

- EROSION CONTROL NOTES**
- ALL EROSION AND SEDIMENT CONTROL CONSTRUCTION SHALL CONFORM TO THE CITY OF ROCKWALL STANDARDS AND SPECIFICATIONS, AND SHALL BE INSTALLED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING THE NOTICE OF INTENT (N.O.I.) AND NOTICE OF TERMINATION (N.O.T.) TO THE EPA.
 - ENGINEER TO PROVIDE EROSION CONTROL PLAN AT PRECONSTRUCTION CONFERENCE. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED IN ACCORDANCE WITH N.C.T.C.O.G. SPECS 3.12 EROSION & SEDIMENTATION CONTROL GUIDELINES, AND WILL BE INSTALLED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
 - ALL PAVED STREETS SURROUNDING THE PROJECT SHALL BE KEPT CLEAN AT ALL TIMES. NO MUD ACCUMULATION WILL BE ALLOWED IN PUBLIC STREETS. A CRUSHED STONE, VEHICLE WHEEL CLEANING BLANKET WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS ROAD INTERSECTS ANY PAVED ROADWAY. SAID BLANKET WILL BE COMPOSED OF 6" DIAMETER CRUSHED STONES AND BE AT LEAST 30 FEET WIDE BY 50 FEET LONG.
 - ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS DURING CONSTRUCTION TO PREVENT ANY BLOCKAGES FROM ACCUMULATED SEDIMENT. ADDITIONAL HAY BALES MAY BE REQUIRED DURING CONSTRUCTION AS SPECIFIED BY ENGINEER OR CITY INSPECTOR.
 - INSTALL SILT CONTROL FENCE FABRIC WITH 2"x 2"x 4" WOOD STAKES AT 6' ON CENTER WITH 2"x 1/2" LATHES TO ATTACH THE FABRIC TO THE STAKES. LOCATE SILT CONTROL FENCE TO MINIMIZE SURFACE SOIL EROSION.
 - THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUN OFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
 - ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN SIXTY (60) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A HYDROMULCH SEEDING WITH A MIXTURE OF BERMUDA AND RYE GRASS CONFORMING TO TEXAS HIGHWAY DEPARTMENT 1982 STANDARDS.
 - ALL PROPOSED PARKING AREAS TO BE PAVED AS SOON AS POSSIBLE AFTER SUBGRADE IS PREPARED.
 - STOCKPILES ARE NOT TO BE LOCATED WITHIN 50 FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHOULD BE PROTECTED BY A HAY BALE BARRIER OR SEDIMENT FENCE.
 - THE MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT EXCEED 3:1 UNLESS OTHERWISE APPROVED BY THE CITY.
 - CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONLY WHEN THERE IS A SUFFICIENT GROWTH OF GROUND COVER TO PREVENT FURTHER EROSION.
 - CONTRACTOR SHALL INSTALL SILT SCREEN WITH BRICKS TO RESTRAIN BASE. HAY BALES ARE NOT ACCEPTABLE AFTER INLET IS TAPPED OUT.

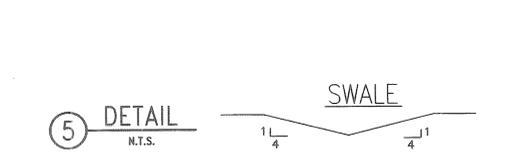
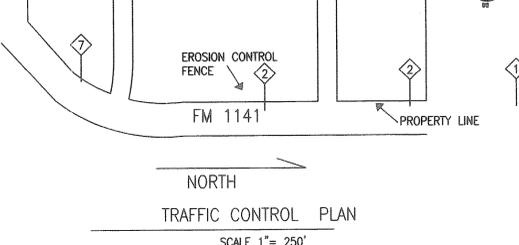
- GRADING NOTES**
- REMOVE TOPSOIL TO DEPTH OF 3" AND STOCKPILE, EXCAVATE ROADS AND PARKING AREAS FOR FILL AT BUILDING PADS WHICH SHALL MAINTAIN FLAT GRADE 5' OUTSIDE OF BUILDING BEFORE SLOPE STARTS. COMPACT FILL TO 95% PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT.
 - IN THE CASE OF SLABS ON GRADE, ROUGH PAD WILL BE BROUGHT TO 8" BELOW FINISH SLAB ELEVATION. REVIEW GRADING WITH ENGINEER SO ± 0.3' ADJUSTMENT MAY BE MADE TO BALANCE CUT AND FILL IF REQUIRED. EXCESS FILL MAY BE DISPOSED ON SITE AS DIRECTED BY ENGINEER.
 - SLOPE GRASSED AREAS AND SIDEWALKS AT A MINIMUM OF 1% TO TOP OF CURBS OR DRAINAGE CHANNEL.
 - CROSS-SECTIONAL SLOPE ON DRIVEWAYS AND PARKING LOTS SHALL BE A MINIMUM OF 1/4" TO 1'-0" (2%).
 - SEE ARCHITECTURAL LANDSCAPE DRAWINGS FOR DETAILS OF LANDSCAPING.
 - ALL DRAINAGE SWALES SHALL BE SMOOTHLY SLOPING TO THE OUTLET STRUCTURES WITH 1'-6" ± DEPTH. SIDE SLOPE SHALL BE 1 TO 4 IN R.O.W. WITH HYDROMULCHED BERMUDA GRASS ALONG SLOPES AND BOTTOM.
 - ALL REINFORCED CONCRETE STORM DRAIN PIPE SHALL BE CLASS III.

