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PLAN NOT VALID WITHOUT ORIGINAL WET STAMP

PROJECT NAME:

PROJECT NAME

PROJECT DESCRIPTION
 STREET ADDRESS
 CITY, STATE

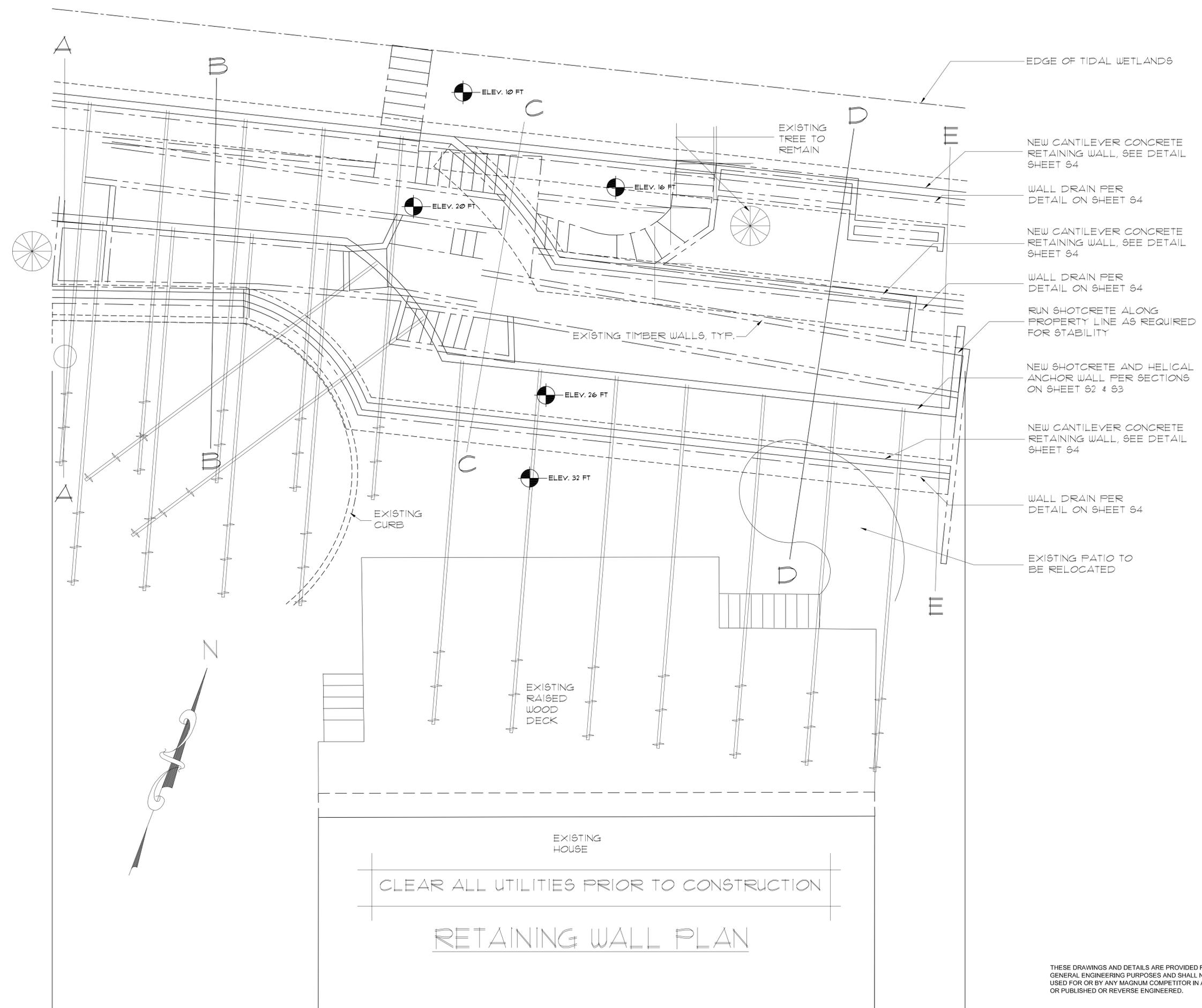
CLIENT:
 YOUR COMPANY NAME
 NAME
 STREET ADDRESS
 CITY, STATE
 Contact: Your Name
 Your Number

