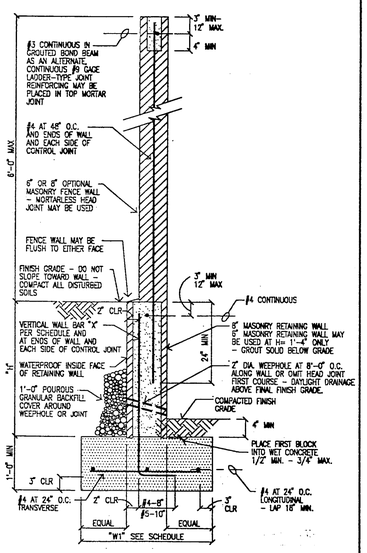
Clark County Department of Building 500 S. Grand Central Pky. Las Vegas, Nevada 89155-3530 (702)455-3000	STANDARD RETAINING WALL and OPTIONAL MASONRY FENCE 10/03/95 CLV-102 Pg. 1 of 2	City of Las Vegas Building and Safety Dept. 400 East Stewart Avenue Las Vegas, Nevada 89101 (702)229-6916



GENERAL NOTES

1. FOOTINGS SHALL BEAR ON COMPETANT UNDISTURBED NATURAL SOIL OR COMPACTED FILL. REMOVE ALL LOOSE MATERIAL BEFORE CONCRETE PLACEMENT. GRADE CHANGES SHALL BE MADE USING STEP FOOTING DETAIL. OTHERWISE TOP OF FOOTING SHALL BE APPROXIMATELY LEVEL. DO NOT CONSTRUCT WALL OVER HIGHLY EXPANSIVE OR COLLAPSABLE SOIL OR OVER SOIL FISSURES WITHOUT SOIL STABILIZATION AS DIRECTED BY A GEOTECHNICAL ENGINEER.
2. HOLLOW LIGHTWEIGHT CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, TYPE 1 WITH 1900 PSI MINIMUM COMPRESSIVE STRENGTH.
3. STEEL REINFORCING BARS SHALL BE ASTM A615, GRADE 40 FOR #4, GRADE 60 FOR #5 AND LARGER.
4. DO NOT SLOPE RETAINED SOIL TOWARD WALL. PROVIDE POSITIVE DRAINAGE AWAY FROM WALL ON BOTH SIDES.
5. VERTICAL EXPANSION OR CONTROL JOINTS SHALL BE MADE ON FENCE WALLS AT INTERVALS NOT TO EXCEED 6 TIMES THE FENCE WALL HEIGHT. JOINTS ON FENCE SHALL BE MADE BY MEANS OF PLASTER BLOCK OR CONTINOUS VERTICAL RAKE JOINT. HORIZONTAL REINFORCING NEED NOT BE CONTINUOUS THRU JOINT WHERE PLASTER BLOCK IS USED.
6. VERTICAL EXPANSION OR CONTROL JOINTS ON RETAINING WALL ARE OPTIONAL. FOR BEST RESULTS, JOINTS ARE RECOMENDED AT INTERVALS NOT EXCEEDING 6 TIMES THE WALL HEIGHT.
7. DO NOT LOCATE WITHIN DISTANCE "H" OF UPPER SIDE OF WALL ANY BUILDING FOUNDATION, PARKING, ROADWAYS, LARGE TREES OR ADDITIONAL RETAINING WALLS.
8. THE BUILDER/CONTRACTOR OR ANY OTHER PARTY USING THIS DESIGN RELIEVES THE BUILDING AGENCY FROM ANY LIABILITY FOR ALL INJURIES, CLAIMS, EXPENSES OR DAMAGES RESULTING FROM CONSTRUCTION OF THIS DESIGN.
9. LOCATIONS REQUIRING DESIGNS EXCEEDING LIMITATIONS OF THIS STANDARD SHALL BE PREPARED BY A NEVADA REGISTERED PROFESSIONAL ENGINEER OR ARCHITECT AND APPROVED BY THE BUILDING AGENCY FOR A SPECIFIC LOCATION.
10. INSPECTION OF CONSTRUCTION SHALL BE ACCOMPLISHED ACCORDING TO ALL DIRECTIVES GIVEN BY BUILDING DEPARTMENT OFFICIALS.

Clark County Department of Building 500 S. Grand Central Pky. Las Vegas, Nevada 89155-3530 (702)455-3000	STANDARD RETAINING WALL and OPTIONAL MASONRY FENCE 10/03/95 CLV-102 Pg. 2 of 2	City of Las Vegas Building and Safety Dept. 400 East Stewart Avenue Las Vegas, Nevada 89101 (702)229-6916

CONCRETE:

CONCRETE SHALL BE 5 SACK MINIMUM, TYPE V CEMENT WITH A 5" MAXIMUM SLUMP. 28 DAY STRENGTH SHALL EXCEED 2500 PSI. PLACE CONCRETE TO MINIMUM DIMENSIONS SHOWN WITH 3 INCHES COVER TO ALL REINFORCING STEEL.