- PAVING NOTES**
- PAVING SHALL BE DESIGNED IN ACCORDANCE WITH THE CITY STANDARDS OR SOILS REPORT RECOMMENDATIONS THOUGH NOT LESS THAN 6" OF 3,600 P.S.I. CONCRETE WITH #3 @ 18" E.W. AT CENTER AND TOP 6" OF SUB-BASE WITH 7% LIME STABILIZATION COMPACTED TO 95% PROCTOR DENSITY AT OPTIMUM MOISTURE. CONTROL JOINTS AT 20' C.C. EACH WAY SHALL BE SEALED TO PREVENT MOISTURE PENETRATION.
 - INSTALL HANDICAP RAMPS AT SIDEWALKS.

- DRAINAGE AND UTILITY NOTES:**
- DEDICATE A 50' DRAINAGE AND UTILITY EASEMENT ALONG THE PROPERTY LINE OF THE NORTH AND SOUTH BOUNDARIES OF THE PROJECT.
 - DEDICATE A 15' DRAINAGE & UTILITY EASEMENT ALONG EACH SIDE OF INTERIOR DRIVE FOR PROJECT.
 - DEDICATE THIRTY FOOT DRAINAGE AND UTILITY EASEMENTS WITH 15' ALONG EACH SIDE OF LOTS 6 AND 7, AND LOTS 17 AND 18. DEDICATE A 60 DRAINAGE AND UTILITY EASEMENT WITH 30' EACH SIDE ALONG THE PROPERTY LINE BETWEEN LOTS 12 AND 13.
 - INSTALL 27" RCP x 40' BELOW ROAD AT FLOW LINE 542.6 WITH TYPE B HEADWALLS AND 1.1% SLOPE TO GRASSED OUTLET SWALE CENTERED ON PROPERTY LINE BETWEEN LOTS 17 AND 18.
 - INSTALL TWO 27" RCP x 40' BELOW ROAD AT FLOW LINE 533.8 WITH TYPE B HEADWALLS AND 1.0% SLOPE WITH OUTLET TO GRASSED SWALE ALONG LOT LINE BETWEEN LOTS 6 AND 7.

- GENERAL NOTES**
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THESE PLANS AND CITY OF ROCKWALL STANDARDS AND N.C.T.C.O.G. SPECIFICATIONS.
 - BARRICADING, TRAFFIC CONTROL, AND PROJECT SIGNS SHALL CONFORM TO "STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION BARRICADING AND CONSTRUCTION STANDARDS".
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY AND OWNER'S REPRESENTATIVE 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT PUBLIC UTILITY COMPANIES FOR FIELD LOCATION OF EXISTING UTILITIES BEFORE CONSTRUCTION BEGINS.
 - ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE SHOWN.
 - ALL GRADES ARE TO THE TOP OF CURB OR TOP OF PAVEMENT UNLESS OTHERWISE SHOWN.
 - CONTRACTOR SHALL VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER OF ANY VARIANCES.
 - PREPARE SUBGRADE AND CONSTRUCT PAVEMENT IN ACCORDANCE WITH CITY STANDARDS AND SOILS REPORT RECOMMENDATIONS WITH CONTROL JOINTS AT 20' SPACING AND EXPANSION JOINTS AT 80' SPACING.

