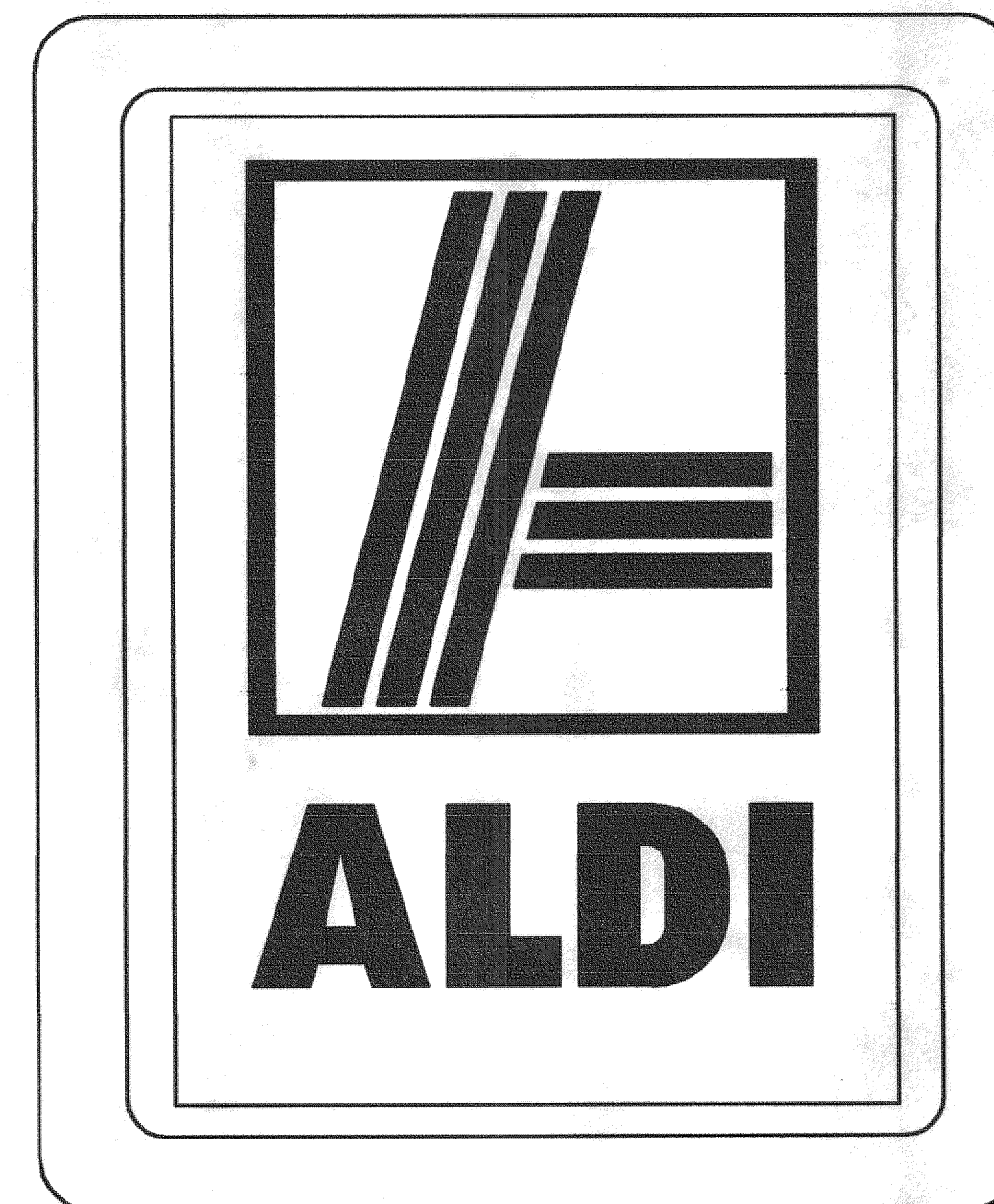


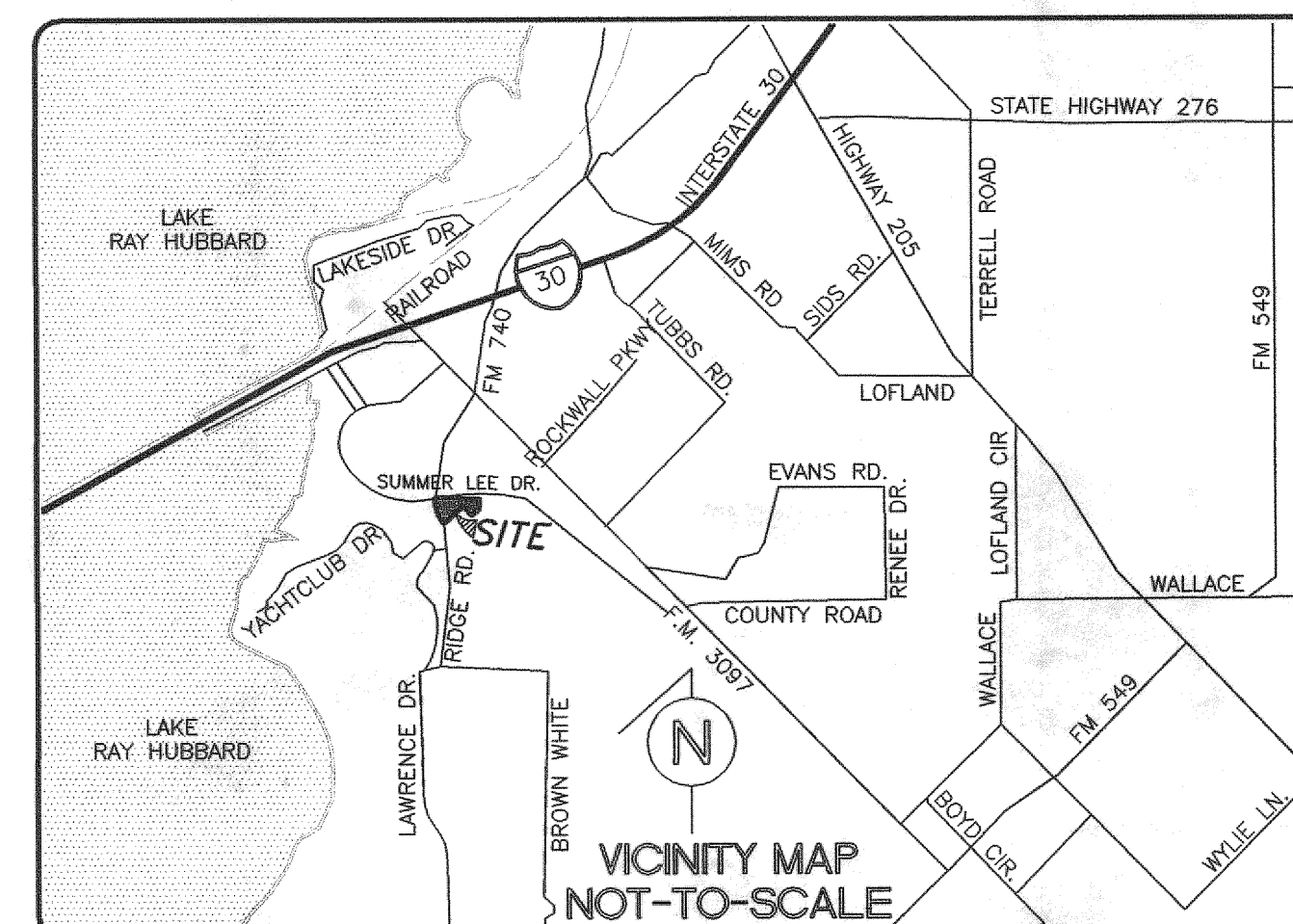
# SITE IMPROVEMENTS FOR



## LOT 1, BLOCK 1 RIDGE/SUMMER LEE ADDITION S.E.C. RIDGE ROAD (F.M. 740) & SUMMER LEE DRIVE THE CITY OF ROCKWALL, TEXAS

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MEP-1	MEP SITE PLAN



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DATE: 01-09-13

**B** BURGER  
ENGINEERING  
Civil Consultants

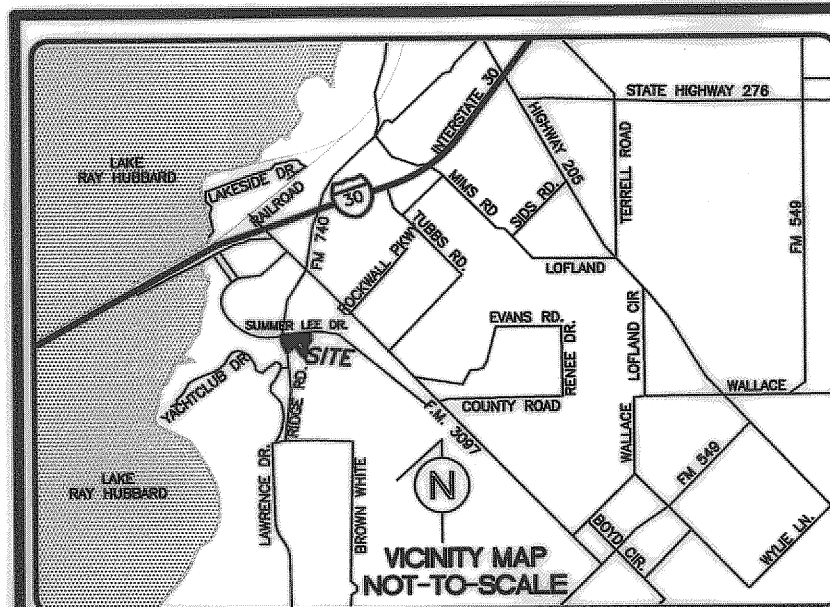
17103 Preston Road, Suite 180N  
Dallas, Texas 75248  
Office: 972.630.3360 Fax: 972.630.3380  
TBPE F-12997

APPLICANT:  
ALDI, INC.  
2500 WESTCOURT ROAD  
DENTON, TEXAS 76207  
(940) 220-5400  
CONTACT: HEATHER RIMMER

OWNER:  
PETAR TEMUNOVIC & CVIJETA TEMUNOVIC  
201 LAURANCE DRIVE, PMB 410  
HEATH, TEXAS 75032

CIVIL ENGINEER:  
BURGER ENGINEERING, LLC  
TEXAS REGISTERED ENGINEERING FIRM F-12997  
17103 PRESTON ROAD, SUITE 180N  
DALLAS, TEXAS 75248  
(972) 630-3360  
FAX: (972) 630-3380  
CONTACT: BRYAN M. BURGER, P.E.

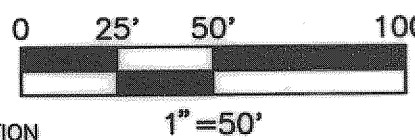




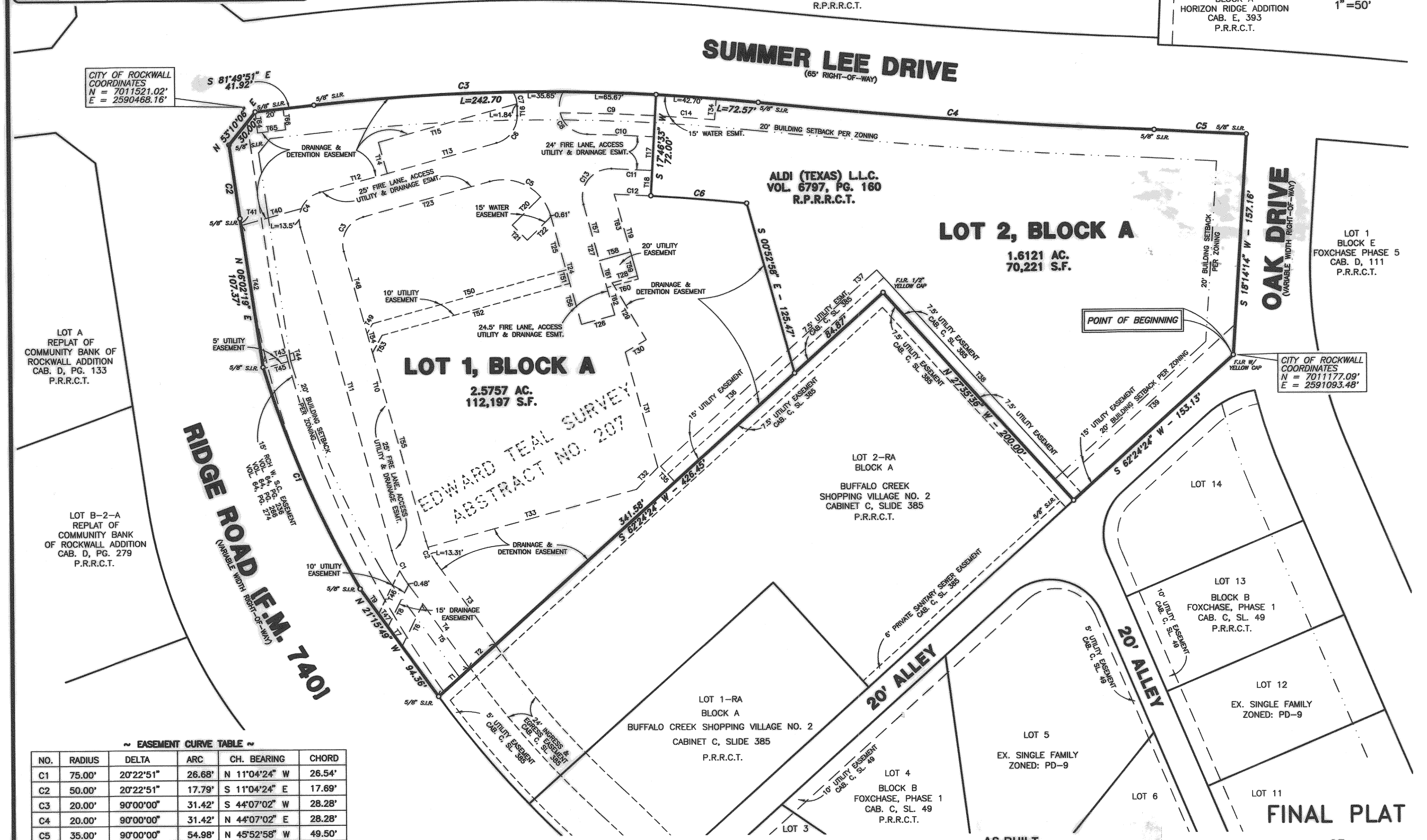
~ BOUNDARY CURVE TABLE ~					
NO.	RADIUS	DELTA	ARC	CH. BEARING	CHORD
C1	754.00'	13°04'52"	172.14'	N 08°45'08" W	171.77'
C2	3780.17'	00°48'02"	52.81'	N 06°26'25" E	52.81'
C3	1447.50'	12°28'45"	315.27'	S 75°35'28" E	314.65'
C4	4308.50'	03°44'10"	280.95'	S 71°13'11" E	280.90'
C5	2761.77'	01°21'30"	65.47'	S 72°24'30" E	65.47'
C6	1375.50'	02°49'51"	67.96'	S 70°48'31" E	67.96'

- GENERAL NOTES:
1. BASIS OF BEARINGS PER NAD 83 NORTH CENTRAL TEXAS ZONE 4202 STATE PLANE GRID COORDINATES.
  2. 5/8" IRON ROD FOUND AT ALL LOT CORNERS UNLESS OTHERWISE NOTED.
  3. THE PURPOSE OF THIS FINAL PLAT IS TO SUBDIVIDE THE SUBJECT PROPERTY FOR COMMERCIAL DEVELOPMENT.

- LEGEND
- I.R.F. - IRON ROD FOUND
  - S.I.R. - SET IRON ROD
  - CM - CONTROLLING MONUMENT
  - P.R.D.C.T. - PLAT RECORDS OF ROCKWALL COUNTY, TEXAS
  - R.P.R.D.C.T. - REAL PROPERTY RECORDS OF ROCKWALL COUNTY, TEXAS



~ EASEMENT TANGENT TABLE ~		
NO.	BEARING	DISTANCE
T1	N 62°24'24" E	29.69'
T2	N 62°24'24" E	25.15'
T3	N 21°15'49" W	71.00'
T4	S 21°15'49" E	73.77'
T5	S 21°15'49" E	56.30'
T6	S 40°41'28" W	33.42'
T7	N 21°15'49" W	17.00'
T8	N 40°41'28" E	33.42'
T9	N 21°15'49" W	22.18'
T10	S 00°52'58" W	214.20'
T11	N 00°52'58" W	239.20'
T12	N 89°07'02" E	49.69'
T13	N 89°07'02" E	80.39'
T14	N 00°52'58" W	23.00'
T15	N 89°07'02" E	101.88'
T16	S 14°28'12" W	6.74'
T17	S 17°46'33" W	24.00'
T18	S 17°46'33" W	18.00'
T19	S 00°52'58" W	62.59'
T20	N 59°52'05" E	28.40'
T21	N 30°07'55" W	15.00'
T22	S 59°52'05" W	23.74'
T23	S 89°07'02" W	93.00'
T24	S 00°52'58" E	80.35'
T25	S 00°52'58" E	40.00'
T26	S 89°07'02" W	24.50'
T27	S 00°52'58" E	81.79'
T28	N 89°07'02" E	18.48'
T29	S 15°52'58" E	47.24'
T30	S 74°07'02" W	17.38'
T31	S 00°52'58" E	85.05'
T32	S 89°07'02" W	21.57'
T33	S 89°07'02" W	153.82'
T34	N 19°27'57" E	15.00'
T35	N 27°35'36" W	15.00'
T36	N 62°24'24" E	122.47'
T37	N 62°24'24" E	84.82'
T38	S 27°35'36" E	200.00'
T39	N 62°24'24" E	161.07'
T40	S 89°07'02" W	44.55'
T41	N 06°02'19" E	4.92'
T42	S 06°02'19" W	98.22'
T43	N 89°07'02" E	22.92'
T44	S 00°52'58" E	5.00'
T45	S 89°07'02" W	23.41'
T46	N 40°41'28" E	34.40'
T47	N 21°15'49" W	11.33'
T48	S 00°52'58" E	60.86'
T49	N 44°07'02" E	8.28'
T50	N 89°07'02" E	142.14'
T51	S 00°52'58" E	10.00'
T52	S 89°07'02" W	138.00'
T53	S 44°07'02" W	14.14'
T54	N 00°52'58" W	14.14'
T55	N 00°52'58" W	139.20'
T56	S 00°52'58" E	30.35'
T57	S 00°52'58" E	41.44'
T58	N 89°07'02" E	23.00'
T59	S 00°52'58" E	17.71'
T60	S 89°07'02" W	23.00'
T61	N 00°52'58" W	20.00'
T62	N 00°52'58" W	20.35'
T63	S 00°52'58" E	42.59'
T64	S 06°10'09" W	15.00'
T65	S 81°48'51" E	20.00'
T66	N 08°10'09" E	15.00'



~ EASEMENT CURVE TABLE ~					
NO.	RADIUS	DELTA	ARC	CH. BEARING	CHORD
C1	75.00'	20°22'51"	26.68'	N 11°04'24" W	26.54'
C2	50.00'	20°22'51"	17.79'	S 11°04'24" E	17.69'
C3	20.00'	90°00'00"	31.42'	S 44°07'02" W	28.28'
C4	20.00'	90°00'00"	31.42'	N 44°07'02" E	28.28'
C5	35.00'	90°00'00"	54.98'	N 45°52'58" W	49.50'
C6	20.00'	74°38'50"	26.06'	N 51°47'37" E	24.25'
C7	20.00'	30°35'47"	10.68'	N 00°49'42" W	10.55'
C8	20.00'	119°39'19"	41.77'	S 14°18'28" E	34.58'
C9	1432.50'	02°41'05"	67.12'	S 73°33'58" E	67.12'
C10	1417.50'	01°54'41"	47.29'	S 73°10'47" E	47.29'
C11	1393.50'	01°11'10"	28.85'	N 72°49'02" W	28.85'
C12	1375.50'	01°04'53"	25.96'	S 72°45'53" E	25.96'
C13	20.00'	107°28'21"	37.51'	S 52°51'12" W	32.25'
C14	1432.50'	01°41'24"	42.25'	S 71°22'45" E	42.25'

SURVEYOR  
DAVID R. PETREE  
REGISTERED PROFESSIONAL LAND SURVEYOR  
11015 MIDWAY ROAD  
DALLAS, TEXAS 75229  
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CONTACT: BRYAN M. BURGER, P.E.

OWNER  
ALDI (TEXAS) L.L.C.  
2500 WESTCOURT ROAD  
DENTON, TEXAS 76207  
(940) 220-5400  
CONTACT: SCOTT W. HUSKA

FINAL PLAT  
OF  
**RIDGE/SUMMER LEE ADDITION**  
**LOTS 1 & 2, BLOCK A**  
BEING 4.1878 ACRES OUT OF THE  
EDWARD TEAL SURVEY, ABSTRACT NO. 207,  
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS



## OWNER'S CERTIFICATE

STATE OF TEXAS  
COUNTY OF ROCKWALL

WHEREAS, ALDI (TEXAS) L.L.C. IS THE OWNER OF A TRACT OF LAND SITUATED IN THE EDWARD TEAL SURVEY, ABSTRACT NO. 207, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS AND BEING ALL OF A 4.1878 ACRE TRACT OF LAND AS DESCRIBED IN A GENERAL WARRANTY DEED TO ALDI (TEXAS) L.L.C., RECORDED IN VOLUME 6797, PAGE 180, OF THE REAL PROPERTY RECORDS OF ROCKWALL COUNTY, TEXAS AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS;

BEGINNING AT A 5/8" IRON ROD WITH YELLOW CAP FOUND FOR CORNER AT THE SOUTHEAST CORNER OF SAID 4.1878 ACRE TRACT, AND BEING AT THE INTERSECTION OF THE WEST RIGHT-OF-WAY LINE OF OAK DRIVE (VARIABLE WIDTH RIGHT-OF-WAY) AND THE NORTHWEST LINE OF A 20 FOOT ALLEY PER PLAT OF FOXCHASE PHASE 1, AN ADDITION TO THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, ACCORDING TO THE PLAT THEREOF RECORDED IN CABINET C AT SLIDE 49 OF THE PLAT RECORDS OF ROCKWALL COUNTY, TEXAS;

THENCE SOUTH 82° 24' 24" WEST AND DEPARTING THE WEST RIGHT-OF-WAY LINE OF SAID OAK DRIVE AND FOLLOWING ALONG THE NORTHWEST RIGHT-OF-WAY LINE OF SAID ALLEY FOR A DISTANCE OF 153.13 FEET TO A 5/8" IRON ROD SET FOR CORNER AT THE EAST CORNER OF LOT 2-RA, BLOCK A OF THE AMENDED PLAT FOR BUFFALO CREEK SHOPPING VILLAGE NO. 2, BEING A REPLAT OF LOT 1, BLOCK A, AN ADDITION TO THE CITY OF ROCKWALL, TEXAS, ACCORDING TO THE PLAT THEREOF RECORDED IN CABINET C AT SLIDE 385, OF THE PLAT RECORDS OF ROCKWALL COUNTY, TEXAS;

THENCE NORTH 27° 35' 38" WEST AND FOLLOWING ALONG THE EASTERLY LINE OF SAID LOT 2-RA, BLOCK A FOR A DISTANCE OF 200.00 FEET TO A 1/2" IRON ROD WITH YELLOW CAP FOUND FOR THE NORTHEAST CORNER OF SAID LOT 2-RA, BLOCK A;

THENCE SOUTH 62° 24' 24" WEST AND FOLLOWING ALONG THE NORTHWEST LINE OF SAID LOT 2-RA, BLOCK A FOR A DISTANCE OF 426.45 FEET TO A 5/8" IRON ROD SET FOR CORNER IN THE EAST RIGHT-OF-WAY LINE OF RIDGE ROAD - F.M. 740 (A VARIABLE WIDTH RIGHT-OF-WAY), AS ESTABLISHED BY DEED CONVEYED TO THE STATE OF TEXAS CALLED 0.1368 ACRES AS RECORDED IN DOCUMENT NUMBER 2009-00411059 OF THE REAL PROPERTY RECORDS OF ROCKWALL COUNTY, TEXAS;

THENCE NORTH 21° 15' 49" WEST AND FOLLOWING ALONG THE EAST RIGHT OF WAY LINE OF SAID RIDGE ROAD - F.M. 740 AS CONVEYED TO THE STATE OF TEXAS AS RECORDED IN DOCUMENT NUMBER 2009-00411059 OF THE REAL PROPERTY RECORDS OF ROCKWALL COUNTY, TEXAS, FOR A DISTANCE OF 94.38 FEET TO A 5/8" IRON ROD SET FOR CORNER, SAID POINT BEING THE BEGINNING OF A ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 754.00 FEET WITH A CENTRAL ANGLE OF 13° 04' 52" AND A CHORD BEARING NORTH 08° 45' 08" WEST AT A DISTANCE OF 171.77 FEET;