A GOOD CONCRETE MIXTURE FOR FOOTINGS IS BY VOLUME: 1 PART PORTLAND CEMENT, 2.75 PARTS SAND, 4 PARTS GRAVEL NOT LARGER THAN 1.5 INCHES, AND JUST ENOUGH WATER TO MAKE THE MIXTURE "MOIST" AND WORKABLE, BUT NOT "SOUPY". THE WATER CONTENT SHOULD NOT BE MORE THAN 7.5 GALLONS PER SACK OF CEMENT FOR THE ABOVE MIX.

MORTAR:

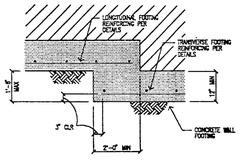
MORTAR SHALL BE 2000 PSI TYPE S.

A GOOD MORTAR MIXTURE SHOULD BE IN PROPORTIONS OF 1 PART PORTLAND CEMENT, 1/2 PART LIME (HYDRATED), AND 3 PARTS SAND. THE WATER CONTENT SHOULD BE ACCORDING TO ABSORPTION AND SUCTION ABILITY TO ASSURE NORMAL FLOW AND SPREADING WITH A TROWEL.

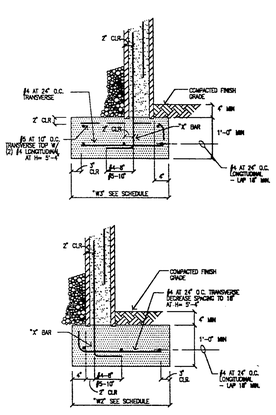
GROUT:

GROUT SHALL BE 2000 PSI.

A GOOD GROUT MIXTURE SHOULD BE COMPOSED BY VOLUME OF 1 PART PORTLAND CEMENT, 2 PARTS SAND, AND 1 PART PEA GRAVEL. SUFFICIENT WATER SHALL BE ADDED TO PRODUCE CONSISTENCY FOR POURING WITHOUT SEGREGATION.



TYPICAL STEPPED CONCRETE FOOTING

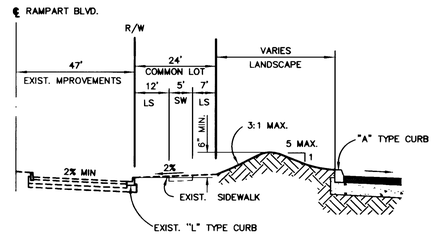


ALTERNATE FOOTING TYPES

MAXIMUM RETAINING WALL HEIGHT "H"	MINIMUM FOOTING WIDTH "W1"	"W2"	"W3"	VERTICAL WALL BAR "X"
1'-4"	2'-0"	2'-0"	2'-0"	#4 AT 48" O.C.
2'-8"	2'-4"	2'-6"	2'-6"	#4 AT 48" O.C.
4'-0"	3'-0"	3'-4"	3'-4"	#5 AT 48" O.C. OR #4 AT 32" O.C.
5'-4"	3'-4"	5'-0"	5'-0"	#5 AT 16" O.C.

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call before you Dig.
1-800-227-2600
UNDERGROUND SERVICE ALERT (USA)

12 RETAINING WALL DETAIL
N.T.S.



8 SECTION
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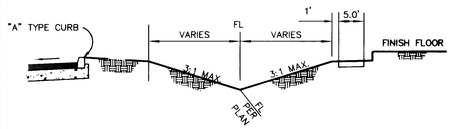

9 GRADED SWALE
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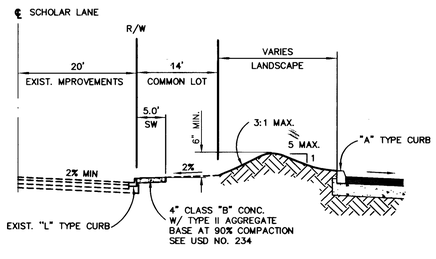

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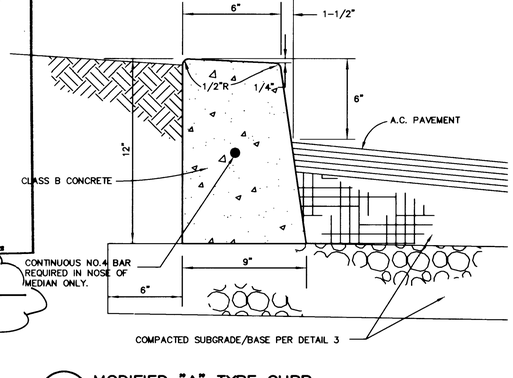
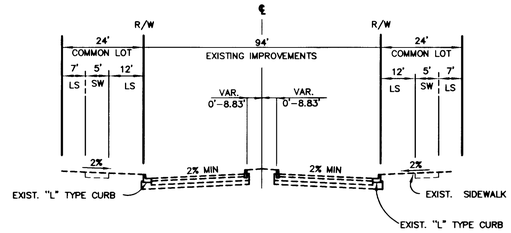


