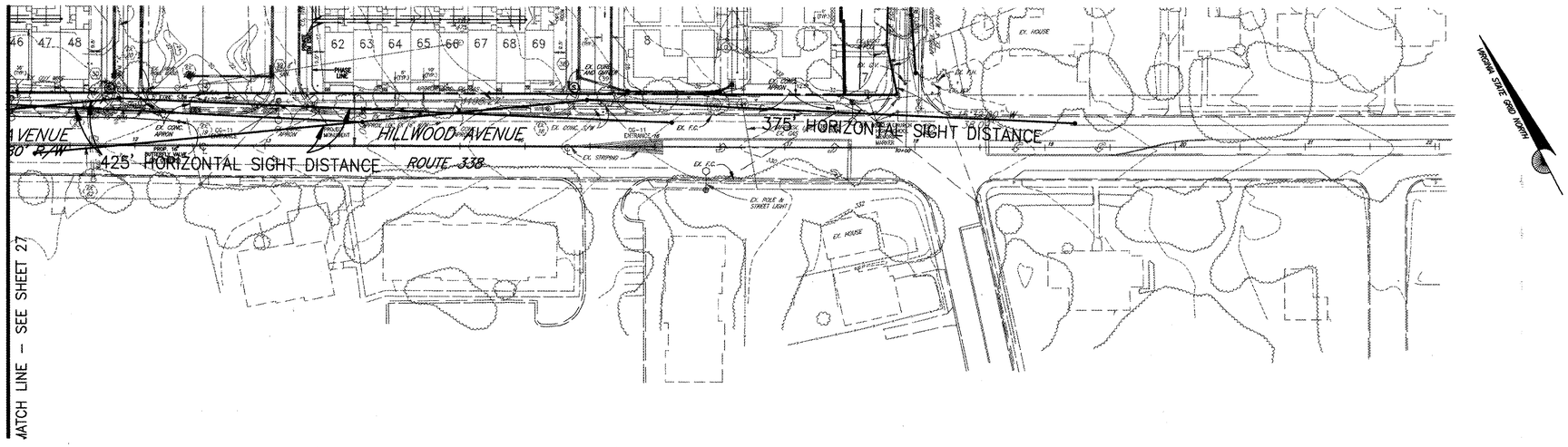
WHITTIER PARK

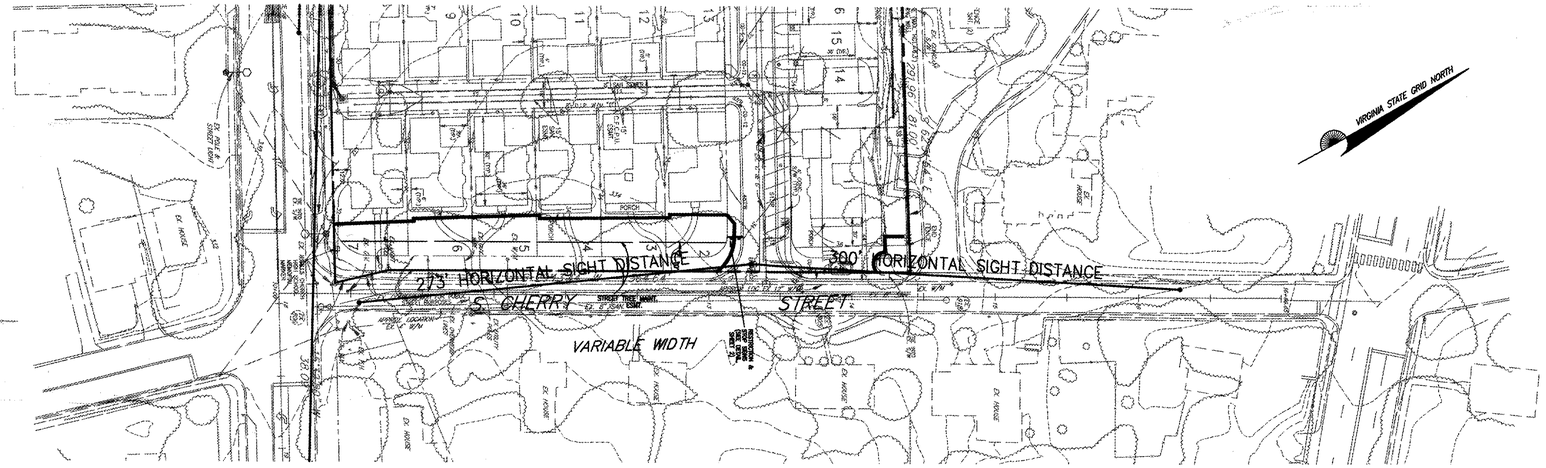
CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VA.

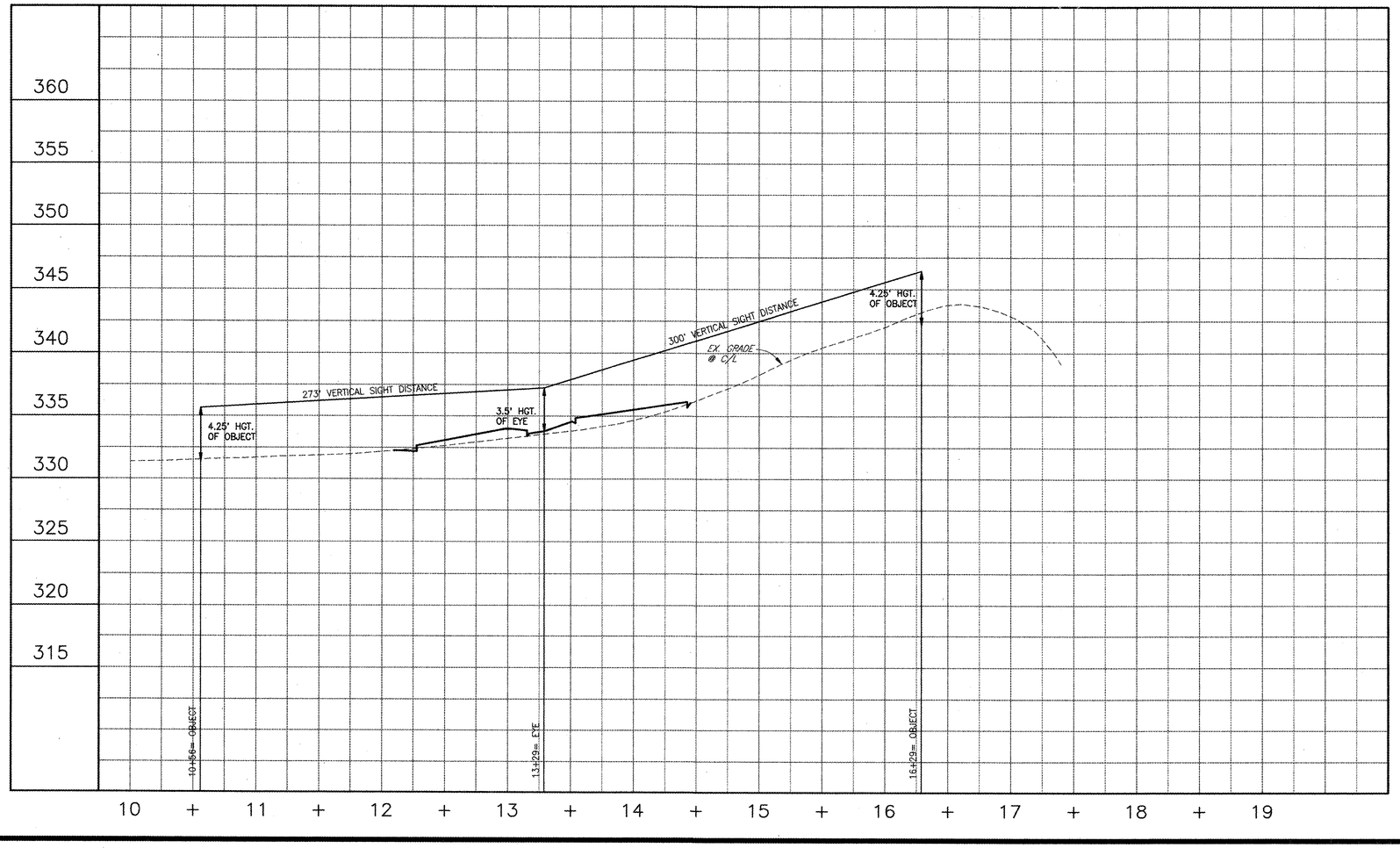
DESIGNED BY:	RJG
DRAFTED BY:	CAD
CHECKED BY:	DGC
DATE:	MARCH 4,1998
SCALE:	HOR. 1"=50' VERT. 1"=5'
SHEET	27 OF 34
CO. NO.	
FILE NO.	97014 -36
CADD NAME:	7014RPP2.DWG


MATCH LINE - SEE SHEET 27
HILLWOOD AVENUE
80' R/W
425' HORIZONTAL SIGHT DISTANCE
ROUTE 338
375' HORIZONTAL SIGHT DISTANCE
VIRGINIA STATE GRID NORTH
EX. HOUSE
EX. CONC. APRON
EX. C.I.
EX. F.H.
EX. STRIPING
EX. R.C.P.
EX. SIGN
EX. CURB & GUTTER
EX. CONC. SLAB
EX. CURB INLET
EX. CURB RAMP
EX. POWER POLE
EX. STREET LIGHT
EX. GUY WIRE
EX. TREE
EX. BUSH
EX. SHRUB
EX. BENCH
EX. MAILBOX
EX. TELEPHONE PEDESTAL
EX. TELEPHONE MANHOLE
EX. TELEPHONE BOX
EX. TELEPHONE RISER



EX. CHERRY STREET

ROUTE #1708
R.O.W: 30'
DESIGN SPEED = 30 MPH



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COMMONWEALTH OF VIRGINIA
JAMES H. DONLON
No. 018193
PROFESSIONAL ENGINEER
3-4-98

ROAD PLAN & PROFILE - CHERRY STREET

WHITTIER PARK

CITY OF FALLS CHURCH, VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VA.

DESIGNED BY: RJG	
DRAFTED BY: CAD	
CHECKED BY: DGC	
DATE: MARCH 4,1998	
SCALE:	HOR. 1"=50' VERT. 1"=5'
SHEET 29 OF 34	
CO. NO.	
FILE NO.97014 -36	
CADD NAME: 7014RPP1.DWG	

STORMWATER MANAGEMENT DETENTION COMPUTATIONS

HYDROLOGIC DESIGN METHOD
THE RATIONAL METHOD WAS USED SINCE THE TOTAL SITE AREA IS LESS THAN 20 ACRES.

TIME OF CONCENTRATION
THE TIME OF CONCENTRATION WAS DETERMINED USING PLATE 4-6 OF THE PFM.

PRE-DEVELOPMENT
A = 9.63 ACRES
WEIGHTED C VALUE
IMPERVIOUS AREA = 3.40 AC.; PERVIOUS AREA = 6.23 AC.
C = (3.40x0.90 + 6.23x0.30)/9.63 = 0.51
Tc = 10 MIN.

2 YEAR STORM
Q = 9.63x0.51x4.60 = 22.6 CFS

10 YEAR STORM
Q = 9.63x0.51x5.92 = 29.1 CFS

POST DEVELOPMENT
Tc = 5 MIN.

ON-SITE UNDETAINED
A = 1.79 ACRES
C = 0.56 (WEIGHTED)

2 YEAR STORM
Q = 1.79x0.56x5.45 = 5.5 CFS

10 YEAR STORM
Q = 1.79x0.56x7.27 = 7.3 CFS

OFF-SITE DETAINED
A = 0.42 ACRES
C = 0.55 (WEIGHTED)

2 YEAR STORM
Q = 0.42x0.55x5.45 = 1.3 CFS

10 YEAR STORM
Q = 0.42x0.55x7.27 = 1.7 CFS

ALLOWABLE DISCHARGE
PRE DEVELOPMENT DISCHARGE - POST DEVELOPMENT ON SITE UNDETAINED + OFF-SITE DETAINED

2 YEAR STORM
22.6 CFS - 5.5 CFS + 1.3 CFS = 18.4 CFS

10 YEAR STORM
29.1 CFS - 7.3 CFS + 1.7 CFS = 23.5 CFS

TOTAL DISCHARGE TO UNDERGROUND DETENTION FACILITIES
POST DEVELOPMENT ON SITE DETAINED + OFF SITE DETAINED

FACILITY #1
A = 4.14 ACRES (ONSITE) + 0.13 ACRES (OFFSITE) = 4.27 ACRES
C = 0.66 (WEIGHTED)

2 YEAR STORM
Q = 4.27x0.66x5.45 = 15.4 CFS

10 YEAR STORM
Q = 4.27x0.66x7.27 = 20.5 CFS

FACILITY # 2
A = 3.70 ACRES (ONSITE) + 0.29 ACRES (OFFSITE) = 3.99 ACRES
C = 0.75 (WEIGHTED)

2 YEAR STORM*
Q = 3.99x0.75x5.45 = 16.3 CFS + DISCHARGE FROM FAC. #1

10 YEAR STORM*
Q = 3.99x0.75X7.27 = 21.8 CFS + DISCHARGE FROM FAC. #1

* SEE THE COMPOSITE HYDROGRAPHS BELOW.

