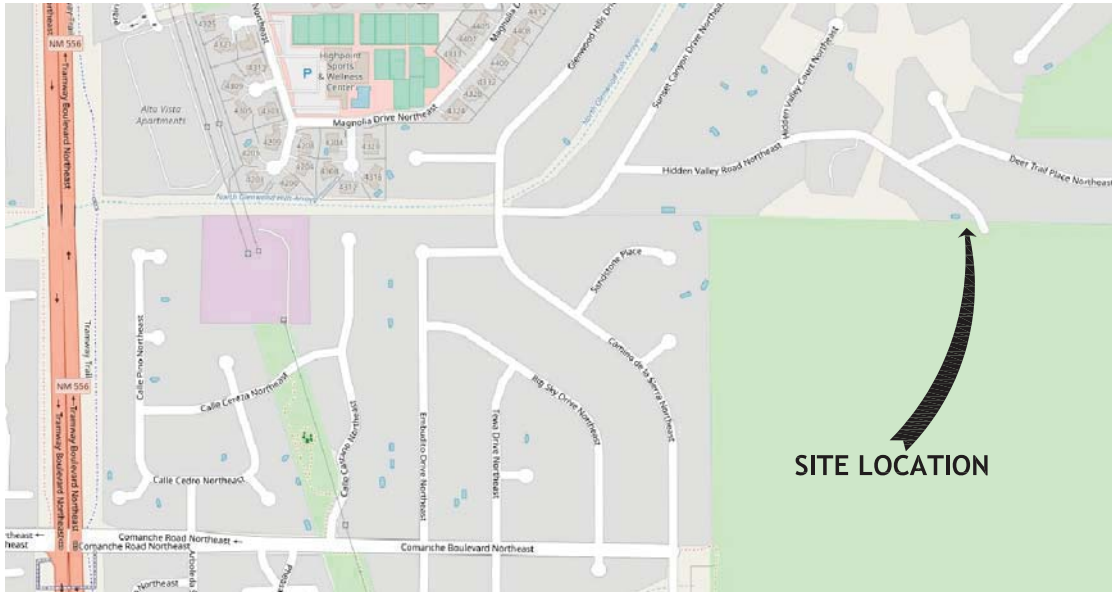


TASK ORDER 7 HIDDEN VALLEY RD CULVERT



VICINITY MAP



GENERAL STRUCTURAL NOTES
APPLY UNLESS NOTED ON STRUCTURAL DRAWINGS. IN CASE OF CONFLICT BETWEEN GSN, DETAILS AND PLANS, THE GREATER REQUIREMENTS GOVERN.

CODE:
ALL CONSTRUCTION SHALL CONFORM TO "CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", DESIGN B IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE (IBC) 2015.

DESIGN LOADS:
GRATE LIVE LOADS: 100 PSF

FOUNDATIONS:
FOOTINGS SHALL BEAR ON A MINIMUM OF 12 INCHES OF ADEQUATELY PLACED AND COMPACTED STRUCTURAL FILL. SOIL BENEATH FOOTINGS SHALL BE SCARIFIED TO A DEPTH OF 12 INCHES, MOISTURE CONDITIONED TO OPTIMUM MOISTURE CONTENT $\pm 2\%$ AND COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM-D-1555. ALL STRUCTURAL FILL SHALL BE CLASS 8 SOILS IN ACCORDANCE WITH STD. SPEC. SEC. 501.

ALL EARTHWORK, FOOTING DEPTHS, AND EXCAVATIONS FOR FOUNDATIONS SHALL BE INSPECTED TO VERIFY ASSUMED ALLOWABLE SOIL BEARING AND LOW SETTLEMENT AND SWELL POTENTIAL. ASSUMED ALLOWABLE BEARING = 2000 PSF.

CONCRETE:
UNLESS NOTED OTHERWISE, CONCRETE SHALL BE IN ACCORDANCE WITH STD. SPEC. SEC. 510 AND SEC. 101 FOR HYDRAULIC CONCRETE WITH MIN. COMP. STRENGTH $F_c=4000$ PSI AT 28 DAYS. ALL REINFORCING STEEL SHALL BE BLACK, GRADE 60 CONFORMING TO ASTM A615.

MAXIMUM SLUMP: 4" - 7"
MAXIMUM AGGREGATE SIZE: 1"
AIR CONTENT: $6\% \pm 1.1/2\%$
MAXIMUM W/C RATIO: 0.45

FINISH SHALL BE ORDINARY SURFACE FINISH IN ACCORDANCE WITH STD. SPEC. SEC. 510.