THENCE NORTHWESTERLY ALONG SAID CURVE TO THE RIGHT AND ALONG THE EAST RIGHT-OF-WAY LINE OF SAID RIDGE ROAD - F.M. 740, FOR AN ARC DISTANCE OF 172.14 FEET TO A 5/8" IRON ROD SET FOR CORNER;

THENCE NORTH 06° 02' 19" EAST AND CONTINUING ALONG THE EAST RIGHT-OF-WAY LINE OF SAID RIDGE ROAD - F.M. 740, FOR A DISTANCE OF 107.37 FEET TO A 5/8" IRON ROD SET FOR CORNER AT THE BEGINNING OF A CURVE TO THE RIGHT HAVING A RADIUS OF 3780.17 FEET WITH A CENTRAL ANGLE OF 00° 48' 02" AND A CHORD BEARING NORTH 06° 26' 25" EAST AT A DISTANCE OF 52.81 FEET;

THENCE NORTHEASTERLY ALONG SAID CURVE TO THE RIGHT AND FOLLOWING ALONG THE EAST RIGHT-OF-WAY LINE OF SAID RIDGE ROAD - F.M. 740, FOR AN ARC DISTANCE OF 52.81 FEET TO A 5/8" IRON ROD SET FOR CORNER AT THE SOUTH END OF A CORNER CLIP FOUND AT THE INTERSECTION OF EAST RIGHT-OF-WAY LINE OF SAID RIDGE ROAD - F.M. 740 AND THE SOUTHWEST RIGHT-OF-WAY LINE OF SUMMER LEE DRIVE AS ESTABLISHED BY RIGHT OF WAY DEED TO THE CITY OF ROCKWALL, AS RECORDED IN DOCUMENT NO. 2008-00396193 OF THE REAL PROPERTY RECORDS OF ROCKWALL COUNTY, TEXAS;

THENCE NORTH 53° 10' 06" EAST AND FOLLOWING ALONG SAID CORNER CLIP, FOR A DISTANCE OF 30.00 FEET TO A 5/8" IRON ROD SET FOR CORNER, SAME BEING THE NORTH END OF SAID CORNER CLIP IN THE SOUTHWEST RIGHT-OF-WAY LINE OF SUMMER LEE DRIVE (65 FOOT WIDE);

THENCE SOUTH 81° 49' 51" EAST AND FOLLOWING ALONG THE SOUTHWEST RIGHT-OF-WAY LINE OF SAID SUMMER LEE DRIVE, FOR A DISTANCE OF 41.92 FEET TO A 5/8" IRON ROD SET FOR CORNER AT THE BEGINNING OF A CURVE TO THE RIGHT HAVING A RADIUS OF 1447.50 FEET WITH A CENTRAL ANGLE OF 12° 28' 45" AND A CHORD BEARING SOUTH 75° 35' 28" EAST AT A DISTANCE OF 314.68 FEET;

THENCE SOUTHEASTERLY ALONG SAID CURVE TO THE RIGHT AND FOLLOWING ALONG THE SOUTHWEST RIGHT-OF-WAY LINE OF SAID SUMMER LEE DRIVE, FOR AN ARC DISTANCE OF 315.27 FEET TO A 5/8" IRON ROD SET FOR CORNER AT THE BEGINNING OF A CURVE TO THE LEFT HAVING A RADIUS OF 4308.50 FEET WITH A CENTRAL ANGLE OF 03° 44' 10" AND A CHORD BEARING OF SOUTH 71° 13' 11" EAST AT A DISTANCE OF 280.90 FEET;

THENCE SOUTHEASTERLY ALONG SAID CURVE TO THE LEFT AND FOLLOWING ALONG THE SOUTHWEST RIGHT-OF-WAY LINE OF SAID SUMMER LEE DRIVE, FOR AN ARC DISTANCE OF 280.95 FEET TO A 5/8" IRON ROD SET FOR CORNER AT THE BEGINNING OF A CURVE TO THE LEFT HAVING A RADIUS OF 2761.77 FEET WITH A CENTRAL ANGLE OF 01° 21' 30" AND A CHORD BEARING OF SOUTH 72° 24' 30" EAST AT A DISTANCE OF 65.47 FEET;

THENCE SOUTHEASTERLY ALONG SAID CURVE TO THE LEFT AND ALONG THE SOUTHWEST RIGHT-OF-WAY LINE OF SAID SUMMER LEE DRIVE, FOR AN ARC DISTANCE OF 65.47 FEET TO A 5/8" IRON ROD SET FOR CORNER AT THE INTERSECTION OF SOUTHWEST RIGHT-OF-WAY LINE OF SAID SUMMER LEE DRIVE AND THE NORTHWEST RIGHT-OF-WAY LINE OF FOREMENTIONED OAK DRIVE;

THENCE SOUTH 18° 14' 14" WEST AND DEPARTING THE SOUTHWEST RIGHT-OF-WAY LINE OF SAID SUMMER LEE DRIVE AND FOLLOWING ALONG THE NORTHWEST RIGHT-OF-WAY LINE OF FOREMENTIONED OAK DRIVE, FOR A DISTANCE OF 157.16 FEET TO THE POINT OF BEGINNING AND CONTAINING WITHIN THESE METES AND BOUNDS, 4.1878 ACRES OR 182,419 SQUARE FEET OF LAND, MORE OR LESS.

## OWNER'S DEDICATION

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

STATE OF TEXAS  
COUNTY OF ROCKWALL

WE THE UNDERSIGNED OWNERS OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS THE RIDGE/SUMMER LEE ADDITION TO THE CITY OF ROCKWALL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, HEREBY DEDICATE TO THE USE OF THE PUBLIC FOREVER ALL STREETS, ALLEYS, PARKS, WATER COURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN ON THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED. WE FURTHER CERTIFY THAT ALL OTHER PARTIES WHO HAVE A MORTGAGE OR LIEN INTEREST IN THE RIDGE/SUMMER LEE ADDITION HAVE BEEN NOTIFIED AND SIGNED THIS PLAT.

WE UNDERSTAND AND DO HEREBY RESERVE THE EASEMENT STRIPS SHOWN ON THIS PLAT FOR THE PURPOSE STATED AND FOR THE MUTUAL USE AND ACCOMMODATION OF ALL UTILITIES DESIRING TO USE OR USING SAME. WE ALSO UNDERSTAND THE FOLLOWING:

1. NO BUILDINGS SHALL BE CONSTRUCTED OR PLACED UPON, OVER, OR ACROSS THE UTILITY EASEMENTS AS DESCRIBED HEREIN.
2. ANY PUBLIC UTILITY SHALL HAVE THE RIGHT TO REMOVE AND KEEP REMOVED ALL OR PART OF ANY BUILDINGS, FENCES, TREES, SHRUBS, OR OTHER GROWTHS OF IMPROVEMENTS WHICH IN ANY WAY ENDANGER OR INTERFERE WITH CONSTRUCTION, MAINTENANCE OR EFFICIENCY OF THEIR RESPECTIVE SYSTEM ON ANY OF THESE EASEMENT STRIPS; AND ANY PUBLIC UTILITY SHALL AT ALL TIMES HAVE THE RIGHT OF INGRESS OR EGRESS TO, FORM AND UPON THE SAID EASEMENT STRIPS FOR PURPOSE OF CONSTRUCTION, RECONSTRUCTION, INSPECTING, PATROLLING, MAINTAINING, AND EITHER ADDING TO OR REMOVING ALL OF PART OF THEIR RESPECTIVE SYSTEM WITHOUT THE NECESSITY OF, AT ANY TIME, PROCURING THE PERMISSION OF ANYONE.
3. THE CITY OF ROCKWALL WILL NOT BE RESPONSIBLE FOR ANY CLAIMS OF ANY NATURE RESULTING FROM OR OCCASIONED BY THE ESTABLISHMENT OF GRADE OF STREETS IN THE SUBDIVISION.
4. THE DEVELOPER AND SUBDIVISION ENGINEER SHALL BEAR TOTAL RESPONSIBILITY FOR STORM DRAIN IMPROVEMENTS.
5. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE NECESSARY FACILITIES TO PROVIDE DRAINAGE PATTERNS AND DRAINAGE CONTROLS SUCH THAT PROPERTIES WITHIN THE DRAINAGE AREA ARE NOT ADVERSELY AFFECTED BY STORM DRAINAGE FROM THE DEVELOPMENT.
6. NO HOUSE DWELLING UNIT, OR OTHER STRUCTURE SHALL BE CONSTRUCTED ON ANY LOT IN THIS ADDITION BY THE OWNER OR ANY OTHER PERSON UNTIL THE DEVELOPER AND/OR OWNER HAS COMPLIED WITH ALL REQUIREMENTS OF THE SUBDIVISION REGULATIONS OF THE CITY OF ROCKWALL REGARDING IMPROVEMENTS WITH RESPECT TO THE ENTIRE BLOCK ON THE STREET OR STREETS ON WHICH PROPERTY ABUTS, INCLUDING THE ACTUAL INSTALLATION OF STREETS WITH THE REQUIRED BASE AND PAVING, CURB AND GUTTER, WATER AND SEWER, DRAINAGE STRUCTURES, STORM STRUCTURES, STORM SEWERS, AND ALLEYS, ALL ACCORDING TO THE SPECIFICATIONS OF THE CITY OF ROCKWALL; OR

UNTIL AN ESCROW DEPOSIT, SUFFICIENT TO PAY FOR THE COST OF SUCH IMPROVEMENTS, AS DETERMINED BY THE CITY'S ENGINEER AND/OR CITY ADMINISTRATOR, COMPUTED ON A PRIVATE COMMERCIAL RATE BASIS, HAS BEEN MADE WITH THE CITY SECRETARY, ACCOMPANIED BY AN AGREEMENT SIGNED BY THE DEVELOPER AND/OR OWNER, AUTHORIZING THE CITY TO MAKE SUCH IMPROVEMENTS AT PREVAILING PRIVATE COMMERCIAL RATES, OR HAVE THE SAME MADE BY A CONTRACTOR AND PAY FOR THE SAME OUT OF THE ESCROW DEPOSIT, SHOULD THE DEVELOPER AND/OR OWNER FAIL OR REFUSE TO INSTALL THE REQUIRED IMPROVEMENTS ITSELF. SUCH DEPOSIT MAY BE USED BY THE OWNER AND/OR DEVELOPER AS PROGRESS PAYMENTS AS THE WORK PROGRESSES IN MAKING SUCH IMPROVEMENTS BY MAKING CERTIFIED REQUISITIONS TO THE CITY SECRETARY, SUPPORTED BY EVIDENCE OF WORK DONE; OR

UNTIL THE DEVELOPER AND/OR OWNER FILES A CORPORATE SURETY BOND WITH THE CITY SECRETARY IN A SUM EQUAL TO THE COST OF SUCH IMPROVEMENTS FOR THE DESIGNATED AREA, GUARANTEEING THE INSTALLATION THEREOF WITHIN THE TIME STATED IN THE BOND, WHICH TIME SHALL BE FIXED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL.

WE FURTHER ACKNOWLEDGE THAT THE DEDICATIONS AND/OR EXACTION'S MADE HEREIN ARE PROPORTIONAL TO THE IMPACT OF THE SUBDIVISION UPON THE PUBLIC SERVICES REQUIRED IN ORDER THAT THE DEVELOPMENT WILL COMPORT WITH THE PRESENT AND FUTURE GROWTH NEEDS OF THE CITY; WE, OUR SUCCESSORS HEREIN, ASSIGNS HERETO ANY CLAIM, DAMAGE, OR CAUSE OF ACTION THAT WE MAY HAVE AS A RESULT OF THE DEDICATION OF EXACTIONS MADE HEREIN.

WITNESS, MY HAND AT Denton, TEXAS, THIS THE 29 DAY OF May, 2012.ALDI (TEXAS), L.L.C.  
A TEXAS LIMITED LIABILITY COMPANYBY: ALDI INC. (PENNSYLVANIA),  
A PENNSYLVANIA CORPORATION,  
ITS: SOLE MEMBERBY: Scott W. Huska  
NAME: SCOTT W. HUSKA  
TITLE: VICE PRESIDENTSTATE OF TEXAS  
COUNTY OF DENTON

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED  
SCOTT W. HUSKA, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS  
SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE  
EXECUTED THE SAME FOR THE PURPOSE AND CONSIDERATION THEREIN STATED.

GIVEN UPON MY HAND AND SEAL OF OFFICE THIS 29 DAY OF May, 2012.Kristine L. Jank  
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

## SURVEYOR'S STATEMENT

KNOW ALL MEN BY THESE PRESENTS:

THAT I, DAVID R. PETREE, DO HEREBY CERTIFY THAT I PREPARED THIS PLAT FROM AN ACTUAL SURVEY OF LAND AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PLACED UNDER MY PERSONAL SUPERVISION.

DATED THIS THE 28<sup>TH</sup> DAY OF MAY, 2012.David R. Petree  
DAVID R. PETREE, R.P.L.S.  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 1890STATE OF TEXAS  
COUNTY OF DALLAS

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED  
DAVID R. PETREE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS  
SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE  
EXECUTED THE SAME FOR THE PURPOSE AND CONSIDERATION THEREIN STATED.

GIVEN UPON MY HAND AND SEAL OF OFFICE THIS 28<sup>TH</sup> DAY OF MAY, 2012.David R. Petree  
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS  
01/31/16  
MY COMMISSION EXPIRES

RECOMMENDED FOR FINAL APPROVAL

Paula Jank  
PLANNING AND ZONING COMMISSION03-27-13  
DATE

APPROVED

I HEREBY CERTIFY THAT THE ABOVE AND FORGOING PLAT OF AND ADDITION TO THE CITY OF ROCKWALL, TEXAS, WAS APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL ON THE 28 DAY OF April, 2012.

THIS APPROVAL SHALL BE INVALID UNLESS THE APPROVED PLAT FOR SUCH ADDITION IS RECORDED IN THE OFFICE OF THE COUNTY CLERK OF ROCKWALL, COUNTY, TEXAS, WITHIN ONE HUNDRED EIGHTY (180) DAY FROM SAID DATE OF FINAL APPROVAL.

WITNESS OUR HANDS, THIS 28<sup>th</sup> DAY OF June, 2012.Paula Jank  
MAYOR, CITY OF ROCKWALL  
Kristine L. Jank  
CITY SECRETARY  
Chuck Hall 6-11-2012  
CITY ENGINEER

OWNER	ENGINEER
ALDI (TEXAS) L.L.C. 2500 WESTCOURT ROAD DENTON, TEXAS 76207 (940) 220-5400 CONTACT: SCOTT W. HUSKA	BURGER ENGINEERING, LLC 17103 PRESTON ROAD, SUITE 180N DALLAS, TEXAS 75248 (972) 630-3360 CONTACT: BRYAN M. BURGER, P.E.

SURVEYOR  
DAVID R. PETREE  
REGISTERED PROFESSIONAL LAND SURVEYOR  
11015 MIDWAY ROAD  
DALLAS, TEXAS 75229  
(214) 358-4500

AS-BUILT  
DATE: 01-09-13FINAL PLAT  
OF  
RIDGE/SUMMER LEE ADDITION  
LOTS 1 & 2, BLOCK A

BEING 4.1878 ACRES OUT OF THE  
EDWARD TEAL SURVEY, ABSTRACT NO. 207,  
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

SHEET 2 OF 2  
MAY 18, 2012

H-232



## CITY OF ROCKWALL BENCH MARKS

GPS CONTROL MONUMENT #R014, NAD83:  
NORTHING= 7007583.687  
EASTING= 2589828.481  
ELEVATION= 581.017'

GPS CONTROL MONUMENT #RESET 1, NAD83:  
NORTHING= 7011544.252  
EASTING= 2580135.160  
ELEVATION= 567.704'

## SITE BENCH MARKS:

BENCH MARK #1: CENTER OF A STORM DRAIN INLET ALONG CURB. INLET IS LOCATED ON THE NORTH SIDE OF SUMMER LEE DRIVE. APPROXIMATELY 95 FEET EAST FROM THE CENTER OF RIDGE ROAD.

ELEVATION = 568.55'

BENCH MARK #2: CENTER OF RIM A A SANITARY SEWER MANHOLE LOCATED APPROXIMATELY 180 FEET SOUTHWEST FROM THE CENTER OF OAK DRIVE AT 20 FOOT ALLEY RUNNING ALONG THE SOUTH PROPERTY LINES.

ELEVATION = 563.63'

## ~ BOUNDARY CURVE TABLE ~

NO.	RADIUS	DELTA	ARC	CH. BEARING	CHORD
C1	754.00'	13°04'52"	172.14'	N 08°45'08" W	171.77'
C2	3780.17'	00°48'02"	52.81'	N 06°26'25" E	52.81'
C3	1447.50'	12°28'46"	315.27'	S 75°35'28" E	314.65'
C4	4308.50'	03°44'10"	280.95'	S 71°13'11" E	280.90'
C5	2761.77'	01°21'30"	65.47'	S 72°24'30" E	65.47'

PETAR TEMUNOVIC AND  
CVJETA TEMUNOVIC  
VOL. 959, PG. 150  
R.P.R.C.T.

## FLOOD NOTE

According to the Federal Emergency Management Agency (FEMA) - National Flood Insurance Program (NFIP) - Flood Insurance Rate Map (FIRM) - for the Rockwall County, Texas and Incorporated Areas - Map No. 48397C0040L, effective, September 26, 2008, the property shown hereon lies in Zone "X" (Other Areas).

Zone "X" (Other Areas) is defined as "Areas determined to be outside the 0.2% annual chance floodplain".

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year.

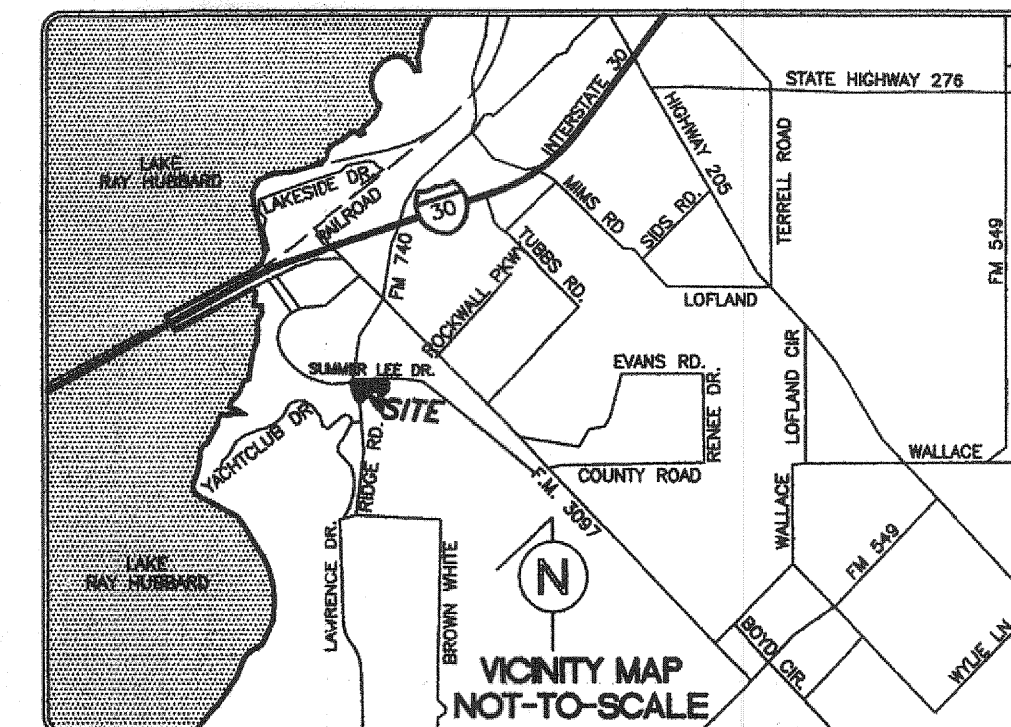
The Base flood elevation is the water-surface elevation of the 1% annual chance flood.

This flood statement does not imply that the property and/or the structure thereon will be free from flooding or flood damage. On rare occasions, greater floods can and will occur and flood heights may be increased by man-made or natural causes. This flood statement shall not create liability on the part of the surveyor.

0 20' 40' 80'  
GRAPHIC SCALE: 1"=40'

## LEGEND

- F.H. FIRE HYDRANT
- X SET CHISELED "X" SET
- F.A. IRON ROD FOUND (SIZE AS NOTED)
- S.I.R. IRON ROD SET (SIZE AS NOTED)
- P.P. OVERHEAD UTILITY POLE W/ GUY
- U.E. UNDERGROUND ELECTRIC OR TELEPHONE
- L.P. LIGHT POLE
- S.S.M. SANITARY SEWER MANHOLE
- C.O. SAN. SWR. CLEAN OUT
- G.V. GAS VALVE
- W.V. WATER VALVE
- T. TREE



## SURVEY PLAT

TO ALL PARTIES INTERESTED IN PREMISES SURVEYED:

This is to certify that I have, this date, made a careful and accurate survey on the ground of the following described property.

BEING all that certain lot, tract or parcel of land out of Edward Teal Survey, Abstract No. 207, City of Rockwall, Rockwall County, Texas and being a part of a 6.314 acre tract of land as described in a Warranty Deed from First State Bank of Texas to Petar Temunovic and Cvjeta Temunovic, dated June 16, 1994, and being recorded in Volume 924, Page 124, of the Real Property Records of Rockwall County, Texas and also being a part of a 6.455 acre tract of land described in a Warranty Deed from Spanish Peaks Ranch, Inc. to Petar Temunovic and Cvjeta Temunovic dated October 31, 1994 and being recorded in Volume 959 at Page 150, of the Real Property Records of Rockwall County, Texas;

BEGINNING at a 5/8" iron rod with yellow cap found for corner at the Southeast corner of said 6.314 acre tract, and being at the intersection of the West right-of-way line of Oak Drive (variable width right-of-way) and the Northwest line of 20 foot alley per plat of Foxchase Phase 1, an addition to the City of Rockwall, Rockwall County, Texas, according to the plat thereof recorded in Cabinet C at Slide 49 of the Plat Records of Rockwall County, Texas;

THENCE South 62° 24' 24" West and departing the West right-of-way line of said Oak Drive and following along the Northwest right-of-way line of said alley, for a distance of 153.13 feet to a 5/8" iron rod set for corner at the East corner of Lot 2-RA, Block A of Amended Plat Buffalo Creek Shopping Village No. 2, being a replat of Lot 1, Block A, an addition to the City of Rockwall, Texas, according to the Plat thereof recorded in Cabinet "C", Slide 385, of the Plat Records of Rockwall County, Texas;

THENCE North 27° 35' 36" West and following along the Easterly line of said Lot 2-RA for a distance of 200.00 feet to a 1/2" iron rod with yellow cap found for the northeast corner of said Lot 2-RA, Block A;

THENCE South 62° 24' 24" West and following along the Northwest line of said Lot 2-RA, for a distance of 428.45 feet to a 5/8" iron rod set for corner in the East right-of-way line of Ridge Road - F.M. 740 (a variable width right-of-way), as established by deed conveyed to the Texas called 0.1366 acres as recorded in Document Number 2009-00411059 of the Real Property Records of Rockwall County, Texas;

THENCE North 21° 15' 49" West and following along the East right of way line of said Ridge Road as conveyed to the State of Texas as recorded in Document Number 2009-00411059 of the Real Property Records of Rockwall County, Texas, for a distance of 94.36 feet to a 5/8" iron rod set for corner, said point being the beginning of a curve to the right having a radius of 754.00 feet with a central angle of 1° 04' 52" and a chord bearing North 06° 45' 08" West at a distance of 171.77 feet;

THENCE Northwest along said curve to the right and along the East right-of-way line of said Ridge Road - F.M. 740, for an arc distance of 172.14 feet to a 5/8" iron rod set for corner;

THENCE North 06° 02' 19" East and continuing along the East right-of-way line of said Ridge Road - F.M. 740, for a distance of 107.37 feet to a 5/8" iron rod set for corner at the beginning of a curve to the right having a radius of 3780.17 feet with a central angle of 00° 48' 02" and a chord bearing North 06° 26' 25" East at a distance of 52.81 feet;

THENCE Northeast along said curve to the right and following along the East right-of-way line of said Ridge Road - F.M. 740, for an arc distance of 52.81 feet to a 5/8" iron rod set for corner at the South end of a corner clip found at the intersection of East right-of-way line of said Ridge Road - F.M. 740 and the Southwest right-of-way line of Summer Lee Drive as established by Right of Way deed to the City of Rockwall as recorded under Document No. 2008-00398193 of the Real Property Records of Rockwall County, Texas;

THENCE North 53° 10' 06" East and following along said corner clip, for a distance of 30.00 feet to a 5/8" iron rod set for corner, same being the North end of said corner clip in the Southwest right-of-way line of Summer Lee Drive (65 foot wide);

THENCE South 81° 48' 51" East and following along the Southwest right-of-way line of said Summer Lee Drive, for a distance of 41.92 feet to a 5/8" iron rod set for corner at the beginning of a curve to the right having a radius of 1447.50 feet with a central angle of 12° 28' 46" and a chord bearing South 75° 35' 28" East at a distance of 314.65 feet;

THENCE Southeast along arc of said curve to the right and along the Southwest right-of-way line of said Summer Lee Drive, for an arc distance of 315.27 feet to a 5/8" iron rod set for corner at the beginning of a curve to the left having a radius of 4308.50 feet with a central angle of 03° 44' 10" and a chord bearing of South 71° 13' 11" East at a distance of 280.90 feet;

THENCE Southeast along said curve to the left and following along the Southwest right-of-way line of said Summer Lee Drive, for an arc distance of 280.95 feet to a 5/8" iron rod set for corner at the beginning of a curve to the left having a radius of 2761.77 feet with a central angle of 01° 21' 30" and a chord bearing of South 72° 24' 30" East at a distance of 65.47 feet;

THENCE Southeast along said curve to the left and along the Southwest right-of-way line of said Summer Lee Drive, for an arc distance of 65.47 feet to a 5/8" iron rod set for corner at the intersection of Southwest right-of-way line of said Summer Lee Drive and the Northwest right-of-way line of aforementioned Oak Drive;

THENCE South 18° 14' 14" West and departing the Southwest right-of-way line of said Summer Lee Drive and following along the Northwest right-of-way line of said aforementioned Oak Drive, for a distance of 157.16 feet to the POINT OF BEGINNING and CONTAINING 4.1878 ACRES OF LAND, more or less.