File Summary for Composite Hydrograph

Time (hrs)	WP10T002 (cfs)	WP2IN002 (cfs)	WPADD002 (Total)
0.00	0.0	0.0	0.0
0.08	4.2	16.3	20.5
0.17	6.8	10.5	16.6
0.25	6.8	7.8	14.6
0.33	6.7	6.2	13.0
0.42	6.4	5.2	11.5
0.50	6.0	4.4	10.4
0.58	5.5	3.8	9.4
0.67	5.0	3.3	8.2
0.75	4.4	3.0	7.4
0.83	3.9	2.7	6.5
0.92	3.3	2.5	5.8
1.00	2.8	2.2	5.0
1.08	2.4	2.0	4.4
1.17	2.1	1.9	3.9
1.25	1.7	1.7	3.4
1.33	1.5	1.5	3.0
1.42	1.3	1.3	2.6
1.50	1.1	1.1	2.2
1.58	0.9	0.9	1.9
1.67	0.8	0.8	1.5
1.75	0.6	0.6	1.2
1.83	0.4	0.4	0.8
1.92	0.2	0.2	0.4
2.00	0.1	0.0	0.1

File Summary for Composite Hydrograph

Time (hrs)	WP10T010 (cfs)	WP2IN010 (cfs)	WPADD010 (Total)
0.00	0.0	0.0	0.0
0.08	4.9	21.8	26.6
0.17	7.5	14.0	21.5
0.25	8.3	10.4	18.7
0.33	8.4	8.3	16.7
0.42	8.1	6.9	14.9
0.50	7.7	5.8	13.5
0.58	7.2	5.0	12.2
0.67	6.6	4.4	11.0
0.75	6.1	3.9	10.0
0.83	5.5	3.5	9.0
0.92	4.9	3.2	8.1
1.00	4.3	3.0	7.3
1.08	3.8	2.7	6.5
1.17	3.3	2.5	5.8
1.25	2.7	2.2	5.0
1.33	2.3	2.0	4.3
1.42	2.0	1.7	3.7
1.50	1.6	1.5	3.1
1.58	1.3	1.2	2.5
1.67	1.0	1.0	2.0
1.75	0.8	0.8	1.5
1.83	0.6	0.5	1.1
1.92	0.3	0.2	0.6
2.00	0.1	0.0	0.1

WP10T002, WP10T010 - 2 YR. AND 10 YR. OUTFLOW HYDROGRAPHS FROM SWM FACILITY #1
WP2IN002, WP2IN010 - 2 YR. AND 10 YR. INFLOW HYDROGRAPHS FROM STORM DRAIN SYSTEM TO SWM FACILITY #2
WPADD002, WPADD010 - 2 YR. AND 10 YR. COMPOSITE INFLOW HYDROGRAPH FOR SWM FACILITY #2

OUTFALL NARRATIVE

THE MAJORITY OF STORMWATER WILL FLOW INTO A CLOSED CONDUIT SYSTEM ON THE SITE. THE CLOSED CONDUIT SYSTEM CARRIES THE STORMWATER TO TWO UNDERGROUND DETENTION SYSTEMS BEFORE DISCHARGING INTO AN ADEQUATE EXISTING CLOSED CONDUIT SYSTEM.

RUNOFF FROM 4.14 ACRES OF THE TOWNHOUSE DEVELOPMENT AND 0.13 ACRES OF OFFSITE RESIDENTIAL DEVELOPMENT FLOWS INTO STORMWATER MANAGEMENT FACILITY #1. THIS FACILITY REDUCES THE PEAK OF THE 2 YEAR AND 10 YEAR STORMS BEFORE DISCHARGING STORMWATER BACK INTO THE PROPOSED CLOSED CONDUIT SYSTEM. THIS FACILITY IS NOT DISCHARGING STORMWATER INTO THE EXISTING CLOSED CONDUIT SYSTEM ON HILLWOOD AVENUE THAT IS ADJACENT TO IT SINCE IT WAS DETERMINED THAT THIS EXISTING RUN OF PIPE WAS INADEQUATE.

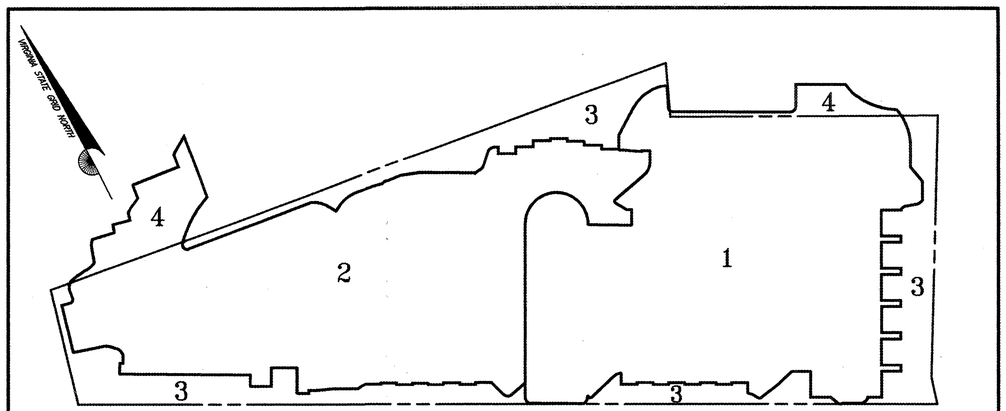
RUNOFF FROM 3.70 ACRES OF THE HOTEL AND THE REMAINING PORTION OF THE TOWNHOUSE DEVELOPMENT AND RUNOFF FROM 0.29 ACRES OF OFFSITE RESIDENTIAL DEVELOPMENT FLOWS TO FACILITY #2 VIA CLOSED CONDUIT SYSTEM. THIS FLOW COMBINES WITH THE DISCHARGE FROM FACILITY #1 TO MAKE UP THE TOTAL FLOW INTO FACILITY #2 (SEE COMPOSITE HYDROGRAPH, SHEET 30).

THE DISCHARGE FROM FACILITY #2 MATCHES THE RUNOFF FROM THE SITE DURING THE EXISTENCE OF THE SCHOOL (22.5 CFS FOR THE 2 YEAR AND 29.1 CFS FOR THE 10 YEAR), TAKING INTO CONSIDERATION THE POST DEVELOPMENT ONSITE UNDETAINED RUNOFF FROM 1.79 ACRES AND THE POST DEVELOPMENT OFFSITE DETAINED FROM 0.42 ACRES. THE ALLOWABLE DISCHARGE FROM FACILITY #2 DURING THE 2 YEAR AND 10 YEAR STORMS IS 18.4 CFS AND 23.5 CFS (SEE COMPUTATIONS, THIS SHEET).

THE DISCHARGE FROM THE FACILITY DURING THE 2 YEAR AND 10 YEAR STORMS IS 18.36 CFS AND 23.50 CFS. THE EXISTING CLOSED CONDUIT SYSTEM THAT FACILITY #2 IS DISCHARGING INTO WAS DETERMINED TO BE ADEQUATE. IT CAN CARRY THE COMBINED FLOW FROM THE EXISTING AND PROPOSED SYSTEM, UNDER PRESSURE FLOW CONDITIONS, WITHOUT THE HYDRAULIC GRADELINE BEING WITHIN A FOOT OF THE FLOWLINE AT THE INLETS (SEE HYDRAULIC GRADELINE COMPS., THIS SHEET).

NEITHER THE PROPOSED STRUCTURES NOR ANY OFFSITE STRUCTURES WILL BE FLOODED DURING A 100 YEAR STORM. ALSO, IT IS MY OPINION THAT ALL STORM SEWER SYSTEMS ARE ADEQUATE TO HANDLE THE PROPOSED DISCHARGE AND THE DISCHARGE WILL HAVE NO ADVERSE AFFECT ON DOWNSTREAM PROPERTIES.

100 YEAR STORM ANALYSIS
STORMWATER MANAGEMENT FACILITIES
THE RUNOFF FROM A 100 YEAR STORM WILL BACK UP INTO THE CLOSED CONDUIT SYSTEM. THE RUNOFF WILL FLOW FROM THE INLETS OVERLAND DOWN THE DRIVE AISLES AND INTO THE GUTTER ALONG HILLWOOD AVENUE. OVERLAND RELIEF IS BEING PROVIDED SO THAT NO ONSITE STRUCTURES WILL BE FLOODED FROM A 100 YEAR STORM.



SUBAREA MAP
SCALE: 1"=100'

SUBAREA	DESCRIPTION	C	ACRES
1	ONSITE DETAINED-FACILITY #1	0.67	4.14
2	ONSITE DETAINED-FACILITY #2	0.76	3.70
3	ONSITE UNDETAINED	0.56	1.79
4	OFFSITE DETAINED	0.55	0.42

V.D.O.T. METHOD
HYDRAULIC GRADELINE COMPUTATIONS
Project: WHITTIER PARK
BC Job #:97014

Struct. Number	Struct. Info. Surface Flow	Struct. Info. Inlet Shaping	Outlet W.S.E.	'n' Factor	Do	Qo	Lo	Sf	Hf	H.G.L. @ Struct. Outlet	Ao	Vo	Ho	Qi	Di	Ai	Vi	Hi	Angle 'K' Value	Ha	Ht	Ht (Adjust. Surface Flow)	Ht (Adjust. Inlet Shaping)	H.G.L. @ Struct. Inlet	Top Struct. Elev.	HGL Elev. Below Top Struct.
1	no	yes	301.56	0.013	33	*108.30	12.0	0.0420	0.50	302.06	5.94	18.23	0.26	82.35	33	5.94	13.86	0.30	0.00	0	0.56	0.56	0.28	302.34	312.10	9.76
Ex. 89	no	yes	302.34	0.013	33	82.35	114.0	0.0243	2.77	305.11	5.94	13.86	0.15	80.84	33	5.94	13.61	0.29	0.00	0	0.44	0.44	0.22	305.33	311.55	6.22
Ex. 89										305.11	5.94	13.86	0.15	1.52	18	1.77	0.86	0.00	0.66	0.008	0.16	0.16	0.16	305.27	311.55	6.28

*Total flow of 84.79 CFS plus 23.50 CFS from SWM structure

HYDRAULIC GRADE LINE COMPUTATION TERMS

Do = Outflow Pipe Diameter, inches
Qo = Discharge for Outflow Pipe, cfs
Lo = Length of Outflow Pife, ft.
Sf = Friction slope of Outflow Pipe, ft/ft(Manning's Eqn.)
Hf = Lo * Sf, Friction Head Loss, ft.
Ao = Area of Outflow Pipe, sq.ft.
Vo = Qo/Ao Velocity of outflow, fps
Ho = 0.05 (Vo-2/2g) Contraction Loss, ft. VDOT= 0.25 PFM = 0.05
where g = 32.2 ft/sec-2

Di = Inflow Pipe Diameter, inches
Qi = Discharge of pipe into junction, cfs
Ai = Area of Inflow Pipe, sq.ft.
Vi = Qi/Ai, Velocity of inflow, fps VDOT= 0.35 PFM = 0.10
Hi = 0.10 (Vi-2/2g) Expansion Loss, ft.
Angle "K" Value = Choose value based on angle of pipes at junction
** Note: Round off angles to values given.
Ha = K(Vi-2/2g) Bend Loss, ft.
Ht = Ho + Hi + Ha Total Head Loss, ft.

JUNCTION BEND LOSSES

Angle (deg.)		"K" Values
90	=	0.70
80	=	0.66
70	=	0.61
60	=	0.55
50	=	0.47
40	=	0.38
30	=	0.28
25	=	0.22
20	=	0.16
15	=	0.10

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(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA JAMES D. SANOW No. 016193 REGISTERED PROFESSIONAL ENGINEER 3-4-98

STORMWATER MANAGEMENT COMPUTATIONS

WHITTIER PARK

FALLS CHURCH
VIRGINIA

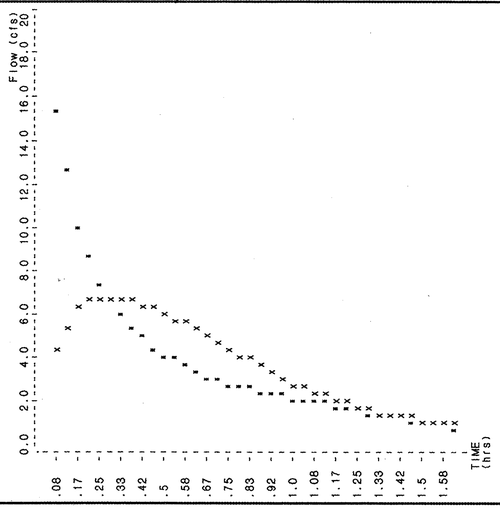
BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH
VIRGINIA

DESIGNED BY: RJG
DRAFTED BY: CAD
CHECKED BY: DGC
DATE: MARCH 4,1998
SCALE: HOR. AS SHOWN
VERT.
SHEET 30 OF 34
CO. NO. SP 97-051
FILE NO.97014 -36
CADD NAME: 7014SWMC.DWG