MINIMUM STRENGTH FOR REMOVAL OF FORMS AND SHORING SHALL BE 75% OF SPECIFIED STRENGTH AT 28 DAYS.

REINFORCING:
LATEST ACI CODE AND DETAILING MANUAL APPLY. ALL REINFORCING BARS DEFORMED.

ALL REINFORCING SHALL BE ASTM A-615 GRADE 60.

CLEAR CONCRETE COVER TO REINFORCING ARE AS FOLLOWS, UNLESS NOTED OTHERWISE:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
EXPOSED TO EARTH OR WEATHER:
#8 THROUGH #14 2"
#5 AND SMALLER 1 1/2"

LAP SPLICES IN CONCRETE SHALL BE CLASS B TENSION LAPS PER DETAIL 1/52.0. SPLICE BOTTOM BAR OVER SUPPORTS AND TOP BAR AT MIDSPAN ONLY.

FOR TYPICAL BAR BENDS, SEE DETAIL 2/52.0.

PROVIDE SHOP DRAWINGS AND FABRICATE AFTER REVIEW. PLACE REBAR PER CSI STANDARDS.

REBAR SPACING GIVEN IS MAXIMUM ON CENTER AND ALL REBAR IS CONTINUOUS UNLESS OTHERWISE NOTED. PROVIDE BENT CORNER REBAR TO MATCH AND LAP WITH HORIZONTAL REBAR AT CORNERS AND INTERSECTIONS OF WALLS. DOWEL ALL VERTICAL WALL REBAR TO FOUNDATIONS. SECURELY TIE ALL REBAR, INCLUDING DOWELS, IN LOCATION BEFORE PLACING CONCRETE.

STRUCTURAL STEEL:
FOR ALL STRUCTURAL STEEL FABRICATION AND CONSTRUCTION, STD. SPEC. SEC. 520, LATEST AISC HANDBOOKS AND CODES SHALL APPLY. ALL STEEL FABRICATION IS REQUIRED TO BE COMPLETED BY AN APPROVED STEEL FABRICATOR RECOGNIZED BY THE BUILDING DEPARTMENT.

ASTM A-36, EXCEPT AS FOLLOWS: PIPE SECTIONS, ASTM A-53 GRADE B.

HIGH STRENGTH BOLTS, A-325-X OR A-325-SC.

WELDING:
ALL CONSTRUCTION AND TESTING PER AMERICAN WELDING SOCIETY CODES AND RECOMMENDATIONS. ALL WELDING SHALL BE BY WELDERS HOLDING CURRENT VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN TYPE OF WELD CALLED FOR. WELDING RODS SHALL BE LOW HYDROGEN TYPE, E70.

ALL WELDING OF STRUCTURAL STEEL SHALL CONFORM TO THE "STRUCTURAL WELDING CODES-STEEL" AWS D1.1, CURRENT EDITION.

RECTANGULAR BAR GRATING:
MATERIAL DESIGN AND MANUFACTURE SHALL BE BY MCNICHOLS OR APPROVED EQUAL.

PREFABRICATED RECTANGULAR BAR PANELS AS FOLLOWS:

MATERIAL: HOT-DIPPED GALVANIZED STEEL BEARING BARS AND 1/4" SQUARE GALVANIZED STEEL TWISTED CROSS BARS.

BEARING BAR SIZE: 3/16"x1 1/2"

BAR SPACING: 1 3/16" BEARING BAR CENTERS AND 4" CROSS BAR CENTERS.

NUMBER OF PANELS: 6
PANEL LENGTH: TOP = 4'-4" (a)
FRONT = VARIES FROM 4'-10 1/2" TO 3'-2 1/2" (a)
PANEL WIDTHS: TOP = (3) PANEL 12 1/4", FRONT = (3) PANEL 32 1/4" (a)
WEIGHT: 10.8 LBS./SQ. FT. (a)
TOTAL WEIGHT: 737.1 LBS. (a)

(a) CONTRACTOR TO VERIFY PANEL LENGTHS, WIDTHS AND WEIGHTS WITH ACTUAL FIELD MEASUREMENTS AND MANUFACTURER.