RESIDENTIAL RETAINING WALL WITH HELICAL TIE BACKS

NO.	DATE	REVISION/ISSUE

DESIGNED BY: MMB DATE: 5/26/09
 DRAWN BY: MMB SCALE: AS SHOWN
 CHECKED BY: HAP
 PROJECT NO: RW3

SHEET: S1



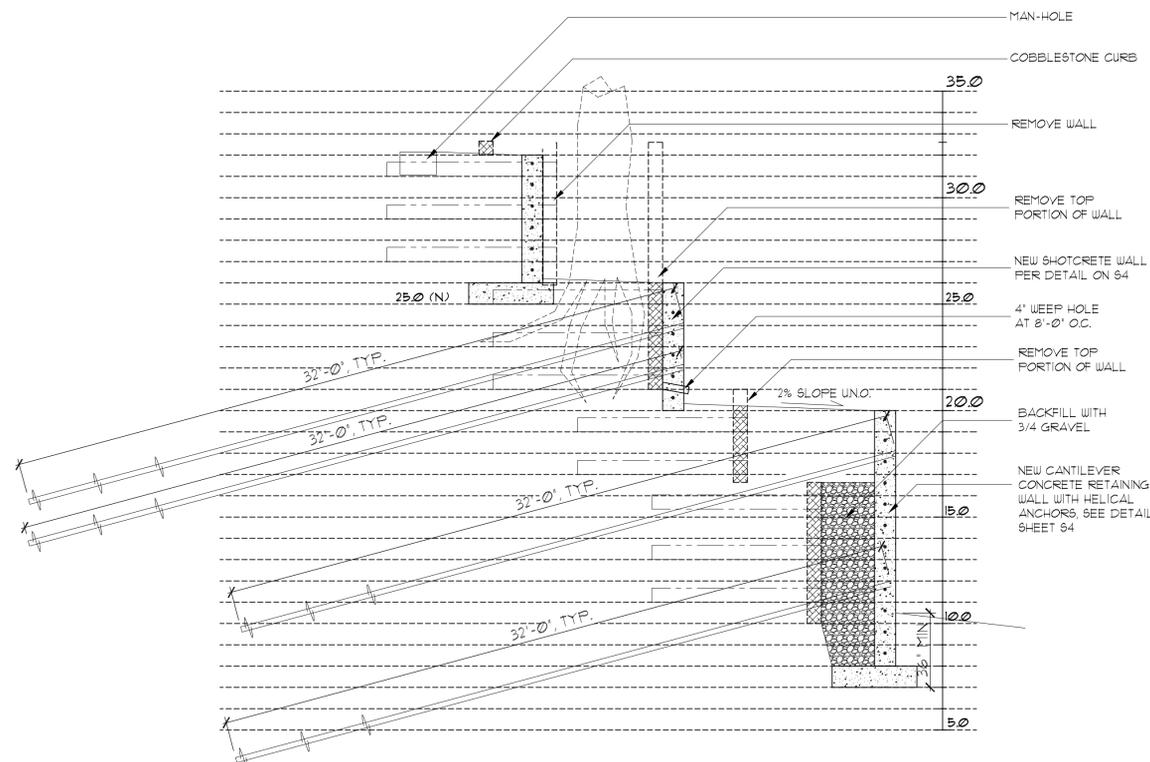
CLEAR ALL UTILITIES PRIOR TO CONSTRUCTION