- FIELD LAYOUT NOTES**
- THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING THE ALIGNMENT AND GRADE STAKES AS SET BY THE ENGINEER UNTIL DRAINAGE, PAVEMENT, AND UTILITY IMPROVEMENTS ARE ACCEPTED BY THE OWNER. IN THE EVENT STAKES ARE LOST, THE ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE ALIGNMENT AND GRADE THEREOF.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PRESERVE AND PROTECT ALL UTILITIES AS REQUIRED.
 - OWNER TO PAY ENGINEER FOR ONE ROUGH GRADE STAKING AND ONE FINAL GRADE STAKING OF BUILDING PADS AND PAVEMENT. CONTRACTOR SHALL USE SURVEY INSTRUMENTS OR LASERS FOR LAYOUT OF DETAILS FROM ENGINEERING CONTROL POINTS.
 - THE LOCATION AND ELEVATIONS OF THOSE EXISTING PUBLIC UTILITIES SHOWN IN THESE DRAWINGS HAVE BEEN OBTAINED FROM PUBLIC RECORDS. THE CONTRACTOR SHALL CONFIRM AND VERIFY THE ELEVATION AND LOCATION OF THOSE UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
 - UTILITY CONTRACTOR SHALL RECORD THE LOCATIONS OF ALL WATER AND SEWER SERVICES RELATIVE TO ROAD STATIONS. THE UTILITY CONTRACTOR SHALL RECORD ANY ADDITIONS, DELETIONS, OR REVISIONS TO THESE PLANS WHICH OCCUR IN THE FIELD. THIS INFORMATION IS TO BE FURNISHED TO THE ENGINEER IMMEDIATELY UPON INSTALLATION.
 - PAVING CONTRACTOR SHALL COORDINATE LOCATION OF ALL WATER AND SEWER SERVICES WITH UTILITY CONTRACTOR AND MARK LOCATION ON CURB.



SWALE HYDRAULIC CALCULATIONS n=0.033

SWALE AREA	AREA (S.F.)	PERIMETER (FT)	VELOCITY (FT/S)	HEAD (V ² /2G) (FT)	SLOPE %	Q RUNOFF (CFS)
SWALE A	4	8	1.73	0.047	0.37 %	6.93
SWALE B	9	12	2.78	0.12	0.56 %	25.08
SWALE C	16	16	3.87	0.23	0.73 %	61.97
SWALE D	49	28	3.57	0.2	1.3 %	174

CULVERT HYDRAULIC CALCULATIONS

DRAINAGE AREA	AREA (ACRES)	CULVERT SIZE	VELOCITY (FT./S)	HEAD (FT)	SLOPE %	Q (CFS) RUNOFF	
						Q _{CAP}	Q ₁₀₀
A2	6.63	1-27" RCP	8.17	1.04	1.1 %	32.5	32.49
A1, A2, A3	20.73	1-42" RCP	10.56	1.73	1.01 %	101.6	101.58
B2	15.8	3-27" RCP	6.5	0.65	0.69 %	93.3	77.42

SWALE HYDRAULIC CALCULATIONS

SCHEDULE	SYMBOL	DEPTH
SWALE A	— A —	0.5' TO 1.0'
SWALE B	— B —	1.0' TO 1.5'
SWALE C	— C —	1.5' TO 2.0'
SWALE D	— D —	2.0' TO 3.5'

HYDRAULIC CALCULATIONS Q = C.I.A.

DRAINAGE AREA	AREA (ACRES)	t _c MIN.	C ^c COEF.	INTENSITY		Q (CFS) RUNOFF	
				10 MIN I ₁₀₀	17 MIN I ₁₀₀	10 MIN Q ₁₀₀	17 MIN Q ₁₀₀
A1	11.3	10, 17	0.5	9.8	7.52	55.37	42.49
A2	6.63	10, 17	0.5	9.8	7.52	32.49	24.93
A3	2.8	10, 17	0.5	9.8	7.52	13.72	10.53
B1	12.1	10, 17	0.5	9.8	7.52	59.29	45.50
B2	15.8	10, 17	0.5	9.8	7.52	77.42	59.41
B3	4.48	10, 17	0.5	9.8	7.52	21.95	16.84

TIME OF CONCENTRATION = INLET TIME + DISTANCE/(VELOCITY X 60).
 (1 ACRE RESIDENTIAL) = 10 MIN. + 2200'/(5 FPS X 60) = 17 MIN.
 USED 10 MIN. INTENSITY FACTOR OF 9.8 FOR CULVERTS & SWALES.

MAINTENANCE:
 THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

9450G.WPS D602

9113M.WPS D602

DRAINAGE AREA, EROSION CONTROL, & TRAFFIC PLAN
SADDLEBROOK

HENNESSEY ENGINEERING, INC.
 1417 W. MAIN ST., CARROLLTON, TEXAS, 75008 (214-245-9478)

COUNTY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
H-E	J.S.	01-12-99	AS SHOWN		9951	C-1