11 MODIFIED "A" TYPE CURB
SCALE:



4 RAMPART BOULEVARD
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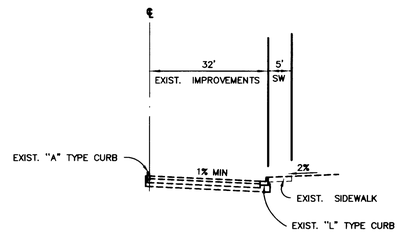

5 PRIVATE STREET
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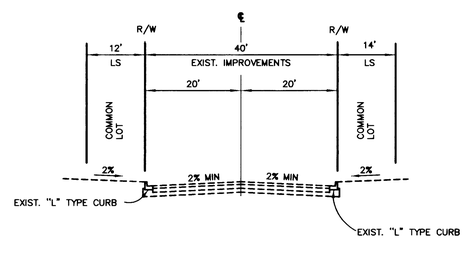

6 SCHOLAR LANE
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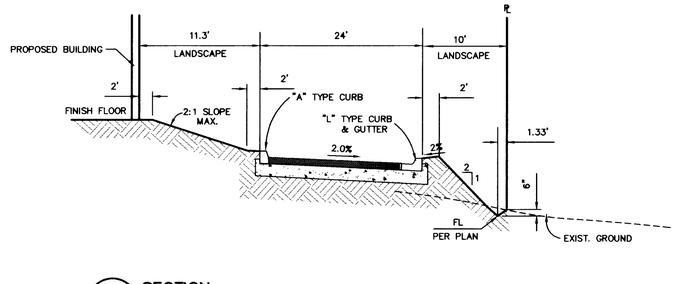

7 SECTION
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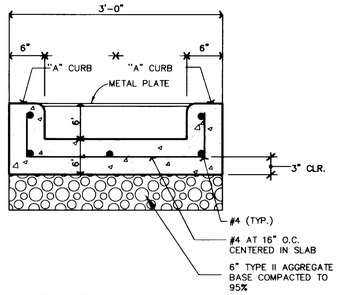

1 CHANNEL DETAIL
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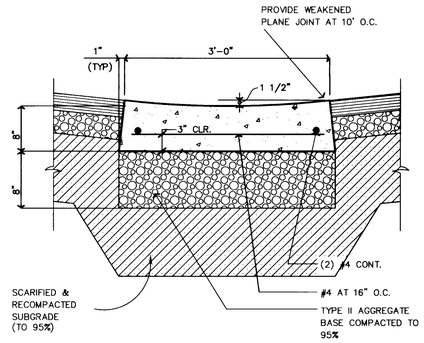

2 CONCRETE VALLEY GUTTER DETAIL
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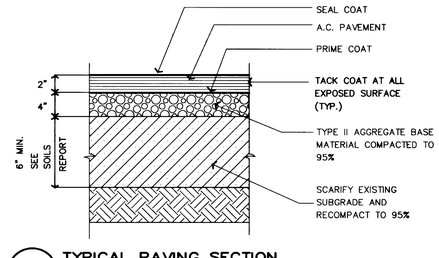
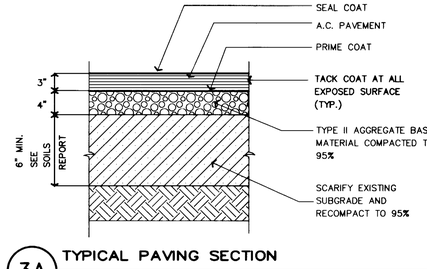


3 TYPICAL PAVING SECTION
SCALE: NTS



3A TYPICAL PAVING SECTION
SCALE: NTS

REV.	DATE	DESCRIPTION	APPROVAL
1	8-4-98	REF. WALL DETAIL ADDED	8/13/98

RECOMMENDED 7-1-98 DATE

DRAWN BY: RPL
DESIGNED BY: RPL
CHECKED BY: DSM

G.C. WALLACE, INC.
Engineering/Architecture
1555 SOUTH RAINBOW BLVD./LAS VEGAS, NEVADA 89102
TEL. NO. (702) 363-1200, FAX. NO. (702) 363-8979

CRESCENT DEVELOPMENT COMPANY
ASSISTED CARE FACILITY
GRADING DETAILS

SHEET C6
SHT 6 OF 7

JOB NO. 753.000A.610

14585 9204 107-02904