RETAINING WALL PLAN

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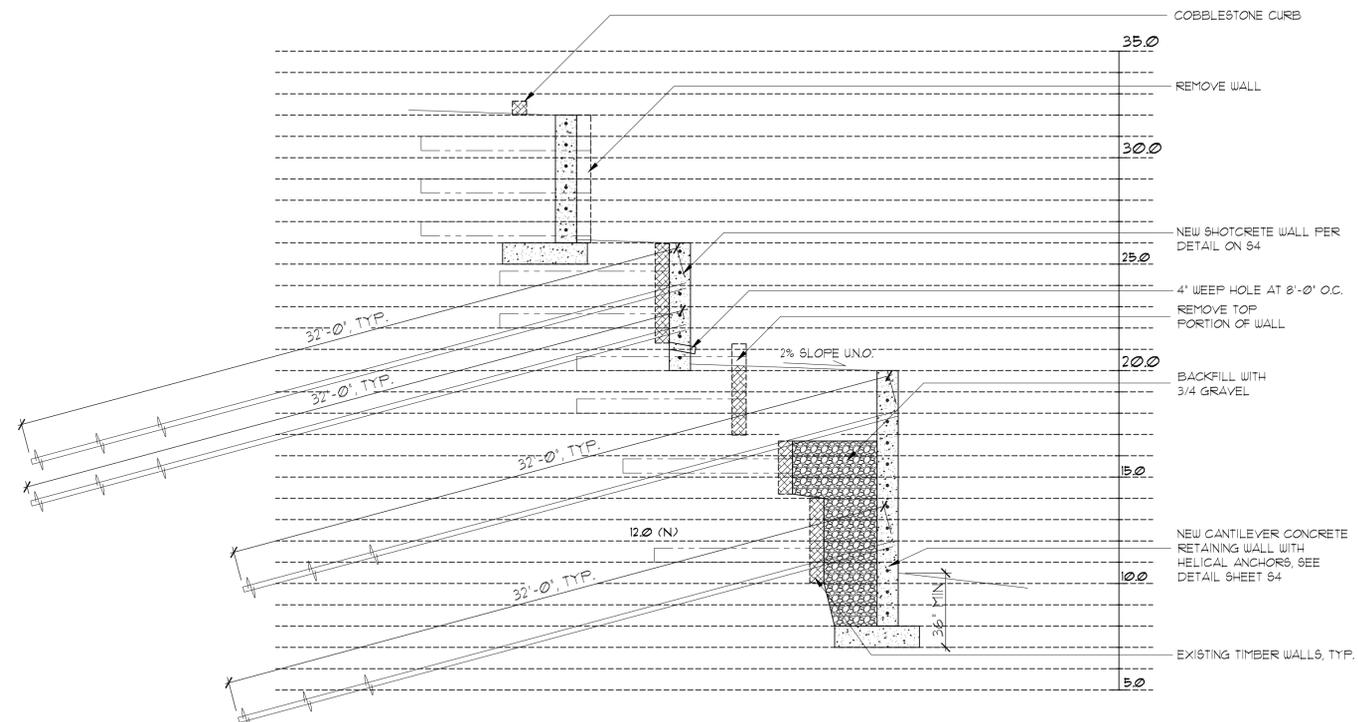
NO.	DATE	REVISION/ISSUE

NOTE:
 ALL HELICAL TIE-BACK ANCHORS TO HAVE A MINIMUM ALLOWABLE CAPACITY OF 20 KIPS (40 KIPS ULTIMATE).