REPRINTED APRIL 19, 2012 - PER LAWYER COMMENTS  
REPRINTED FEBRUARY 19, 2012 - ADDED SURVEYOR COMMENTS  
REPRINTED FEBRUARY 2, 2012 - PER NEW TITLE COMMITMENT

## TOPOGRAPHIC SURVEY PROPOSED ALDI'S SITE 4.1878 ACRE PARCEL EDWARD TEAL SURVEY, ABSTRACT NO. 207 CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

BY: DAVID PETREE  
REGISTERED PROFESSIONAL  
LAND SURVEYOR NO. 1890  
11015 MIDWAY ROAD  
DALLAS, TEXAS 75229  
PH. (214) 358-4500  
FX. (214) 358-4600

DATE: DECEMBER 31, 2011  
SCALE: 1" = 40'

ROCKWALL-SUMMERLEE

## TITLE NOTES

According to the Commitment for Title Insurance issued by Chicago Title Insurance Company (SF NO. CTGS29-82912000556), effective date of January 24, 2012 the following matters of record are itemized as Exceptions to insurance coverage as indicated on Schedule B thereto:

(1) The following restrictive covenants of record itemized in Cabinet C, Page 35, Plat Records of Rockwall County, Texas.

(2) Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: RCH Water Supply Corporation  
Purpose: Right-of-Way  
Recording Date: December 5, 1961  
Recording No: Volume 64, Page 236, Deed Records, Rockwall County, Texas. Affects: West property line (As shown on survey).

(f) Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: RCH Water Supply Corporation  
Purpose: Right-of-Way  
Recording Date: December 5, 1961  
Recording No: Volume 64, Page 266, Deed Records, Rockwall County, Texas. Affects: West property line (As shown on survey).

(g) Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: RCH Water Supply Corporation  
Purpose: Right-of-Way  
Recording Date: December 5, 1961  
Recording No: Volume 64, Page 274, Deed Records, Rockwall County, Texas. Affects: West property line (As shown on survey).

(h) Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: Texas Power & Light Company Purpose:  
Right-of-Way Recording Date: July 28, 1947 Recording No:  
Volume 42, Page 535, Deed Records, Rockwall County, Texas. Affects: West property line (Unable to locate as described).

(i) Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: Texas Power & Light Company Purpose:  
Right-of-Way Recording Date: December 18, 1963 Recording No:  
Volume 68, Page 927, Deed Records, Rockwall County, Texas. Affects: West property line (Unable to locate as described).

(j) Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for dedication, on the map of said tract/plot:

Purpose: 7.5 foot utility easement Affects: southerly property line Recording No: Cabinet C, Page 385, Plat Records, Rockwall County, Texas. (As shown on survey).

(k) Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for dedication, on the map of said tract/plot:

Purpose: 24 foot ingress and egress easement Affects: a portion of subject property Recording No: Cabinet C, Page 35, Plat Records, Rockwall County, Texas. (As shown on survey).

## TITLE NOTES

(l) Interest in and to all coal, lignite, oil, gas and other minerals, and all rights incident thereto, contained in instrument dated April 22, 1964, recorded May 11, 1964 at Volume 69, Page 501, of the Official Records of Rockwall County, Texas. Reference to which instrument is here made for particulars.

(m) Interest in and to all coal, lignite, oil, gas and other minerals, and all rights incident thereto, contained in instrument dated November 1, 1940, recorded November 8, 1940 at Volume 36, Page 233, of the Official Records of Rockwall County, Texas.

(n) Interest in and to all coal, lignite, oil, gas and other minerals, and all rights incident thereto, contained in instrument dated September 7, 1988 Recording No: Volume 425, Page 137, Deed Records, Rockwall County, Texas. (As shown on survey).

(o) Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

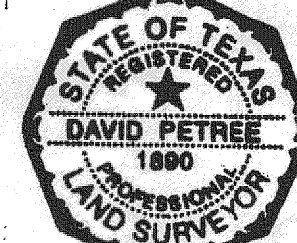
Granted to: City of Rockwall Purpose: Right-of-Way Recording Date: September 7, 1988 Recording No: Volume 425, Page 137, Deed Records, Rockwall County, Texas. (As shown on survey).

AS-BUILT  
DATE: 01-09-13

## SURVEYOR'S CERTIFICATE

The undersigned hereby certifies to Aldi (Texas) L.L.C., a Texas limited liability company, Petar Temunovic and Cvjeta Temunovic and Chicago Title Insurance Company as of effective date of January 24, 2012 that this survey was actually made upon the ground; that is and the information, courses and distances thereon are accurate; that the title lines and lines of actual possession are the same; that the property description 'closed' by engineering calculations; that this survey correctly shows the size, location and type of all buildings, structures and other improvements on the property and all are within the boundary lines and applicable set-back lines (whether established by subdivision plat, recorded restrictions or applicable zoning or building codes) affecting the property, that there are no encroachments on adjoining premises streets or alleys and any of said buildings, structures or other improvements or encroachments upon the property by any building, structure or other improvement situated upon any adjoining premises; and that the property does not lie within a flood hazard area shown on a U.S. Department of H.U.D. Flood Insurance Boundary Map or special flood hazard area map published by the Federal Emergency Management Agency. This survey was made in accordance with the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys" jointly established by ALTA and ACSM in 2005 including Table A items 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17 and 18 and as may have been refined in later updates of ALTA and ACSM and meets the accuracy requirements of a Class A Survey, as defined therein.

DAVID PETREE  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 1890  
11015 MIDWAY ROAD  
DALLAS, TEXAS 75229  
(214) 358-4500

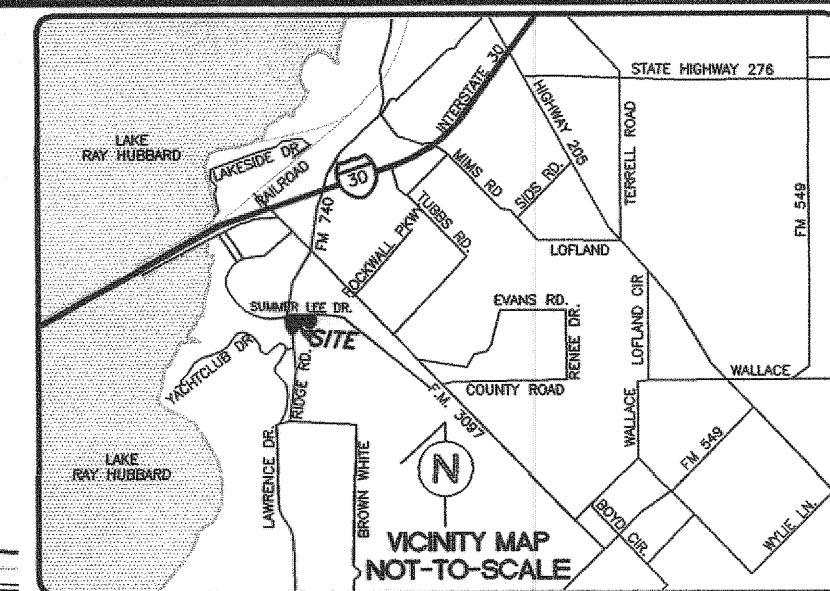




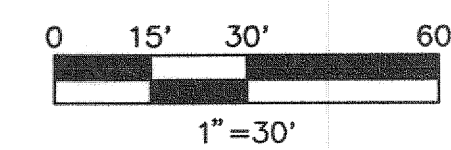
PETER TEMUNOVIC AND  
CIVIL ENGINEER  
VOL. 959, PG. 150  
R.P.R.C.T.  
(VACANT)

~ CURVE TABLE ~					
NO.	RADIUS	DELTA	ARC	CH. BEARING	CHORD
C1	754.00'	13°04'52"	172.14'	N 08°45'08" W	171.77'
C2	3780.17'	00°48'02"	52.81'	N 06°26'25" E	52.81'
C3	1447.50'	12°28'45"	315.27'	S 75°35'28" E	314.65'
C4	4308.50'	03°44'10"	280.95'	S 71°13'11" E	280.90'
C5	2761.77'	01°21'30"	65.47'	S 72°24'30" E	65.47'
C6	1375.50'	02°49'51"	67.96'	S 70°48'31" E	67.96'

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E. 393  
P.R.R.C.T.



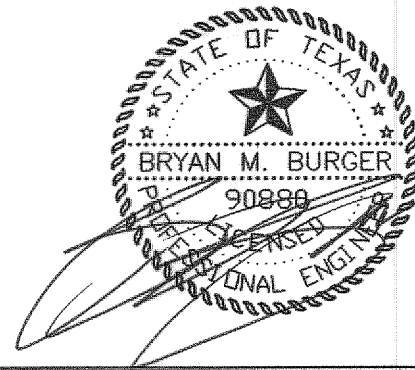
- LEGEND
- F.H. FIRE HYDRANT
  - CHISELED "X" SET
  - IRON ROD FOUND (SIZE AS NOTED)
  - OVERHEAD UTILITY POLE W/ GUY
  - UNDERGROUND ELECTRIC OR TELEPHONE
  - LIGHT POLE
  - SANITARY SEWER MANHOLE
  - SAN. SWR. CLEAN OUT
  - GAS VALVE
  - WATER VALVE
  - TREE
  - LANDSCAPE
  - CONSTRUCT BARRIER FREE RAMP
  - PROPOSED LIGHT POLE



PROJECT NOTES:

- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- TOPOGRAPHIC BOUNDARY SURVEY, INCLUDING PROPERTY LINE, LEGAL DESCRIPTION, EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY:  
  
DAVID PETREE  
11015 MIDWAY ROAD  
DALLAS, TEXAS 75229  
(214) 358-4500
- REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS, SIDEWALK & RAMPING BETWEEN CURB & BUILDING.
- ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
- COORDINATE & CONFIRM ALL BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.
- REFERENCE FINAL PLAT FOR ALL PROPERTY LINE INFORMATION.
- NO TREES TO BE PLANTED WITHIN 5' OF ANY UTILITIES.

THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 1-8-13

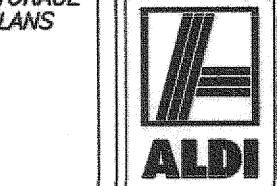


REV.	DATE	REMARKS
<b>CITY SITE PLAN</b>		
<b>ALDI GROCERY STORE</b>		
<b>LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION</b>		
<b>THE CITY OF ROCKWALL, TEXAS</b>		
17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TIDPE E-12997		
<b>B</b> BURGER ENGINEERING Civil Consultants		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
1"=30'	D.P.	007-008 SITE PLAN
NO.	<b>C-3</b>	

# SUMMER LEE DRIVE

(65' RIGHT-OF-WAY)

LOT 1, BLOCK A - SITE DATA	
SITE AREA:	2.5767 AC. (112,197 S.F.)
ZONING DISTRICT:	GENERAL RETAIL (GR)
PROPOSED USE:	GROCERY STORE
BUILDING AREA:	15,945 S.F.
BUILDING HEIGHT:	28' (SINGLE STORY)
PARKING:	
REQUIRED: 1 SPACE/250 SF OF BUILDING AREA	64
PROVIDED:	73 (3 H.C.)
OFF-STREET LOADING:	
REQUIRED:	1
PROVIDED:	1
LANDSCAPE AREA:	
REQUIRED:	16,850 S.F. (15%)
PROVIDED:	47,812 S.F. (42.62%)
IMPERVIOUS AREA:	64,382 S.F. (57.38%)



VERSION 4.0 PROTOTYPE  
15,945 S.F.  
28' BLDG. HT.  
F.F. = 569.90

REFER TO ARCHITECT PLANS FOR EXACT BUILDING  
DIMENSIONS, TRUCK DOCK & SIDEWALK DETAILS

F.D.C. LOCATION  
PROP. GREEN SCREEN (REF. ARCH. PLANS FOR DETAILS)

PROP. BUILDING CORNER  
PROP. DETENTION POND B

PROP. DETENTION POND A

PROP. DETENTION POND C

PROP. DETENTION POND D

PROP. DETENTION POND E

PROP. DETENTION POND F

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PROP. DETENTION POND U

PROP. DETENTION POND V

PROP. DETENTION POND W

PROP. DETENTION POND X

PROP. DETENTION POND Y

PROP. DETENTION POND Z

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PROP. DETENTION POND GH

PROP. DETENTION POND GI

PROP. DETENTION POND GJ

PROP. DETENTION POND GK

PROP. DETENTION POND GL

PROP. DETENTION POND GM

PROP. DETENTION POND GN

PROP. DETENTION POND GO

PROP. DETENTION POND GP

PROP. DETENTION POND GQ

PROP. DETENTION POND GR

PROP. DETENTION POND GS

PROP. DETENTION POND GT

PROP. DETENTION POND GU

PROP. DETENTION POND GV

PROP. DETENTION POND GW

PROP. DETENTION POND GX

PROP. DETENTION POND GY

PROP. DETENTION POND GZ

PROP. DETENTION POND HA

PROP. DETENTION POND HB

PROP. DETENTION POND HC

PROP. DETENTION POND HD

PROP. DETENTION POND HE

PROP. DETENTION POND HF

PROP. DETENTION POND HG

PROP. DETENTION POND HH

PROP. DETENTION POND HI

PROP. DETENTION POND HJ

PROP. DETENTION POND HK

PROP. DETENTION POND HL

PROP. DETENTION POND HM

PROP. DETENTION POND HN

PROP. DETENTION POND HO

PROP. DETENTION POND HP

PROP. DETENTION POND HQ

PROP. DETENTION POND HR

PROP. DETENTION POND HS

PROP. DETENTION POND HT

PROP. DETENTION POND HU

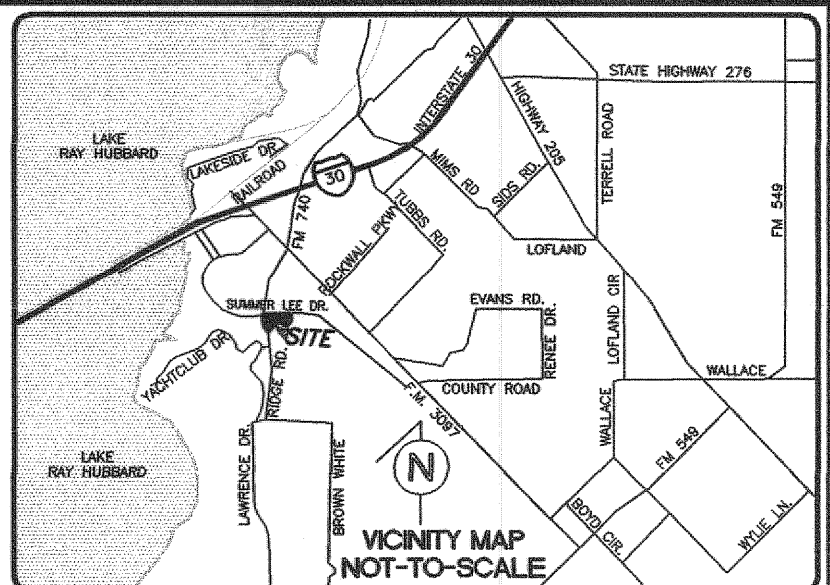
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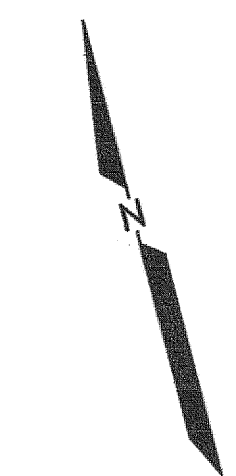
PETER TEMUNOVIC AND  
CIVIL ENGINEERING  
VOL. 959, PG. 150  
P.R.R.C.T.  
(VACANT)

~ CURVE TABLE ~					
NO.	RADIUS	DELTA	ARC	CH. BEARING	CHORD
C1	754.00'	13°04'52"	172.14'	N 08°45'08" W	171.77'
C2	3780.17'	00°48'02"	52.81'	N 06°26'25" E	52.81'
C3	1447.50'	12°28'45"	315.27'	S 75°35'28" E	314.65'
C4	4308.50'	03°44'10"	280.95'	S 71°13'11" E	280.90'
C5	2761.77'	01°21'30"	65.47'	S 72°24'30" E	65.47'
C6	1375.50'	02°49'51"	67.96'	S 70°48'31" E	67.96'

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E, 393  
P.R.R.C.T.



- LEGEND
- F.H. FIRE HYDRANT
  - X SET CHISELED "X" SET
  - O.F.X. CHISELED "X" FOUND
  - O.F.I.R. IRON ROD FOUND (SIZE AS NOTED)
  - O.S.R. IRON ROD SET (SIZE AS NOTED)
  - PP OVERHEAD UTILITY POLE W/ GUY
  - PP UNDERGROUND ELECTRIC OR TELEPHONE
  - LP LIGHT POLE
  - SSMH SANITARY SEWER MANHOLE
  - S.S.W. SAN. SWR. CLEAN OUT
  - G.V. GAS VALVE
  - W.V. WATER VALVE
  - TREE
  - LS LANDSCAPE
  - BFR CONSTRUCT BARRIER FREE RAMP

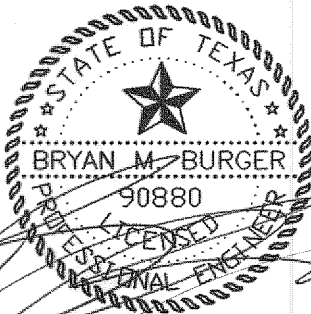


0 15' 30' 60'  
1"=30'

PROJECT NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. TOPOGRAPHIC BOUNDARY SURVEY, INCLUDING PROPERTY LINE, LEGAL DESCRIPTION, EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY:  
  
DAVID PETREE  
11015 MIDWAY ROAD  
DALLAS, TEXAS 75229  
(214) 358-4500
3. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS, SIDEWALK & RAMPING BETWEEN CURB & BUILDING.
4. ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
5. COORDINATE & CONFIRM ALL BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.
6. REFERENCE FINAL PLAT FOR ALL PROPERTY LINE INFORMATION.

THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 1-8-13



REV.	DATE	REMARKS
<b>DIMENSION CONTROL</b>		
ALDI GROCERY STORE		
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION		
THE CITY OF ROCKWALL, TEXAS		
<b>BURGER ENGINEERING</b> Civil Consultants		
17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBP# P-12997		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
1"=30'	D.P.	007-008 DIMCTRL
NO.	C-4	

AS-BUILT  
DATE: 01-09-13



SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.

Elevation= 563.63'

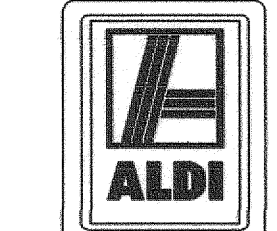
RIDGE ROAD (VARIABLE WIDTH RIGHT-OF-WAY)  
IF-M. 7401

SUMMER LEE DRIVE  
(65' RIGHT-OF-WAY)

OAK DRIVE  
(VARIABLE WIDTH RIGHT-OF-WAY)

20' ALLEY

20' ALLEY



VERSION 4.0 PROTOTYPE  
15,945 S.F.  
F.F. = 569.90

REFER TO ARCHITECT PLANS FOR EXACT BUILDING DIMENSIONS, TRUCK DOCK & SIDEWALK DETAILS

F.D.C. LOCATION  
PROP. GREEN SCREEN (REF. ARCH. PLANS FOR DETAILS)

LANDING & STAIRS (REF. ARCH. PLANS FOR DETAILS)

PROP. DETENTION POND B

LOT 1-RA  
BUFFALO CREEK SHOPPING VILLAGE NO. 2  
CABINET C, SLIDE 385  
P.R.R.C.T.

EX. RETAIL CENTER

LOT 2-RA  
BUFFALO CREEK SHOPPING VILLAGE NO. 2  
CABINET C, SLIDE 385  
P.R.R.C.T.

EX. DAYCARE CENTER

LOT 4  
BLOCK B  
FOXCHASE, PHASE 1  
CAB. C, SL. 49  
P.R.R.C.T.

LOT 13  
BLOCK B  
FOXCHASE, PHASE 1  
CAB. C, SL. 49  
P.R.R.C.T.

LOT 12

LOT 11

LOT 5

LOT 6

LOT 3

LOT 2, BLOCK A  
RIDGE/SUMMER LEE ADDITION  
(VACANT)  
FUTURE DEVELOPMENT  
1.61 ACRES



PETER TEMUNOVIC AND  
CVIJETA TEMUNOVIC  
VOL. 959, PG. 150  
P.R.R.C.T.  
(VACANT)

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E, 393  
P.R.R.C.T.

SUMMER LEE DRIVE

OAK DRIVE

RIDGE ROAD (F.M. 740)

20' ALLEY

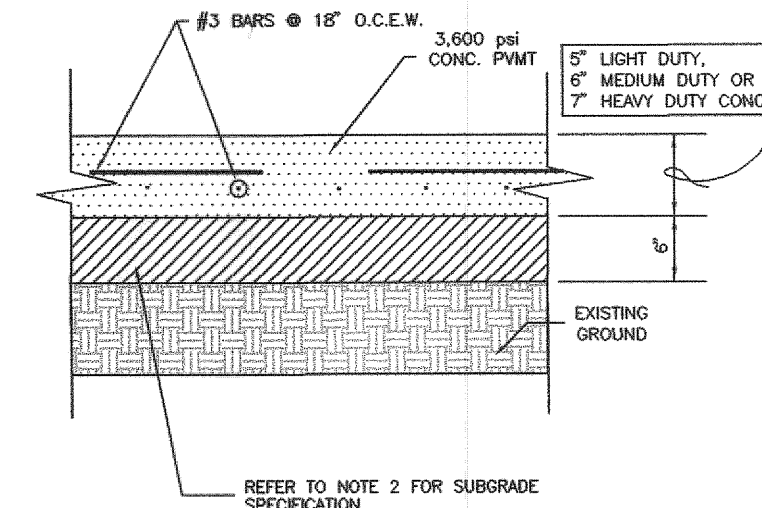
0 15' 30' 60'  
1"=30'

LEGEND  
F.H. FIRE HYDRANT  
X SET CHISELED "X" SET  
O.F.X. IRON ROD FOUND (SIZE AS NOTED)  
O.S.I.R. IRON ROD SET (SIZE AS NOTED)  
PP OVERHEAD UTILITY POLE W/ GUY  
L.P. UNDERGROUND ELECTRIC OR TELEPHONE  
L.P. LIGHT POLE  
S.S.M. SANITARY SEWER MANHOLE  
C.O. SAN. SWR. CLEAN OUT  
G.V. GAS VALVE  
W.V. WATER VALVE  
T TREE  
BFR BARRIER FREE RAMP  
0.1 PAVING DETAIL INDICATOR  
(SEE SHTS. C-5.1 - 5.3)

PAVING LEGEND

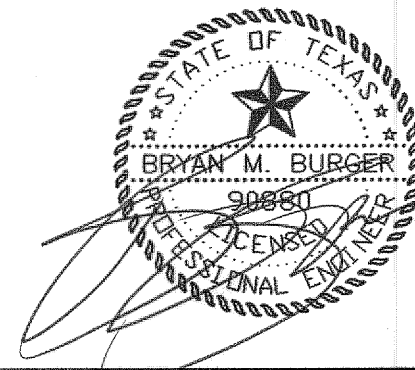
LIMITS OF SITEWORK  
LIGHT DUTY - 5' - 3,000 PSI  
REINFORCED CONCRETE PAVEMENT  
5 SACK MIN. MACHINE PLACED OR  
5.5 SACK MIN. HAND PLACED  
MEDIUM DUTY - 6' - 3,600 PSI  
REINFORCED CONCRETE PAVEMENT  
6 SACK MIN. MACHINE PLACED OR  
6.5 SACK MIN. HAND PLACED  
HEAVY DUTY - 7' - 3,600 PSI  
REINFORCED CONCRETE PAVEMENT  
6 SACK MIN. MACHINE PLACED OR  
6.5 SACK MIN. HAND PLACED  
SIDEWALK - 4' - 3,600 PSI  
REINFORCED CONCRETE SIDEWALK  
6 SACK MIN. MACHINE PLACED OR  
6.5 SACK MIN. HAND PLACED  
RADIUS PROTECTION - 4' - 3,600 PSI  
REINFORCED CONCRETE RADIUS PROTECTION  
5 SACK MIN. MACHINE PLACED OR  
5.5 SACK MIN. HAND PLACED

REF. TO SHTS. C-5.1 - 5.3  
FOR PAVING DETAILS.