LEGEND:	
ABBREVIATIONS	
CONC. = CONCRETE	G.S.N. = GENERAL STRUCTURAL NOTES
CONT. = CONTINUOUS	U.O.D. = UNLESS NOTED OTHERWISE
EXIST. = EXISTING	T.O.S. = TOP OF STEEL
SHEET INDEX:	
COVER SHEET / G.S.N.	50.1
FOUNDATION / FRAMING PLANS AND SECTIONS	51.0
TYPICAL / FOUNDATION / FRAMING DETAILS	52.0

SUPPLEMENTARY NOTES:
PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

THE STRUCTURAL ENGINEER SHALL NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

FOR CONNECTIONS, SEE DETAILS.

THE FOLLOWING IS A LIST OF THE APPROVED RETROFIT EPOXIES/ADHESIVES AND ANCHORS. THESE ARE 2015 BIC COMPLIANT WITH CURRENT ICC REPORTS. AT THE CONTRACTORS OPTION ALTERNATIVE ANCHOR AND EPOXY ICC REPORTS MAY BE SUBMITTED FOR REVIEW PROVIDED THE REPORT IS 2015 BIC COMPLIANT AND IN A CASE IN WHICH IT IS BEING USED IN CONCRETE THE REPORT COVERS CRACKED CONCRETE. THE LIST IS FOR REFERENCE ONLY AND IS NOT INTENDED TO BE USED PRIOR TO THE EOR APPROVAL. EACH CONNECTION WILL NEED TO BE REVIEWED AND CONCRETE GIVEN BASED ON CONCRETE STRENGTH, EDGE DISTANCE, ETC.

EXPANSION BOLTS FOR USE IN MASONRY SHALL BE HILTI KWIK BOLT 3 ANCHOR PER CURRENT ICC ESR-1385. MASONRY CELLS SHALL BE SOLID GROUTED WITHIN 12" OF ANCHOR.

EXPANSION BOLTS FOR USE IN CONCRETE SHALL BE HILTI KWIK BOLT-TZ EXPANSION ANCHOR PER CURRENT ICC ESR-1917 OR HILTI ISL-3 HEAVY DUTY SLEEVE ANCHOR PER CURRENT ICC ESR-1545.

ADHESIVE ANCHORS FOR USE IN MASONRY SHALL BE HILTI HIT-150 MAX ADHESIVE PER CURRENT ICC ESR-1967. MASONRY CELLS SHALL BE SOLID GROUTED WITHIN 12" OF ANCHOR.

ADHESIVE ANCHORS FOR USE IN CONCRETE SHALL BE HILTI HIT-150 MAX ADHESIVE PER CURRENT ICC ESR-2322.

COST OF ADDITIONAL FIELD AND OFFICE WORK NECESSITATED BY REQUEST BY THE CONTRACTOR FOR AN OPTION OR DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR. OPTIONS ARE FOR CONTRACTORS CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND HE SHALL COORDINATE ALL DETAILS.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF NEW MEXICO.

UNLESS OTHERWISE NOTED, DETAILS ON STRUCTURAL DRAWINGS ARE TYPICAL AS INDICATED BY CUTS, REFERENCES OR TITLES.

VERIFY ALL DIMENSIONS WITH ACTUAL FIELD MEASUREMENTS.

CONTRACTOR SHALL VERIFY IN FIELD ALL EXISTING CONDITIONS SHOWN ON DRAWINGS.



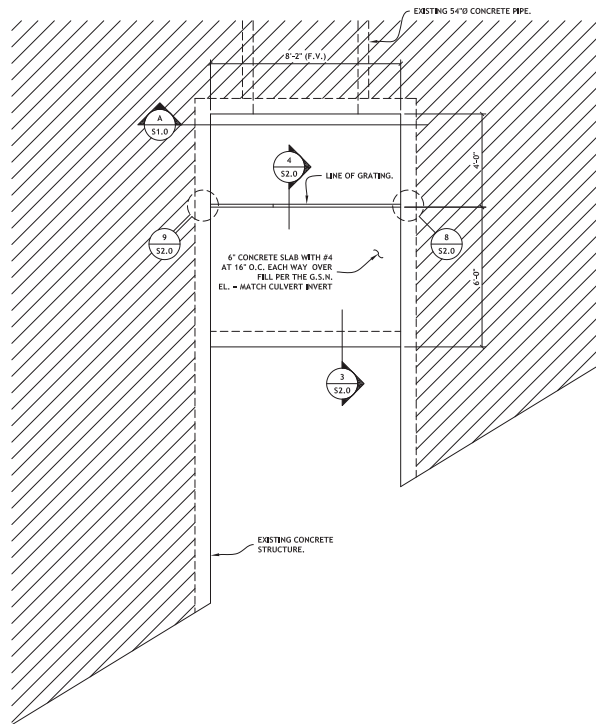
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COVER SHEET