WALL SECTION A-A

NOTE: FOR SAFETY, LEAVE ALL EXISTING WALLS IN PLACE AND BACKFILL AROUND EXCEPT WHERE NOTED



WALL SECTION B-B

NOTE: FOR SAFETY, LEAVE ALL EXISTING WALLS IN PLACE AND BACKFILL AROUND EXCEPT WHERE NOTED



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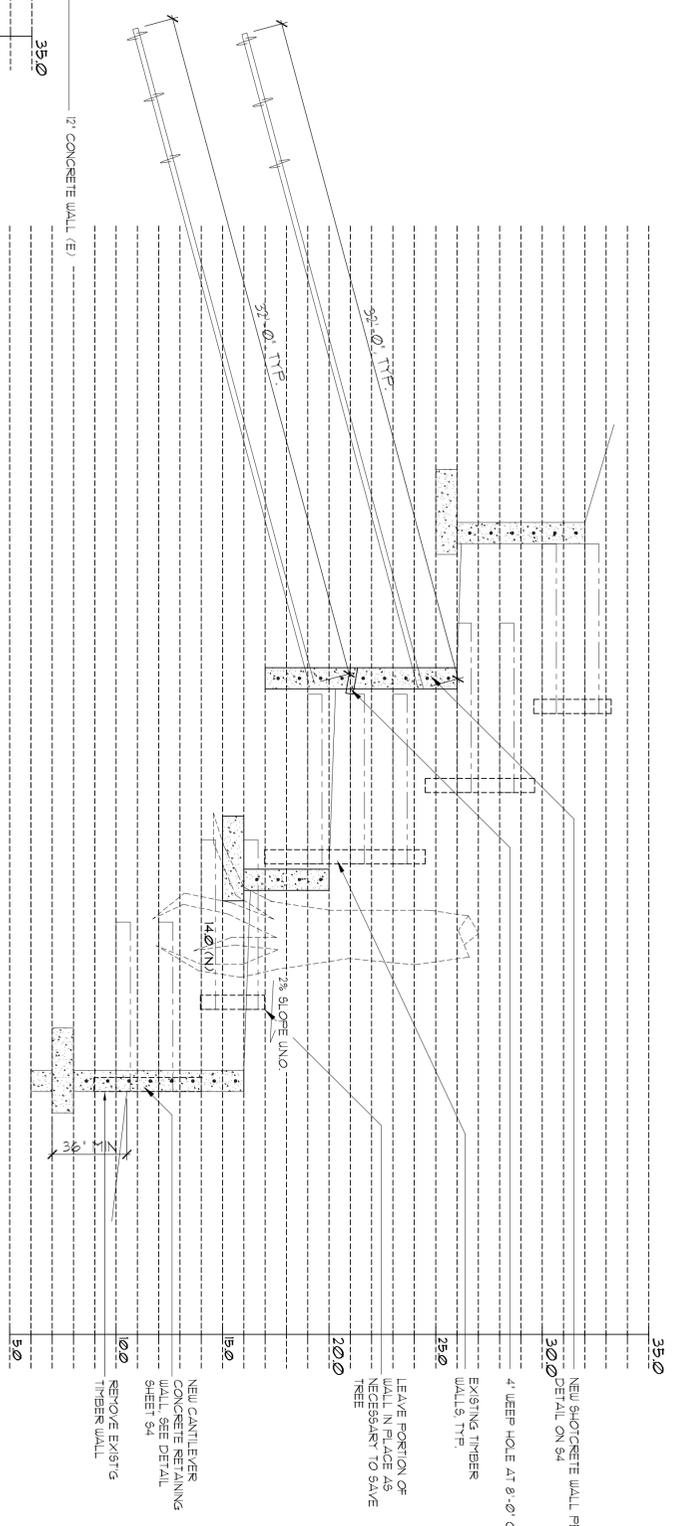
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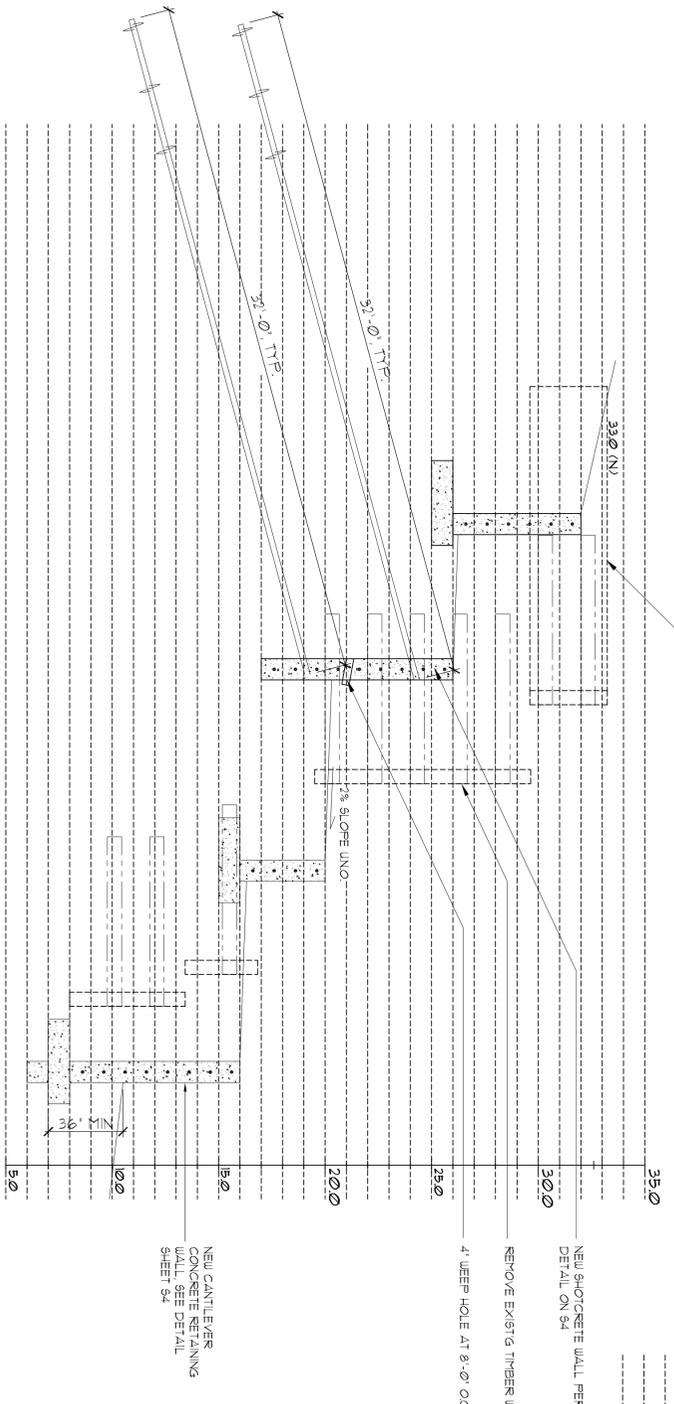
CLIENT:
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 Your Number