LIGHT/MEDIUM/HEAVY DUTY  
CONCRETE PAVEMENT SECTION  
N.T.S.

THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 1-8-13



PAVING GENERAL NOTES:

- ALL CONCRETE PAVING SHALL BE OF THE THICKNESS AND COMPRESSIVE STRENGTH AS SHOWN ON THE PLAN. CONCRETE STRENGTH SHALL BE DETERMINED AT 28 DAYS. ALL CONCRETE SHALL HAVE A ONE INCH (1") TO FOUR INCH (4") SLUMP AND BE REINFORCED WITH #3 BARS @ 18" O.C.E.W. REINFORCING SHALL BE SUPPORTED BY CHAIRS AND SPACED AT 16 S.F. MAX. USE OF FLY ASH IS PROHIBITED.
- SUBGRADE UNDER CONCRETE PAVEMENT SHALL BE PROOF ROLLED & SCARIFIED TO A DEPTH OF SIX INCHES (6") AND RECOMPACTED TO 95% MAXIMUM STANDARD PROCTOR DENSITY, ASTM D-698, AT -1 TO +3 PERCENT POINTS OF THE MATERIALS OPTIMUM MOISTURE. SUBGRADE TESTING MUST BE PERFORMED NO MORE THAN 72 HOURS PRIOR TO CONCRETE PLACEMENT PER M.C.T.O.G. SPECIFICATIONS. RETESTING MUST BE PERFORMED SHOULD A RAIN EVENT OCCUR FOLLOWING SUBGRADE TESTING.
- SEALANT MATERIAL TO BE 0444 ASPHALT OR A RUBBER BASED COMPOUND, U.N.O. SPECIFICATIONS TO BE SUBMITTED TO THE ENGINEER PRIOR TO INSTALLATION.
- BREAKOUTS FOR REMOVAL OF EXISTING PAVEMENT AND CURBS SHALL BE MADE BY FULL DEPTH SAW CUT WHEN ADJACENT TO PROPOSED PAVING AND/OR CURBS.
- PROPOSED CONCRETE CURBS SHALL MATCH ELEVATIONS OF EXISTING CURB.
- CONCRETE TO BE BROOM FINISHED AND CURED FOR A MINIMUM OF 72 HOURS.
- ALL PARKING SPACES SHOWN ON PROPOSED CONSTRUCTION SHALL BE MARKED WITH 4 INCH (4") WIDE YELLOW PAINTED PAVEMENT STRIPING (2 COATS). PAINT SHALL BE SHERWIN WILLIAMS SERIES B-29W2 OR APPROVED ALTERNATE. 2ND COAT OF PAINT SHALL BE APPLIED PRIOR TO STORE OPENING.
- ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH CITY OF ROCKWALL STANDARD SPECIFICATIONS AND/OR SPECIFICATIONS ESTABLISHED BY THIS PROJECT. THE MOST STRINGENT SHALL APPLY.
- CONTRACTOR SHALL SUBMIT A JOINT SPACING PLAN TO THE ENGINEER PRIOR TO PLACEMENT OF CONCRETE PAVEMENT. CONTROL JOINTS SHALL BE INSTALLED AT A MAXIMUM SPACING OF 15' O.C.E.W. FOR FIVE INCH (5") THICK PAVEMENT, EIGHTEEN FEET (18') O.C.E.W. FOR SIX INCH (6") THICK PAVEMENT AND 20' O.C.E.W. FOR SEVEN INCH (7") THICK PAVEMENT. EXPANSION JOINT SHALL BE INSTALLED AT A MAXIMUM SPACING OF NINETY FEET (90'). CONCRETE SHALL BE PLACED IN STRIPS NOT TO EXCEED 30 FEET (30') IN WIDTH UNLESS PUMPED. LEVEL UP SAND COURSE WILL NOT BE ALLOWED UNDER CONCRETE PAVEMENT.
- CONTRACTOR WILL PROVIDE A TWO (2) YEAR UNCONDITIONAL MAINTENANCE FREE WARRANTY ON ALL PORTLAND CEMENT CONCRETE PAVEMENT.
- REFER TO GEOTECH REPORT DATED FEBRUARY 10, 2012, REPORT NO. 94125015 AS PREPARED BY TERRACON CONSULTANTS, INC. FOR ADDITIONAL CONCRETE PLACEMENT AND SUBGRADE PREPARATION.
- ALL ACCESSIBLE RAMPS TO BE CONSTRUCTED PER ADA STANDARDS.
- ALL FIRE LANES SHALL BE STRIPED IN ACCORDANCE WITH THE CITY OF ROCKWALL STANDARDS AND SPECIFICATIONS.
- ALL PAVING WORK WITHIN RIGHT-OF-WAY SHALL CONFORM TO THE CITY OF ROCKWALL STANDARDS.

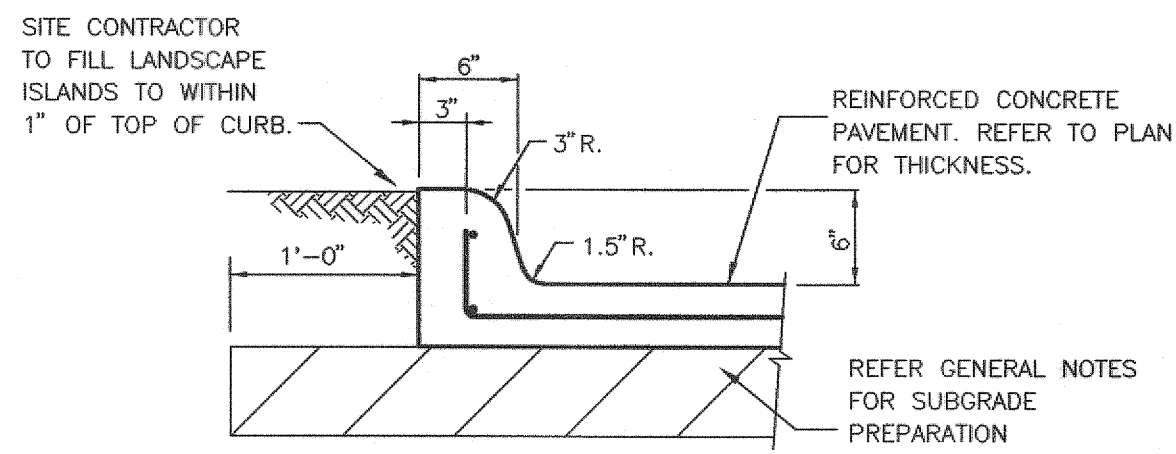
AS-BUILT  
DATE: 01-09-13

SITE BENCH MARKS:  
BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.  
Elevation= 566.55'

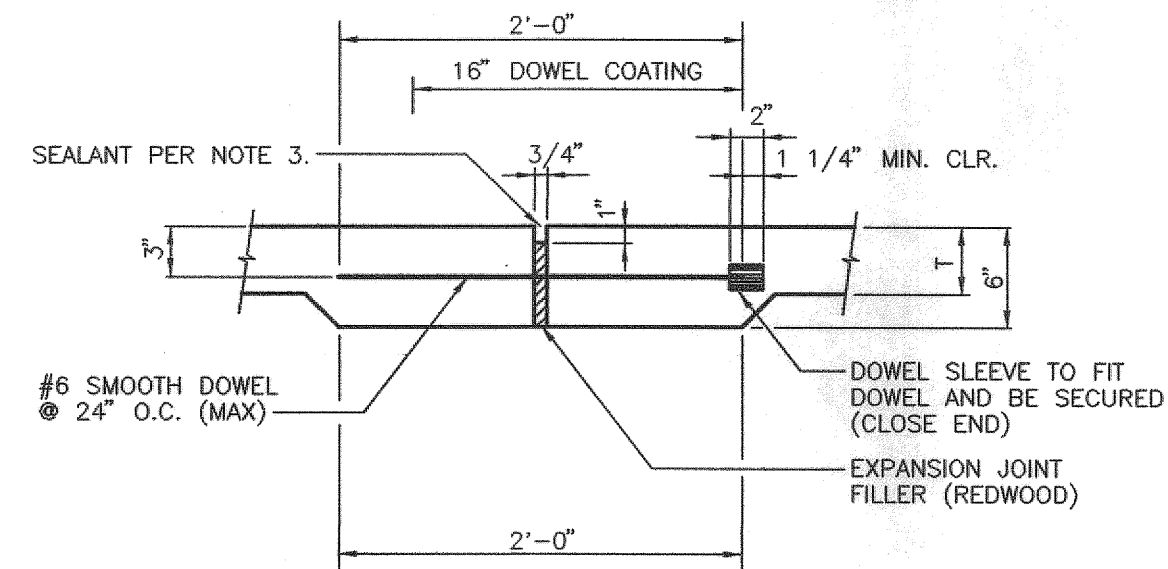
BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.  
Elevation= 563.63'

PAVING PLAN						
ALDI GROCERY STORE						
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION						
THE CITY OF ROCKWALL, TEXAS						
B BURGER ENGINEERING Civil Consultants 17703 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBPPE R-12997						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BMB	JAC	12/11	1"=30'	D.P.	007-008 PAVING PLAN	C-5

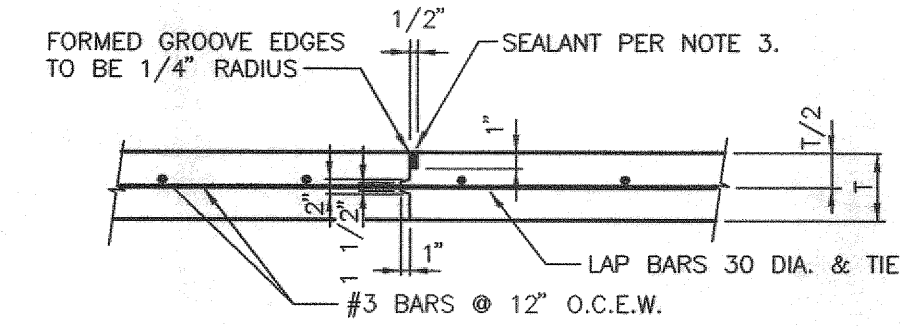




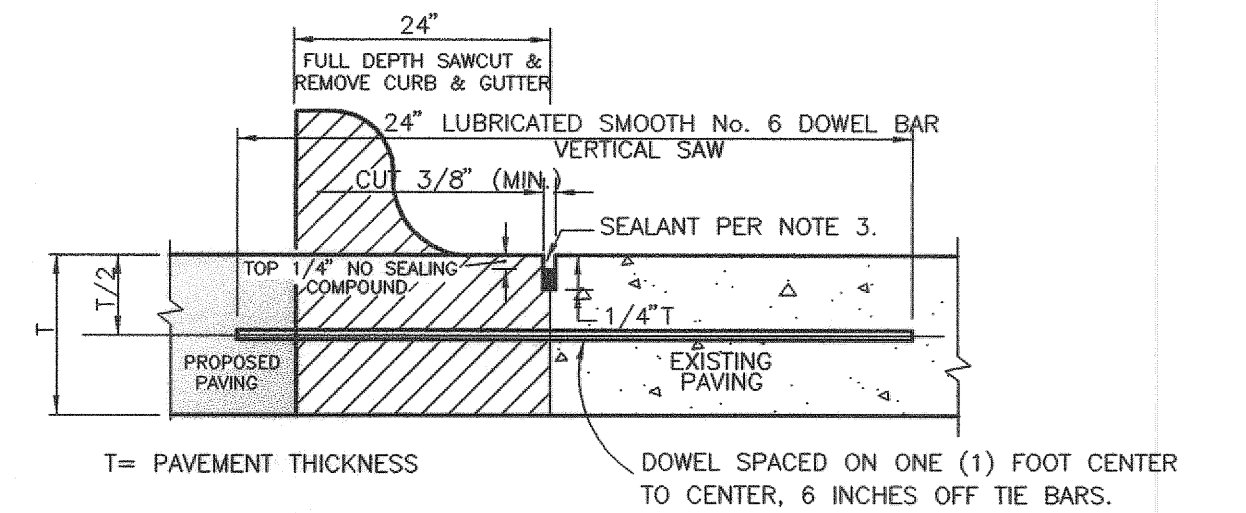
**0.1 INTEGRAL CURB DETAIL**  
N.T.S.



**0.2 EXPANSION JOINT**  
N.T.S.

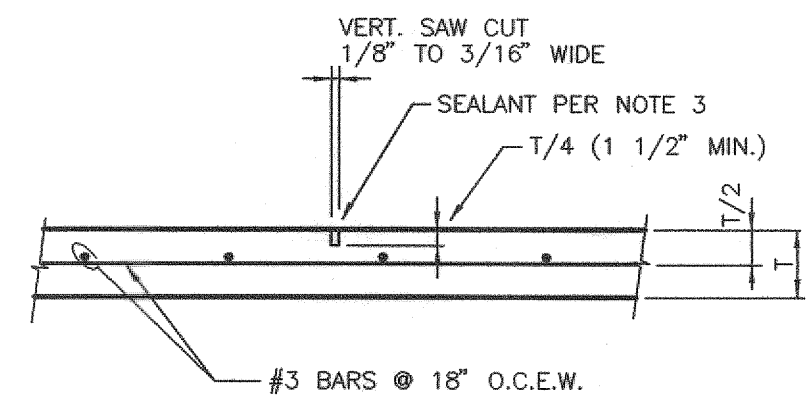


**0.3 CONSTRUCTION JOINT**  
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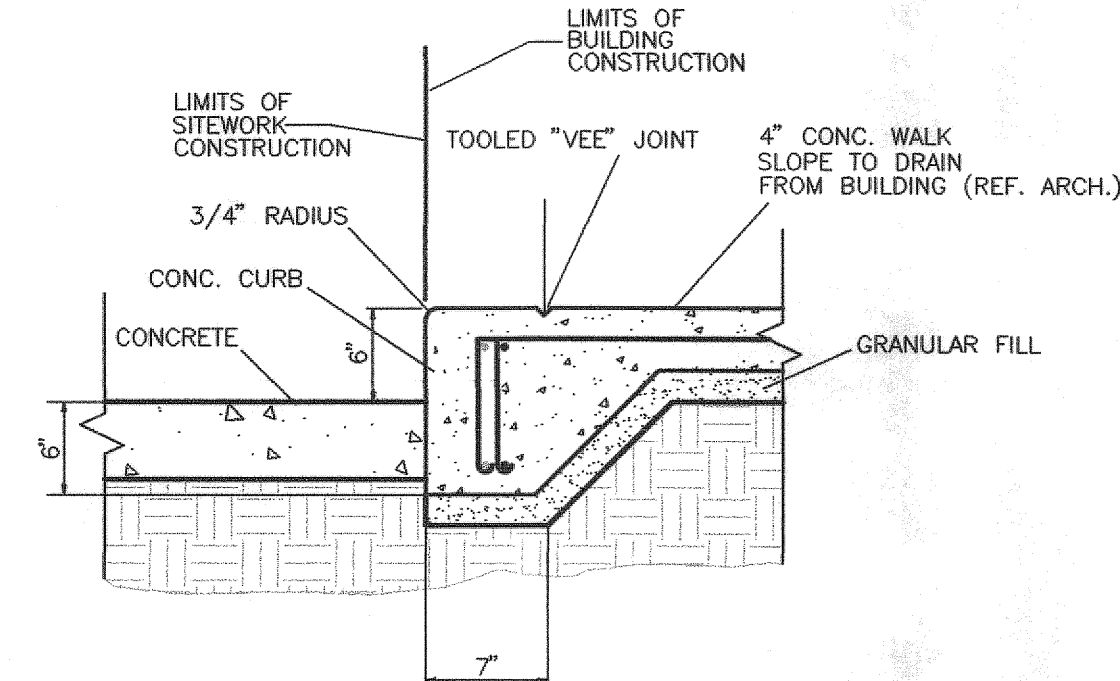


- NOTES:
1. NO.5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH PAVEMENT THICKNESS.
  2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
  3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.
  4. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

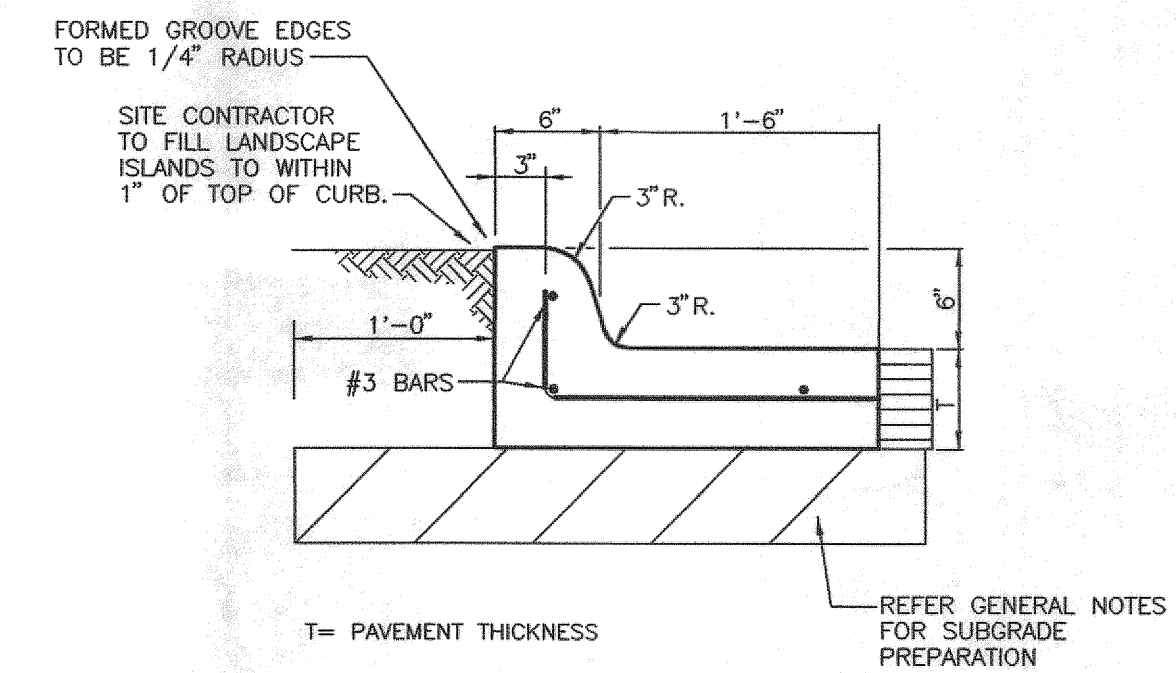
**0.4 LONGITUDINAL BUTT JOINT**  
N.T.S.



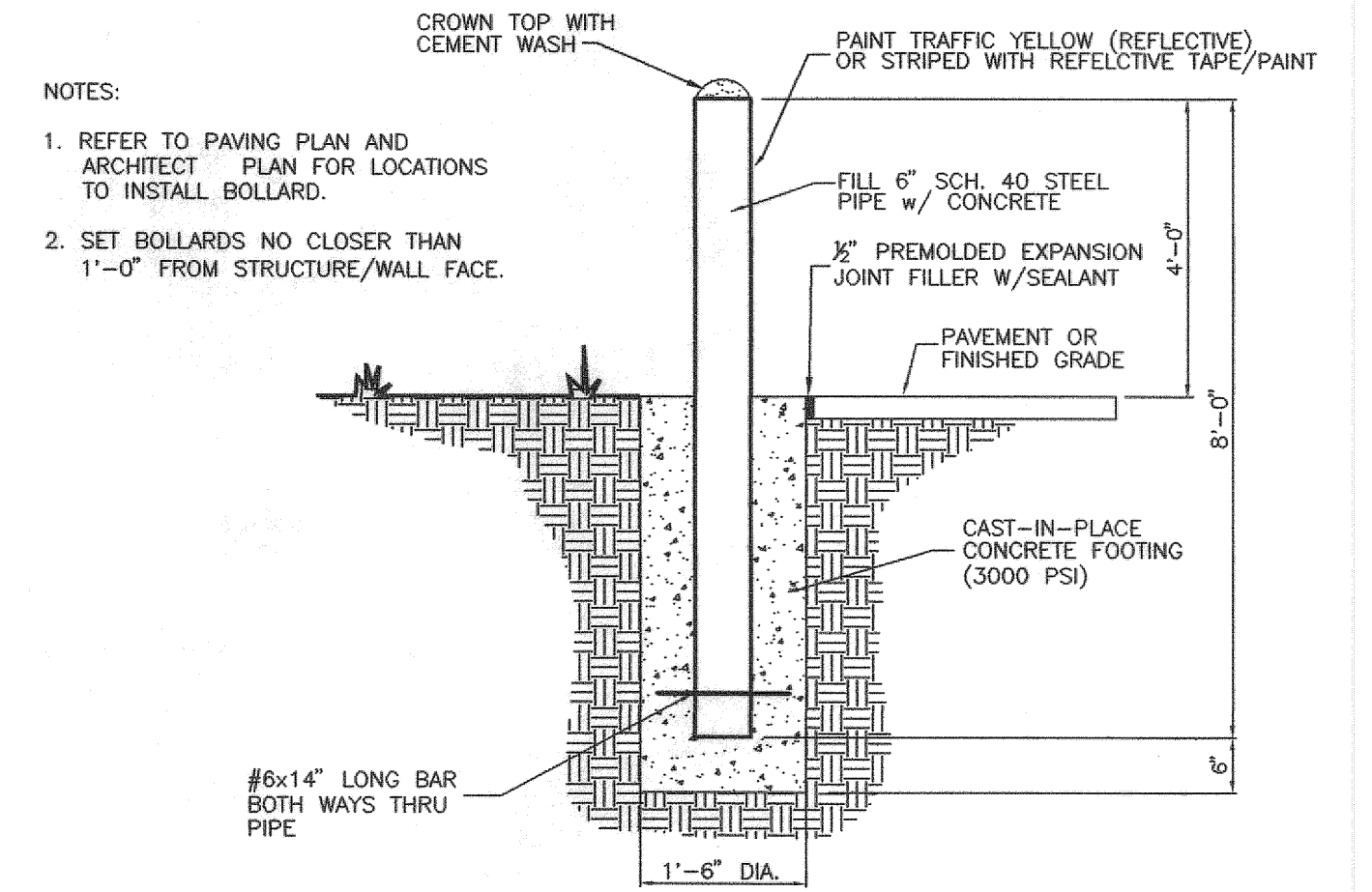
**0.5 CONTROL JOINT**  
N.T.S.