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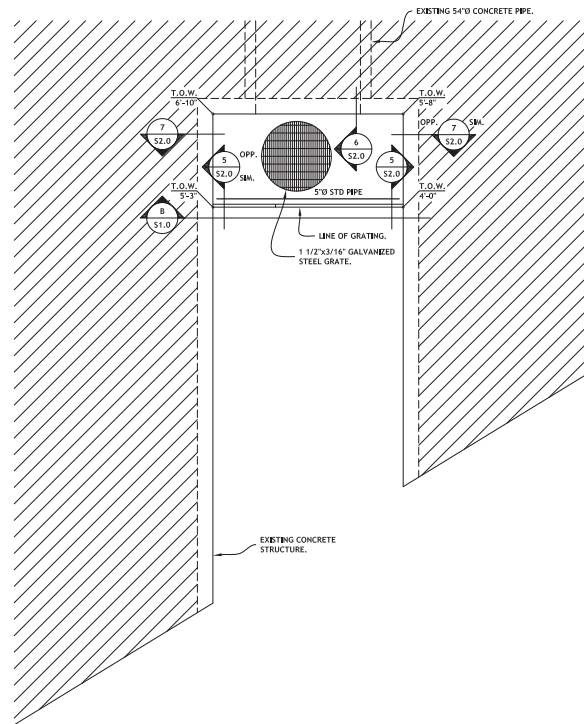


PROJECT NO:
117106-07
SHEET
MARCH 2019
SHEET NO.
S0.1



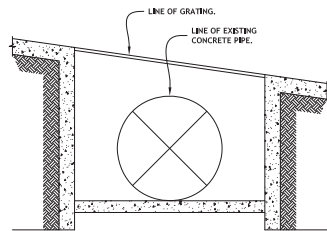
FOUNDATION PLAN

SCALE: 3/8"=1'-0"



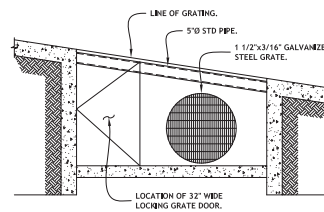
FRAMING PLAN

SCALE: 3/8"=1'-0"



SECTION A

SCALE: 3/8"=1'-0"



SECTION B

SCALE: 3/8"=1'-0"

NOTES:

1. VERIFY ANY DIMENSIONS WITH ACTUAL FIELD MEASUREMENTS.
2. FOR FOOTING EXCAVATIONS AND SOIL PREPARATION REQUIREMENTS SEE G.S.N.
3. PRIOR TO ANY NEW CONSTRUCTION THE CONTRACTOR SHALL REMOVE AND DEPOSE OF ANY EXISTING STEEL STRUCTURE IN THE NEAR VICINITY OF THE NEW CONSTRUCTION.
4. T.O.W. ELEVATIONS ARE MEASURED FROM CURRENT FINISH GRADE AND SHOULD BE FIELD VERIFIED.
5. ALL FIELD WELDING SHALL BE REPAIRED USING A ZINC-RECH GALVANIZING PAINT.



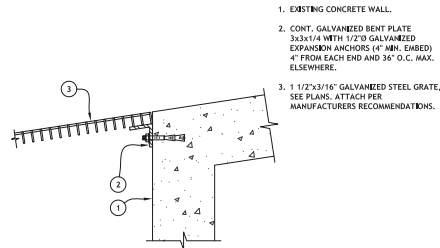
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FOUNDATION / FRAMING PLANS AND SECTIONS

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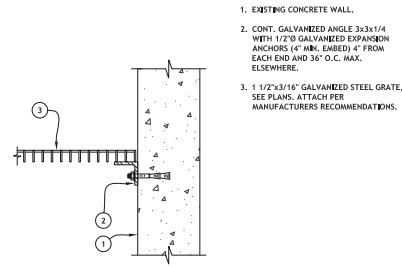


