

1. PAVING

I. DESIGN THICKNESS OF PAVING _____

II. STABILIZED SUBGRADE TO A DEPTH OF _____

III. DESIGN STRENGTH OF CONCRETE _____ psi

IV. TYPE AND PLACEMENT OF STEEL _____

NOTES:
I - IV TO BE COMPLETED ONLY IF PAVING IS TO BE ACCEPTED BY HARRIS COUNTY

DRIVEWAYS

I. NUMBER OF DRIVEWAY APPROACHES PROPOSED: 1

II. HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET C-3

NOTES:
I - II TO BE COMPLETED ONLY IF PROJECT ENTAILS CONSTRUCTION OF DRIVEWAYS AT TIME OF DEVELOPMENT

FIRE APPARATUS ACCESS ROAD

REQUIRED AND SHOWN ON SHEET(S) C12

NOT REQUIRED DUE TO _____

CURBING

I. ISLANDS AND MEDIANS REQUIRE STANDARD 6" CURBING

II. STANDARD 6" CURBING PROPOSED

4" x 12" CURBING PROPOSED

6" OR 4" x 12" ALLOWED EXCEPT AT MEDIANS AND ISLANDS

TRAFFIC CONSIDERATIONS

I. MEDIAN CUTS

NO MEDIAN CUT OR RELOCATION IS PROPOSED

MEDIAN MODIFICATIONS ARE SHOWN ON SHEET _____

II. LEFT HAND TURN

NO LEFT TURN LANE IS PROPOSED

LEFT TURN LANE IS SHOWN ON SHEET _____

III. TRAFFIC CONTROL PLAN

NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW

TRAFFIC CONTROL SHOWN ON SHEET _____

IV. EXISTING TRAFFIC CONTROL

DEVICES SHOWN ON PLANS (T.C. BOXES AND LOOPS)

NOTES:
I - III TO BE COMPLETED FOR ALL PROJECTS

6. STORM WATER QUALITY

I. CONSTRUCTION PROTECTIVE MEASURES

SWPPP SITE PLAN AND DETAILS ON SHEET(S) C10 & C11

II. APPLICABILITY FOR PERMANENT FEATURES

EXEMPT NEW DEVELOPMENT OF LESS THAN 5 ACRE PARCEL.

EXEMPT REDEVELOPMENT OF A 5 ACRE OR LARGER PARCEL WHERE TOTAL IMPERVIOUS SURFACE (EXISTING PLUS PROPOSED) IS LESS THAN 1 ACRE.

EXEMPT "GRAND FATHERED" BY AN EXISTING STORM SEWER LINE.

"STORM WATER QUALITY MANAGEMENT PLAN" HAS BEEN/WILL BE INCLUDED IN A SEPARATE SUBMITTAL ENTITLED _____

"STORM WATER QUALITY MANAGEMENT PLAN" INCLUDED. SWQMP SITE PLAN ON SHEET(S) C8

III. STORM WATER QUALITY FEATURES

VEGETATIVE CONTROLS USED: (FILTER STRIP, GRASSY SWALE, URBAN FORESTRY) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____

POND STRUCTURE USED (WET, DRY, WETLANDS) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) C7 & C8

HYDRODYNAMIC TYPE SEPERATOR MODEL: _____

OTHER(S): _____

NOTES:
I - II REQUIRED ON ALL PROJECTS, III IF NOT EXEMPT OR "GRANDFATHERED"

9. WHEEL CHAIR RAMPS / SIDEWALK

WHEEL CHAIR RAMPS PROPOSED YES NO

SIDEWALKS PROPOSED YES NO

NOTE: IF A MAJOR CATEGORY ON THIS SHEET IS NOT REQUIRED FOR THE PROJECT, "X" THROUGH THAT ENTIRE SECTION. CATEGORY (6) MUST BE COMPLETED.

2. SUBDIVISION DRAINAGE

I. DRAINAGE SYSTEM TYPE

STORM SEWER

ROADSIDE DITCH

II. DESIGN METHOD USED

CITY OF HOUSTON _____ FREQUENCY _____

OTHER _____

III. DRAINAGE SYSTEM OUTFALL

TO DETENTION POND

DETENTION POND MAINTAINED BY _____

TO HCFCD DRAINAGE DITCH UNIT NO. _____

TO HARRIS COUNTY ROADSIDE DITCH ROAD NAME: _____

STATIC W.S.E. @ OUTFALL IS _____

PROPOSED STORM SEWER IS SUBMERGED.