**0.6 TURN DOWN CURB DETAIL**  
N.T.S.

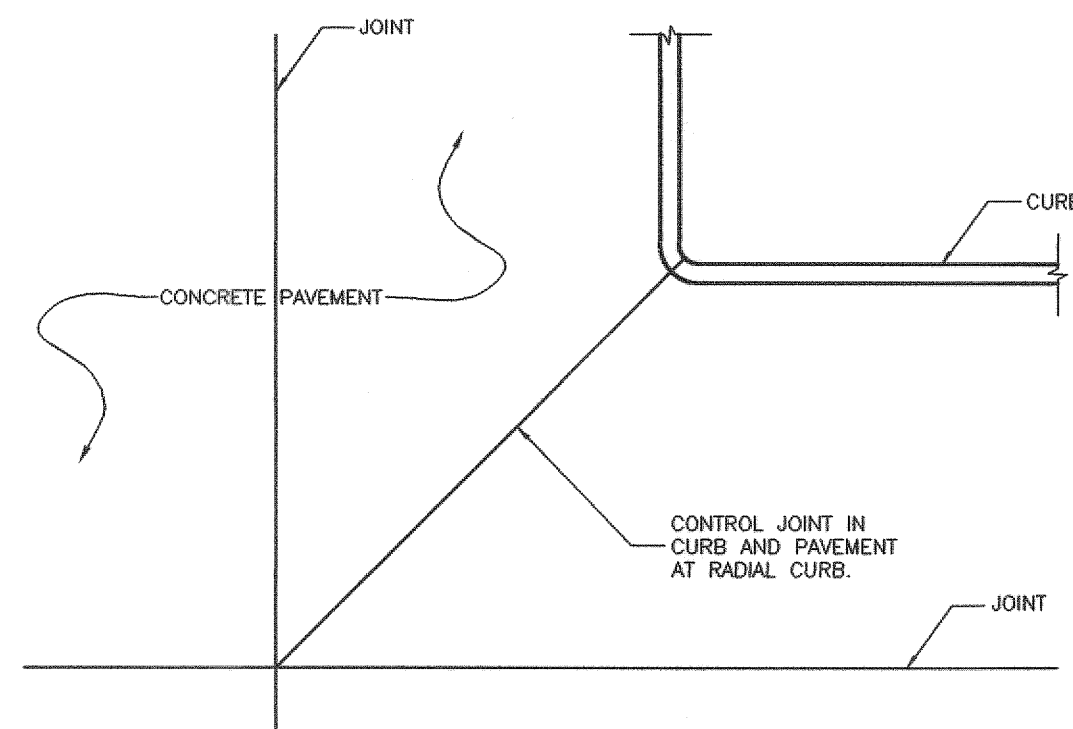


**0.7 MONOLITHIC CURB DETAIL**  
N.T.S.

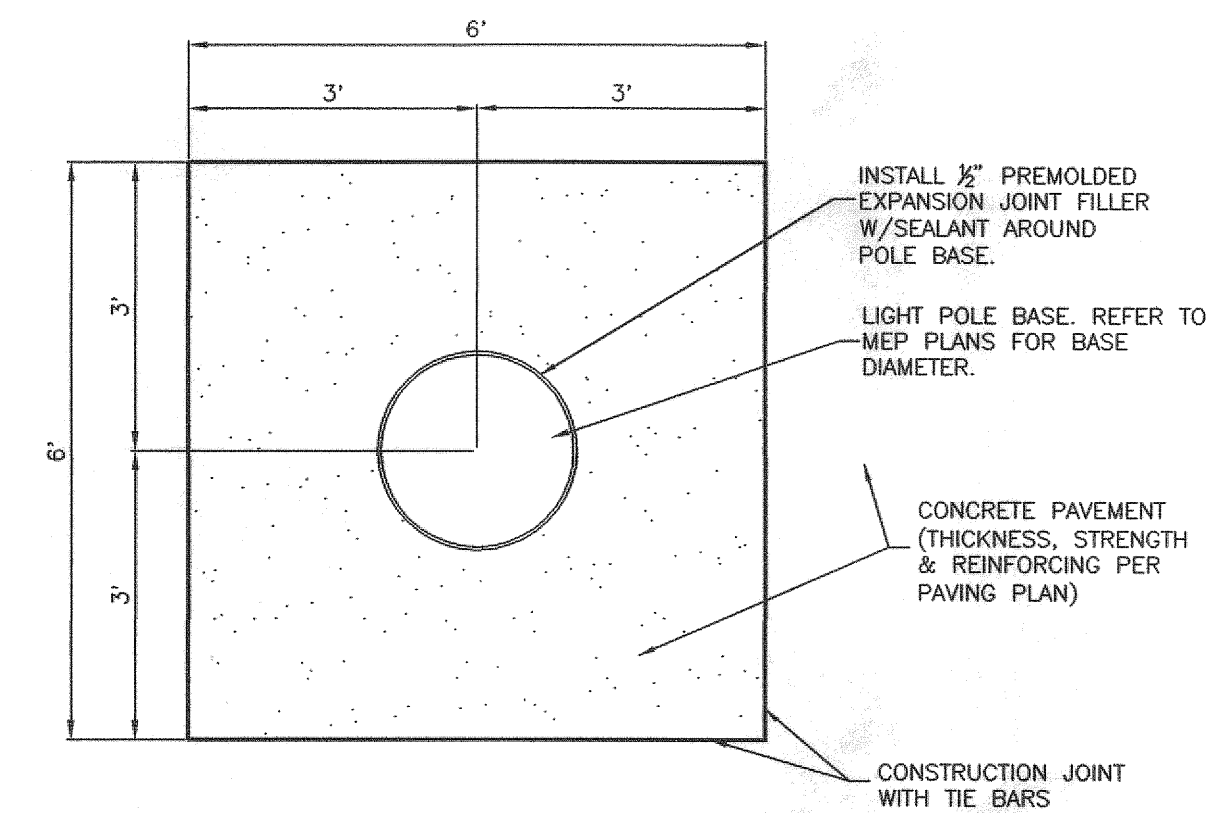


- NOTES:
1. REFER TO PILING PLAN AND ARCHITECT PLAN FOR LOCATIONS TO INSTALL BOLLARD.
  2. SET BOLLARDS NO CLOSER THAN 1'-0" FROM STRUCTURE/WALL FACE.

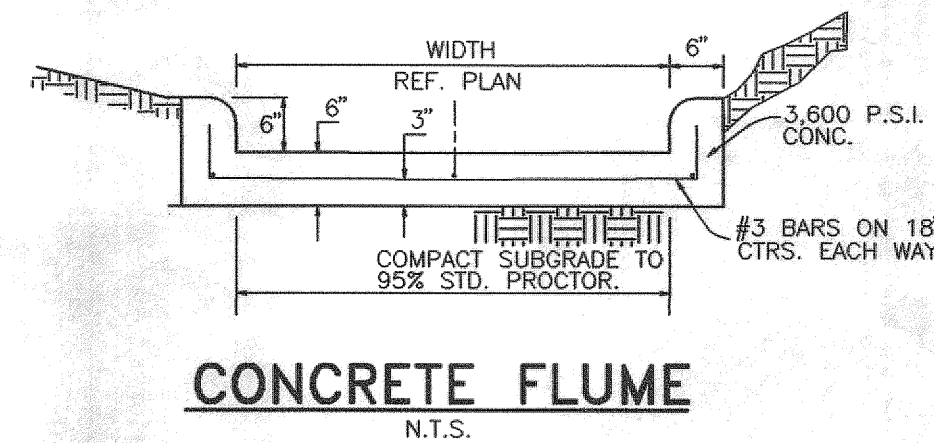
**0.8 BOLLARD**  
N.T.S.



**0.9 JOINT AT RADIAL CURB**  
N.T.S.



**0.10 LIGHT POLE BLOCKOUT**  
N.T.S.

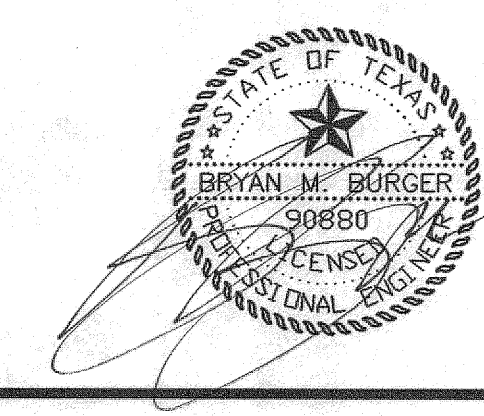


**CONCRETE FLUME**  
N.T.S.

NOTE: DETAILS ON THIS SHEET ARE FOR PRIVATE CONSTRUCTION. REFER TO N.C.T.C.O.G. THIRD EDITION STANDARDS AND CITY OF ROCKWALL STANDARD DETAILS FOR WORK IN CITY RIGHT-OF-WAY AND EASEMENTS.

AS-BUILT  
DATE: 01-09-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRYAN M. BURGER, P.E. 90880 ON 2-24-12



REV	DATE	REMARKS				
<b>ON-SITE PAVING DETAILS</b>						
ALDI GROCERY STORE						
LOT 1, BLOCK A – RIDGE/SUMMER LEE ADDITION						
THE CITY OF ROCKWALL, TEXAS						
<b>B</b> BURGER ENGINEERING Civil Consultants		17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBPE F-12997				
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BMB	JAC	12/11		D.P.	007-008 PAVING DETAILS	C-5.1



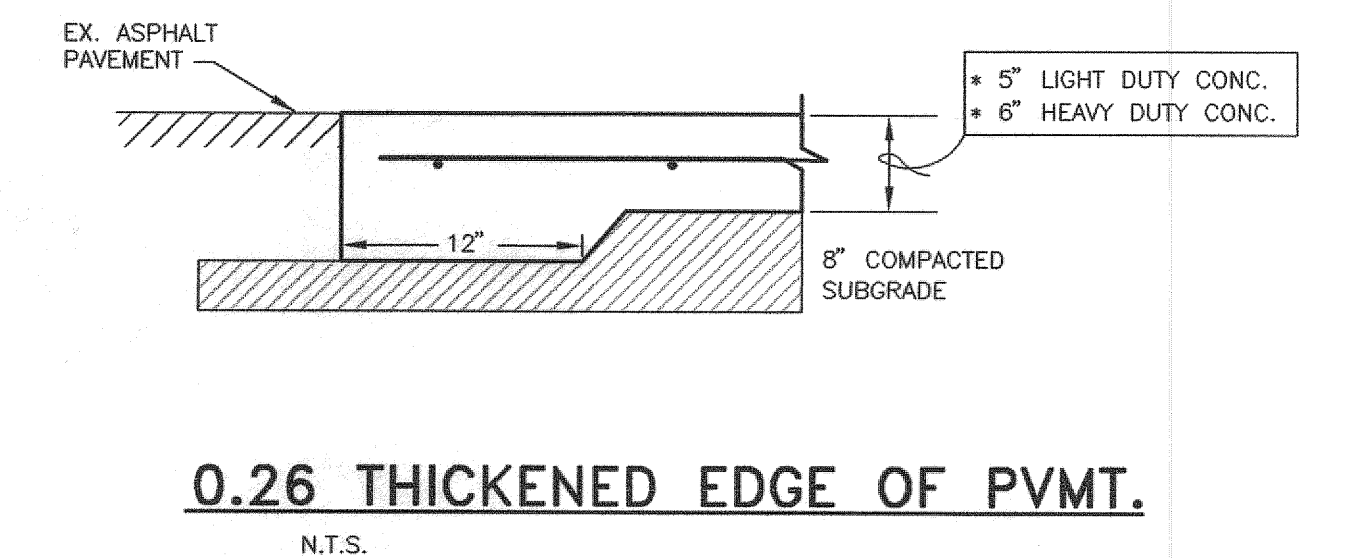
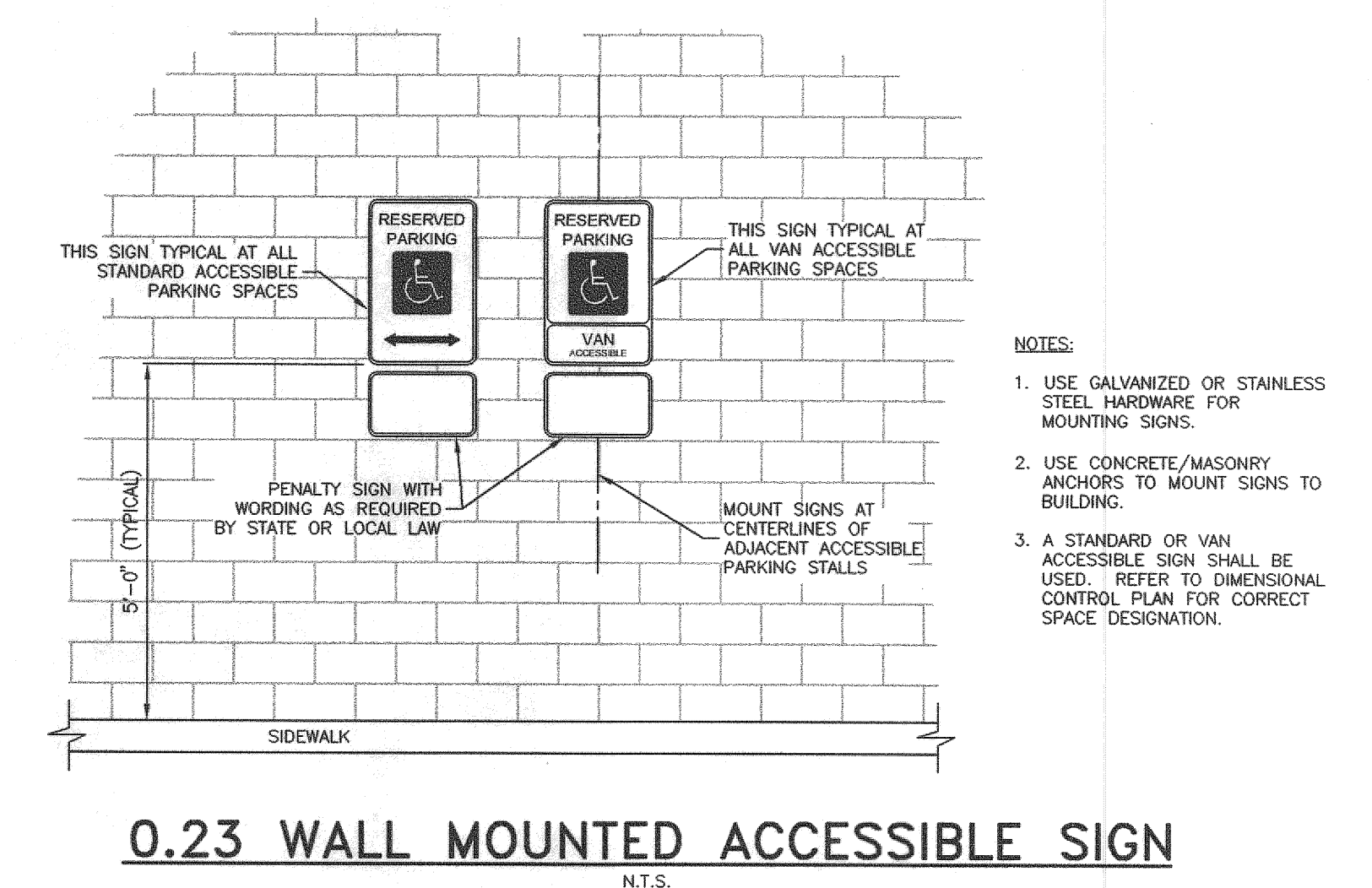
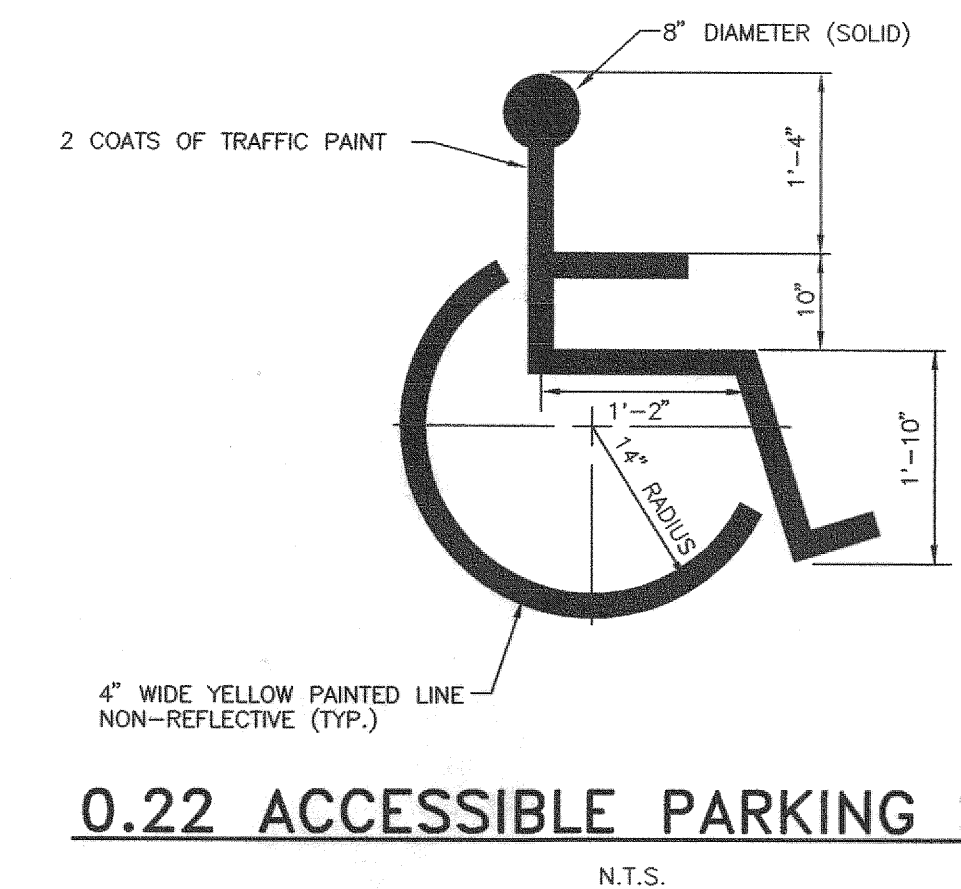
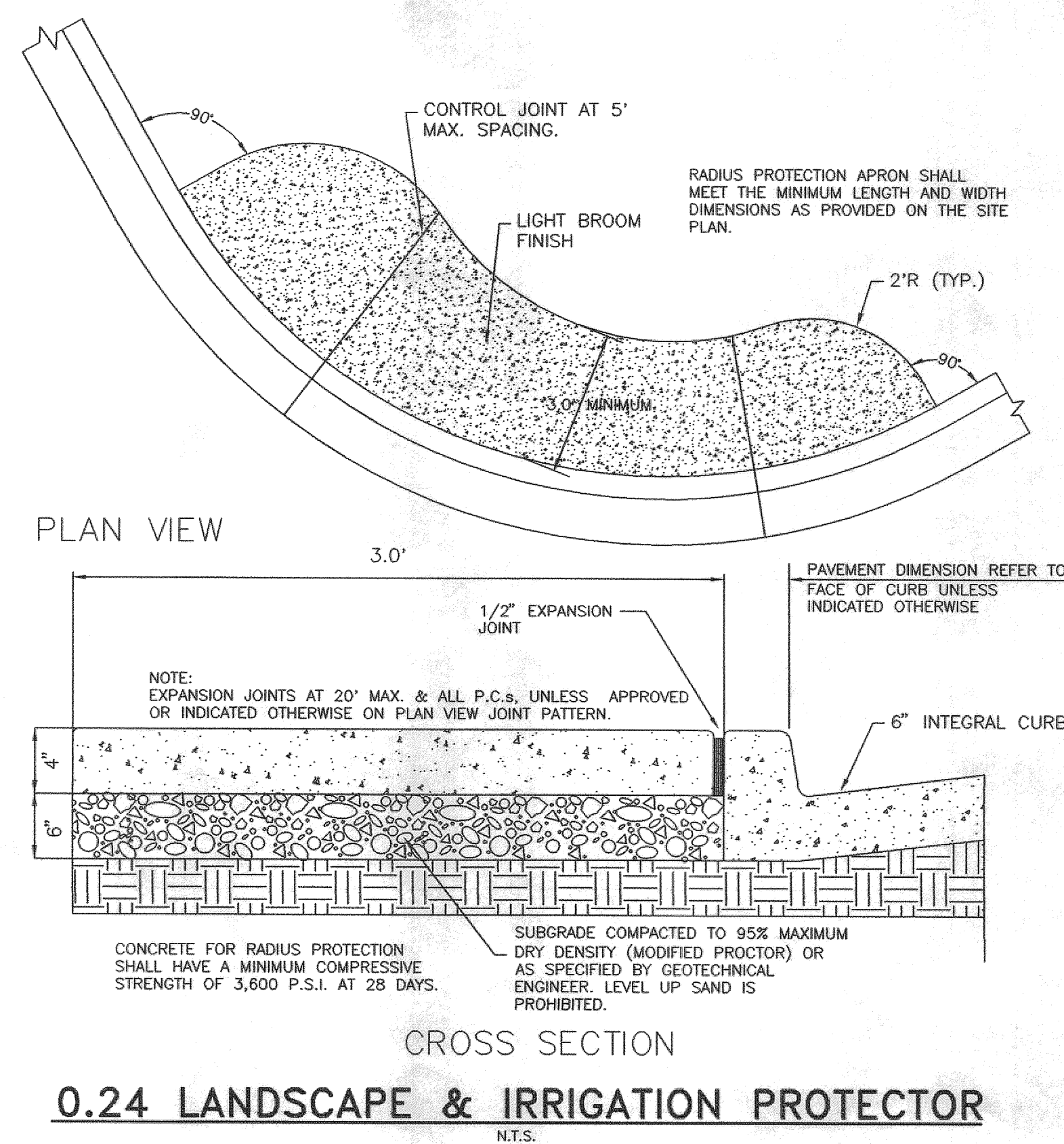
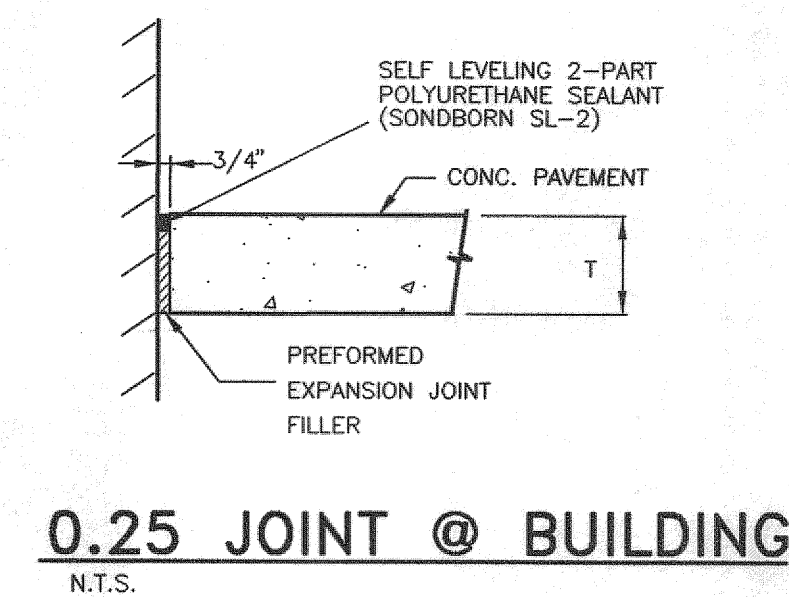
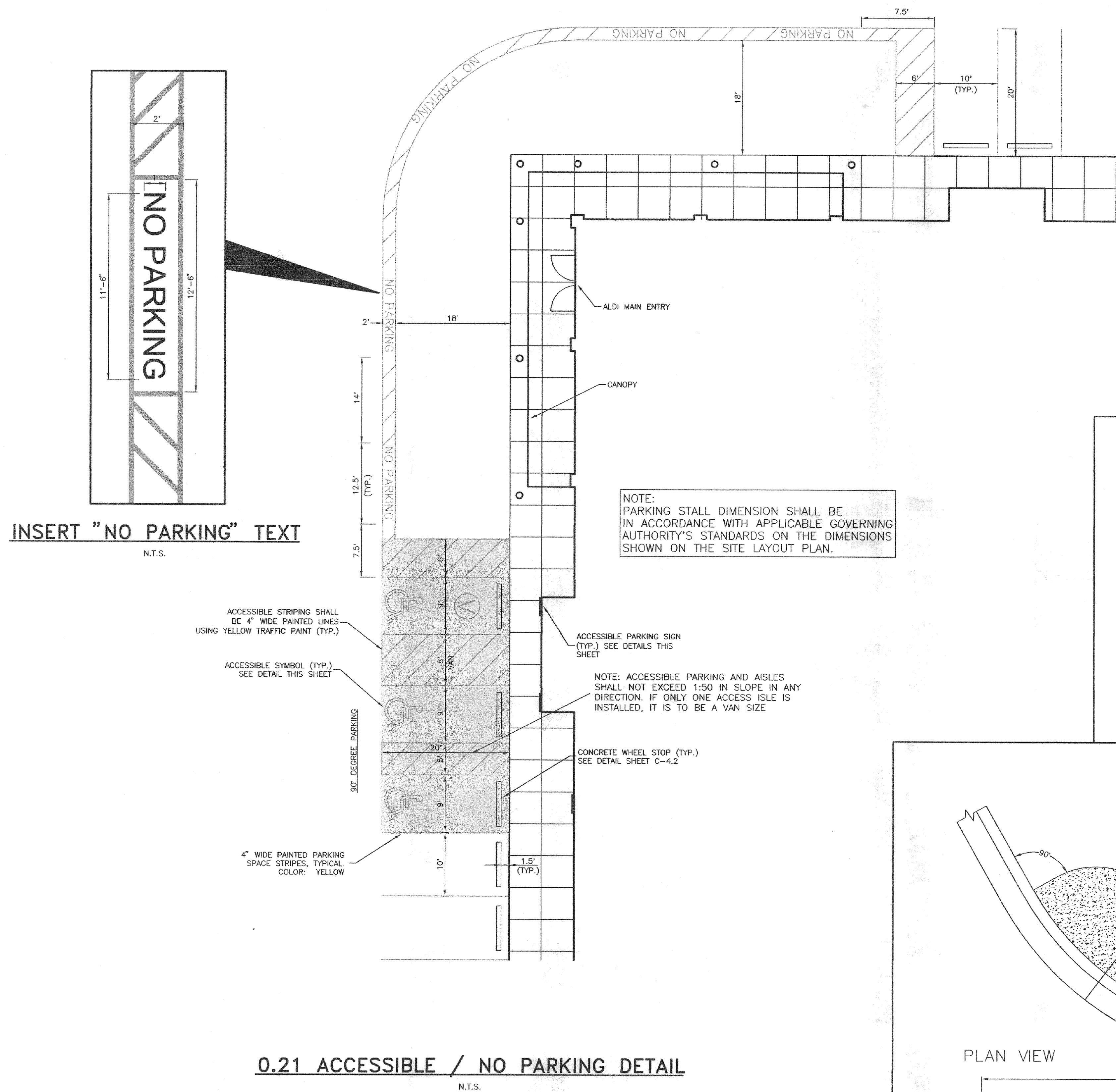


N.T.S.