2 YEAR STORM, Tc=5min.

INFLOW/OUTFLOW HYDROGRAPH



ROUTING COMPUTATIONS

INFLOW HYDROGRAPH / ROUTING COMPUTATIONS

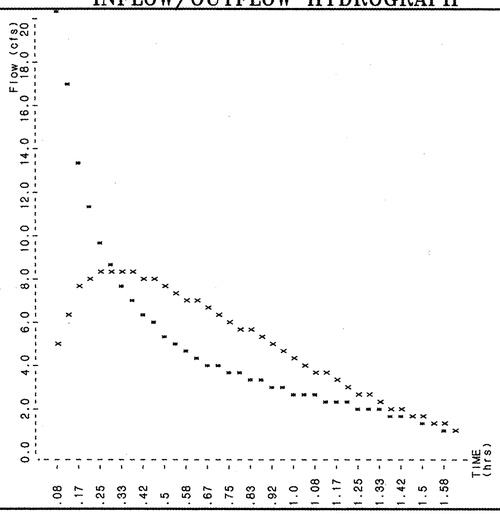
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.000	0.00	-----	0.0	0.0	0.00	313.00
0.083	15.36	15.4	7.0	15.4	4.17	314.71
0.167	9.89	25.3	19.8	32.3	6.25	316.25
0.250	7.33	17.2	23.4	37.0	6.78	316.68
0.333	5.86	13.2	23.1	36.6	6.74	316.64
0.417	4.85	10.7	21.1	33.8	6.38	316.38
0.500	4.11	9.0	18.0	30.1	6.05	316.05
0.583	3.61	7.7	14.5	25.7	5.56	315.66
0.667	3.10	6.7	11.3	21.3	4.97	315.24
0.750	2.82	5.9	8.3	17.2	4.46	314.91
0.833	2.51	5.3	5.9	13.7	3.90	314.55
0.917	2.31	4.8	3.9	10.7	3.36	314.28
1.000	2.09	4.4	2.8	8.3	2.79	314.04
1.083	1.92	4.0	2.0	6.8	2.38	313.89
1.167	1.75	3.7	1.5	5.7	2.10	313.80
1.250	1.58	3.3	1.4	4.8	1.72	313.71
1.333	1.38	3.0	1.3	4.4	1.51	313.67
1.417	1.21	2.6	1.3	3.9	1.32	313.63
1.500	1.04	2.3	1.3	3.5	1.14	313.59
1.583	0.87	1.9	1.3	3.2	0.94	313.56
1.667	0.70	1.6	1.3	2.9	0.77	313.53
1.750	0.54	1.2	1.4	2.6	0.61	313.50
1.833	0.34	0.9	1.4	2.2	0.43	313.47
1.917	0.17	0.5	1.4	1.9	0.24	313.44
2.000	0.00	0.2	1.4	1.6	0.07	313.41

***** Summary of Peak Outflow and Peak Elevation *****
Peak Inflow - 15.36 cfs
Peak Outflow - 6.78 cfs
Peak Elevation - 316.68 ft

***** Summary of Approximate Peak Storage *****
Initial Storage - 0 cu-ft
Peak Storage From Storm - 4,530 cu-ft
Total Storage In Pond - 4,530 cu-ft

10 YEAR STORM, Tc=5min.

INFLOW/OUTFLOW HYDROGRAPH



ROUTING COMPUTATIONS

INFLOW HYDROGRAPH / ROUTING COMPUTATIONS

TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.000	0.00	-----	0.0	0.0	0.00	313.00
0.083	20.49	20.5	10.8	20.5	4.86	315.18
0.167	13.19	33.7	29.4	44.4	7.51	317.41
0.250	9.75	22.9	35.8	52.4	8.30	318.30
0.333	7.81	17.6	36.5	53.9	8.42	318.45
0.417	6.45	14.3	34.6	50.7	8.10	318.10
0.500	5.47	11.9	31.1	46.5	7.69	317.59
0.583	4.73	10.2	27.0	41.3	7.17	317.07
0.667	4.14	8.9	22.5	35.8	6.64	316.56
0.750	3.69	7.8	18.2	30.4	6.08	316.08
0.833	3.33	7.0	14.2	25.2	5.53	315.63
0.917	3.04	6.4	10.8	20.5	4.87	315.18
1.000	2.79	5.8	7.9	16.6	4.37	314.85
1.083	2.56	5.4	5.6	13.3	3.84	314.52
1.167	2.34	4.9	3.8	10.5	3.32	314.26
1.250	2.09	4.4	2.7	8.3	2.77	314.03
1.333	1.86	4.0	2.0	6.7	2.35	313.88
1.417	1.63	3.5	1.5	5.5	2.00	313.78
1.500	1.41	3.0	1.4	4.5	1.58	313.68
1.583	1.16	2.6	1.3	3.9	1.32	313.63
1.667	0.93	2.1	1.3	3.4	1.05	313.57
1.750	0.70	1.6	1.3	2.9	0.79	313.53
1.833	0.48	1.2	1.4	2.5	0.57	313.50
1.917	0.23	0.7	1.4	2.1	0.34	313.46
2.000	0.00	0.2	1.4	1.6	0.10	313.42

***** Summary of Peak Outflow and Peak Elevation *****
Peak Inflow - 20.49 cfs
Peak Outflow - 8.42 cfs
Peak Elevation - 318.45 ft

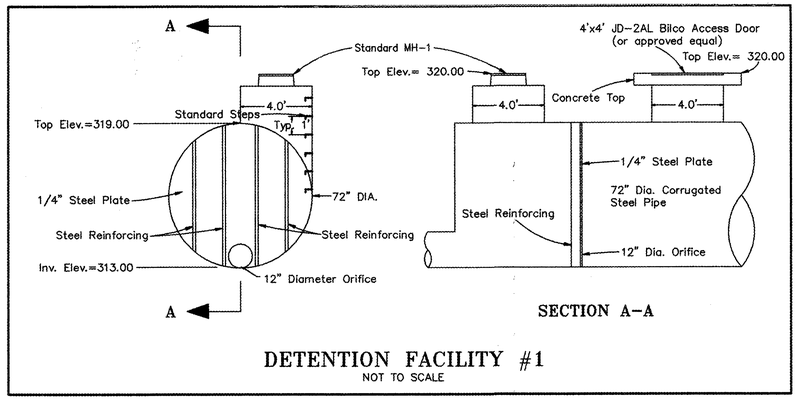
***** Summary of Approximate Peak Storage *****
Initial Storage - 0 cu-ft
Peak Storage From Storm - 6,737 cu-ft
Total Storage In Pond - 6,737 cu-ft

100 YEAR STORM, Tc=5min.

INFLOW/OUTFLOW HYDROGRAPH

NOTE: FOR 100 YEAR STORM INFORMATION, SEE OUTFALL NARRATIVE, SHEET 30.

ROUTING COMPUTATIONS



DETENTION FACILITY #1
NOT TO SCALE

NOTE: DETENTION FACILITY IS TO BE PRIVATELY MAINTAINED.

***** COMPOSITE OUTFLOW SUMMARY *****

Elevation (ft)	Q (cfs)	Contributing Structures
313.00	0.0	
313.20	0.0	
313.40	0.0	
313.60	1.2	1
313.80	2.1	1
314.00	2.7	1
314.20	3.2	1
314.40	3.6	1
314.60	4.0	1
314.80	4.3	1
315.00	4.6	1
315.20	4.9	1
315.40	5.2	1
315.60	5.5	1
315.80	5.7	1
316.00	6.0	1
316.20	6.2	1
316.40	6.4	1
316.60	6.7	1
316.80	6.9	1
317.00	7.1	1
317.20	7.3	1
317.40	7.5	1
317.60	7.7	1
317.80	7.8	1
318.00	8.0	1
318.20	8.2	1
318.40	8.4	1
318.60	8.5	1
318.80	8.7	1
319.00	8.9	1

>>>>>> Structure No. 1 <<<<<<
(Input Data)

ORIFICE

12" Dia. Orifice

E1 elev.(ft)	313.5
E2 elev.(ft)	319.001
Orifice coeff.	0.6
Invert elev.(ft)	313.00
Datum elev.(ft)	313.50
Orifice area (sq ft)	0.7854

GIVEN POND DATA

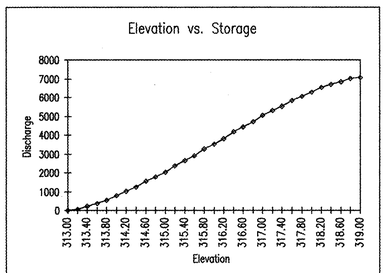
ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
313.00	0.0	0
313.20	0.0	62
313.40	0.0	218
313.60	1.2	368
313.80	2.1	540
314.00	2.7	797
314.20	3.2	1,006
314.40	3.6	1,229
314.60	4.0	1,540
314.80	4.3	1,784
315.00	4.6	2,034
315.20	4.9	2,387
315.40	5.2	2,641
315.60	5.5	2,906
315.80	5.7	3,264
316.00	6.0	3,534
316.20	6.2	3,804
316.40	6.4	4,163
316.60	6.7	4,428
316.80	6.9	4,691
317.00	7.1	5,035
317.20	7.3	5,285
317.40	7.5	5,529
317.60	7.7	5,840
317.80	7.8	6,062
318.00	8.0	6,272
318.20	8.2	6,529
318.40	8.4	6,701
318.60	8.5	6,851
318.80	8.7	7,007
319.00	8.9	7,069

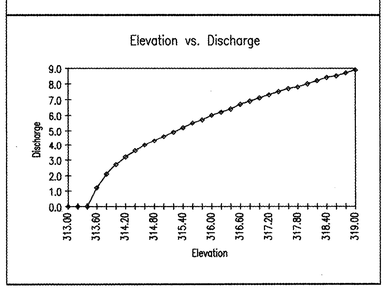
Time Increment (t) - 0.083 hrs.

----INITIAL CONDITIONS----
Elevation - 313.00 ft
Outflow - 0.00 cfs
Storage - 0 cu-ft

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
0.4	0.4
1.5	1.5
2.5	3.7
3.6	5.7
5.3	8.0
6.7	9.9
8.2	11.8
10.3	14.3
11.9	16.2
13.6	18.2
15.9	20.8
17.6	22.8
19.4	24.9
21.8	27.5
23.6	29.6
25.4	31.6
27.8	34.2
29.5	36.2
31.3	38.2
33.6	40.7
35.2	42.5
36.9	44.4
38.9	46.6
40.4	48.2
41.6	49.8
43.5	51.7
44.7	53.1
45.7	54.2
46.7	55.4
47.1	56.0





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(703)449-8100 (703)449-8108 (Fax)
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COMMONWEALTH OF VIRGINIA — JOHN H. BOWMAN — 016193 — PROFESSIONAL ENGINEER — 3-4-98

STORMWATER MANAGEMENT COMPS.-EXTENDED DETENTION
FACILITY #1

WHITTIER PARK
CITY OF FALLS CHURCH
VIRGINIA

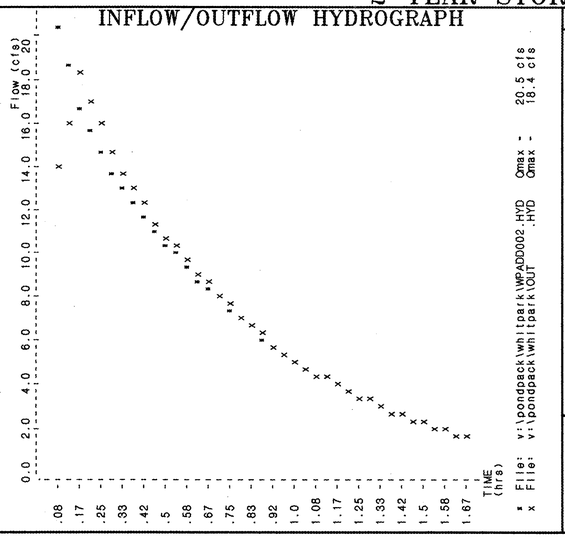
BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

DESIGNED BY:	JHB
DRAFTED BY:	KAW
CHECKED BY:	MRT
DATE:	MARCH 4,1998
SCALE:	HOR.
	VERT.
SHEET 31 OF 34	
CO. NO.	SP 97-0051
FILE NO.	97014 -36
CADD NAME:	7014SWM1.DWG