IV. STORM WATER OUTFALL

CAPACITY ALLOCATED TO TRACT FROM D.A. MAP: _____ (CFS)

FROM DRAINAGE AREA MAP DATED: _____

PREPARED BY: _____

ACTUAL OUTFALL RATE: _____ (CFS)

OTHER: _____

V. DRAINAGE SYSTEM FLOW RATE

FLOW PRIOR TO DETENTION: _____ CFS

FLOW AFTER DETENTION (IF REQUIRED): _____ CFS

NOTES:
I - IV REQUIRED ON ALL SUBDIVISION TYPE PROJECTS INCLUDING MANUFACTURED HOME PARKS.

3. SITE DRAINAGE

(OTHER THAN SUBDIVISION TYPE PROJECTS)

I. PROPOSED DRAINAGE AREA

NEW DEVELOPMENT AREA: 7.0021 ACRES

RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA): 0

II. DETENTION VOLUME (DRY BASIN)

NEW AREA 7 X 0.65 = 4.55 ACRE-FEET DETENTION REQUIRED

PROPOSED VOLUME = 5.06 ACRE FEET

III. OUTFALL

OUTFALL TO ROADSIDE DITCH

STORM SEWER

OTHER _____

STATIC W.S.E. @ OUTFALL IS _____

ROADSIDE DITCH OUTFALL: ROAD FRONTAGE _____ X 0.0088 = _____ (CFS) ALLOWABLE OUTFALL PROPOSED OUTFALL RATE: _____

STORM SEWER OUTFALL

CAPACITY ALLOCATED TO TRACT FROM D.A. MAP: 12.11 CFS (FUGATE)

FROM DRAINAGE AREA MAP DATED: SEPTEMBER, 1982

PREPARED BY: LANDEV ENGINEERS, INC.

ACTUAL OUTFALL RATE: PRIMARY-7.55 CFS, SECONDARY-3.02 CFS

IV. PUMPED DETENTION FACILITIES

ENTRANCE VELOCITY INTO ROADSIDE DITCH OR STORM SEWER: _____

PUMP SPECIFICATIONS AND OPERATING PLAN APPEAR ON SHEET _____

V. FLOW RESTRICTOR SIZE

OUTFALL PIPE SIZE: 24" RCP

RESTRICTOR PIPE SIZE: 10" AND 8"

VI. PROPOSED STORM SEWER IS SUBMERGED.

NOTES:
I. REQUIRED FOR ALL PROJECTS OTHER THAN SUBDIVISION TYPE PROJECTS. DEVELOPMENT AREA INCLUDES ALL AREA WHERE BUILDING, PAVING OR GRADING WILL OCCUR. AREAS NOT INCLUDED BUT WITHIN THE PROPERTY'S BOUNDARIES MUST BE DELINEATED AS A "NO WORK" AREA ON THE DRAWINGS.
II. - V. REQUIRED WHEN PROPOSED FACILITY WILL INCREASE THE AMOUNT OF RUNOFF INTO A COUNTY DRAINAGE DITCH, ROADSIDE DITCH OR STORM SEWER. IF ANALYZED AND THE RECEIVING DRAINAGE STRUCTURE HAS CAPACITY IN THE FULLY DEVELOPED CONDITION OF THE AREA IT SERVES, NO DETENTION IS REQUIRED.

4. WATER AND WASTEWATER

I. TYPE OF SERVICE PROPOSED

MUNICIPALITY: _____

MUNICIPAL UTILITY DISTRICT: H.C.M.U.D. NO. 191

OTHER DISTRICT: _____

PRIVATE WATER AND WASTEWATER SYSTEMS

PRIVATE WATER SYSTEM AND INDIVIDUAL OSSF

INDIVIDUAL WATER WELL AND OSSF

OTHER: _____

NO UTILITIES ARE PROPOSED

II. PROOF OF CAPACITY

LETTER FROM DISTRICT AUTHORIZING SERVICE AND CONNECTION

TCEQ APPROVAL FOR WATER SYSTEM AND PERMIT FOR WASTEWATER SYSTEM.

TCEQ APPROVAL FOR WATER SYSTEM AND OSSF FEASIBILITY REPORT

OSSF FEASIBILITY REPORT WHICH CONSIDERS INDIVIDUAL WELLS

III. AMOUNT OF FLOW

RESIDENTIAL: _____ LOTS OR UNITS

COMMERCIAL: _____ AVERAGE DAILY FLOW

OTHER: _____

NOTES:
I. COMPLETE FOR ALL PROJECTS
II. COMPLETE FOR ALL PROJECTS
III. COMPLETE ONLY IF TCEQ DISCHARGE PERMIT IS PROPOSED

5. DESCRIPTION OF PROPERTY

I. LEGAL DESCRIPTION / PLAT NAME (PROPOSED OR RECORDED):
A SUBDIVISION CONTAINING 7.0021 ACRES (305.011 S.F.) BEING ALL OF RESTRICTED RESERVE "D", OUT OF WILLOW CENTRE SUBDIVISION RESTRICTED RESERVE "D", SECTION ONE REPLAT, AS RECORDED IN FILM CODE NO. 380064 OF THE H.C.M.R., LOCATED IN THE G.W. CHILDRESS SURVEY, ABSTRACT NO. 217, IN HARRIS COUNTY, TEXAS.