REV.	DATE	REMARKS							
<b>ON-SITE PAVING DETAILS</b>									
ALDI GROCERY STORE									
LOT 1, BLOCK A – RIDGE/SUMMER LEE ADDITION									
THE CITY OF ROCKWALL, TEXAS									
<b>B</b>		<b>BURGER ENGINEERING</b>		17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBP&F-12997					
<b>DESIGN</b>	<b>DRAWN</b>	<b>DATE</b>	<b>SCALE</b>	<b>NOTES</b>	<b>FILE</b>	<b>NO.</b>			
BMB	JAC	12/11		D.P.	007--008 PAVING DETAILS	C-5.2			

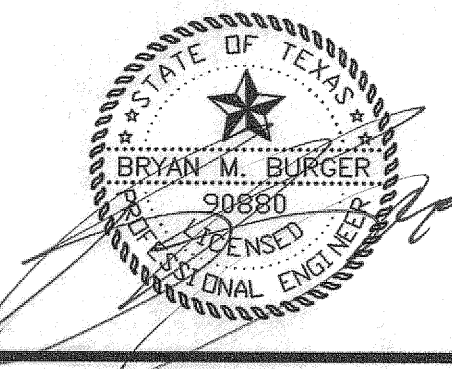




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THE CITY OF ROCKWALL, TEXAS						
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DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BMB	JAC	12/11		D.P.	007-008 PAVING DETAILS	C-5.3



PETER TEMUNOVIC AND  
CIVIETA TEMUNOVIC  
VOL. 959, PG. 150  
P.R.R.C.T.  
(VACANT)

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E. 393  
P.R.R.C.T.

# SUMMER LEE DRIVE

# OAK DRIVE

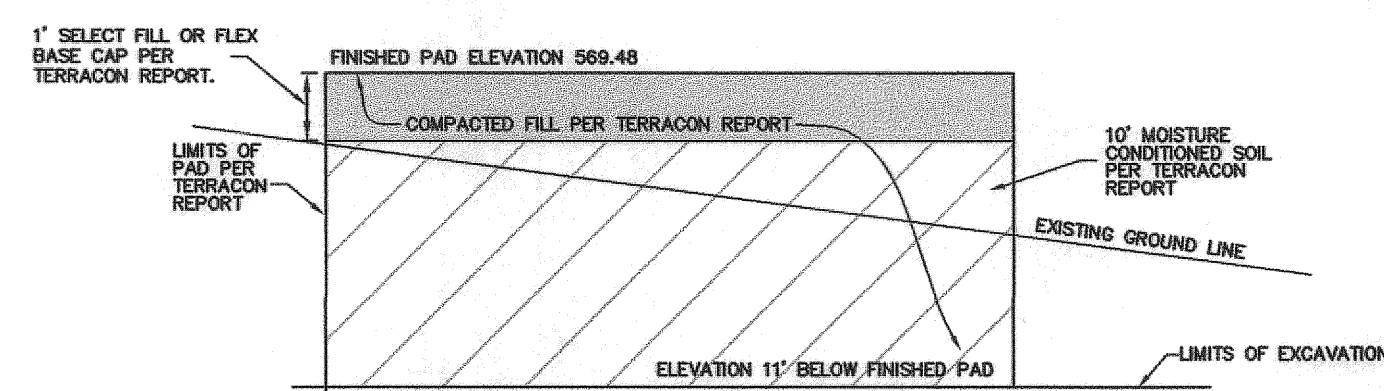
# RIDGE ROAD IF-M. 740J

- LEGEND**
- F.H. FIRE HYDRANT
  - OK SET CHISELED "X" SET
  - OF.X. CHISELED "X" FOUND
  - OF.L.R. IRON ROD FOUND (SIZE AS NOTED)
  - OS.I.R. IRON ROD SET (SIZE AS NOTED)
  - UP.U.T. OVERHEAD UTILITY POLE W/ GUY
  - UP.U.T. UNDERGROUND ELECTRIC OR TELEPHONE
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  - C.O. SAN. SWR. CLEAN OUT
  - G.V. GAS VALVE
  - W.V. WATER VALVE
  - TREE
  - EXIST. CONTOUR
  - PROP. CONTOUR
  - PROP. SPOT ELEV.
  - PROP. TOP OF CURB & GUTTER ELEVATION
  - ALDI BUILDING PAD LIMITS

## GENERAL NOTES

- CONTRACTOR SHALL REMOVE & STOCK PILE TOPSOIL (4" TO 6" TYP.) PRIOR TO SITE EXCAVATION OR FILL PLACEMENT.
- ALL AREAS TO RECEIVE FILL SHALL FIRST BE SCARIFIED TO A DEPTH OF 6 INCHES AND RECOMPACTED TO THE CRITERIA STATED IN THE GEOTECHNICAL REPORT PREPARED BY TERRACON CONSULTANTS, INC. (REPORT NO. 94125015 DATED FEBRUARY 10, 2012)
- FILL SHALL BE PLACED IN MAXIMUM 8" LOOSE LIFTS.
- FILL SHALL BE COMPACTED TO THE CRITERIA STATED IN THE GEOTECHNICAL REPORT PREPARED BY TERRACON CONSULTANTS, INC. (REPORT NO. 94125015 DATED FEBRUARY 10, 2012).
- ALL COMPACTION TO BE MONITORED BY OWNER SUPPLIED GEOTECHNICAL CONSULTANT.
- REF. GEOTECHNICAL REPORT PREPARED BY TERRACON CONSULTANTS, INC. DATED FEBRUARY 10, 2012 FOR ADDITIONAL EARTHWORK REQUIREMENTS.
- REF. EROSION CONTROL PLAN FOR SILT FENCE, INLET PROTECTION & STABILIZED CONSTRUCTION ENTRANCE LOCATIONS.
- ALL FILL TO BE COMPACTED TO A MINIMUM 95% STANDARD DENSITY USING A SHEEP'S FOOT ROLLER.

**PAD PREPARATION NOTES:**  
For additional pad preparation notes & earthwork operations reference Terracon Consultants Inc. Geotechnical Report - (Project No. 94125015) Dated February 10, 2012.

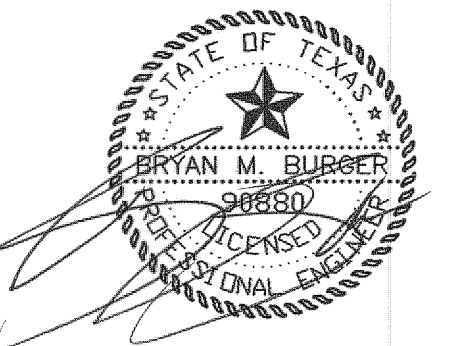


## ALDI PAD PREPARATION SECTION

NOT INSPECTED BY THE ENGINEERING DEPARTMENT

**AS-BUILT**  
DATE: 01-09-13

THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 1-8-13



## GRADING PLAN

ALDI GROCERY STORE

LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION

THE CITY OF ROCKWALL, TEXAS

**BURGER**  
ENGINEERING  
Civil Consultants

17103 Preston Road, Suite 180N  
Dallas, Texas 75248  
Office: 972.630.3360 Fax: 972.630.3380  
TBPE F-12997

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BMB	JAC	12/11	1"=30'	D.P.	007-008 GRADING	C-6

## SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

Elevation= 563.63'



PETER TEMUNOVIC AND  
CIVIETA TEMUNOVIC  
VOL. 959, PG. 150  
P.R.R.C.T.  
(VACANT)

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E. 393  
P.R.R.C.T.

SUMMER LEE DRIVE

OAK DRIVE

RIDGE ROAD (F.M. 740)

20' ALLEY

LOT A  
REPLAT OF  
COMMUNITY BANK OF  
ROCKWALL ADDITION  
CAB. D. PG. 133  
P.R.R.C.T.

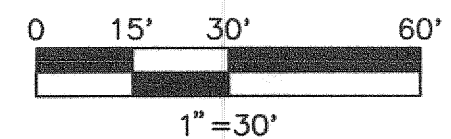
LOT B-2-A  
REPLAT OF  
COMMUNITY BANK OF  
ROCKWALL ADDITION  
CAB. D. PG. 279  
P.R.R.C.T.

LOT 2-RA  
BUFFALO CREEK SHOPPING VILLAGE NO. 2  
CABINET C, SLIDE 385  
P.R.R.C.T.

EX. DAYCARE CENTER

LOT 1-RA  
BUFFALO CREEK SHOPPING VILLAGE NO. 2  
CABINET C, SLIDE 385  
P.R.R.C.T.

LOT 13  
BLOCK B  
FOXCHASE, PHASE 1  
CAB. C. SL. 49  
P.R.R.C.T.



LEGEND

- F.H. FIRE HYDRANT
- X SET CHISELED "X" SET
- F.X. CHISELED "X" FOUND
- F.I.R. IRON ROD FOUND (SIZE AS NOTED)
- S.I.R. IRON ROD SET (SIZE AS NOTED)
- PP OVERHEAD UTILITY POLE W/ GUY
- LP UNDERGROUND ELECTRIC OR TELEPHONE
- SMH LIGHT POLE
- SSMH SANITARY SEWER MANHOLE
- C.O. SAN. SWR. CLEAN OUT
- G.V. GAS VALVE
- W.V. WATER VALVE
- TREE
- SB1 EXIST. CONTOUR
- SS PROP. CONTOUR
- SS PROP. STORM SEWER
- 2 DRAINAGE AREA NUMBER
- 0.48 ACRES
- SS EXIST. STORM SEWER

- DRAINAGE AREAS FOR RIDGE ROAD (F.M. 740) BASED UPON PLANS PREPARED BY CHIANG, PATEL & YERBY, DATED APRIL 15, 2009.
- DRAINAGE AREAS FOR ALLEY & OAK DRIVE BASED UPON PLANS PREPARED BY HAROLD L. EVANS & ASSOCIATES DATED JULY 11, 1988.
- DRAINAGE AREAS FOR SUMMER LEE DRIVE BASED UPON PLANS PREPARED BY TURNER COLLIE & BRADEN DATED JANUARY 4, 2006.

SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.

Elevation= 563.63'

HYDRAULIC DATA

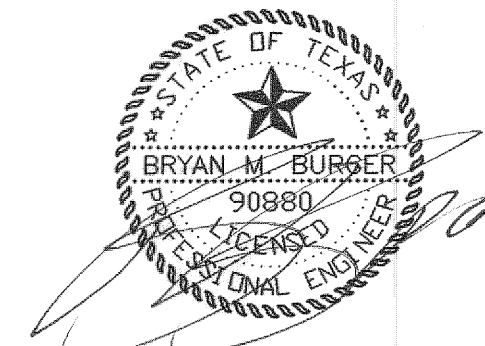
$Q = C \times I \times A$

D.A. No.	AREA (acres)	Tc (min.)	C (runoff)	I <sub>5</sub> (in/hr)	Q <sub>5</sub> (cfs)	I <sub>10</sub> (in/hr)	Q <sub>10</sub> (cfs)	I <sub>25</sub> (in/hr)	Q <sub>25</sub> (cfs)	I <sub>100</sub> (in/hr)	Q <sub>100</sub> (cfs)	REMARKS
1	0.88	20	0.35	4.90	1.51	5.80	1.79	6.75	2.08	8.30	2.56	SHEET FLOW TO SUMMER LEE
2	1.27	20	0.35	4.90	2.18	5.80	2.58	6.75	3.00	8.30	3.69	SHEET FLOW TO OAK DRIVE
3	0.15	20	0.35	4.90	0.26	5.80	0.30	6.75	0.35	8.30	0.44	SHEET FLOW TO ALLEY
4	0.44	20	0.35	4.90	0.75	5.80	0.89	6.75	1.04	8.30	1.28	SHEET FLOW TO ALLEY
5	0.78	20	0.35	4.90	1.34	5.80	1.58	6.75	1.84	8.30	2.28	SHEET FLOW TO RIDGE ROAD (NORTH)
6	0.93	20	0.35	4.90	1.59	5.80	1.89	6.75	2.20	8.30	2.72	SHEET FLOW TO RIDGE ROAD (SOUTH)

- NOTES:
1. DRAINAGE AREAS FOR RIDGE ROAD (F.M. 740) BASED UPON PLANS PREPARED BY CHIANG, PATEL & YERBY, INC. DATED APRIL 15, 2009.
  2. DRAINAGE AREAS FOR ALLEY & OAK DRIVE BASED UPON PLANS PREPARED BY HAROLD L. EVANS & ASSOCIATES DATED JULY 11, 1988.
  3. DRAINAGE AREAS FOR SUMMER LEE DRIVE BASED UPON PLANS PREPARED BY TURNER COLLIE & BRADEN DATED JANUARY 4, 2006.

AS-BUILT

DATE: 01-09-13



REV.	DATE	REMARKS
<b>EXISTING DRAINAGE AREA MAP</b>		
ALDI GROCERY STORE		
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION		
THE CITY OF ROCKWALL, TEXAS		
<b>BURGER ENGINEERING</b> Civil Consultants		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
1"=30'	D.P.	007-008 DAMAP EX
NO.	C-7.1	



PETER TEMUNOVIC AND  
CVIETA TEMUNOVIC  
VOL. 959, PG. 150  
P.R.R.C.T.  
(VACANT)

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E. 393  
P.R.R.C.T.

SUMMER LEE DRIVE

OAK DRIVE

RIDGE ROAD IF.M. 740J

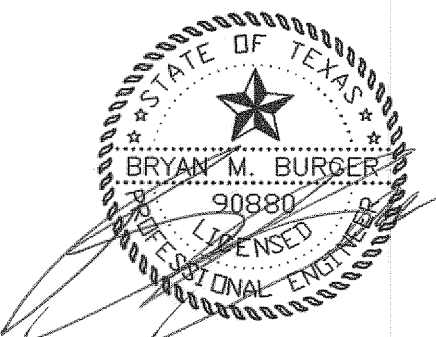
20' ALLEY

LEGEND

- F.H. FIRE HYDRANT
- CHISELED "X" SET
- CHISELED "Y" FOUND
- IRON ROD FOUND (SIZE AS NOTED)
- IRON ROD SET (SIZE AS NOTED)
- OVERHEAD UTILITY POLE W/ GUY
- UNDERGROUND ELECTRIC OR TELEPHONE
- LIGHT POLE
- SMH SANITARY SEWER MANHOLE
- C.O. SAN. SWR. CLEAN OUT
- G.V. GAS VALVE
- W.V. WATER VALVE
- TREE
- EXIST. CONTOUR
- PROP. CONTOUR
- PROP. STORM SEWER
- DRAINAGE AREA NUMBER
- ACRES
- EXIST. STORM SEWER

0 15' 30' 60'  
1"=30'

THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 4-18-12



HYDRAULIC DATA

$Q = C \times I \times A$

D.A. No.	AREA (acres)	Tc (min.)	C (runoff)	I <sub>s</sub> (in/hr)	Q <sub>s</sub> (cfs)	I <sub>10</sub> (in/hr)	Q <sub>10</sub> (cfs)	I <sub>25</sub> (in/hr)	Q <sub>25</sub> (cfs)	I <sub>100</sub> (in/hr)	Q <sub>100</sub> (cfs)	REMARKS
1	0.72	10	0.90	6.20	4.02	7.30	4.73	8.30	5.38	9.80	6.35	SHEET FLOW TO DETENTION POND (DETAINED POND A)
2	0.87	10	0.90	6.20	4.85	7.30	5.72	8.30	6.50	9.80	7.67	SHEET FLOW TO DETENTION POND (DETAINED POND A)
3	0.37	10	0.90	6.20	2.06	7.30	2.43	8.30	2.76	9.80	3.26	ROOF DRAINS (DETAINED POND A)
4	0.05	10	0.90	6.20	0.28	7.30	0.33	8.30	0.37	9.80	0.44	DOCK DRAIN (DETAINED POND A)
5	0.37	10	0.90	6.20	2.06	7.30	2.43	8.30	2.76	9.80	3.26	SHEET FLOW TO DETENTION POND (DETAINED POND B)
6	0.19	10	0.90	6.20	1.06	7.30	1.25	8.30	1.42	9.80	1.68	SHEET FLOW TO 5' CURB INLET (DETAINED POND C)
7	0.35	10	0.90	6.20	1.95	7.30	2.30	8.30	2.61	9.80	3.09	SHEET FLOW TO 10" CURB INLET (DETAINED POND C)
8	0.27	10	0.90	6.20	1.51	7.30	1.77	8.30	2.02	9.80	2.38	SHEET FLOW TO DETENTION POND (DETAINED POND C)
9	0.29	10	0.90	6.20	1.62	7.30	1.91	8.30	2.17	9.80	2.56	SHEET FLOW TO SUMMER LEE (UNDETAINED) FUT. DEVELOPMENT
10	0.41	10	0.90	6.20	2.29	7.30	2.69	8.30	3.06	9.80	3.62	SHEET FLOW TO OAK DRIVE (UNDETAINED) FUT. DEVELOPMENT
11	0.20	10	0.90	6.20	1.12	7.30	1.31	8.30	1.49	9.80	1.76	SHEET FLOW TO ALLEY (UNDETAINED) FUT. DEVELOPMENT

AS-BUILT  
DATE: 01-09-13

SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.

Elevation= 563.63'

REV	DATE	REMARKS
DEVELOPED DRAINAGE AREA MAP		
ALDI GROCERY STORE		
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION		
THE CITY OF ROCKWALL, TEXAS		
B. BURGER ENGINEERING		
17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBPPE F-12997		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
1"=30'	D.P.	067-008 DAMAP
NO.	C-7.2	



PETER TEMUNOVIC  
CVIETA TEMUNOVIC  
VOL. 959, PG. 150  
R.P.R.C.T.  
(VACANT)

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E, 393  
P.R.R.C.T.

SUMMER LEE DRIVE

OAK DRIVE

RIDGE ROAD IF.M. 7401

0 15' 30' 60'  
1"=30'

- LEGEND
- F.H. FIRE HYDRANT
  - CHISELED "X" SET
  - CHISELED "X" FOUND
  - IRON ROD FOUND (SIZE AS NOTED)
  - IRON ROD SET (SIZE AS NOTED)
  - OVERHEAD UTILITY POLE W/ GUY
  - UNDERGROUND ELECTRIC OR TELEPHONE
  - LIGHT POLE
  - SSMH SANITARY SEWER MANHOLE
  - SAN. SWR. CLEAN OUT
  - G.V. GAS VALVE
  - W.V. WATER VALVE
  - TREE
  - MH MANHOLE (TYPE AS NOTED)
  - BOX TRAFFIC SIGNAL BOX
  - TRANS. ELECTRIC TRANSFORMER BOX
  - TOWER ELECTRIC TRANSMISSION STEEL TOWER
  - CABLE UNDERGROUND CABLE MARKER
  - EXIST. STORM SEWER
  - EXIST. SANITARY SEWER
  - EXIST. WATER
  - PROP. SANITARY SEWER
  - PROP. WATER
  - PROP. STORM SEWER

SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

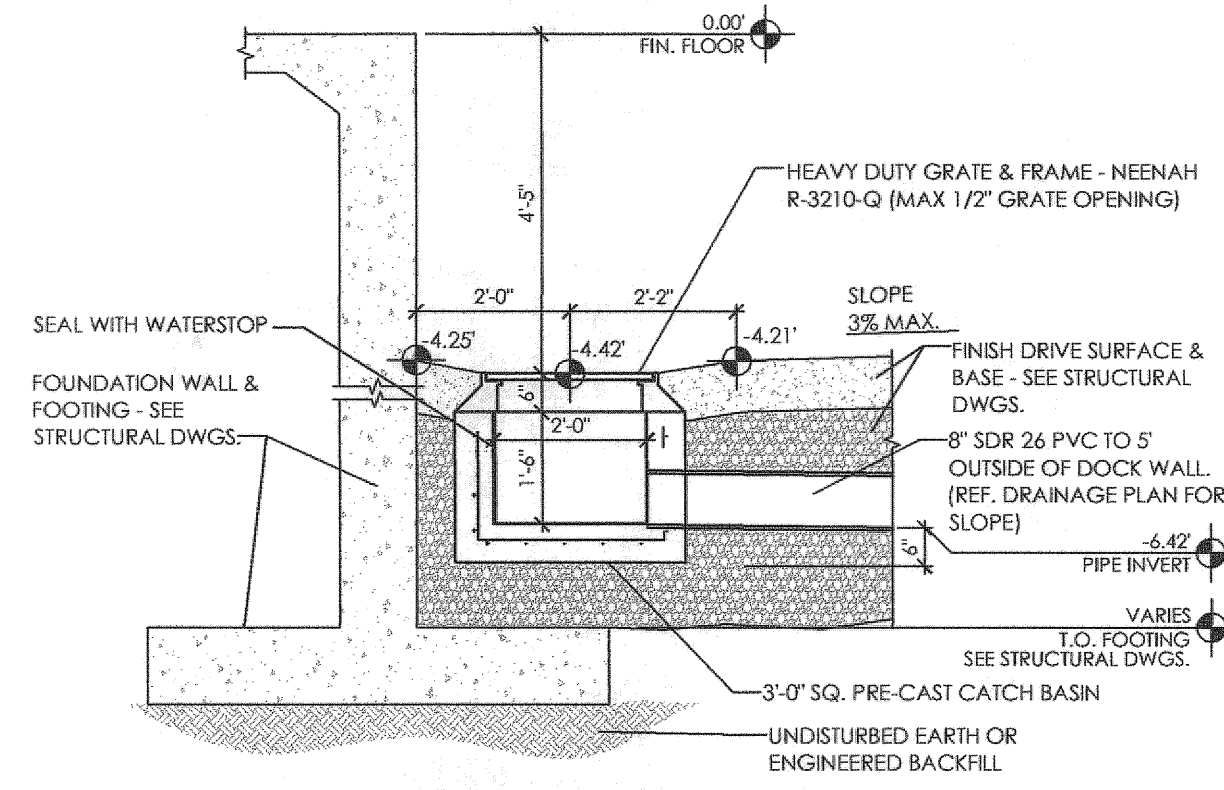
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BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is located on the North side of Summer Lee Drive approximately 95' east from the center line of Oak Drive at 20' alley running along the south property line.

Elevation= 563.63'

DRAINAGE GENERAL NOTES

- ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO CITY STANDARD SPECIFICATIONS AND N.C.T.C.O.G. THIRD EDITION STANDARDS.
- THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CONTRACTOR SHALL VERIFY THAT NECESSARY CROSSING CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION OF ANY SUCH CROSSING.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER, ENGINEER, OR HIS REPRESENTATIVE AND CITY REPRESENTATIVE REGARDING ANY DEVIATIONS FROM THESE PLANS.
- CONTRACTOR SHALL MAINTAIN ONE SET OF RECORD DRAWINGS (AS BUILT) ON SITE WHICH WILL BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THIS PROJECT.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL PUBLIC UTILITIES IN THE CONSTRUCTION OF THIS PROJECT; ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, SEWER LATERALS, WATER SERVICE, ETC.
- THE CONTRACTOR SHALL SET UTILITIES TO PROPER LINE AND GRADE PRIOR TO THE PLACING OF PERMANENT PAVEMENT.
- ALL STORM SEWER PIPE SHALL CONFORM TO CITY SPECIFICATIONS AND SHALL BE MANUFACTURED FROM ONE OF THE FOLLOWING MATERIALS:
  - CLASS III RCP UNLESS OTHERWISE NOTED Diameter 18"-60"
  - SDR 35 PVC PRIVATE ONLY Diameter 8"-15"
- ANY PIPE LOCATED WITHIN THE RIGHT-OF-WAY OR IN AN EASEMENT WILL BE RCP PIPE UNLESS OTHERWISE NOTED.
- ALL STORM PIPES ARE PRIVATE EXCEPT THOSE SHOWN IN CITY & STATE R.O.W. OR DRAINAGE AND DETENTION EASEMENTS.
- ALL RCP PIPE INSTALLATION SHALL CONFORM TO THE AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION MANUAL.
- CONTRACTOR TO PROVIDE 2 YEAR (10%) MAINTENANCE BONDS ON DETENTION OUTFALL SYSTEMS AND DETENTION FLUMES.
- DETENTION PONDS AND OUTFALL SYSTEMS TO BE INSTALLED PRIOR TO ANY PAVING.