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MARCH 2019
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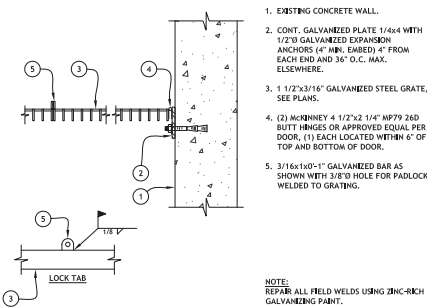
7 STEEL GRATE AT CONCRETE WALL

117106-07012



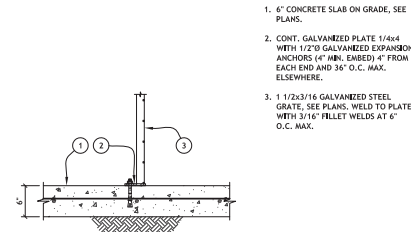
8 GRATE AT CONCRETE WALL

117106-07013



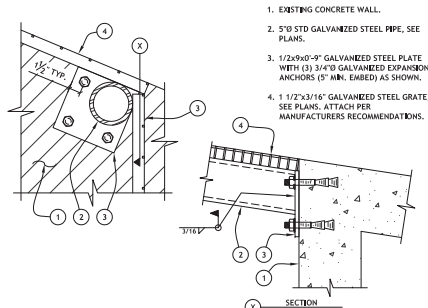
9 GRATE DOOR AT CONCRETE WALL

117106-07014



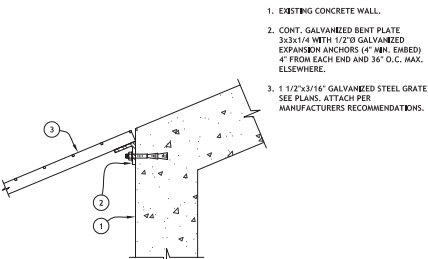
4 GRATE AT CONCRETE SLAB

117106-0701



5 STEEL PIPE AT CONCRETE WALL

117106-07010



6 STEEL GRATE AT CONCRETE WALL

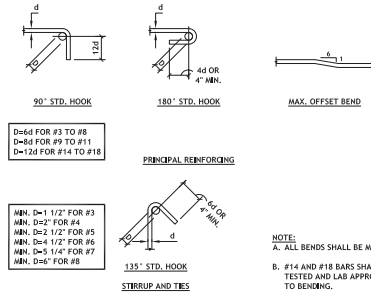
117106-07011

1. TABULATED VALUES ARE BASED ON GRADE 60 UNCOATED REINFORCING BARS, NORMAL WEIGHT CONCRETE AND MIN. COVER OF d_b WITH MIN. CLEAR SPACING OF $2d_b$.
2. TENSION LAP SPLICES ARE CALCULATED PER ACI 318 SECTIONS 12.2 AND 12.15.
3. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
4. FOR GRADE 40 REINFORCING BARS MULTIPLY THE TABULATED VALUES BY 0.67 (1/2 MIN. LAP).
5. FOR LIGHT WEIGHT CONCRETE MULTIPLY THE TABULATED VALUES BY 1.3.
6. ALL LAP SPLICES ARE CLASS B SPLICES PER ACI 318 SECTION 12.15.

BAR SIZE	LAP SPLICE LENGTHS (IN.)					
	LENGTHS (IN.)					
	3000 PSI		4000 PSI		5000 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	28	21	24	18	22	17
#4	37	28	32	25	29	22
#5	46	36	40	31	36	28
#6	56	43	48	37	43	33
#7	81	62	70	54	63	48
#8	93	71	80	62	72	55
#9	104	80	90	70	81	62
#10	118	90	102	78	91	70
#11	131	100	113	87	101	78

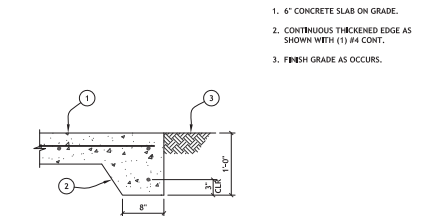
1 LAP-SPLICE SCHEDULE FOR CONC. REINF'G

C2



2 TYPICAL BAR BENDS

S1



3 THICKENED SLAB EDGE

FN18



NO.	REVISION	DESCRIPTION	DATE	BY
1		ISSUED FOR CONSTRUCTION	3/26/19	CS
2				
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TYPICAL / FOUNDATION / FRAMING DETAILS

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