NEW PLAT LOCATED IN THESE SURVEYS: _____

REPLAT OF RECORDED SUBDIVISION OR RESERVE KNOWN AS _____

II. ADJACENT ROADS WILLOW CENTRE DR. & COCKRUM RD.

III. JURISDICTIONS

CITY OF HOUSTON

CITY OF _____

ETJ, CITY OF HOUSTON

UTILITY DISTRICT: H.C.M.U.D. NO. 191

OTHER: _____

IV. HCAD ACCOUNT NOS. (ALL)
116-192-000-0004

NOTES:
I, III, IV. COMPLETE FOR ALL PROJECTS
II. COMPLETE ONLY IF PROJECT IS LOCATED ADJACENT TO A PUBLIC OR PRIVATE ROAD.

7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY

STORMWATER DETENTION BASIN ROUTING TABLE

DETENTION BASIN DRAINAGE AREA = 7.00 ACRES

RAINFALL EVENT PROBABILITY	PRE-DEVELOPED PEAK RUNOFF (CFS)	POST-DEVELOPED PEAK RUNOFF (CFS)	DETENTION BASIN PEAK OUTFLOW (CFS)	MAXIMUM WATER SURFACE ELEVATION	PEAK STORAGE VOLUME (AC-FT)	STORAGE RATE (AC-FT PER AC)
10% EXCEEDANCE (10-YEAR)	8.40	24.50	7.02	114.00	2.49	0.36
1% EXCEEDANCE (100-YEAR)	14.00	35.70	12.11*	116.48	4.56	0.62

ADDITIONAL CRITERIA FOR PUMPED DETENTION BASINS:

VOLUME OF PUMPED 1% EXCEEDANCE STORAGE VOLUME = _____ AC-FT _____ % OF TOTAL VOLUME

MAXIMUM DESIGN OUTFLOW VELOCITY INTO HCFCD CHANNEL = _____ CFS

DRAIN TIME FOR BASIN = _____ HOURS BASED ON _____ HEAD CONDITIONS.

*PER EX. DRAINAGE AREA MAP PREPARED BY LANDEV ENGINEERS, INC. DATED SEPT. 1982 - ALLOWED IS 12.11 - ACTUAL RELEASE RATE IS 10.57

STORMWATER DRAINAGE DESIGN REPORT

REPORT TITLE _____

REPORT DATE _____ ENGINEERING FIRM _____

DATE OF ACKNOWLEDGEMENT BY HCFCD OR FLOODPLAIN ADMINISTRATOR _____

STORMWATER DETENTION FOR THE PROPOSED WORK CONTAINED IN THESE PLANS IS PROVIDED BY OTHER PLANS:

PLAN TITLE _____

ENGINEERING FIRM _____ DATE DATED BY HCFCD _____

II. HCFCD STANDARD NOTES: SEE SHEET _____ OF THESE PLANS.

III. HCFCD STANDARD DETAILS: SEE SHEET _____ OF THESE PLANS.

IV. REFER TO PLAN SHEETS _____ FOR EXISTING AND PROPOSED RIGHT OF WAY DELINEATION AND COMPLETE RECORDING INFORMATION TO INCLUDE CLERK'S FILE NUMBERS, TYPE OF ESTATE (e.g., DRAINAGE EASEMENT, FEE STRIP, ETC.) AND GRANTEE (e.g. COH, HCFCD, PUBLIC, TXDOT, ETC.)

NOTES:
I. COMPLETE ONLY IF HCFCD OR HARRIS COUNTY IS REQUIRING DETENTION.
II. COMPLETE ONLY IF PROJECT HAS WITHIN IT OR IS IMMEDIATELY ADJACENT TO AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
III. COMPLETE ONLY IF PROJECT INCLUDES NEW OUTFALL, BACKSLOPE INTERCEPTOR OR OTHER RELATED WORK WITHIN AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
IV. COMPLETE ONLY IF PROJECT HAS WITHIN OR IMMEDIATELY ADJACENT TO IT AN EXISTING OR PROPOSED PUBLIC DRAINAGE CHANNEL OR DETENTION BASIN.