TRUCK DOCK GRATE INLET DETAIL

STORM SEWER CURVE TABLE						
CURVE	RADIUS	DELTA	TANGENT	CHORD	LENGTH	BEARING
C1	65.00'	03°38'40"	2.07'	4.13'	4.13'	S00°56'22"W
C2	65.00'	57°56'33"	35.99'	62.97'	65.73'	S28°05'18"W
C3	65.00'	48°28'34"	29.23'	53.32'	54.94'	N64°54'15"E

AS-BUILT

DATE: 01-09-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRYAN M. BURGER, P.E. 90880 ON 9-18-12



NOTE:  
THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

DRAINAGE PLAN

ALDI GROCERY STORE

LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION

THE CITY OF ROCKWALL, TEXAS

BURGER  
ENGINEERING  
Civil Consultants

17103 Preston Road, Suite 180N  
Dallas, Texas 75248  
Office: 972.630.3360 Fax: 972.630.3380  
TBP# F-12997

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BMB	JAC	12/11	1"=30'	D.P.	007-008 DRAINAGE	C-8.1



# POND A - 100 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 1-4 CONTRIBUTE FLOW TO THE DETENTION POND - 2.01 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{10} = 5.30$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(5.30)(4.19)ACRES = 12.17 CFS
- DETENTION POND C ALLOWABLE RELEASE RATE = 1.82 CFS  
12.17 CFS - 7.94 CFS (AREAS 9-11) - 0.76 CFS (POND B) - 1.65 CFS (POND C) = 1.82 CFS
- STORAGE REQUIRED

DETENTION AREA (I)= 2.01 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 1.82

STORM DURATION DATA:							
MIN	1-100YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)
5	10.05	0.90	2.01	18.18	5454	819	4635
10	9.80	0.90	2.01	17.73	10637	1092	9545
20	8.30	0.90	2.01	15.01	18018	1638	16380
30	6.90	0.90	2.01	12.48	22468	2184	20284
40	5.80	0.90	2.01	10.49	25181	2730	22451
50	5.00	0.90	2.01	9.05	27135	3276	23859
60	4.50	0.90	2.01	8.14	29306	3822	25484
70	4.00	0.90	2.01	7.24	30391	4368	26023
80	3.65	0.90	2.01	6.60	31694	4914	26780
90	3.50	0.90	2.01	6.33	34190	5460	28730
100	3.20	0.90	2.01	5.79	34733	6006	28727
110	2.90	0.90	2.01	5.25	34624	6552	28072

5. DETENTION POND VOLUME			
CONTOUR	AREA (FT²)	VOLUME (FT³)	
564.50	0	0	
565.00	2,969	1,485	
566.00	11,215	7,092	100 YR. W.S.E.
567.00	13,447	12,331	567.53
568.00	16,001	14,724	35,632

6. OUTFALL DESIGN - RECTANGULAR WEIR  
Q<sub>100</sub> ALLOWABLE RELEASE = 1.82 CFS  
OUTFALL ELEVATION = 564.50  
MAX. 100 YR. WATER SURFACE = 567.53  
Q = CLH<sup>3/2</sup> WHERE C = 3.367  
Q<sub>100</sub> = 1.82 CFS  
H = 3.03 FEET  
L = 12' FEET  
V = Q/A = 0.07 FT/SEC  
TOTAL Q<sub>100</sub> FROM STAGED WEIR = 1.82 CFS

# POND A 25 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 1-4 CONTRIBUTE FLOW TO THE DETENTION POND - 2.01 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{25} = 6.75$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(6.75)(4.19)ACRES = 9.80 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 1.28 CFS  
9.80 CFS - 6.76 CFS (AREAS 9-11) - 0.58 (POND B) - 1.28 CFS (POND C) = 1.28 CFS
- STORAGE REQUIRED

DETENTION AREA (I)= 2.01 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 1.10

STORM DURATION DATA:							
MIN	1-25YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)
5	9.35	0.90	2.01	16.91	5074	495	4579
10	8.35	0.90	2.01	15.11	9063	660	8403
20	6.75	0.90	2.01	12.21	14593	980	13663
30	5.50	0.90	2.01	9.95	17900	1320	16589
40	4.80	0.90	2.01	8.68	20840	1650	19190
50	4.00	0.90	2.01	7.24	21708	1980	19728
60	3.50	0.90	2.01	6.33	22763	2310	20453
70	3.25	0.90	2.01	5.88	24693	2640	22053
80	3.00	0.90	2.01	5.43	26050	2970	23080
90	2.75	0.90	2.01	4.97	26864	3300	23664
100	2.50	0.90	2.01	4.52	27135	3630	23505

5. DETENTION POND VOLUME			
CONTOUR	AREA (FT²)	VOLUME (FT³)	
564.50	0	0	
565.00	2,969	1,485	
566.00	11,215	7,092	25 YR. W.S.E.
567.00	13,447	12,331	567.18
568.00	16,001	14,724	35,632

6. OUTFALL DESIGN - RECTANGULAR WEIR  
Q<sub>25</sub> ALLOWABLE RELEASE = 1.10 CFS  
OUTFALL ELEVATION = 564.50  
MAX. 25 YR. WATER SURFACE = 567.18  
Q = CLH<sup>3/2</sup> WHERE C = 3.367  
Q<sub>25</sub> = 1.10 CFS  
H = 2.68 FEET  
L = 12' FEET  
V = Q/A = 0.07 FT/SEC

# POND A 10 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 1-4 CONTRIBUTE FLOW TO THE DETENTION POND - 2.01 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{10} = 5.80$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(5.80)(4.19)ACRES = 8.51 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 0.92 CFS  
8.51 CFS - 5.87 CFS (AREAS 9-11) - 0.52 CFS (POND B) - 1.20 CFS (POND C) = 0.92 CFS
- STORAGE REQUIRED

DETENTION AREA (I)= 2.01 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 0.92

STORM DURATION DATA:							
MIN	1-10YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)
5	8.30	0.90	2.01	15.01	4504	414	4090
10	7.25	0.90	2.01	13.12	7869	552	7317
20	6.80	0.90	2.01	10.49	12591	828	11763
30	4.80	0.90	2.01	8.68	15630	1104	14526
40	4.00	0.90	2.01	7.24	17366	1380	15986
50	3.40	0.90	2.01	6.15	18452	1656	16796
60	3.10	0.90	2.01	5.61	20188	1932	18256
70	2.80	0.90	2.01	5.07	21274	2208	19066
80	2.50	0.90	2.01	4.70	22578	2484	20092
90	2.30	0.90	2.01	4.16	22468	2760	19706

5. DETENTION POND VOLUME			
CONTOUR	AREA (FT²)	VOLUME (FT³)	
564.50	0	0	
565.00	2,969	1,485	
566.00	11,215	7,092	10 YR. W.S.E.
567.00	13,447	12,331	566.93
568.00	16,001	14,724	35,632

6. OUTFALL DESIGN - RECTANGULAR WEIR  
Q<sub>10</sub> ALLOWABLE RELEASE = 0.92 CFS  
OUTFALL ELEVATION = 564.50  
MAX. 10 YR. WATER SURFACE = 566.93  
Q = CLH<sup>3/2</sup> WHERE C = 3.367  
Q<sub>10</sub> = 0.92 CFS  
H = 2.43 FEET  
L = 12' FEET  
V = Q/A = 0.07 FT/SEC

# POND A 5 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 1-4 CONTRIBUTE FLOW TO THE DETENTION POND - 2.01 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_5 = 4.90$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(4.90)(4.19)ACRES = 7.19 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 0.82 CFS  
7.19 CFS - 5.02 CFS (AREAS 9-11) - 0.38 CFS (POND B) - 0.97 CFS (POND C) = 0.82 CFS
- STORAGE REQUIRED

DETENTION AREA (I)= 2.01 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 0.82

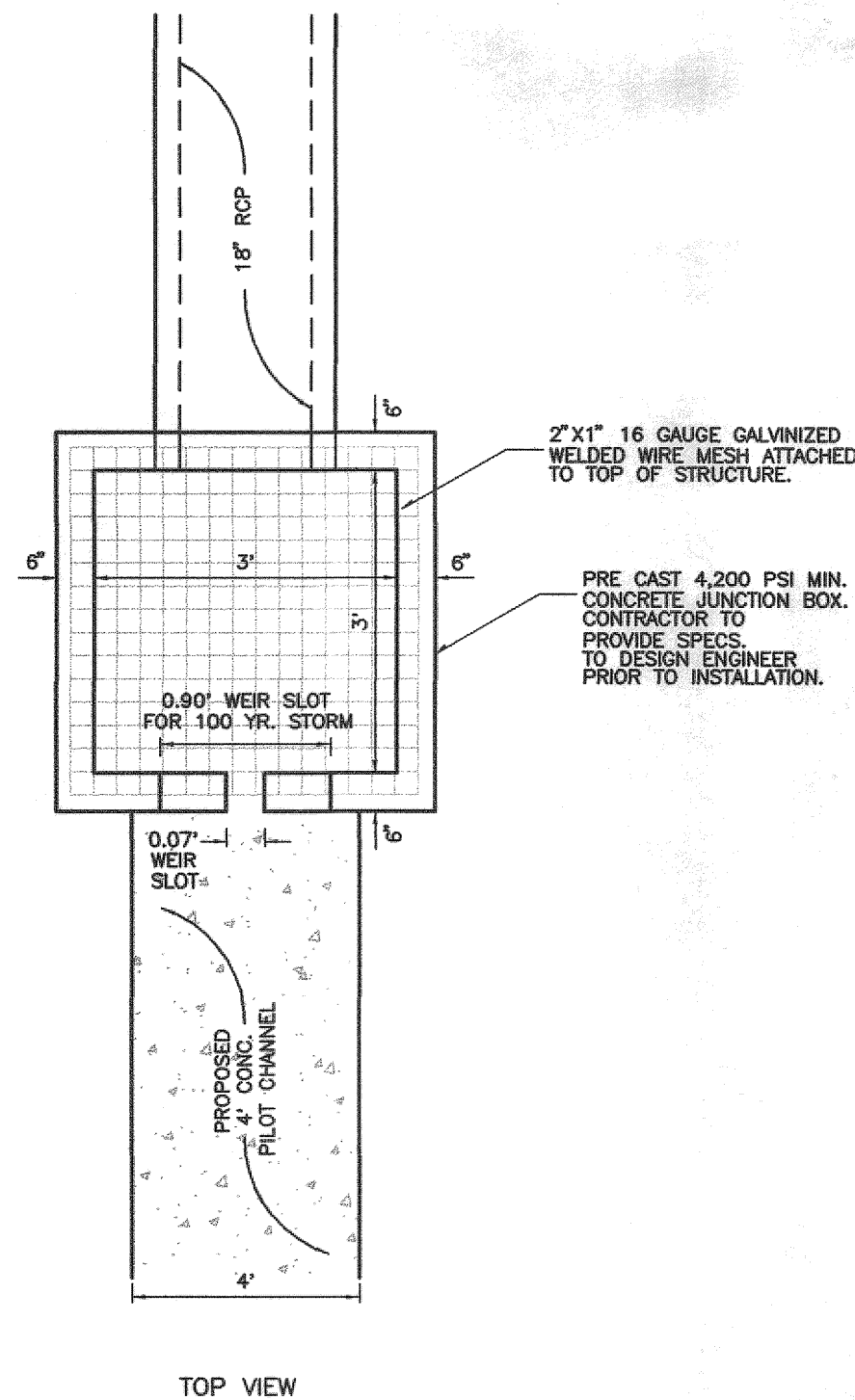
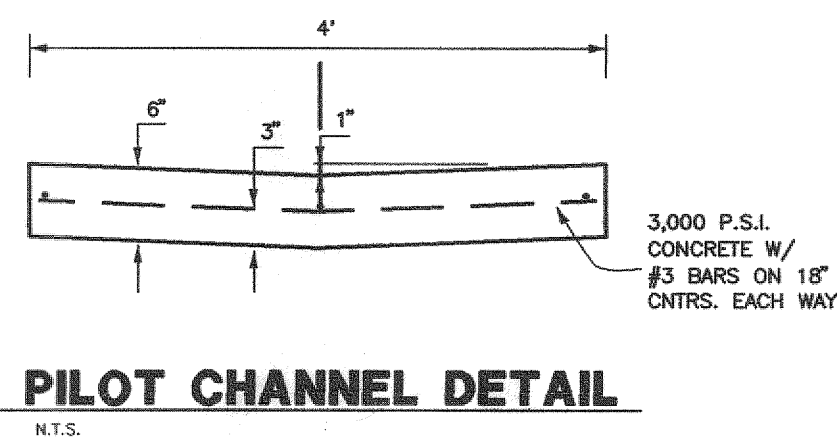
STORM DURATION DATA:							
MIN	1-5YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)
5	7.00	0.90	2.01	12.66	3799	369	3430
10	6.00	0.90	2.01	11.22	6729	492	6237
20	4.90	0.90	2.01	8.86	10637	738	9899
30	4.05	0.90	2.01	7.33	13188	984	12204
40	3.40	0.90	2.01	6.15	14761	1230	13531
50	2.80	0.90	2.01	5.07	15196	1476	13720
60	2.60	0.90	2.01	4.70	16932	1722	16210
70	2.45	0.90	2.01	4.43	18615	1968	16647
80	2.25	0.90	2.01	4.07	19537	2214	17323
90	2.10	0.90	2.01	3.80	20514	2460	18054
100	1.92	0.90	2.01	3.47	20840	2706	18134
110	1.75	0.90	2.01	3.17	20894	2952	17942

5. DETENTION POND VOLUME			
CONTOUR	AREA (FT²)	VOLUME (FT³)	
564.50	0	0	
565.00	2,969	1,485	
566.00	11,215	7,092	5 YR. W.S.E.
567.00	13,447	12,331	566.78
568.00	16,001	14,724	35,632

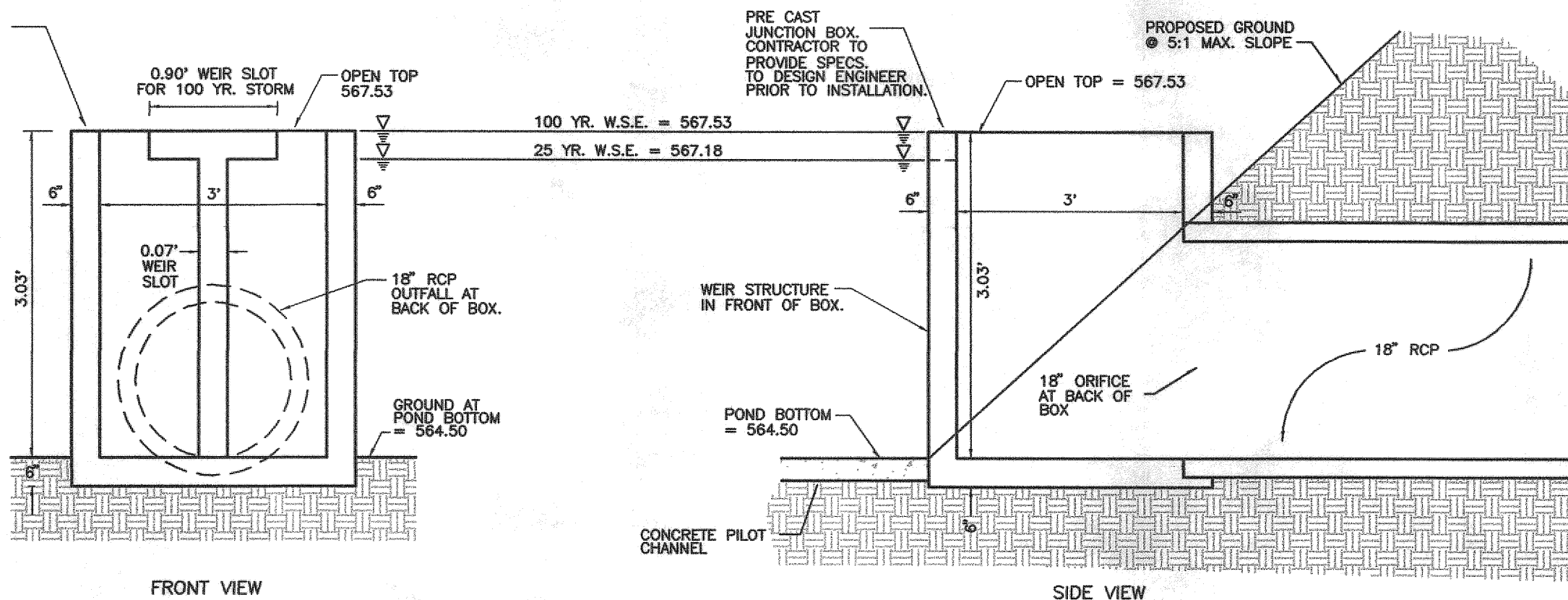
6. OUTFALL DESIGN - RECTANGULAR WEIR  
Q<sub>5</sub> ALLOWABLE RELEASE = 0.82 CFS  
OUTFALL ELEVATION = 564.50  
MAX. 5 YR. WATER SURFACE = 566.78  
Q = CLH<sup>3/2</sup> WHERE C = 3.367  
Q<sub>5</sub> = 0.82 CFS  
H = 2.28 FEET  
L = 12' FEET  
V = Q/A = 0.07 FT/SEC

## EMERGENCY OVERFLOW CALCULATIONS

Q = CLH<sup>3/2</sup>  
C = 3.367  
H = 1'  
L = 12'  
Q = CLH<sup>3/2</sup>  
Q = 3.367 \* 12' \* 1'<sup>3/2</sup>  
Q PROVIDED = 40.40 C.F.S.  
Q CAP. OF 18" RCP WITH  
INLET CONTROL & 4.00' OF HEAD = 18.00 C.F.S.

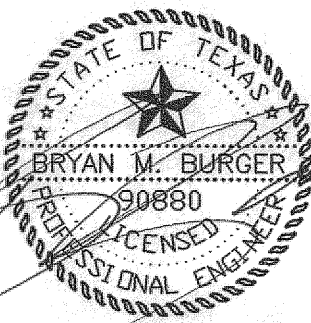


## DETENTION POND A OUTLET STRUCTURE



AS-BUILT  
DATE: 01-09-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 2-24-12



SITE BENCH MARKS:  
BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.  
Elevation= 566.55'  
BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.  
Elevation= 563.63'



REV	DATE	REMARKS
<b>DETENTION POND A CALCULATIONS</b>		
ALDI GROCERY STORE		
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION		
THE CITY OF ROCKWALL, TEXAS		
B. BURGER ENGINEERING		
Civil Consultants		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
	D.P.	007-008 DETENTION A
		NO.
		C-8.2



# POND B 100 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREA 5 CONTRIBUTES FLOW TO THE DETENTION POND - 0.37 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{100} = 6.30$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(6.30)(4.19)ACRES = 12.17 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 0.76 CFS  
12.17 CFS - 7.94 CFS (AREAS 9-11) - 1.82 CFS (POND A) - 1.65 CFS (POND B) = 0.76 CFS

## 4. STORAGE REQUIRED

DETENTION AREA (I) = 0.37 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 0.76

STORM DURATION DATA:							
MIN	1-100YR (IN/HR)	C	AREA (ACRES)	TOTAL FLOW (CFS)	TOTAL FLOW (FT <sup>3</sup> /S)	OUTFLOW (FT <sup>3</sup> /S)	STORAGE (FT <sup>3</sup> )
5	10.05	0.90	0.37	3.35	1004	342	662
10	8.80	0.90	0.37	3.26	1056	456	1502
20	8.30	0.90	0.37	2.76	3317	684	2633
30	8.90	0.90	0.37	2.30	4136	912	3224
40	5.80	0.90	0.37	1.93	4635	1140	3485
50	5.00	0.90	0.37	1.67	4995	1368	3627
60	4.50	0.90	0.37	1.50	5395	1596	3799
70	4.00	0.90	0.37	1.33	5594	1824	3770
80	3.65	0.90	0.37	1.22	5834	2052	3792
90	3.50	0.90	0.37	1.17	6294	2280	4014
100	3.30	0.90	0.37	1.10	6593	2508	4086
110	2.90	0.90	0.37	0.97	6374	2736	3638

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT <sup>2</sup> )	VOLUME (FT <sup>3</sup> )
564.33	0	0
565.00	1,514	1,014
566.00	2,773	2,144
567.00	4,248	3,511
568.00	6,668	6,668
TOTAL VOLUME =		6,668

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>100</sub> ALLOWABLE RELEASE = 0.76 CFS

OUTFALL ELEVATION = 564.33

MAX. 100 YR. WATER SURFACE = 566.26

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_{100} = 0.76 \text{ CFS}$$

$$H = 1.93 \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.08 \text{ FEET}$$

$$V = Q/A = 4.68 \text{ FT/SEC}$$

# POND B 25 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREA 5 CONTRIBUTE FLOW TO THE DETENTION POND - 0.37 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{25} = 6.75$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(6.75)(4.19)ACRES = 9.90 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 0.87 CFS  
9.90 CFS - 8.76 CFS (AREAS 9-11) - 1.10 CFS (POND A) - 1.28 (POND C) = 0.76 CFS

## 4. STORAGE REQUIRED

DETENTION AREA (I) = 0.37 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 0.58

STORM DURATION DATA:							
MIN	1-25YR (IN/HR)	C	AREA (ACRES)	TOTAL FLOW (CFS)	TOTAL FLOW (FT <sup>3</sup> /S)	OUTFLOW (FT <sup>3</sup> /S)	STORAGE (FT <sup>3</sup> )
5	9.35	0.90	0.37	3.11	934	281	673
10	8.35	0.90	0.37	2.78	1668	348	1320
20	6.75	0.90	0.37	2.25	2697	522	2175
30	5.50	0.90	0.37	1.83	3297	696	2601
40	4.60	0.90	0.37	1.60	3836	870	2966
50	4.00	0.90	0.37	1.33	3996	1044	2952
60	3.50	0.90	0.37	1.17	4196	1218	2978
70	3.25	0.90	0.37	1.08	4545	1392	3153
80	3.00	0.90	0.37	1.00	4795	1566	3229
90	2.75	0.90	0.37	0.92	4945	1740	3205

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT <sup>2</sup> )	VOLUME (FT <sup>3</sup> )
564.33	0	0
565.00	1,514	1,014
566.00	2,773	2,144
567.00	4,248	3,511
568.00	6,668	6,668
TOTAL VOLUME =		6,668

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>25</sub> ALLOWABLE RELEASE = 0.58 CFS

OUTFALL ELEVATION = 564.33

MAX. 25 YR. WATER SURFACE = 566.02

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_{25} = 0.58 \text{ CFS}$$

$$H = 1.69 \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.08 \text{ FEET}$$

$$V = Q/A = 4.38 \text{ FT/SEC}$$

# POND B 10 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREA 5 CONTRIBUTE FLOW TO THE DETENTION POND - 0.37 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{10} = 5.80$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(5.80)(4.19)ACRES = 8.51 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 0.52 CFS  
8.51 CFS - 5.87 CFS (AREAS 9-11) - 0.92 CFS (POND A) - 1.20 CFS (POND C) = 0.52 CFS

## 4. STORAGE REQUIRED

DETENTION AREA (I) = 0.37 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 0.52

STORM DURATION DATA:							
MIN	1-10YR (IN/HR)	C	AREA (ACRES)	TOTAL FLOW (CFS)	TOTAL FLOW (FT <sup>3</sup> /S)	OUTFLOW (FT <sup>3</sup> /S)	STORAGE (FT <sup>3</sup> )
5	8.30	0.90	0.37	2.76	829	234	595
10	7.25	0.90	0.37	2.41	1449	312	1137
20	5.80	0.90	0.37	1.93	2218	468	1950
30	4.80	0.90	0.37	1.60	2877	624	2253
40	4.00	0.90	0.37	1.33	3197	780	2417
50	3.40	0.90	0.37	1.13	3397	936	2461
60	3.10	0.90	0.37	1.03	3716	1092	2624
70	2.80	0.90	0.37	0.93	3916	1248	2668
80	2.60	0.90	0.37	0.87	4156	1404	2762
90	2.30	0.90	0.37	0.77	4136	1560	2576