2 YEAR STORM, Tc=5min.

INFLOW/OUTFLOW HYDROGRAPH



ROUTING COMPUTATIONS

INFLOW HYDROGRAPH / ROUTING COMPUTATIONS

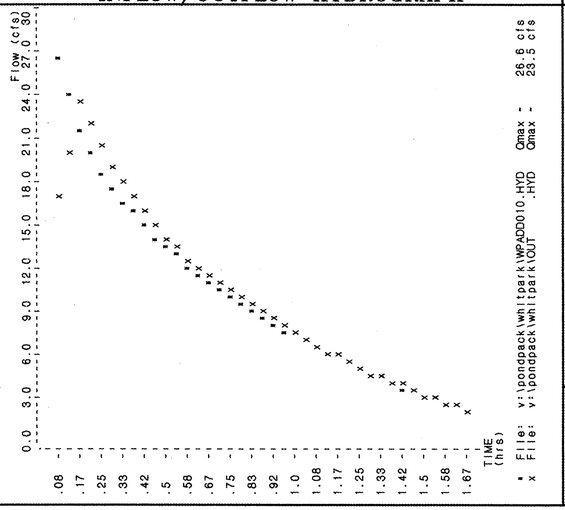
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.000	0.00	-----	0.0	0.0	0.00	304.00
0.083	20.48	20.5	-7.3	20.5	13.88	306.39
0.167	16.76	37.2	-6.7	30.0	18.36	307.75
0.250	14.56	31.3	-7.2	24.6	15.90	306.94
0.333	12.96	27.5	-7.3	20.3	13.77	306.37
0.417	11.53	24.5	-7.2	17.2	12.20	305.98
0.500	10.41	21.9	-6.6	14.8	10.68	305.68
0.583	9.38	19.8	-6.3	13.2	9.74	305.50
0.666	8.25	17.6	-5.8	11.4	8.57	305.29
0.750	7.43	15.7	-5.2	9.9	7.53	305.14
0.833	6.54	14.0	-4.6	8.8	6.71	305.04
0.916	5.79	12.3	-4.0	7.7	5.86	304.96
1.000	4.98	10.8	-3.4	6.8	5.10	304.90
1.083	4.41	9.4	-3.0	5.9	4.45	304.84
1.166	3.94	8.4	-2.6	5.4	4.01	304.81
1.250	3.39	7.3	-2.2	4.7	3.46	304.75
1.333	2.97	6.4	-1.9	4.1	3.01	304.70
1.416	2.60	5.6	-1.6	3.7	2.65	304.65
1.499	2.24	4.8	-1.3	3.2	2.28	304.61
1.583	1.86	4.1	-1.1	2.8	1.92	304.55
1.666	1.51	3.4	-0.8	2.3	1.56	304.49
1.749	1.17	2.7	-0.6	1.8	1.22	304.44
1.833	0.78	2.0	-0.4	1.3	0.87	304.36
1.916	0.41	1.2	-0.2	0.8	0.52	304.26
1.999	0.07	0.5	-0.1	0.2	0.16	304.10

***** Summary of Peak Outflow and Peak Elevation *****
Peak Inflow - 20.48 cfs
Peak Outflow - 18.36 cfs
Peak Elevation - 307.75 ft

***** Summary of Approximate Peak Storage *****
Initial Storage - 0 cu-ft
Peak Storage From Storm - 1,741 cu-ft
Total Storage In Pond - 1,741 cu-ft

10 YEAR STORM, Tc=5min.

INFLOW/OUTFLOW HYDROGRAPH



ROUTING COMPUTATIONS

INFLOW HYDROGRAPH / ROUTING COMPUTATIONS

TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.000	0.00	-----	0.0	0.0	0.00	304.00
0.083	26.62	26.6	-7.1	26.6	16.85	307.25
0.167	21.53	48.2	-5.9	41.1	23.50	309.80
0.250	18.67	40.2	-6.3	34.3	20.28	308.43
0.333	16.71	35.4	-6.8	29.1	17.94	307.61
0.417	14.95	31.7	-7.2	24.9	16.05	306.99
0.500	13.49	28.4	-7.3	21.2	14.27	306.49
0.583	12.19	25.7	-7.2	18.3	12.75	306.11
0.666	11.03	29.2	-6.9	16.1	11.47	305.83
0.750	9.98	21.0	-6.4	14.1	10.28	305.60
0.833	9.04	19.0	-6.2	12.6	9.38	305.43
0.916	8.08	17.1	-5.6	11.0	8.29	305.25
1.000	7.31	15.4	-5.1	9.8	7.42	305.13
1.083	6.54	13.9	-4.6	8.8	6.67	305.03
1.166	5.77	12.3	-4.0	7.7	5.86	304.96
1.250	4.96	10.7	-3.4	6.7	5.07	304.89
1.333	4.31	9.3	-2.9	5.9	4.38	304.84
1.416	3.72	8.0	-2.5	5.1	3.80	304.79
1.499	3.06	6.8	-2.0	4.3	3.15	304.71
1.583	2.53	5.6	-1.6	3.6	2.59	304.65
1.666	2.02	4.6	-1.2	3.0	2.09	304.58
1.749	1.53	3.6	-0.9	2.3	1.61	304.50
1.833	1.06	2.6	-0.5	1.7	1.13	304.42
1.916	0.56	1.6	-0.3	1.1	0.70	304.31
1.999	0.09	0.7	-0.1	0.3	0.22	304.14

***** Summary of Peak Outflow and Peak Elevation *****
Peak Inflow - 26.62 cfs
Peak Outflow - 23.50 cfs
Peak Elevation - 309.80 ft

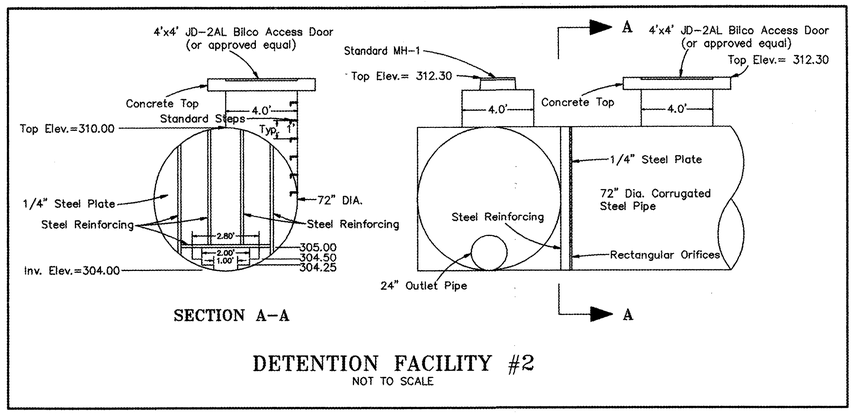
***** Summary of Approximate Peak Storage *****
Initial Storage - 0 cu-ft
Peak Storage From Storm - 2,634 cu-ft
Total Storage In Pond - 2,634 cu-ft

100 YEAR STORM, Tc=5min.

INFLOW/OUTFLOW HYDROGRAPH

NOTE: FOR 100 YEAR STORM INFORMATION, SEE OUTFALL NARRATIVE, SHEET 30.

ROUTING COMPUTATIONS



DETENTION FACILITY #2
NOT TO SCALE

NOTE: DETENTION FACILITY IS TO BE PRIVATELY MAINTAINED.

***** COMPOSITE OUTFLOW SUMMARY *****

Elevation (ft)	Q (cfs)	Contributing Structures
304.00	0.0	1
304.20	0.3	1
304.40	1.0	2 +3
304.60	2.2	2 +4 +5
304.80	3.9	2 +4 +5
305.00	6.4	2 +4 +6
305.20	8.0	2 +4 +6
305.40	9.2	2 +4 +6
305.60	10.3	2 +4 +6
305.80	11.3	2 +4 +6
306.00	12.3	2 +4 +6
306.20	13.1	2 +4 +6
306.40	13.9	2 +4 +6
306.60	14.7	2 +4 +6
306.80	15.4	2 +4 +6
307.00	16.1	2 +4 +6
307.20	16.7	2 +4 +6
307.40	17.9	2 +4 +6
307.60	17.9	2 +4 +6
307.80	18.5	2 +4 +6
308.00	19.1	2 +4 +6
308.20	19.7	2 +4 +6
308.40	20.2	2 +4 +6
308.60	20.7	2 +4 +6
308.80	21.2	2 +4 +6
309.00	21.7	2 +4 +6
309.20	22.2	2 +4 +6
309.40	22.7	2 +4 +6
309.60	23.2	2 +4 +6
309.80	23.5	2 +4 +6
310.00	24.1	2 +4 +6

>>>>>>> Structure No. 1 <<<<<<<
(Input Data)

WEIR-VR
1' Weir - Vertical Rectangular

E1 elev.(ft)	304.0
E2 elev.(ft)	304.25
Weir coefficient	3.0
Weir elev.(ft)	304.0
Length (ft)	1
Contracted/Suppressed (C/S)	C

>>>>>>> Structure No. 2 <<<<<<<
(Input Data)

ORIFICE
1' x 0.25' Orifice

E1 elev.(ft)	304.25
E2 elev.(ft)	310.001
Orifice coeff.	0.6
Invert elev.(ft)	304.0
Datum elev.(ft)	304.125
Orifice area (sq ft)	0.2500

>>>>>>> Structure No. 3 <<<<<<<
(Input Data)

WEIR-VR
2' Weir - Vertical Rectangular

E1 elev.(ft)	304.25
E2 elev.(ft)	304.50
Weir coefficient	3.0
Weir elev.(ft)	304.25
Length (ft)	2
Contracted/Suppressed (C/S)	C

>>>>>>> Structure No. 4 <<<<<<<
(Input Data)

ORIFICE
2' x 0.25' Orifice

E1 elev.(ft)	304.50
E2 elev.(ft)	310.001
Orifice coeff.	.6
Invert elev.(ft)	304.25
Datum elev.(ft)	304.375
Orifice area (sq ft)	0.50

>>>>>>> Structure No. 5 <<<<<<<
(Input Data)

WEIR-VR
2.8' Weir - Vertical Rectangular

E1 elev.(ft)	304.50
E2 elev.(ft)	305.00
Weir coefficient	3.0
Weir elev.(ft)	304.50
Length (ft)	2.8
Contracted/Suppressed (C/S)	C

>>>>>>> Structure No. 6 <<<<<<<
(Input Data)

ORIFICE
2.8' x 0.50' Orifice

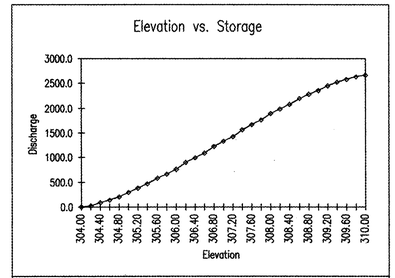
E1 elev.(ft)	305.00
E2 elev.(ft)	310.001
Orifice coeff.	0.6
Invert elev.(ft)	304.50
Datum elev.(ft)	304.75
Orifice area (sq ft)	1.4000

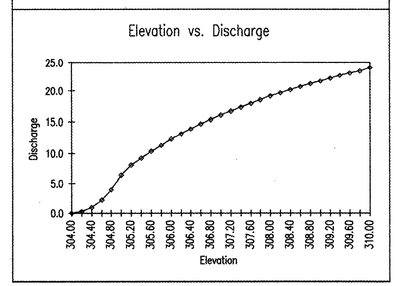
----INITIAL CONDITIONS----
Elevation - 304.00 ft
Outflow - 0.00 cfs
Storage - 0 cu-ft

GIVEN POND DATA / INTERMEDIATE ROUTING COMPUTATIONS

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)	2S/t (cfs)	2S/t + O (cfs)
304.00	0.0	0	0.0	0.0
304.20	0.3	23	0.2	0.5
304.40	1.0	82	0.5	1.5
304.60	2.2	138	0.9	3.1
304.80	3.9	203	1.4	5.3
305.00	6.4	299	2.0	8.4
305.20	8.0	378	2.5	10.5
305.40	9.2	462	3.1	12.3
305.60	10.3	579	3.9	14.2
305.80	11.3	671	4.5	15.8
306.00	12.3	765	5.1	17.4
306.20	13.1	894	6.0	19.1
306.40	13.9	999	6.6	20.5
306.60	14.7	1,093	7.3	22.0
306.80	15.4	1,227	8.2	23.6
307.00	16.1	1,329	8.9	25.0
307.20	16.7	1,430	9.5	26.2
307.40	17.3	1,565	10.4	27.7
307.60	17.9	1,665	11.1	29.0
307.80	18.5	1,764	11.8	30.3
308.00	19.1	1,899	12.6	31.7
308.20	19.7	1,987	13.3	33.0
308.40	20.2	2,079	13.9	34.1
308.60	20.7	2,196	14.6	35.3
308.80	21.2	2,279	15.2	36.4
309.00	21.7	2,358	15.7	37.4
309.20	22.2	2,455	16.4	38.6
309.40	22.7	2,519	16.8	39.5
309.60	23.2	2,576	17.2	40.4
309.80	23.5	2,634	17.6	41.1
310.00	24.1	2,658	17.7	41.8

Time Increment (t) - 0.083 hrs.