8. FLOOD PLAIN STATUS

I. GENERAL INFORMATION

FIRM PANEL(S) FOR PROPERTY: 48201C0435L

FIRM PANEL(S) DATE: JUNE 18, 2007

STATUS OF PROPERTY ON MAP

LOCATED IN UNSHADED ZONE "X"

ENTIRELY LOCATED IN SHADED AND UNSHADED ZONE "X"

LOCATED PARTIALLY IN ZONE "AE" DELINEATE ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT)

LOCATED ENTIRELY IN ZONE "AE" (INDICATE BASE FLOOD LEVEL ON CONSTRUCTION DRAWINGS)

OTHER _____

SITE REMOVED FROM FLOODPLAIN BY LOMA OR LOMR-F CASE NO. _____

FLOOD HAZARD RECOVERY DATA

FLOOD HAZARD RECOVERY DATA AVAILABLE AND UTILIZED (PROVIDED INFORMATION BASED ON 1973 AND 2001 ADJUSTMENTS).

FLOOD HAZARD RECOVERY DATA NOT AVAILABLE.

ELEVATION INFORMATION

BENCHMARK USED

FEMA RM benchmark

HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS)

OTHER IS&BP _____

DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT: FEMA RM 150770 LOCATED ON BRETON RIDGE DRIVE 100± NORTH OF FM 1960. ELEV. 120.92' BASED ON NAVD88, 2001 ADJ.

II. FLOOD PLAIN DETERMINATION BASED ON GROUND ELEVATION

PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN ZONE "X" (SHADED OR UNSHADED)

PROPERTY LIES PARTIALLY BELOW THE BASE FLOOD LEVEL (MUST BE DELINEATED ON TOPOGRAPHIC SURVEY)

III. FLOODPLAIN STORAGE SUMMARY (APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FLOODPLAIN AS DELINEATED BY FIRM PANEL).

A. TOTAL VOLUME OF MATERIAL PROPOSED TO BE PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.):
i.e., BELOW ELEVATION _____ (19 _____ ADJ.) _____ CUBIC YARDS

B. TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN:
i.e., BELOW ELEVATION _____ (19 _____ ADJ.) _____ CUBIC YARDS

NOTES:
I. COMPLETE FOR ALL PROJECTS
II. COMPLETE ONLY IF PROJECT IS ADJACENT TO 100-YEAR FLOOD PLAIN

IV. LOMR REQUIRED

VERIFIED BY: BW

HCPID SIGNATURE BLOCK

PROJECT KNOWN AS: DISCOUNT TIRE-DISTRIBUTION WAREHOUSE

WAS ACCEPTED BY THE FOLLOWING GROUPS FOR THE PURPOSES LISTED BELOW:

ENGINEERING DIVISION

BY _____ INTERPOSE NO OBJECTION _____ DATE _____

BY _____ AS TO TAVING AND/OR DRAINAGE ONLY _____ DATE 11-19-08

BY _____ AS TO LOCATION OF RESERVES AND RIGHT OF WAY _____ DATE 11-19-08

BY _____ AS TO STORM WATER QUALITY _____ DATE _____

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION

BY David B. Sal... DATE 11-6-08

FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY _____

APPROVED: _____

BY _____ FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY _____ DATE _____

BY _____ FOR ITEMS LOCATED WITHIN PROPOSED HCFCD RIGHT-OF-WAY _____ DATE _____

ADDITIONAL COMMENTS: _____

THE PROJECT WAS REVIEWED, HOWEVER, THIS DOES NOT MEAN THE ENTIRE PROJECT, INCLUDING ALL SUPPORTING DATA AND CALCULATIONS HAVE BEEN COMPLETELY CHECKED AND VERIFIED. THESE DRAWINGS ARE SIGNED, DATED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS, WHICH THEREFORE CONVEYS THE ENGINEER'S RESPONSIBILITY AND ACCOUNTABILITY. THIS DOES NOT RELIEVE ANY PARTY FROM COMPLYING WITH ANY OTHER LEGALLY ADOPTED REGULATION OR ORDINANCE RELATED TO LAND DEVELOPMENT. IF THE CITY SIGNATURES ARE REQUIRED BY ORDINANCE, COUNTY PERMITS WILL NOT BE ISSUED UNTIL SUCH SIGNATURES ARE OBTAINED. THESE SIGNATURES ARE VALID FOR A MAXIMUM OF TWO YEARS.

ENGINEER'S CERTIFICATION

KEVIN POLASEK _____, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS C01 THRU C15.

Kevin Polasek, P.E. 11-5-08

REVISIONS

DATE	SHEET NO.	DESCRIPTION	ACKNOWLEDGMENT

PROJECT NO. 2000574 APPLICANT NO. XXXXX

SHEET NUMBER **C15** OF **15**

HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT EXPRESS REVIEW SHEET