

DRAINAGE CALCULATIONS

- PRECIPITATION ZONE = 2
- DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
6-HOUR = 2.35 INCHES
24-HOUR = 2.75 INCHES
10 DAY = 3.95 INCHES
- PEAK DISCHARGE (CFS/ACRE) FOR 100-YEAR, ZONE 2, TABLE A-9:
Q = 1.56 CFS/ACRE SOIL UNCOMPACTED "A"
Q = 2.28 CFS/ACRE LANDSCAPED "B"
Q = 3.14 CFS/ACRE COMPACTED SOIL "C"
Q = 4.70 CFS/ACRE IMPERVIOUS AREA "D"
FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
- EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8:
E = 0.53 INCHES SOIL UNCOMPACTED "A"
E = 0.75 INCHES LANDSCAPED "B"
E = 1.13 INCHES COMPACTED SOIL "C"
E = 2.12 INCHES IMPERVIOUS AREA "D"
- PROPOSED CONDITIONS ONSITE LOT #2 AND LOT #3
LOT #2 AREA = 3,602SF = 0.08AC
LOT #3 AREA = 4,178SF = 0.10AC
TOTAL AREA = 7,780SF = 0.18AC
TREATMENT "D" AREA:
LOT#2: (HOUSE, GARAGE AND SDWK) = (40'X27') + (15'X12') + (21'X12') + (8'X4') = 1544SF = 0.04AC
LOT#3: (HOUSE, GARAGE AND SDWK) = (43'X31') + (6'X16') + (21'X12') + (5'X5') + (8'X4') = 1738SF = 0.04AC
TREATMENT "C" AREA:
LOT#2: (GRAVEL DRIVEWAY) = (61'X11') = 671SF = 0.02AC
LOT#3: (GRAVEL DRIVEWAY) = (73'X11') = 803SF = 0.02AC