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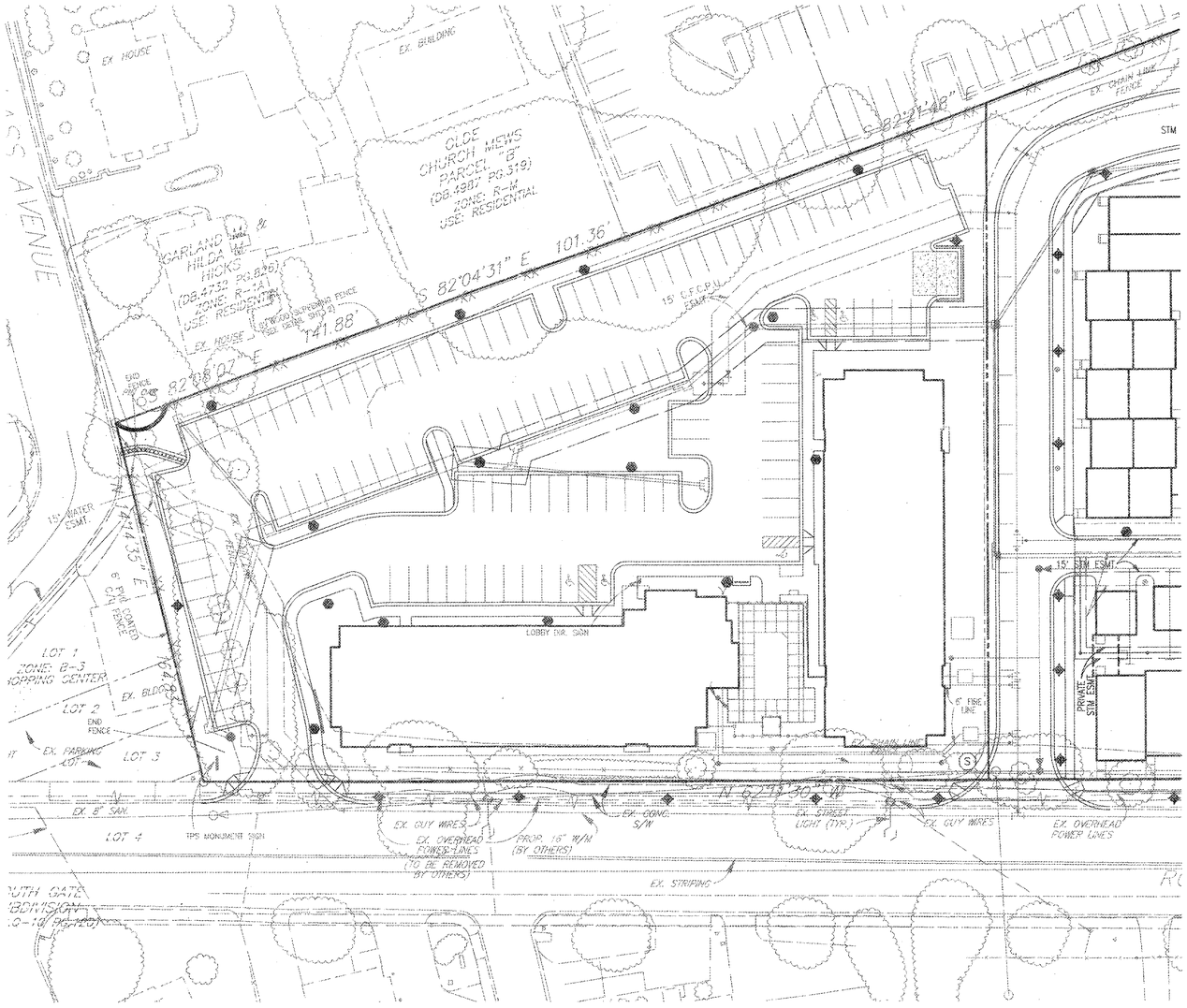
COMMONWEALTH OF VIRGINIA — JAMES H. JOHNSON — 26193 — PROFESSIONAL ENGINEER — 3-4-98

STORMWATER MANAGEMENT COMPS.-EXTENDED DETENTION
FACILITY #2
WHITTIER PARK
CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH, VIRGINIA

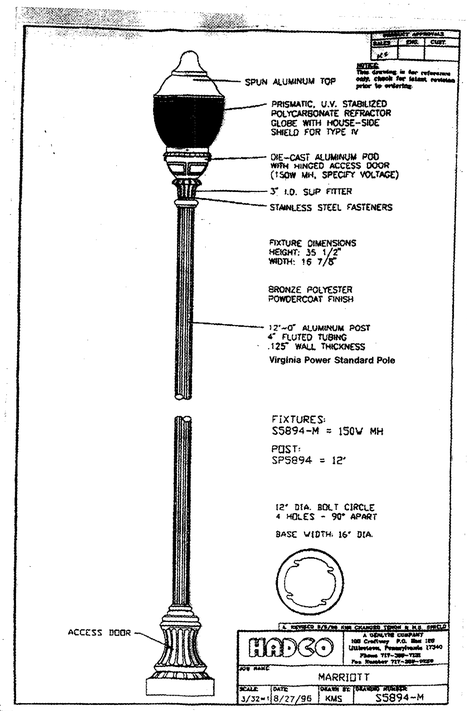
DESIGNED BY:	JHB
DRAFTED BY:	KAW
CHECKED BY:	MRT
DATE:	MARCH 4,1998
SCALE:	HOR. / VERT.
SHEET	32 OF 34
CO. NO.	SP 97-0051
FILE NO.	97014 -36
CADD NAME:	7014SWM2.DWG



LEGEND:

- STREET LIGHT – HADCO S5894-M (150W MH) LIGHT FIXTURE AND SP5894 (12') POST (REFER TO STREET LIGHT DETAIL THIS SHEET)
- ALL STREET LIGHTS THAT ARE PROPOSED IN THE EXISTING OR DEDICATED RIGHT OF WAY ARE TO BE A STANDARD VIRGINIA POWER 'ACORN' FIXTURE. ILLUMINATION TO SATISFY A MINIMUM 2' CANDLE WITH AND AVERAGE 1' CANDLE WIDTH.

THIS SHEET FOR LIGHTING PURPOSES ONLY



STREET LIGHT DETAIL

NO SCALE

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COMMONWEALTH OF VIRGINIA — JAMES H. CLARK — No. 018193 — 3-4-98 — PROFESSIONAL ENGINEER

COMMERCIAL LIGHTING PLAN

WHITTIER PARK

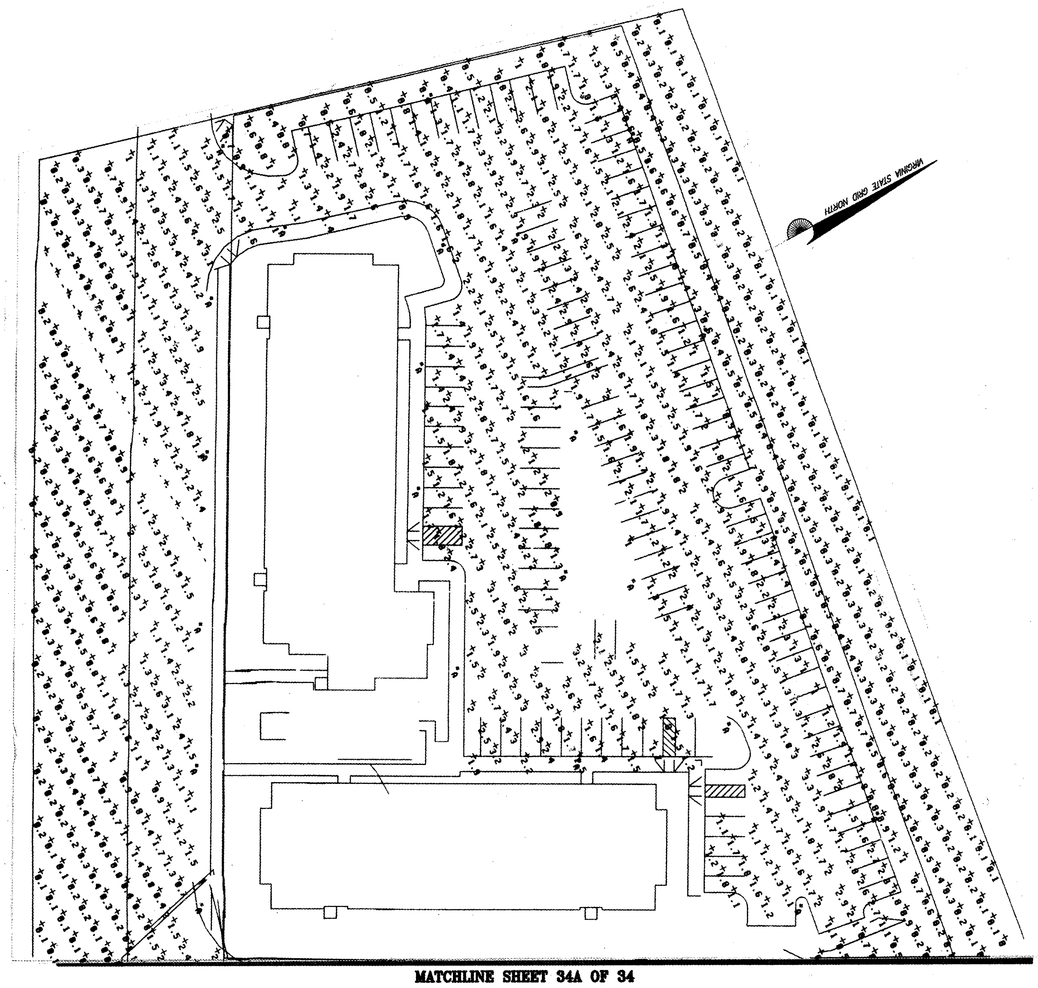
CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS
SEPTEMBER 1997
DECEMBER 1997

OWNER:
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY: HADCO	
DRAFTED BY: CAD	
CHECKED BY: JHS	
DATE: MARCH 4, 1998	
SCALE:	HOR. 1"=30' VERT. N/A
SHEET 33 OF 34	
CO. NO.	
FILE NO.97014 -36	
CADD NAME: 7014LPC.DWG	

THIS PLAN FOR PHOTOMETRICAL PURPOSES ONLY



MATCHLINE SHEET 34A OF 34

NOTE: ALL STREET LIGHTS THAT ARE PROPOSED IN THE EXISTING OR DEDICATED RIGHT-OF-WAY ARE TO BE A STANDARD VIRGINIA POWER FIXTURES.

BC REVISIONS
SEPTEMBER 1997
DECEMBER 1997

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY: HADCO
DRAFTED BY: CAD
CHECKED BY: JHS
DATE: AUGUST 20, 1997
SCALE: HOR. 1"=20'
VERT. N/A
SHEET 33A OF 34
CO. NO.
FILE NO.97014-01
CADD NAME: 7014CPP.DWG

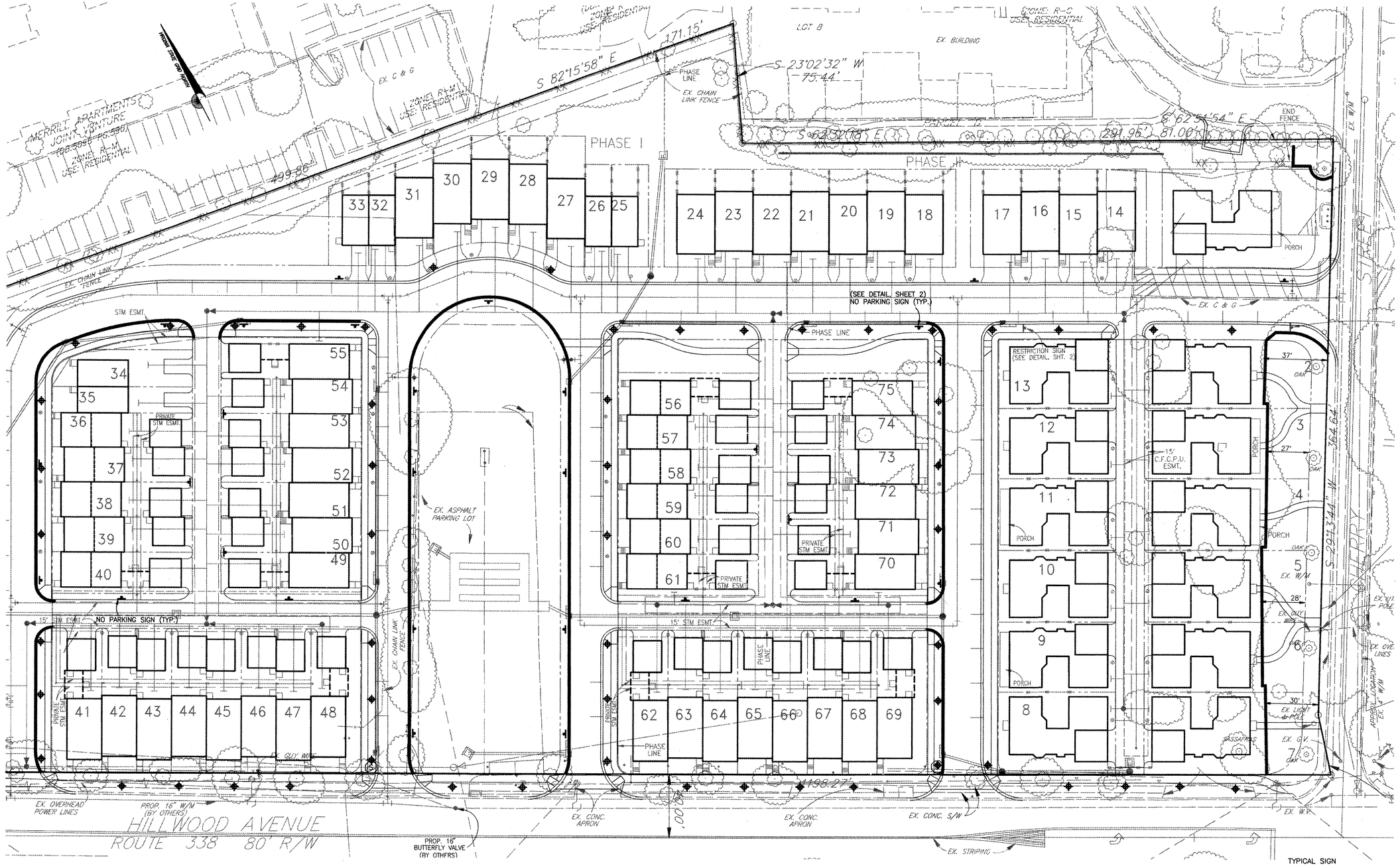
COMMERCIAL PHOTOMETRIC PLAN

WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

COMMONWEALTH OF VIRGINIA
JAMES H. SCALDO
No. 016193
3-4-98
PROFESSIONAL ENGINEER

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LEGEND:

◆ ALL STREET LIGHTS THAT ARE PROPOSED IN THE EXISTING OR DEDICATED RIGHT OF WAY ARE TO BE A STANDARD VIRGINIA POWER 'ACORN' FIXTURE. ILLUMINATION TO SATISFY A MINIMUM 2' CANDLE WITH AND AVERAGE 1' CANDLE WIDTH.