NO.	DATE	REVISION/ISSUE

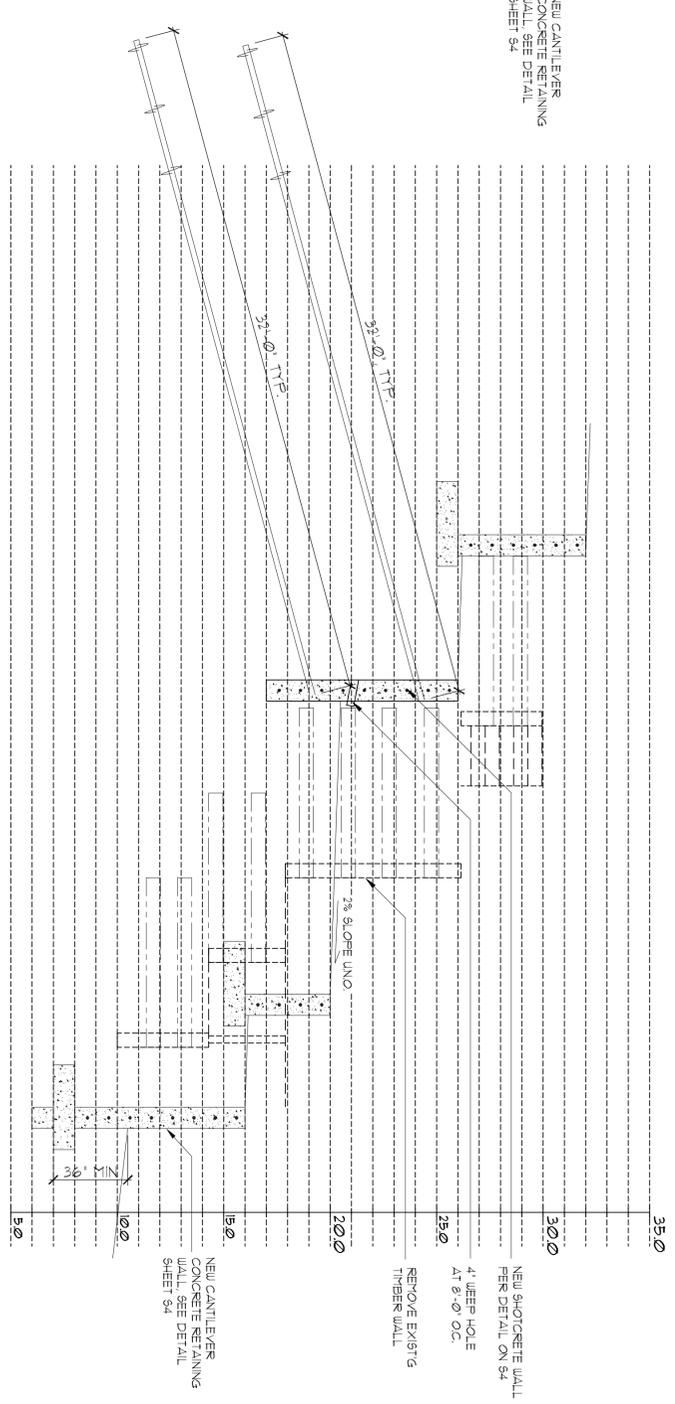
RETAINING WALL SECTIONS



WALL SECTION D-D
 NOTE: REMOVE ALL EXISTING WALLS EXCEPT WHERE NOTED AND RE-COMPACT BACKFILL



WALL SECTION E-E
 NOTE: REMOVE ALL EXISTING WALLS EXCEPT WHERE NOTED AND RE-COMPACT BACKFILL



WALL SECTION C-C
 NOTE: REMOVE ALL EXISTING WALLS EXCEPT WHERE NOTED AND RE-COMPACT BACKFILL

NOTE:
 ALL HELICAL TIE-BACK ANCHORS TO HAVE A MINIMUM ALLOWABLE CAPACITY OF 20 KIP9 (40 KIP9 ULTIMATE)

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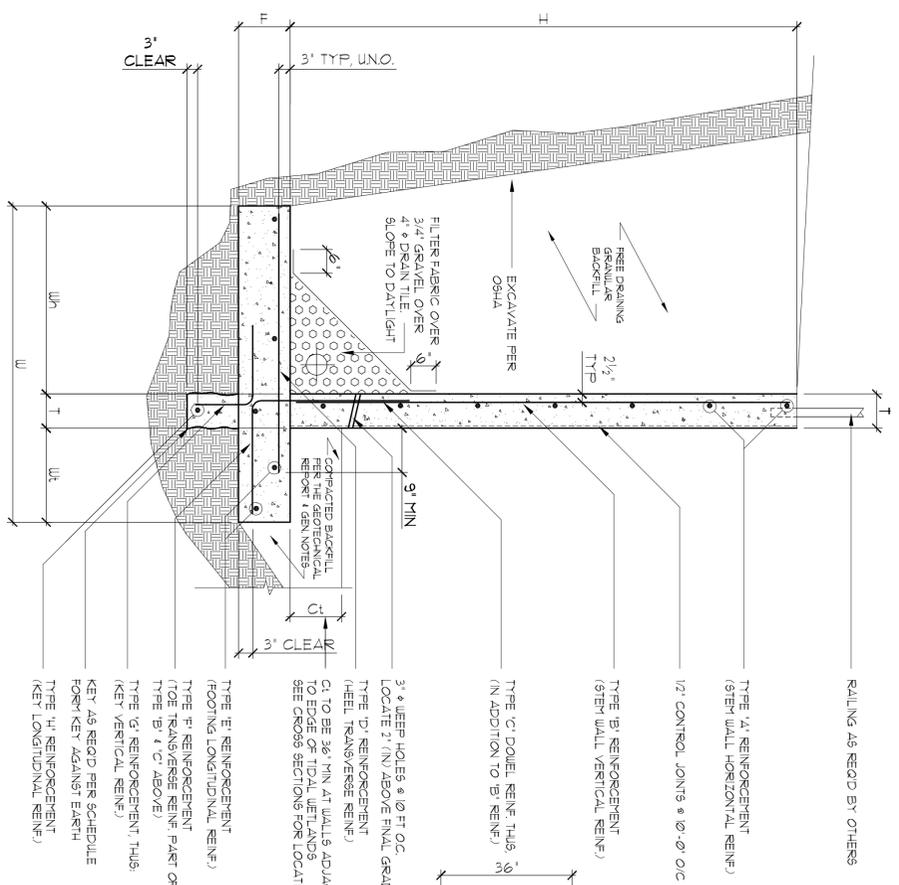
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 CITY, STATE
 Contact: Your Name
 Your Number