TREATMENT "B" AREA BALANCE:
LOT#2: AREA = 0.08 - 0.04 - 0.02 = 0.02AC
LOT#3: AREA = 0.10 - 0.04 - 0.02 = 0.04AC

TREATMENT AREA (ACRES)
A 0
B 0.02 + 0.04 = 0.06
C 0.02 + 0.02 = 0.04
D 0.04 + 0.04 = 0.08

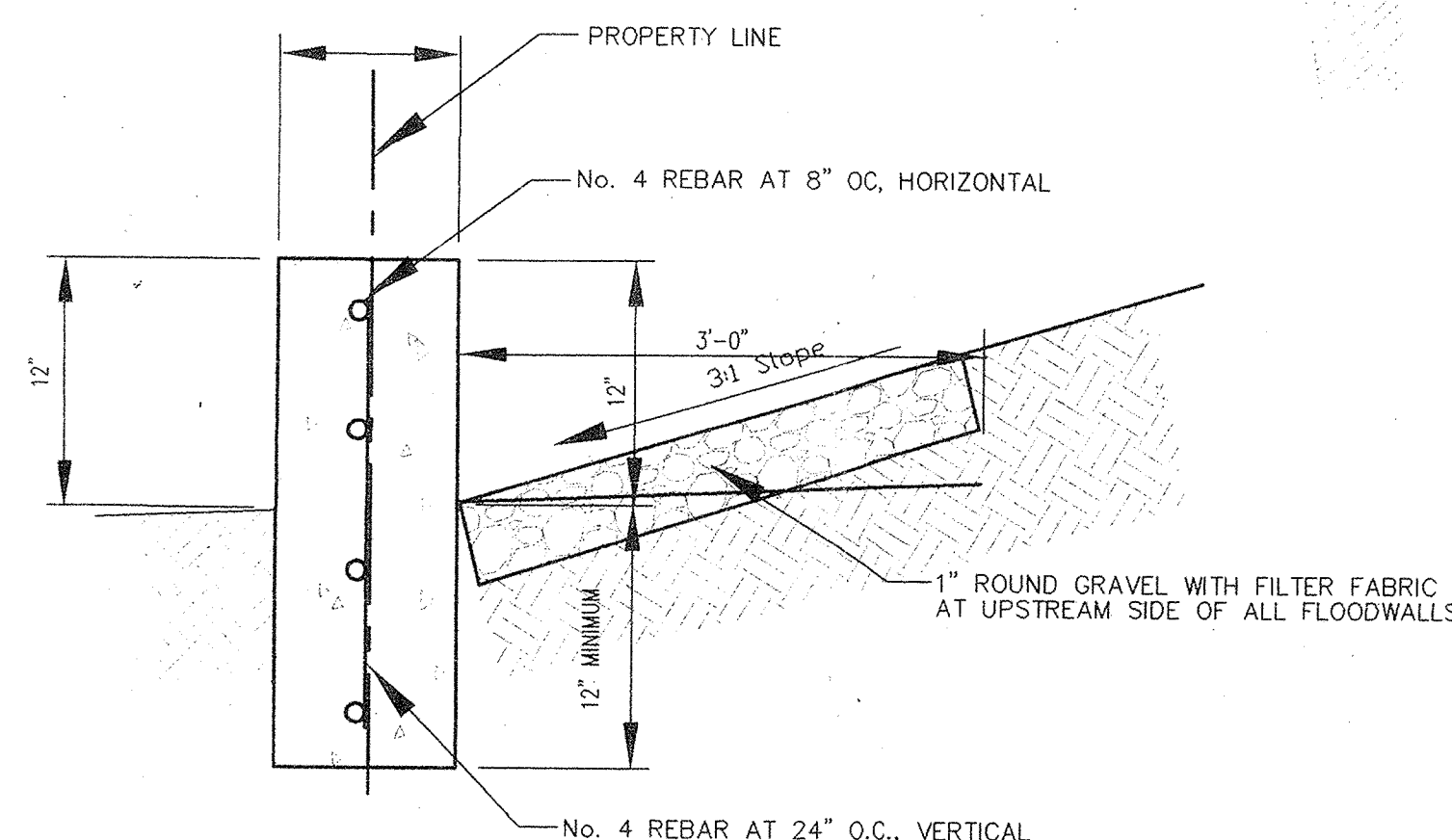
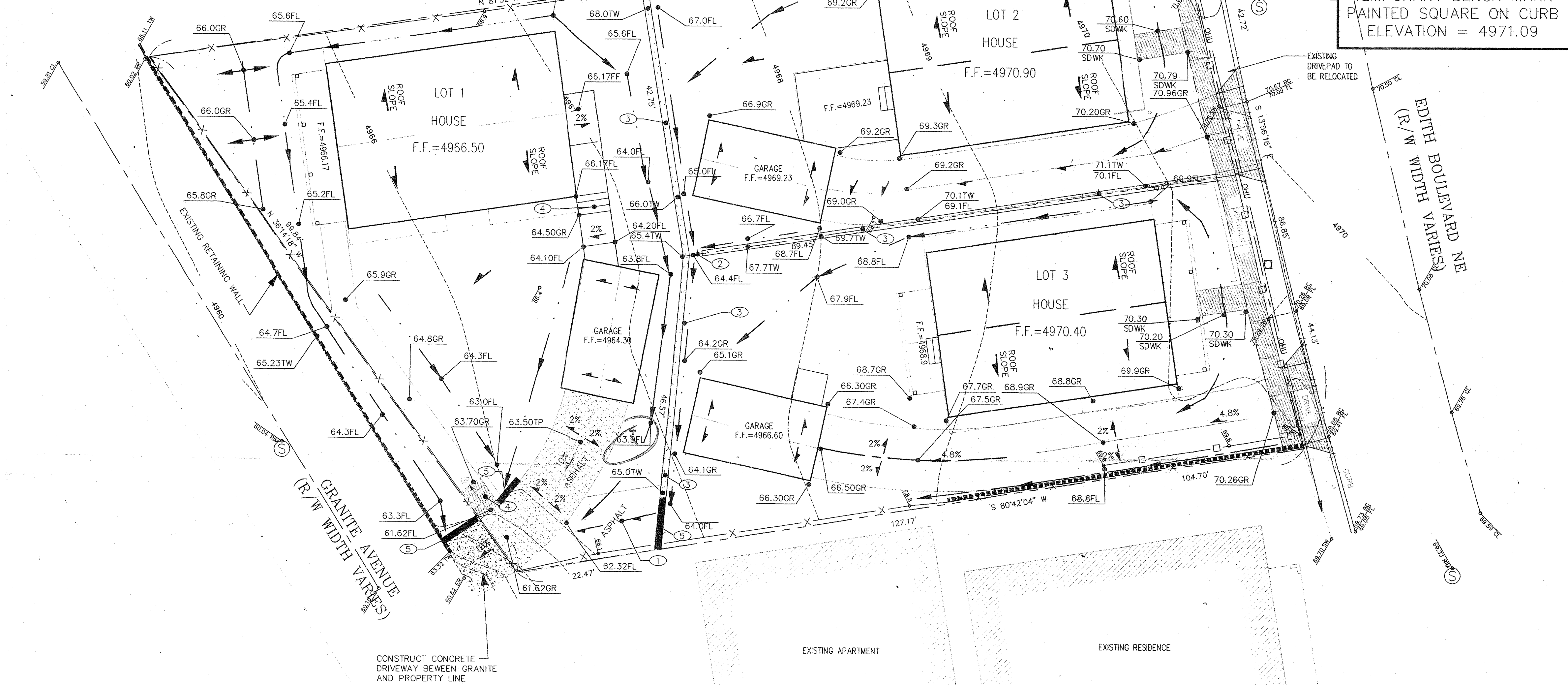
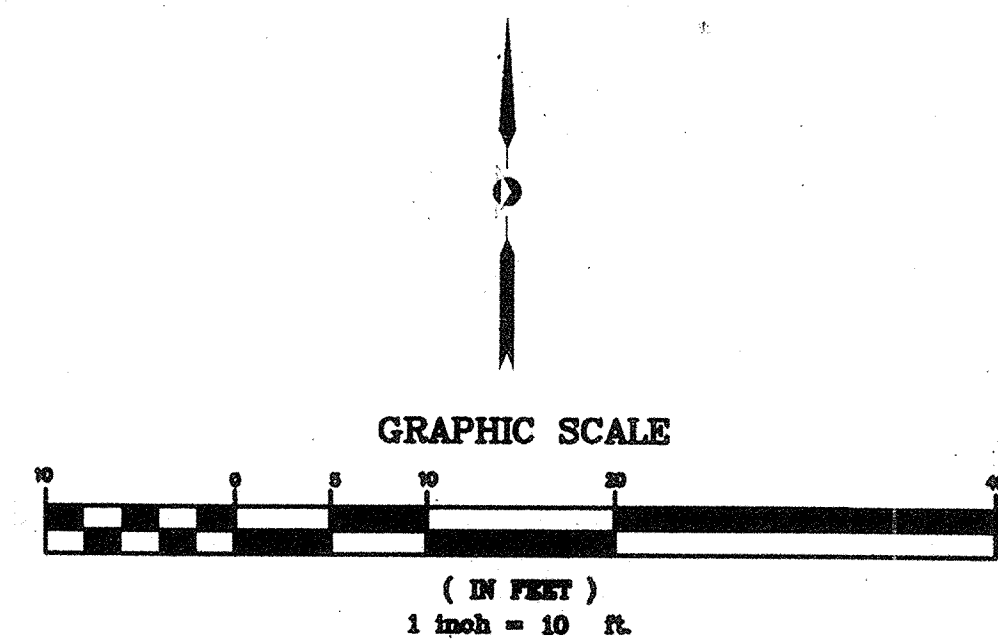
Q(PROPOSED) = (2.28 X 0.06) + (3.14 X 0.04) + (4.70 X 0.08)
= 0.64CFS PROPOSED ONSITE FLOW IN CONCRETE SWALE