NOTE:
ADDITIONAL PRIVATE STREET ILLUMINATION SHALL BE PROVIDED BY LIGHTING ON GARAGES.

THIS SHEET FOR LIGHTING & SIGNAGE PURPOSES ONLY

LEGEND:

YELLOW PAINTED CURB FOR FIRE LANE

SIGN LOCATION & TYPE

TYPICAL SIGN

NO PARKING OR STANDING FIRE LANE

Standard wording with no arrow. Single sign mounted parallel to the the line of curbing or pavement edge.

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COMMONWEALTH OF VIRGINIA — JOHN H. SHEA — No. 018193 — 3-12-98 — PROFESSIONAL ENGINEER

RESIDENTIAL LIGHTING & SIGNAGE PLAN

WHITTIER PARK

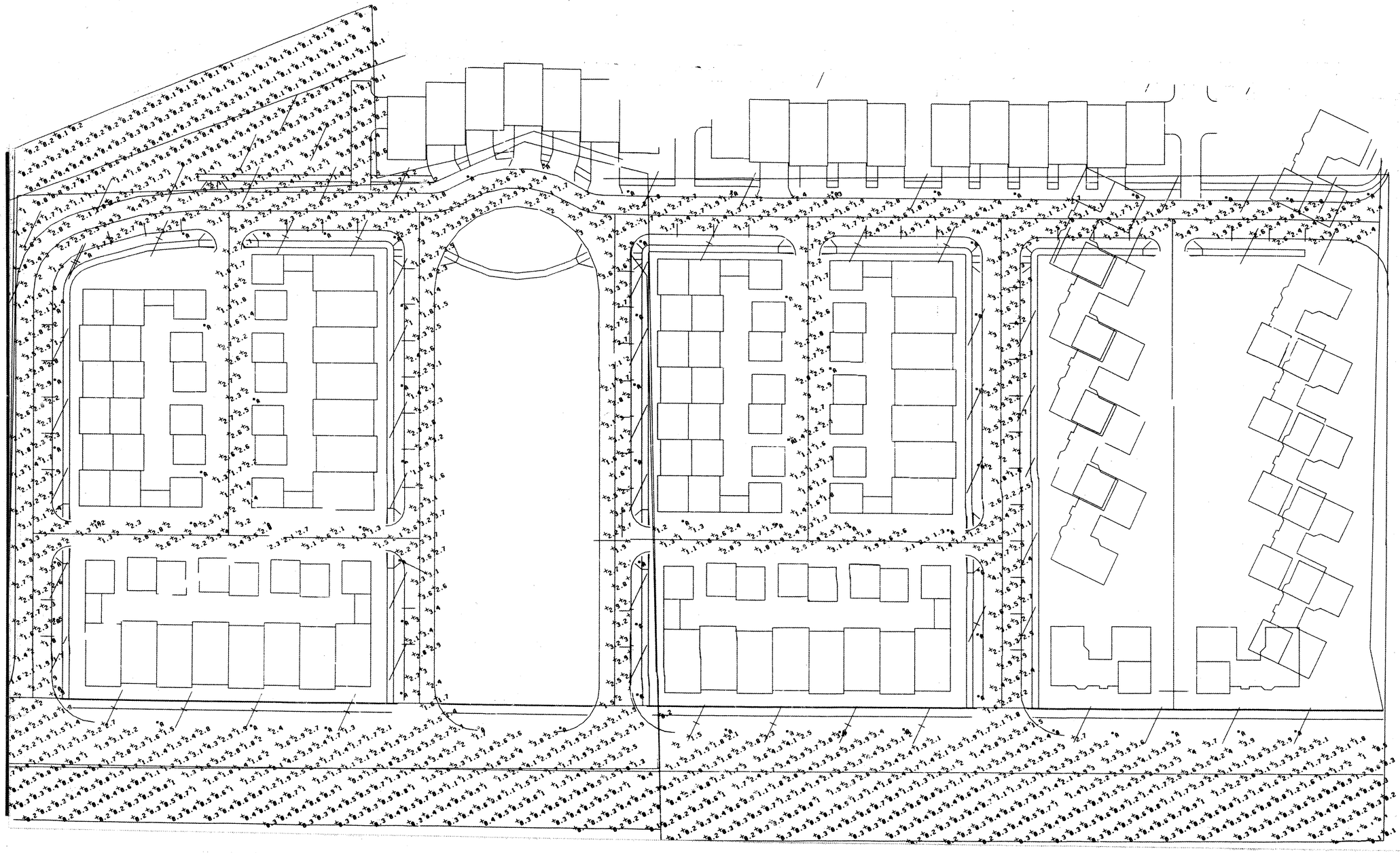
CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS
SEPTEMBER 1997
DECEMBER 1997

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY:	HADCO
DRAFTED BY:	CAD
CHECKED BY:	JHS
DATE:	MARCH 4, 1998
SCALE:	HOR. 1"=30' VERT. N/A
SHEET	34 OF 34
CO. NO.	
FILE NO.	97014 -36
CADD NAME:	7014LPR.DWG

MATCHLINE SHEET 33 OF 34



WRAWN SCALE - GRID NORTH

THIS PLAN FOR PHOTOMETRICAL PURPOSES ONLY

NOTE: ILLUMINATION IN PRIVATE DRIVES TO BE PROVIDED BY LIGHTING ON GARAGES.

NOTE: ALL STREET LIGHTS THAT ARE PROPOSED IN THE EXISTING OR DEDICATED RIGHT-OF-WAY ARE TO BE A STANDARD VIRGINIA POWER FIXTURES.

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COMMONWEALTH OF VIRGINIA
JAMES H. SCANLON
070193
PROFESSIONAL ENGINEER
3-4-98

RESIDENTIAL PHOTOMETRIC PLAN

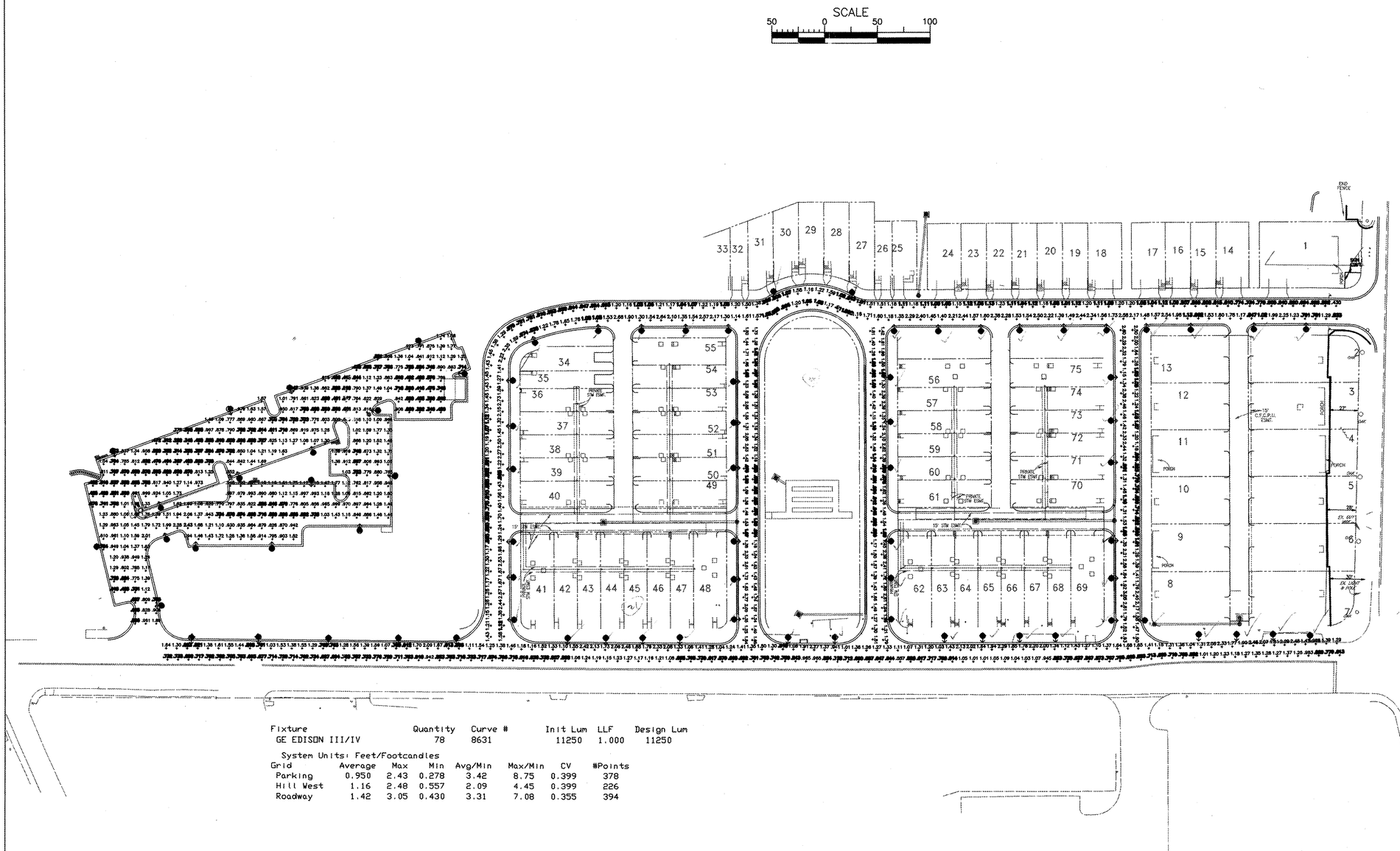
WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

BC REVISIONS
SEPTEMBER 1997
DECEMBER 1997

OWNER
CITY OF FALLS CHURCH
FALLS CHURCH
VIRGINIA

DESIGNED BY: HADCO	
DRAFTED BY: CAD	
CHECKED BY: JHS	
DATE: AUGUST 20, 1997	
SCALE:	HOR. 1"=30' VERT. N/A
SHEET 34A OF 34	
CO. NO.	
FILE NO.97014.01	
CADD NAME: 7014RPP.DWG	



Fixture	Quantity	Curve #	Init Lum	LLF	Design Lum
GE EDISON III/IV	78	8631	11250	1.000	11250

System Units: Feet/Footcandles

Grid	Average	Max	Min	Avg/Min	Max/Min	CV	#Points
Parking	0.950	2.43	0.278	3.42	8.75	0.399	378
Hill West	1.16	2.48	0.557	2.09	4.45	0.399	226
Roadway	1.42	3.05	0.430	3.31	7.08	0.355	394

General Electric Company
GE Lighting Systems
Hendersonville, NC 28739 USA

GE AutoLITCAD 2.00

Provided By:
Application Engineering
GE Lighting Systems
3010 Spartanburg Hwy
P.O. Box 4506
Hendersonville, NC 28739 USA
Phone: (704) 693-2176
Fax: (704) 693-2103

Provided For:
JIM WHEELER
COMMERCAIL LIGHTING

Calculated light levels are based on specific information that has been supplied to GE. Any differences in luminaire installation, lighted area geometry and obstructions in the lighted area may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will affect results.