REINAINING WALL DETAILS & GENERAL NOTES

DESIGNED BY: AMB DATE: 02/08/2016
 CHECKED BY: WAP SCALE: AS SHOWN
 PROJECT NO.: 1803 SHEET: 34

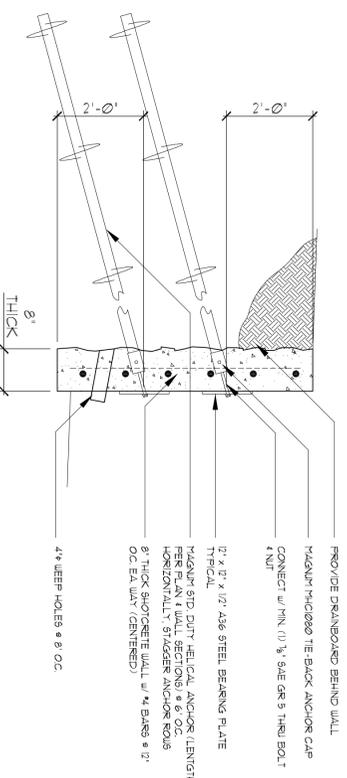


CANTILEVER RETAINING WALL DETAIL
 N.T.S.

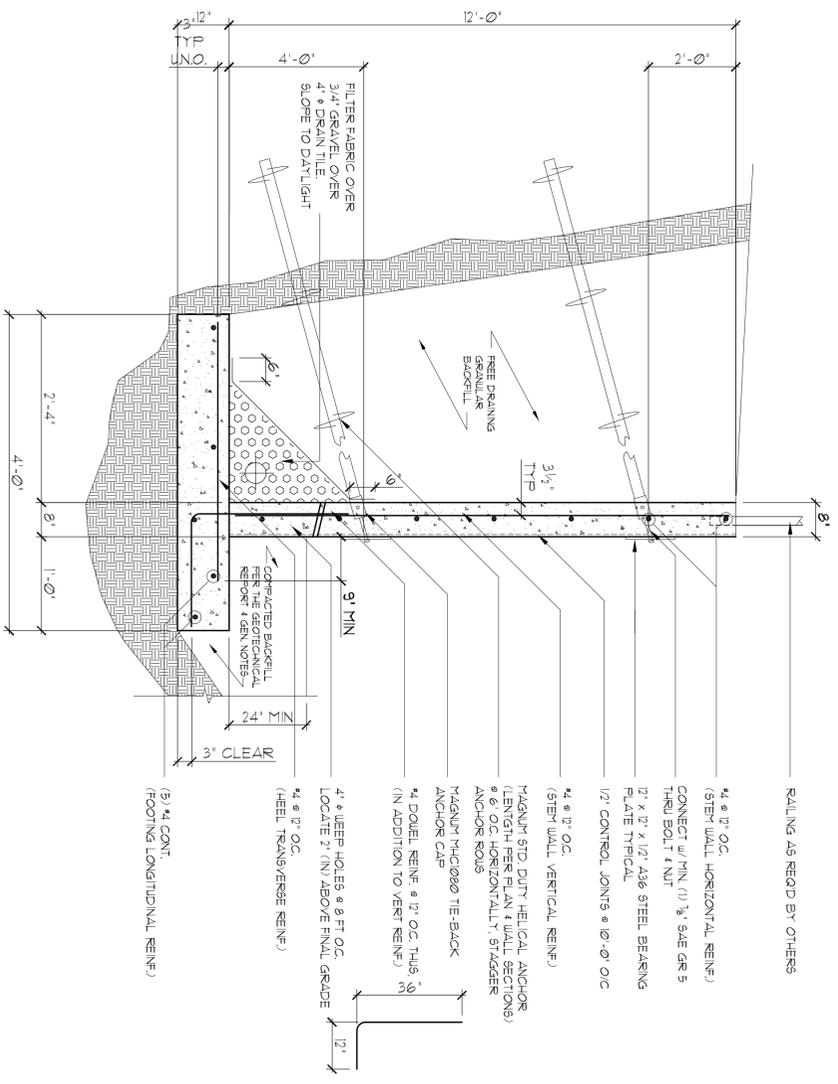
CANTILEVER RETAINING WALL SCHEDULE

DIMENSIONS				REINFORCEMENT											
H	W	U _H (Heel)	U _T (Toe)	T (Stem)	F (Ftg)	C _T (min)	TYPE 'A'	TYPE 'B'	TYPE 'C'	TYPE 'D'	TYPE 'E'	TYPE 'F'	TYPE 'G'	TYPE 'H'	
4'-0"	3'-3"	1'-1"	1'-0"	0'-8"	1'-0"	1'-0"	4# @ 16" OC	(3) 4" TOP	4# @ 16" OC	N/A	N/A				
8'-0"	6'-0"	4'-2"	1'-0"	0'-12"	1'-0"	1'-4"	4# @ 6" OC	(4) 5" TOP	4# @ 6" OC	4# @ 6" OC	(1) 4"				

Notes:
 C1 is the minimum soil depth over the toe of the wall. All reinforcement to be developed grade 60 steel. Footing to bear upon native soils or compacted fill material acceptable to the geotechnical engineer. Contractor to locate all rebar shapes. Detail all reinforcement per the latest ACI codes. All details to be adequately completed per the geotechnical engineer's recommendations.