- CHECK FLOODWALL CAPACITY PROPOSED IN LOT #3

INPUT:
FLOW RATE = 0.64CFS
CHANNEL BOTTOM SLOPE = 0.023
MANNINGS "n" = 0.030 GRAVEL
CHANNEL SIDE SLOPE LEFT 0:1
CHANNEL SIDE SLOPE RIGHT 3:1
OUTPUT:
NORMAL DEPTH = 0.40FEET
FLOW VELOCITY = 2.23FPS
FROUDE No. = 0.84
ENERGY HEAD = 0.48FEET < 1.0 FEET ok
TOP WIDTH = 1.33 FEET

GENERAL NOTES

- CONSTRUCT DRAINAGE SWALE TO ACCEPT DRAINAGE FROM LOTS 2 AND 3.
- MAINTAIN 2' WIDE OPENING IN FLOODWALL
- CONSTRUCT 12" HIGH WALL TO PREVENT CROSS LOT DRAINAGE, SEE DETAIL.
- CONSTRUCT CONCRETE STAIRS.
- CONSTRUCT 18" DEEP CONCRETE CUTOFF WALL AT APPROXIMATELY THE LIMITS SHOWN AT EDGE OF DRIVEWAY TO PREVENT UNDERMINING FROM EROSION, USE REBAR SIZE AND SPACING AS PER FLOODWALL

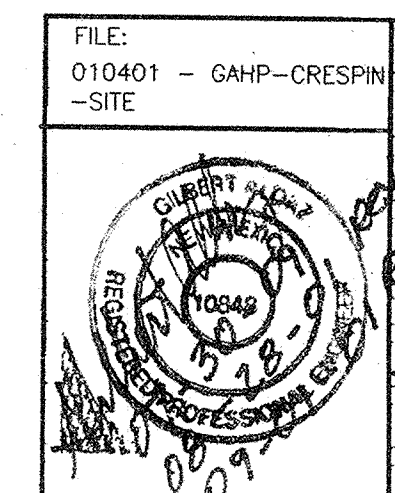
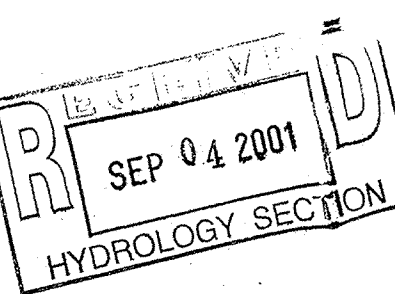


LEGEND

- EXISTING ELEVATIONS
- 62.42TC PROPOSED TOP OF CURB
- 61.92FL PROPOSED FLOWLINE
- 62.42TW PROPOSED TOP OF FLOOD WALL
- 61.92BW PROPOSED BOTTOM OF FLOOD WALL
- 88.3GR PROPOSED GRADE
- 4990 EXISTING CONTOUR
- FLOW DIRECTION

CAUTION:

NOTE THAT ALL EXISTING UTILITIES MAY NOT BE SHOWN. ALL EXISTING SERVICE CONNECTIONS ARE NOT SHOWN. ANY EXISTING UTILITIES THAT ARE SHOWN ARE APPROXIMATE LOCATION ONLY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL THE UTILITY OWNERS AND TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATIONS TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS.



DRAINAGE AND GRADING PLAN FOR GRANITE STREET & EDITH BLVD

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SHEET NUMBER:

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