Ref: IES LM-61-1986 Identifying Operating Factors for HID Luminaires

WHITTIER PARK

HOUSING DEVELOPMENT
EDISON III/V
150 WATT METAL HALIDE
14' MOUNTING HEIGHT POLES
LUMENS - 11250 (PER CUSTOMER)
* EXISTING LOCATIONS *
MAINTAINED HORIZONTAL FC'S @ GRADE

Designer:
Michael Owens

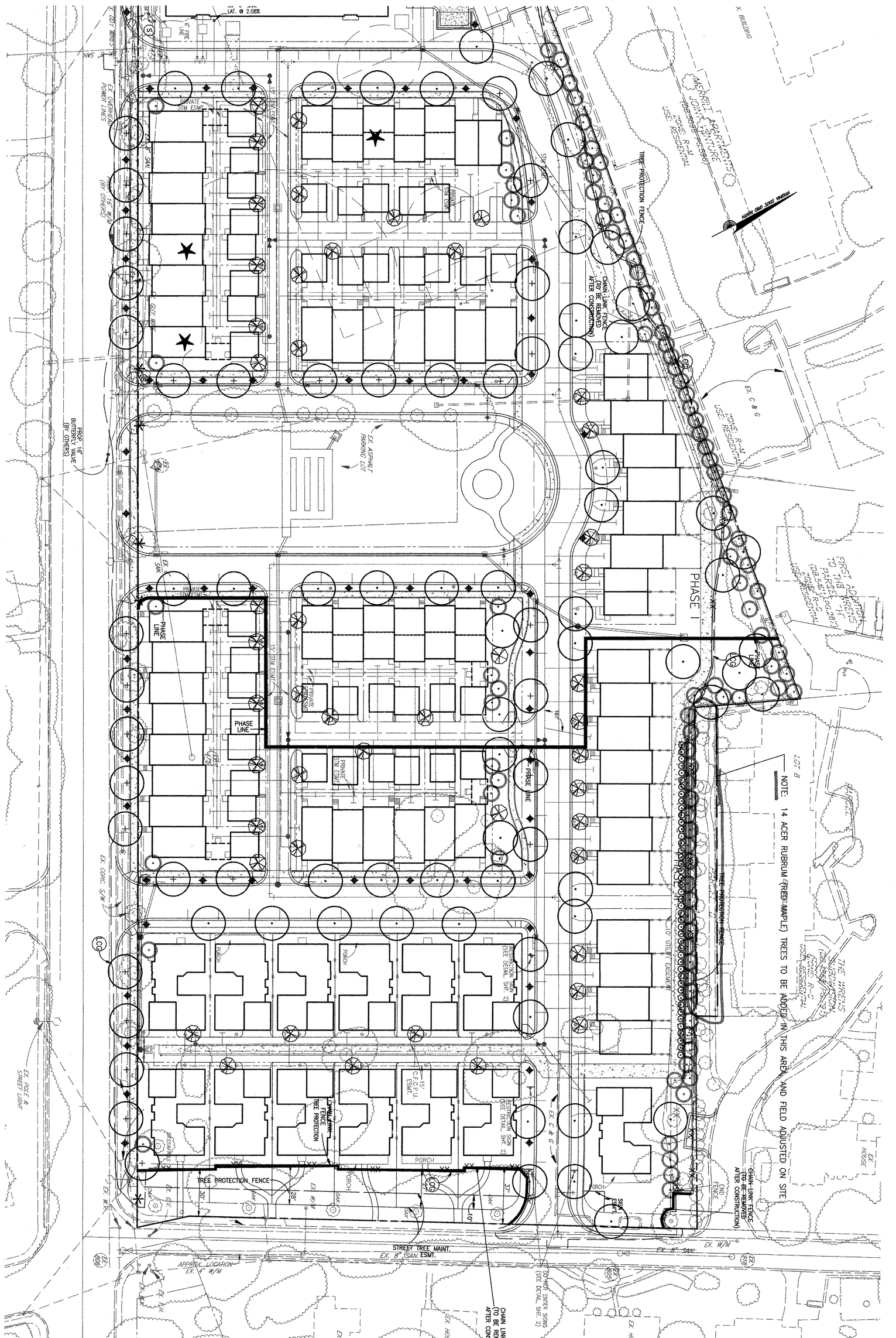
GE Layout Reference
SB1-98037

Sheet:
1 of 1

Date/Time Drawn:
10/20/98 4:47 PM

Drawing Number:
SB18037A

Rev:
00



THIS SHEET FOR LANDSCAPING PURPOSES ONLY

NOTE: WITHIN ONE YEAR OF GRADING NEAR THE WRENS PROPERTY, ADDITIONAL REMOVALS/REPLACEMENTS MAY NEED TO BE MADE ON THE WREN'S PROPERTY DEPENDING ON THE AMOUNT OF ROOTS CUT FROM THE LARGER TREES FOR GRADING ON THE ADJACENT HOLLADAY SITE.

NOTE: THIS SHEET IS FOR TREE PLANTING ONLY. SEE SHEET 16, 17 AND 18 FOR SHRUB AND GROUNDCOVER PLANT LOCATIONS.

DESIGNED BY: MKB/TAL	BC REVISIONS
DRAFTED BY: CAD	SEPTEMBER 1997
CHECKED BY: PLR	OCTOBER 1997
DATE: 10 DECEMBER 1997	NOVEMBER 1997
SCALE: HOR. 1"=30' VERT. N/A	DECEMBER 1997
SHEET 15 OF 34	MARCH 1998, SEPT. 1998
CO. NO.	OWNER CITY OF FALLS CHURCH FALLS CHURCH VIRGINIA
FILE NO. 97014	
CADD NAME: 7014SCO.DWG	

RESIDENTIAL LANDSCAPE PLAN-TREES

WHITTIER PARK

CITY OF FALLS CHURCH
VIRGINIA

COMMONWEALTH OF VIRGINIA
PETER L. RINEK
No. 388
REGISTERED LANDSCAPE ARCHITECT

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TREE INVENTORY

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
1	3"	Canadian hemlock	poor / fair						Adelgid
2	2"	Canadian hemlock	fair / good						Tip dieback
3	2"	Canadian hemlock	good / good						
4	2"	Canadian hemlock	good / good						Remove vines
5	2"	Canadian hemlock	good / good						Remove vines
6	3"	Canadian hemlock	good / good						
7	2"	Canadian hemlock	good / good						Remove vines
8	3"	Canadian hemlock	good / good						Remove vines
9	2"	Canadian hemlock	good / good						Remove vines
10	3"	Canadian hemlock	good / good						
11	3"	Canadian hemlock	fair / fair						
12	2"	Canadian hemlock	fair / poor						Suppressed
13	23"	Sweetgum	good / good		X	X	X		Deadwood, open wound, no trunk flare
14	23"	Black walnut	fair / fair	X					Upper cavity, deadwood
15	21"	Norway spruce	fair / fair	X					Deadwood, one sided
16	18"	Black cherry	fair / poor	X					Leaning, trunk scar, deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
17	11"	Black cherry	poor / poor	X					Suppressed, leaning toward parking area
18	11"	Black walnut	poor / poor	X					Suppressed, leaning toward parking area
19	2"	Black locust	fair / fair	X					
20	10"	Flowering dogwood	poor / poor	X					Suppressed, deadwood, decay, stressed
21	16"	English walnut	fair / poor	X					Suppressed, deadwood
22	2"	Black locust	fair / fair	X					
23	5"	Black cherry	fair / fair	X					
24	4"	Black cherry	fair / fair	X					2 leads
25	4"	Black locust	fair / fair	X					Lawnmower damage
26	3"	Black locust	fair / fair	X					Lawnmower damage
27	8"	Black locust	fair / poor	X					Deadwood, suppressed
28	27"	Black cherry	poor / fair	X					Heavy deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
29	2"	Mulberry	fair / fair	X					multistem
30	10"	Mulberry	fair / fair	X					multistem, embedded fence wire
31	22"	Silver maple	fair / fair		X				deadwood, weak branch union
32	24"	Black cherry	fair / fair		X				Deadwood
33	16"	Red maple	fair / fair						Leaning
34	18"	Silver maple	poor / poor	Lead near parking	X				2 leads, decay, weak branch union, embedded wire
35	27"	Silver maple	fair / fair		X				Deadwood
36	21"	Black cherry	fair / fair		X				Deadwood
37	21"	Silver maple	very poor / very poor	X					Missing top, decay
38	21"	Scarlet oak	fair / fair	X					Deadwood
39	2"	Mulberry	fair / poor	X					
40	10"	Silver maple	fair / fair	X					
41	16"	Sassafras	fair / fair	X					Deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
42	22"	Sassafras	fair / fair	X					Deadwood, weak branch union
43	22"	Black walnut	fair / fair	X					Deadwood, weak branch union, vines
44	20"	Silver maple	fair / fair	X					Weak branch union, vines
45	18"	White ash	fair / fair	X					Deadwood, vines
46	2"	Mulberry	fair / poor	X					
47	11"	Norway maple	good / good	X					
48	10"	Catalpa	very poor / very poor	X					Multistem, vines
49	30"	Silver maple	very poor / very poor	X					2 leads, overhead wires, root damage, poor pruning cuts, decay, sidewalk/curb conflict
50	14"	Silver maple	fair / fair	X					Weak branch union
51	9"	Norway maple	fair / fair	X					3 leads, embedded fence wire
52	9"	Norway maple	good / good	X					
53	9"	Norway maple	poor / poor	X					Lawnmower damage, deadwood, stressed
54	2"	Catalpa	poor / poor	X					

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
55	15"	Norway maple	fair / fair	X					Deadwood, conflicting branches, overhead wires
56	12"	Norway maple	fair / good	X					Deadwood, conflicting branches, overhead wires
57	12"	Norway maple	fair / good	X					Deadwood, conflicting branches, overhead wires
58	10"	Mulberry	poor / very poor	X					
59	16"	Trident maple	fair / fair	X					Deadwood, embedded wire
60	14"	Catalpa	fair / poor	X					Overhead wires
61	2"	Mulberry	poor / poor	X					
62	2"	Mulberry	poor / poor	X					
63	2"	Mulberry	poor / poor	X					
64	2"	Trident maple	fair / poor	X					
65	16"	American elm	fair / fair	X					Multistem, deadwood, embedded fence wire, conflicting branches
66	10"	Norway maple	fair / good	X					Deadwood

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
67	1"	Norway maple	poor / poor	X					Deadwood, decay, basal damage
68	14"	Sugar maple	fair / fair	X					Deadwood, conflicting branches
69	19"	Norway maple	very poor / very poor	X					Deadwood, decay, basal damage
70	11"	Norway maple	fair / good	X					Deadwood
71	12"	Norway maple	very poor / very poor	X					
72	28"	Sassafras	fair / fair	X					
73	20"	Scarlet oak	fair / fair		X	X	X		Deadwood
74	21"	Pin oak	poor / poor	X					Heavy deadwood
75	33"	Red oak	fair / good		X	X	X		Deadwood
76	28"	Red oak	good / good		X	X	X		
77	28"	Red oak	good / good		X	X	X		Deadwood
78	30"	Red oak	good / good		X	X	X		Deadwood
79	18"	Crabapple	very poor /poor	X					Deadwood, decay

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
80	18"	Black cherry	fair / fair	X					3 leads, deadwood
81	6"	Flowering dogwood	poor / fair	X					Deadwood, trunk wound, basal damage
82	16"	Canadian hemlock	poor / poor	X					Dead top, deadwood, stress
83	26"	Pin oak	fair / good	X					Heavy deadwood
84	12"	Mulberry	fair / fair	X					2 leads, deadwood
85	4"	Flowering dogwood	fair / fair	X					Deadwood
86	18"	Red maple	good / good	X					Weak branch union
87	14"	Southern red oak	fair / fair	X					Chlorosis, trunk scar, rubble at base,
88	12"	Red maple	fair / fair	X					Deadwood, conflicting branches
89	16"	Mulberry	fair / fair	X					Multistem, deadwood, conflicting branches
90	24"	Pin oak	good / good		X	X	X		Adjacent property
91	10"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
92	12"	Sassafras	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
93	10"	Black cherry	very poor/poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
94	12"	Black cherry	very poor/poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern. Severe lean
95	20"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
96	11"	Black locust	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
97	20"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
98	4"	Flowering dogwood	poor / poor	X					
99	10"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern. Severe lean
100	5"	Black cherry	fair / fair	X					

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
101	12"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
102	12"	Black cherry	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
103	12"	Mulberry	fair / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
104	16"	Black cherry	fair / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
105	3"	Canadian hemlock	fair / good				X		Prune roots at limit of excavation
106	16"	Black cherry	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
107	10"	Black cherry	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
108	14"	Black cherry	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
109	3"	Eastern redcedar	poor / poor	X					Conflicts with walkway

TREE #	SIZE (dbh)	COMMON NAME	CONDITION / FORM	REMOVE for Development	PRUNE	FERTILIZE	MULCH	CABLE	COMMENTS
110	8"	Black locust	poor / poor	X					
111	24"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
112	20"	Black locust	fair / fair	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.
113	18"	Black locust	poor / poor	X					Root loss from excavation for proposed retaining wall makes structural instability a concern.

August 28, 1997

Re: Whittier Park
BC Project #: 97014.01

Tree Preservation Guidelines

A. All Trees to be preserved as indicated in Contract Documents and Tree Preservation Activities Schedule shall be prepared and treated to maximize their potential for survival and improve their health and condition as specified in the Tree Preservation Schedule. All work will be performed to meet or exceed current industry standards. Minimum standards shall be those most recently published by the American National Standards Institute, A.N.S.I. or National Arborist Association, N.A.A.. Work will be performed as required by these notes and as shown in details and schedules incorporated in plans. All work shall be performed under direct supervision of an arborist certified by the Mid-Atlantic Chapter of the International Society of Arboriculture.

B. No other construction activity may occur on site until tree preservation fencing and site fencing designated in conjunction with tree preservation fencing has been installed and approved and root pruning has been done according to plan . The city Arborist must be notified and present at the start of the operation. Three (3) days notice is required for the city Arborist. All weather signs reading "Tree Preservation Fencing Do Not Remove" shall be posted every 20 feet.

1. Fencing must be maintained in place by the contractor throughout construction. In the event fencing must be temporarily removed for any reason, approval must be recieved first from the City Arborist.

2. Specifications For Temporary Chain Link Fence Panels

   Materials: Six (6) foot high, twelve (12) foot width panels; one and five-eights (1-5/8) inch outside diameter pipe with eleven (11) gauge mesh in two (2) inch diamond; panel set in rectangular concrete blocks at base and secured at top with saddle clamp.

C. All construction activity within the areas fenced off around the trees shall be prohibited. This shall include the following activities:

1. Parking or driving of equipment, machinery or vehicles of any type.

2. Storage of any construction materials, equipment, stockpiling, excavation or fill, soil, gravel, etc.

3. Dumping of any chemicals, (i.e. paint thinner from cleaning brushes), wash-out materials from cleaning equipment, concrete or motor remainder, trash, garbage, or debris of any kind.