SHOTCRETE WALL DETAIL
 N.T.S.



CANTILEVER RETAINING WALL DETAIL
 WITH HELICAL ANCHORS
 N.T.S.

General Notes:

- 1. Codes:** This plan was prepared based on the 2006 International Building Code (IBC) with local amendments and portions of the most recent versions of ACI 318 and ASCE Allowable Stress Design Provisions edition.
- 2. Loads:** This plan is based upon the following total parameters:
 Construction Equipment: Live Load = 100 psf
 Lateral Earth Pressure: 40 psf
 Soil report by Soil Engineering Firm, Dallas
 Recommended footing design requirements:
 Max. Bearing: 4000 psf
- 3. Materials:**
 Concrete: At a minimum, concrete shall contain Type II cement, 6% air entrainment, and a minimum 28 day compressive strength of 3000 psi for structural concrete.
- 4. Soils:**
 Major recommendations are open-hole observation as performed by a qualified geotechnical engineer. Open-hole observations are to verify that the soil conditions are consistent with those described in the above referenced soil report. Soils conditions inconsistent with the soil report may require additional evaluation or a plan redesign and should be brought to the attention of Magnum. All footings, pads or piles shall be a minimum of 36" (9m) below grade or per local codes and should bear upon undisturbed soils or structural fill acceptable to the geotechnical engineer.
- 5. Backfill:**
 Magnum recommends foundation walls not be backfilled for a minimum of seven days after placement of concrete. Back fill walls in fills not to exceed twelve (12) inches in height. The outside soils may be used for backfill if the material and compaction process is acceptable to the geotechnical engineer. Backfill should be adequately compacted and graded to the attention of Magnum. All footings, pads or piles shall be a minimum of 36" (9m) below grade or per local codes and should bear upon undisturbed soils or structural fill acceptable to the geotechnical engineer.
- 6. Helical Anchors:**
 Helical anchors shall have a minimum capacity factor of safety of 1.20. Loads on plan are working loads. All brackets and helical anchor components shall be manufactured by Magnum, Fleming, Inc. or equivalent. All anchor components to be installed in accordance with the Magnum Helical Anchor Installation Manual and details. Helical anchors and caps shall be capable of supporting the required capacities shown on the plans. Helical anchor capacity will be verified through correlation with installation logs in the field. Contractor equipment shall be capable of applying the maximum torque found in the Magnum Helical Anchor Installation Manual. Helical anchor installation should be observed by a geotechnical or structural engineer to verify installation torques and minimum length.
- 7. Micro-piles:**
 Micro-pile installation shall be observed by a geotechnical or structural engineer.
- 8. Limitations:**
 It is the contractor/owner's responsibility to verify and coordinate all dimensions prior to construction. This plan is based on the contractor/owner furnished plans and the above referenced specifications. Any discrepancies or changes should be brought to the attention of Magnum.

NOTE:
 ALL HELICAL TIE-BACK ANCHORS TO HAVE A MINIMUM ALLOWABLE CAPACITY OF 20 KIIPS (40 KIIPS ULTIMATE).

NOTES & DETAILS

RECOMMENDED QUALITY ASSURANCE OBSERVATIONS

RECOMMENDED OBSERVATIONS	OBSERVATION PERFORMED BY	NOTE: GENERAL CONTRACTOR MAY BE REQUIRED BY THE CITY OR OTHER ENGINEERS WORKING ON THIS PROJECT
OPEN-HOLE MICRO-PILES	GEOTECHNICAL ENGINEER CIT. THOMPSON	
HELICAL ANCHORS	CIT. THOMPSON	
WALL REINFORCEMENT	CIT. THOMPSON	