4. Burning within or in proximity to protected areas.

5. Felling trees into protected areas.

6. Trenching or grading within the root zone of protected trees for any purpose, drainage, etc.

D. Contractor may not operate equipment within the root zone of Tree Preservation areas.

E. Fencing shall be installed at limits of clearing and grading wherever clearing and grading is to occur within root zones of trees to be preserved. Fencing shall be installed prior to construction and will consist of 6' chain link. Signs prohibiting entrance shall be installed 30 feet along fencing. Signs shall be bright yellow with red/black letters reading *"TREE PRESERVATION AREA - KEEP OUT"*.

F. Root pruning shall be performed in conjunction with fencing. Root pruning shall be performed at the edge of the Tree Preservation area as shown on the plan. Root pruning shall be to a depth of 18 inches. A trencher or vibratory plow shall be used to prune roots. Roots over 2" in diameter shall have a clean cut made on the surface of the root which is still attached to the tree. This cut shall be made with a hand saw or chain saw as soon as root is severed.

G. Silt fencing shall be installed as necessary to prevent silt from entering preserved areas. Silt fence shall be installed wherever potential runoff may cause silt to enter preservation area. Silt fencing will be coordinated with the erosion and sediment control plans for the project. Where silt fence and tree protection fence are installed contiguously, silt fence shall be attached to the tree protection fence in such a way that the two fences function as a single unit.

H. Pruning shall conform to A.N.S.I. A300, as published June 1, 1995. Trees numbered 73, 75, 76, 77, 73 and 13 shall receive maintenance pruning. This shall consist of crown cleaning, including removal of all deadwood one inch (1") and larger in diameter at its point of attachment. The removal of damaged and/or conflicting branches shall be included. Under no circumstances shall the interior of trees be stripped. Interior branches shall be selectively pruned to reduce conflict or where branches are damaged. All other trees to be preserved shall receive a hazard reduction prune. This shall consist of the removal of any dead branches two inches (2") and larger in diameter and the correction of any other problems related to safety. Items not correctable by pruning shall be brought to the owners attention in writing.

I. All trees designated to be preserved with root zones impacted by construction shall be mulched with wood chips or shredded hardwood. Mulch shall be applied four inches in depth. Mulch shall be kept at least two inches from the trunk of all trees. Wood chips generated on site during pruning and removal operations are acceptable material. Additional wood chips shall be supplied by contractor as needed to complete this task.

1. All invasive exotic plant material shall be removed from the "tree protection area", prior to application of mulch or chips.

J. All trees shall receive a liquid fertilization. Fertilizer shall be a slow release formulation applied at a rate of 1.5 pounds of nitrogen per 1,000 square feet of root zone treated. A root stimulation shall be added for all Key trees impacted by construction. Fertilizer shall be injected using a soil probe at a depth of six inches. Fertilizer shall be applied in a three foot grid pattern evenly distributed throughout the root zone. Trees numbered 73, 75, 76, 77, 78 and 13 shall be inoculated with mycorrhizae according to manufacturers specifications and as approved by the city Arborist. This work will be done prior to construction.

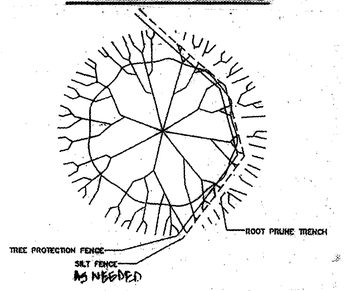
K. All other trees shall be fertilized using granular application to surface of soil within the root zone. Application rate shall be three pounds of nitrogen per thousand square feet of root zone. Fertilizer shall dispersed using mechanical broadcast equipment.

L. Contractors and sub-contractions are accountable for observing all tree protection requirements and for securing permission from the City Arborist (3 days notice is required) for any deviation from approved plans. Any damage resulting from failure to obtain permission is the responsibility of the contractors and sub-contractors and may result in additional cost to them. Property owners are advised to impose fines in their contract with construction companies if TREE PRESERVATION MEASURES are violated.

M. 'Selective clearing' in wooded areas will be allowed only under the direction of the City Arborist. Trees to be removed will be felled by a licensed tree contractor, protecting at all times trees to be saved. The City Arborist must be present for this operation. The brush will be chipped and chips used as cushioning material in traffic areas. Selective clearing is to be done by chainsaw only and stumps to be within 2" above grade, but not ground or pulled out unless approved in writing by the City Arborist.

N. A preconstruction meeting with the project Arborist and City Arborist (241-5183), Job Supervisor, Foreman and Crew is required prior to commencement of construction

ROOT PRUNING DETAIL



RESIDENTIAL PLANT LIST

WHITTIER PLACE

KEY	QUANT	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
		LARGE TREES			
AR	25	ACER RUBRA 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B&B
GB		GINKGO BILOBA 'SENTRY'	SENTRY GINKGO (MALE ONLY)	3" CAL.	B&B
LS	25	LIQUIDAMBAR STYRACIFLUA 'KOTUNDILOBA'	AMERICAN SWEETGUM (FRUITLESS)	3" CAL.	B&B
NS	9	NYSSA SYLVATICA	BLACK GUM	2 1/2" CAL.	B&B
PO	18	PLATANUS ACERIFOLIA 'COLUMBIA'	COLUMBIA LONDON PLANETREE	3" CAL.	B&B
QGP	20	QUERCUS PHELLOS	WILLOW OAK	3" CAL.	B&B ***
QP	-	QUERCUS PHELLOS	WILLOW OAK	3 1/2" CAL.	B&B ***
QR	4	QUERCUS RUBRA 'RED SUNSET'	RED SUNSET RED OAK	3" CAL.	B&B ***
TA	26	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	3" CAL.	B&B
		ORNAMENTAL TREES			
AA	-	AMELANCHIER ARBOREA	DOWNY SERVICEBERRY	2" CAL.	B&B
AG	15	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2" CAL.	B&B
CP	14	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2" CAL.	B&B**
LI	28	LAGERSTROEMIA INDICA 'NACHEZ'	NACHEZ CREPE MYRTLE (WHITE)	2" CAL.	B&B
MV	11	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	2" CAL.	B&B *
PR	2	PRUNUS OKAME	OKAME CHERRY	2" CAL.	B&B
SI	-	STYRAX JAPONICA	JAPANESE SNOWBELL	2" CAL.	B&B
		EVERGREEN TREES			
CJ	10	CRYPTOMERIA JAPONICA	JAPANESE CRYPTOMERIA	6' HT	B&B
CL	15	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	6' HT	B&B
CL1	-	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	12' HT	B&B
JN	32	ILEX X 'NELLIE R STEVENS'	NELLIE STEVENS HOLLY	6' HT	B&B
IO	-	ILEX OPACA	AMERICAN HOLLY	6' HT	B&B
PN	24	PINUS NIGRA	AUSTRIAN PINE	6'HT	B&B
PS	18	PINUS STROBUS	WHITE PINE	6' HT	B&B
		SHRUBS			
AZ	181	AZALEA SATSUKI 'GUMPO PINK'	GUMPO PINK AZALEA	18"	CONT.
BM	8	BUXUS MICROPHYLLA 'COMPACTA'	COMPACT BOXWOOD	24"	B&B
CA	13	CALYCANTHUS FLORIDUS	COMMON SWEETSHRUB	24"	B&B
CE	110	CLETHRA ALNIFOLIA	CLETHRA	24"	B&B
CC	67	CANYOPTERIS CLANDONIENSIS	BLUEBEARD	24"	B&B
DB	34	*DAPHNE X BURKWOODII	BURKWOOD DAPHNE	24"	B&B
HQ	16	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	24"	B&B
HC	129	HYPERICUM FATULUM	GOLDENCUP ST. JOHNSWORT	18"	CONT.
IB	-	ILEX CORNUTA 'BURFORDII'	BURFORD HOLLY	24"	B&B
ICH	156	ILEX CRENATA 'HELLERI'	HELLER HOLLY	18"	CONT.
IF	19	ILEX X ATTENUATA 'FOSTERI'	FOSTERS HOLLY	6' HT	B&B
IS	466	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	24"	B&B
ICB	40	ILEX X MESERVEAE 'BLUE PRINCESS'	BLUE PRINCESS HOLLY ****	24"	B&B
PL	66	PRUNUS LAUROCERASUS 'SCHIPKAENSIS'	SCHIPKA CHERRYLAUREL	24"	B&B
RC	18	RHODODENDRON CAROLINIANUM	CAROLINA RHODODENDRON	24"	B&B
TM	34	TAXUS X MEDIA 'HICKSII'	HICKS YEW	24"	B&B
RM	13	ROSA MEIDILAND (RED)	MEIDILAND ROSES (RED)	24"	B&B
VB	57	VIBURNUM BURKWOODII	BURKWOOD VIBURNUM	24"	B&B
VD	14	VIBURNUM DENTATUM 'ARROWWOOD'	ARROWWOOD VIBURNUM	24"	B&B
VP	9	VIBURNUM PLICATUM TOMENTOSUM 'MARIESII'	MARIES DOUBLEFILE VIBURNUM	24"	B&B
		GROUNDCOVER			
CH	-	CHRYSOGONUM VIRGINIANUM	GOLDEN STAR	1 PNT.	1' O.C.
HS	34	HEUCHERA SANGUINEA 'PURPLE PALACE'	PURPLE PLACE HEUCHERA	1 PNT.	1' O.C.
LM	7,648	LIRIOPE MUSCARI	LIRIOPE	1 PNT.	1' O.C.
PT	4,434	PACHYSANDRA TERMINALIS	PACHYSANDRA	2 1/4" P.P.	6" O.C.
VM	3,066	VINCA MINOR	PERIWINKLE	2 1/4" P.P.	6" O.C.
		ORNAMENTAL GRASSES			
MS	12	MISCANTHUS SINENSIS 'VARIEGATUS'	VARIEGATED SILVERGRASS	1 GAL.	CONT.
PM	38	PENNISETUM ALOPECUROIDES 'MOUDRY'	PURPLE MOUDRY FOUNTAIN GRASS	1 GAL.	CONT.
		PERENNIALS, BULBS AND VINES			
AT	64	ASTILBE 'RED SENTINEL'	RED SENTINEL ASTILBE	2 QT.	CONT.
RF	172	CROCOSMIA 'LUCIFER'	LUCIFER CROCOSMIA	2 QT.	CONT.
HB	237	HEMEROCALLIS 'BLACKEYED STELLA D'ORO'	BLACKEYED STELLA D'ORO DAYLILY	2 QT.	CONT.
HP	-	HYDRANGEA PANICULATA	CLIMBING HYDRANGEA	2 QT.	CONT.
IS	94	IRIS SIBERICA 'PERSIMMON'	PERSIMMON SIBERIAN IRIS	2 QT.	CONT.
LA	9	LAVENDULA ANGUSTIFOLIA 'GROSSO'	GROSSO LAVENDER	2 QT.	CONT.
LR	-	LYTHRUM SALICARIA 'ROBERT'	PURPLE LOOSTRIFE	2 QT.	CONT.
SS	86	SEDUM SPECTABILE 'AUTUMN JOY'	AUTUMN JOY SEDUM	2 QT.	CONT.
DS	3,209	TULIPIFERA (DARWIN HYBRID) SORBET	SORBET TULIPS	2 QT.	CONT.
DP	785	TULIPIFERA (DARWIN HYBRID) PINK IMPRESSION	PINK IMPRESSION TULIPS	2 QT.	CONT.

* FULL AND HEAVY SPECIMEN
** TREE FORM
*** SPRING DIG/SPRING PLANT ONLY FOR ALL OAKS
**** THREE (3) OF THE ICB ARE TO BE ILEX X. MESERVAE 'BLUE BOY' TO FERTILIZE THE 'BLUE PRINCESS' HOLLIES

NOTE: FINAL PLANT COUNTS TO BE VERIFIED AT FINAL REVISIONS. PLANT MATERIAL MAY BE SUBSTITUTED WITH CITY ARBORIST APPROVAL.

BC Consultants
Planners • Engineers • Surveyors • Landscape Architects
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(703)449-8100 (703)449-8108 (Fax)
BCcon@bccon.com

COMMONWEALTH OF VIRGINIA — KIMBERLY A. BOWKER — 022693 — PROFESSIONAL ENGINEER — 10-6-97

LANDSCAPE DETAILS AND SPECIFICATIONS

WHITTIER PARK

FALLS CHURCH VIRGINIA

BC REVISIONS
8/29/97 - TREE PRES. GUIDELINES
9/8/97 - REVISIONS
10/6/97 - REVISIONS
2/98 REVISIONS, 9/98 Plant List
4/98 REVISIONS

OWNER
CITY OF FALLS CHURCH
300 PARK AVENUE
FALLS CHURCH
VIRGINIA

DESIGNED BY: KB
DRAFTED BY: KB
CHECKED BY: PR
DATE: OCT. 6, 1997
SCALE: HOR.
VERT.

SHEET 19A OF 34
CO. NO. SP 97-0051
FILE NO. 97014.01
CADD NAME:

CITY OF FALLS CHURCH
PLANNING DIVISION
MEMORANDUM

DATE: June 23, 2006
TO:

__x__ City Arborist

xxx City Engineer

_____ Fire Marshal

__x__ Public Utilities

__xx_ Planning (Site Plan File/SE file)

FROM: **Gary H. Fuller, Principal Planner**

SUBJECT: AURORA HOUSE (City owned) Site Plan SP 05-0183 –**FINAL APPROVED PLANS for Your Files**
Aurora House Site Plan Amendment related to off-site Pearson Square project