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT <sup>2</sup> )	VOLUME (FT <sup>3</sup> )
564.33	0	0
565.00	1,514	1,014
566.00	2,773	2,144
567.00	4,248	3,511
568.00	6,668	6,668
TOTAL VOLUME =		6,668

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>10</sub> ALLOWABLE RELEASE = 0.52 CFS

OUTFALL ELEVATION = 564.33

MAX. 10 YR. WATER SURFACE = 565.81

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_{10} = 0.52 \text{ CFS}$$

$$H = 1.48 \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.08 \text{ FEET}$$

$$V = Q/A = 4.39 \text{ FT/SEC}$$

# POND B 5 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREA 5 CONTRIBUTE FLOW TO THE DETENTION POND - 0.37 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_5 = 4.90$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(4.90)(4.19)ACRES = 7.19 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 0.38 CFS  
7.19 CFS - 5.02 CFS (AREAS 9-11) - 0.82 CFS (POND A) - 0.97 CFS (POND C) = 0.38 CFS

## 4. STORAGE REQUIRED

DETENTION AREA (I) = 0.37 ACRES  
REFERENCE : TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 0.38

STORM DURATION DATA:							
MIN	1-5YR (IN/HR)	C	AREA (ACRES)	TOTAL FLOW (CFS)	TOTAL FLOW (FT <sup>3</sup> /S)	OUTFLOW (FT <sup>3</sup> /S)	STORAGE (FT <sup>3</sup> )
5	7.00	0.90	0.37	2.33	699	171	528
10	6.20	0.90	0.37	2.06	1239	228	1011
20	4.95	0.90	0.37	1.65	1978	342	1836
30	4.05	0.90	0.37	1.35	2428	496	1972
40	3.40	0.90	0.37	1.13	2717	570	2147
50	2.80	0.90	0.37	0.93	2797	684	2113

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT <sup>2</sup> )	VOLUME (FT <sup>3</sup> )
564.33	0	0
565.00	1,514	1,014
566.00	2,773	2,144
567.00	4,248	3,511
568.00	6,668	6,668
TOTAL VOLUME =		6,668

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>5</sub> ALLOWABLE RELEASE = 0.38 CFS

OUTFALL ELEVATION = 564.33

MAX. 5 YR. WATER SURFACE = 565.53

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_5 = 0.38 \text{ CFS}$$

$$H = 1.20 \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.08 \text{ FEET}$$

$$V = Q/A = 3.96 \text{ FT/SEC}$$

## EMERGENCY OVERFLOW CALCULATIONS

$$Q = CLH^{3/2}$$

$$C = 3.367$$

$$H = 0.35'$$

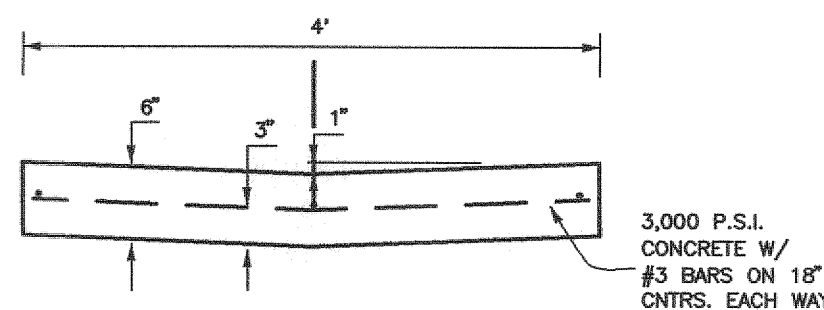
$$L = 12'$$

$$Q = CLH^{3/2}$$

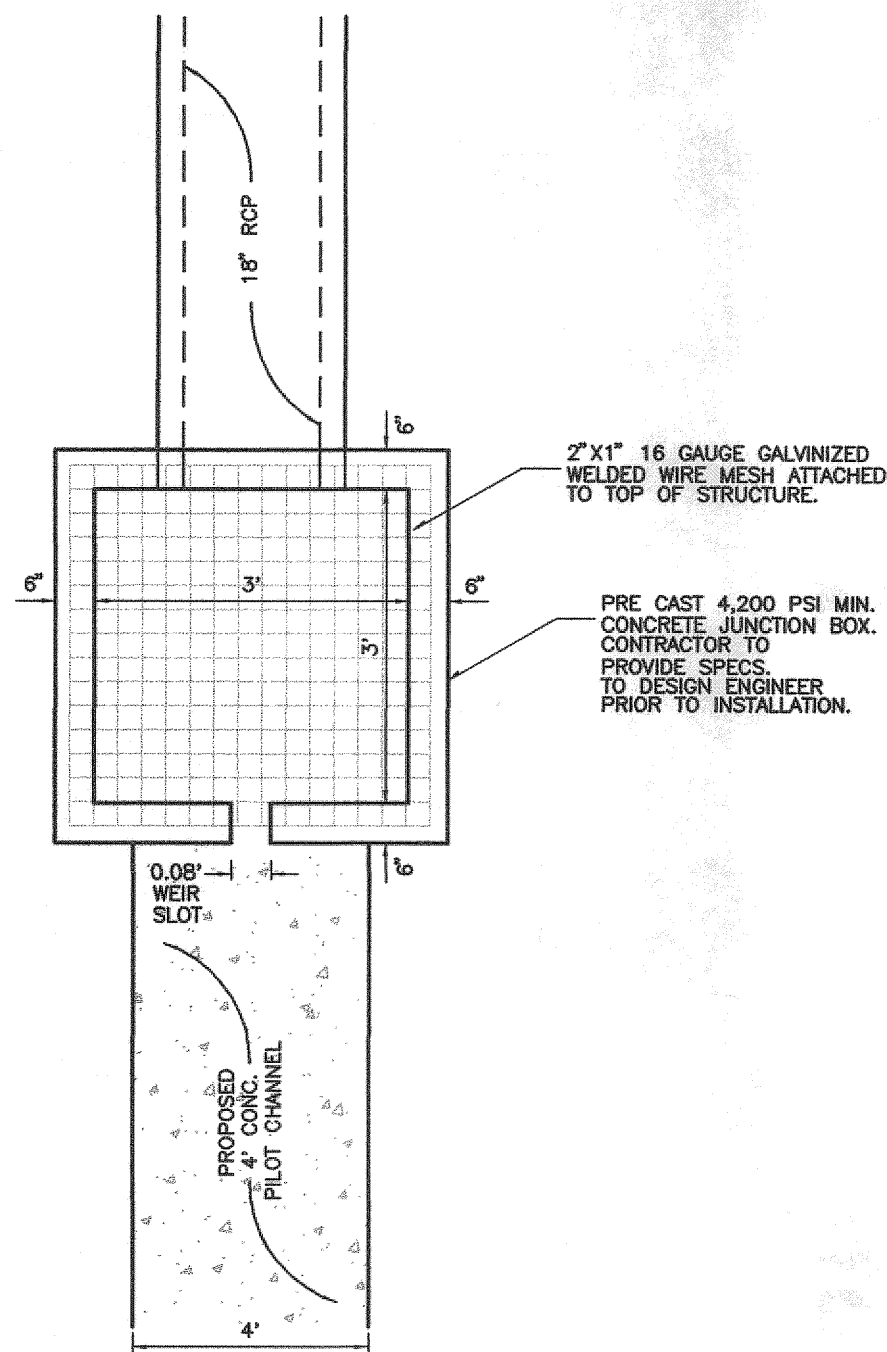
$$Q = 3.367 * 12' * 0.35^{3/2}$$

$$Q \text{ PROVIDED} = 8.37 \text{ C.F.S.}$$

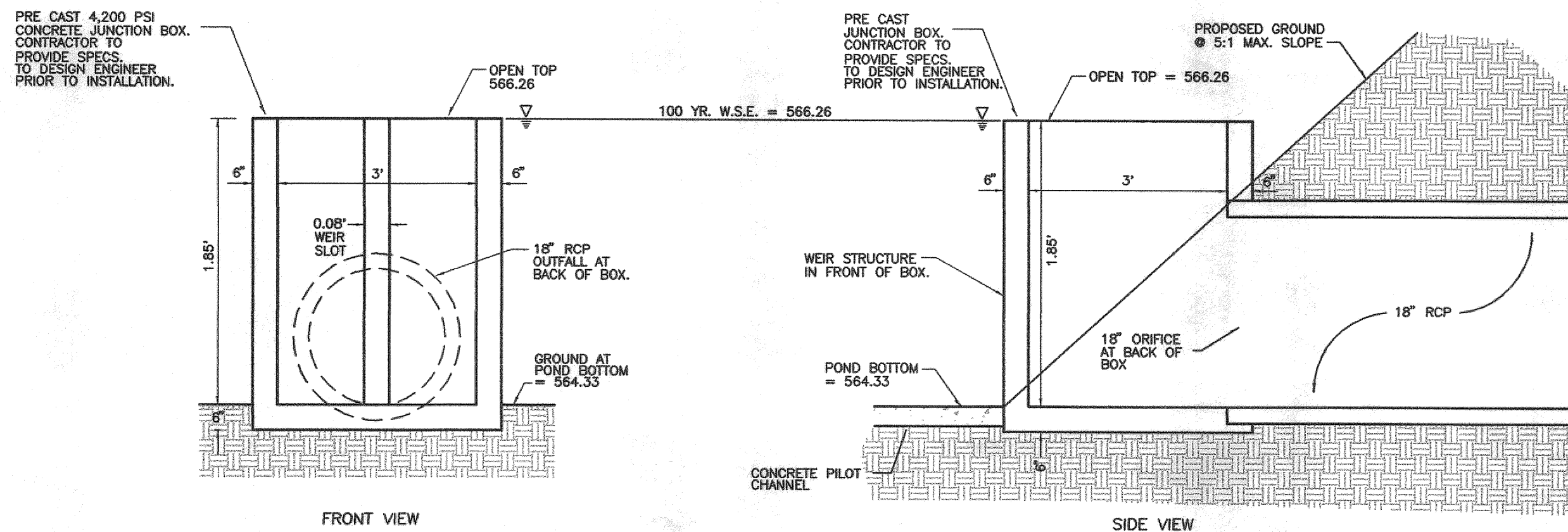
$$Q \text{ CAP. OF } 18" \text{ RCP WITH INLET CONTROL \& } 2.2' \text{ OF HEAD} = 11.60 \text{ C.F.S.}$$



**PILOT CHANNEL DETAIL**  
N.T.S.



TOP VIEW



FRONT VIEW

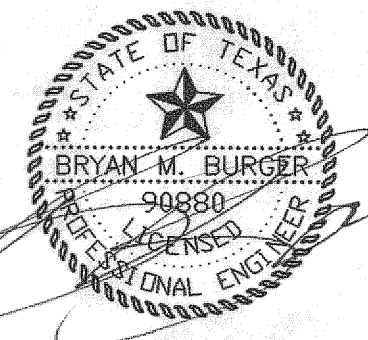
SIDE VIEW

## DETENTION POND B OUTLET STRUCTURE

N.T.S.

AS-BUILT  
DATE: 01-09-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 2-24-12



## SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.

Elevation= 563.63'



REV	DATE	REMARKS
<b>DETENTION POND B CALCULATIONS</b>		
ALDI GROCERY STORE		
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION		
THE CITY OF ROCKWALL, TEXAS		
B. BURGER ENGINEERING Civil Consultants 17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBPE F-12997		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
	D.P.	007-008 DETENTION B
NO.	C-8.3	



# POND C 100 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 6-8 CONTRIBUTE FLOW TO THE DETENTION POND - 0.81 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{10} = 8.30$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(8.30)(4.19)ACRES = 12.17 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 1.65 CFS  
12.17 CFS - 7.94 CFS (AREAS 9-11) - 1.82 CFS (POND A) - 0.76 CFS (POND B) = 1.65 CFS
- STORAGE REQUIRED

DETENTION AREA (I) = 0.81 ACRES  
REFERENCE: TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 1.65

STORM DURATION DATA:									
MIN	1-100YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)		
5	10.05	0.90	0.81	7.33	2198	743	1455		
10	9.80	0.90	0.81	7.14	4287	990	3297		
20	8.30	0.90	0.81	6.05	7261	1485	5776		
30	6.90	0.90	0.81	5.03	9054	1980	7074		
40	5.80	0.90	0.81	4.23	10148	2475	7673		
50	5.00	0.90	0.81	3.65	10935	2970	7965		
60	4.50	0.90	0.81	3.28	11810	3465	8345		
70	4.00	0.90	0.81	2.92	12247	3960	8287		
80	3.65	0.90	0.81	2.66	12772	4455	8317		
90	3.50	0.90	0.81	2.55	13778	4950	8828		
100	3.30	0.90	0.81	2.41	14434	5445	8989		
110	2.90	0.90	0.81	2.11	13953	5940	8013		

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT²)	VOLUME (FT³)	
563.50	0	0	
564.00	537	269	
565.00	1,268	903	100 YR. W.S.E.
566.00	2,276	1,772	
567.00	3,777	3,027	567.64
568.00	5,710	4,744	
TOTAL VOLUME =		10,713	

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>100</sub> ALLOWABLE RELEASE = 1.65 CFS

OUTFALL ELEVATION = 563.50

MAX. 100 YR. WATER SURFACE = 567.64

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_{100} = 1.65 \text{ CFS}$$

$$H = 1' \text{ FEET}$$

$$L = 12' \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.06 \text{ FEET}$$

$$V = Q/A = 0.06 \text{ FT/SEC}$$

# POND C 25 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 6-8 CONTRIBUTE FLOW TO THE DETENTION POND - 0.81 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{10} = 6.75$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(6.75)(4.19)ACRES = 9.90 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 1.46 CFS  
9.90 CFS - 6.76 CFS (AREAS 9-11) - 1.10 CFS (POND A) - 0.58 (POND B) = 1.46 CFS
- STORAGE REQUIRED

DETENTION AREA (I) = 0.81 ACRES  
REFERENCE: TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 1.28

STORM DURATION DATA:									
MIN	1-100YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)		
5	9.35	0.90	0.81	6.82	2045	576	1469		
10	8.35	0.90	0.81	6.09	3552	768	2894		
20	6.75	0.90	0.81	4.92	5905	1152	4753		
30	5.50	0.90	0.81	4.01	7217	1536	5081		
40	4.80	0.90	0.81	3.50	8388	1920	5475		
50	4.00	0.90	0.81	2.92	8748	2304	6444		
60	3.50	0.90	0.81	2.55	9185	2688	6497		
70	3.25	0.90	0.81	2.37	9651	3072	6870		
80	3.00	0.90	0.81	2.19	10498	3456	7042		
90	2.75	0.90	0.81	2.00	10826	3840	6986		

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT²)	VOLUME (FT³)	
563.5	0	0	
564.00	537	269	
565.00	1,268	903	25 YR. W.S.E.
566.00	2,276	1,772	
567.00	3,777	3,027	567.23
568.00	5,710	4,744	
TOTAL VOLUME =		10,713	

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>25</sub> ALLOWABLE RELEASE = 1.28 CFS

OUTFALL ELEVATION = 563.50

MAX. 25 YR. WATER SURFACE = 567.23

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_{25} = 1.28 \text{ CFS}$$

$$H = 1' \text{ FEET}$$

$$L = 12' \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.06 \text{ FEET}$$

$$V = Q/A = 0.06 \text{ FT/SEC}$$

# POND C 10 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 6-8 CONTRIBUTE FLOW TO THE DETENTION POND - 0.81 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{10} = 5.80$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(5.80)(4.19)ACRES = 8.51 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 1.20 CFS  
8.51 CFS - 5.87 CFS (AREAS 9-11) - 0.92 CFS (POND A) - 0.52 CFS (POND B) = 1.20 CFS
- STORAGE REQUIRED

DETENTION AREA (I) = 0.81 ACRES  
REFERENCE: TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 1.20

STORM DURATION DATA:									
MIN	1-100YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)		
5	8.30	0.90	0.81	6.05	1815	540	1275		
10	7.25	0.90	0.81	5.29	3171	720	2451		
20	5.80	0.90	0.81	4.23	5074	1080	3994		
30	4.80	0.90	0.81	3.50	6299	1440	4859		
40	4.00	0.90	0.81	2.92	6998	1800	5198		
50	3.40	0.90	0.81	2.48	7436	2160	5276		
60	3.10	0.90	0.81	2.26	8136	2520	5616		
70	2.80	0.90	0.81	2.04	8573	2880	5693		
80	2.60	0.90	0.81	1.90	9096	3240	5688		
90	2.30	0.90	0.81	1.68	9054	3600	5454		

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT²)	VOLUME (FT³)	
563.5	0	0	
564.00	537	269	
565.00	1,268	903	10 YR. W.S.E.
566.00	2,276	1,772	
567.00	3,777	3,027	566.96
568.00	5,710	4,744	
TOTAL VOLUME =		10,713	

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>10</sub> ALLOWABLE RELEASE = 1.20 CFS

OUTFALL ELEVATION = 563.50

MAX. 10 YR. WATER SURFACE = 566.96

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_{10} = 1.20 \text{ CFS}$$

$$H = 1' \text{ FEET}$$

$$L = 12' \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.06 \text{ FEET}$$

$$V = Q/A = 0.06 \text{ FT/SEC}$$

# POND C 5 YEAR DETENTION POND CALCULATIONS

- DRAINAGE AREAS 6-8 CONTRIBUTE FLOW TO THE DETENTION POND - 0.81 ACRES
- SITE ALLOWABLE RELEASE RATE = "C" FACTOR = .35  
Q = CIA,  $I_{10} = 4.90$  IN/HR (TC = 20 MIN.)  
Q = ALLOW = (0.35)(4.90)(4.19)ACRES = 7.19 CFS
- DETENTION POND ALLOWABLE RELEASE RATE = 0.97 CFS  
7.19 CFS - 5.02 CFS (AREAS 9-11) - 0.82 CFS (POND A) - 0.38 CFS (POND B) = 0.97 CFS
- STORAGE REQUIRED

DETENTION AREA (I) = 0.81 ACRES  
REFERENCE: TECHNICAL PAPER 40  
ALLOWABLE STORMWATER FLOW FROM DETENTION: 0.97

STORM DURATION DATA:									
MIN	1-100YR (IN/HR)	C	AREA (ACRES)	TOTAL (CFS)	TOTAL FLOW (FT³)	OUTFLOW (FT³)	STORAGE (FT³)		
5	7.00	0.90	0.81	5.10	1531	437	1094		
10	6.20	0.90	0.81	4.52	2712	582	2130		
20	4.95	0.90	0.81	3.61	4330	873	3457		
30	4.05	0.90	0.81	2.95	5314	1164	4150		
40	3.40	0.90	0.81	2.48	5949	1455	4484		
50	2.80	0.90	0.81	2.04	6124	1746	4378		

## 5. DETENTION POND VOLUME

CONTOUR	AREA (FT²)	VOLUME (FT³)	
563.5	0	0	
564.00	537	269	
565.00	1,268	903	5 YR. W.S.E.
566.00	2,276	1,772	
567.00	3,777	3,027	566.51
568.00	5,710	4,744	
TOTAL VOLUME =		10,713	

## 6. OUTFALL DESIGN - RECTANGULAR WEIR

Q<sub>5</sub> ALLOWABLE RELEASE = 0.97 CFS

OUTFALL ELEVATION = 563.50

MAX. 5 YR. WATER SURFACE = 566.51

$$Q = CLH^{3/2} \text{ WHERE } C = 3.367$$

$$Q_{5} = 0.97 \text{ CFS}$$

$$H = 1' \text{ FEET}$$

$$L = 12' \text{ FEET}$$

$$L = Q/CH^{3/2} = 0.06 \text{ FEET}$$

$$V = Q/A = 0.06 \text{ FT/SEC}$$

## EMERGENCY OVERFLOW CALCULATIONS

$$Q = CLH^{3/2}$$

$$C = 3.367$$

$$H = 1'$$

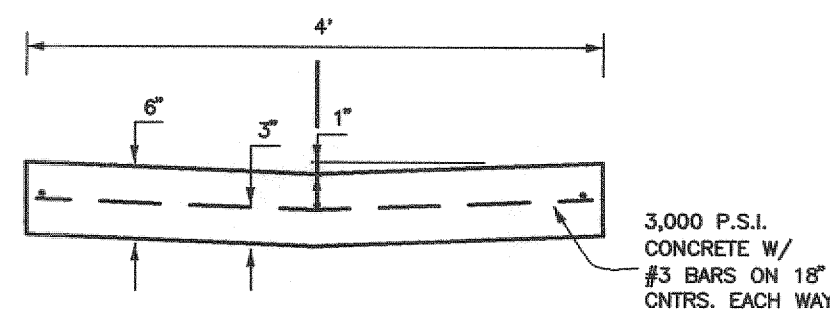
$$L = 12'$$

$$Q = CLH^{3/2}$$

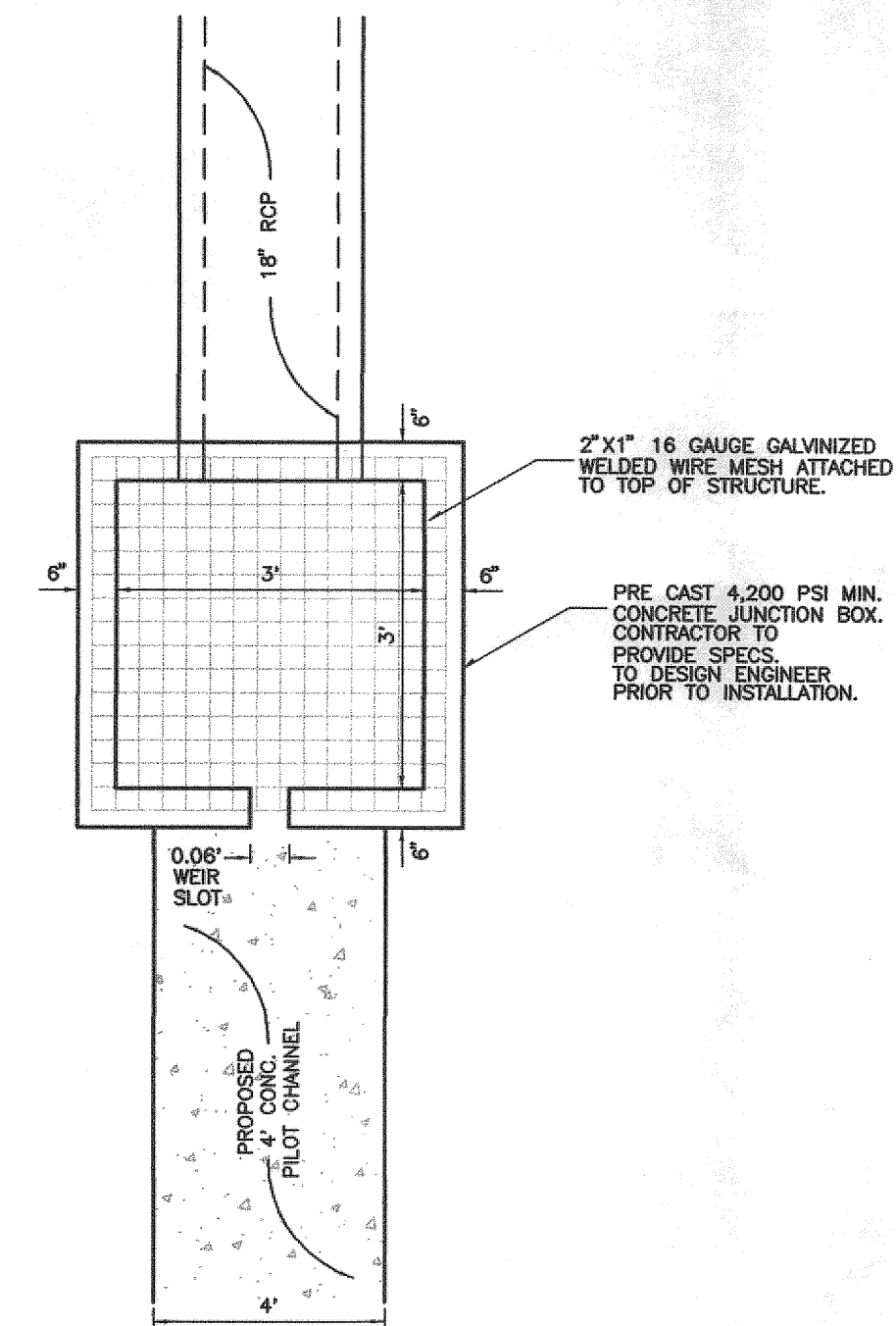
$$Q = 3.367 * 12' * 1^{3/2}$$

$$Q \text{ PROVIDED} = 40.40 \text{ C.F.S.}$$

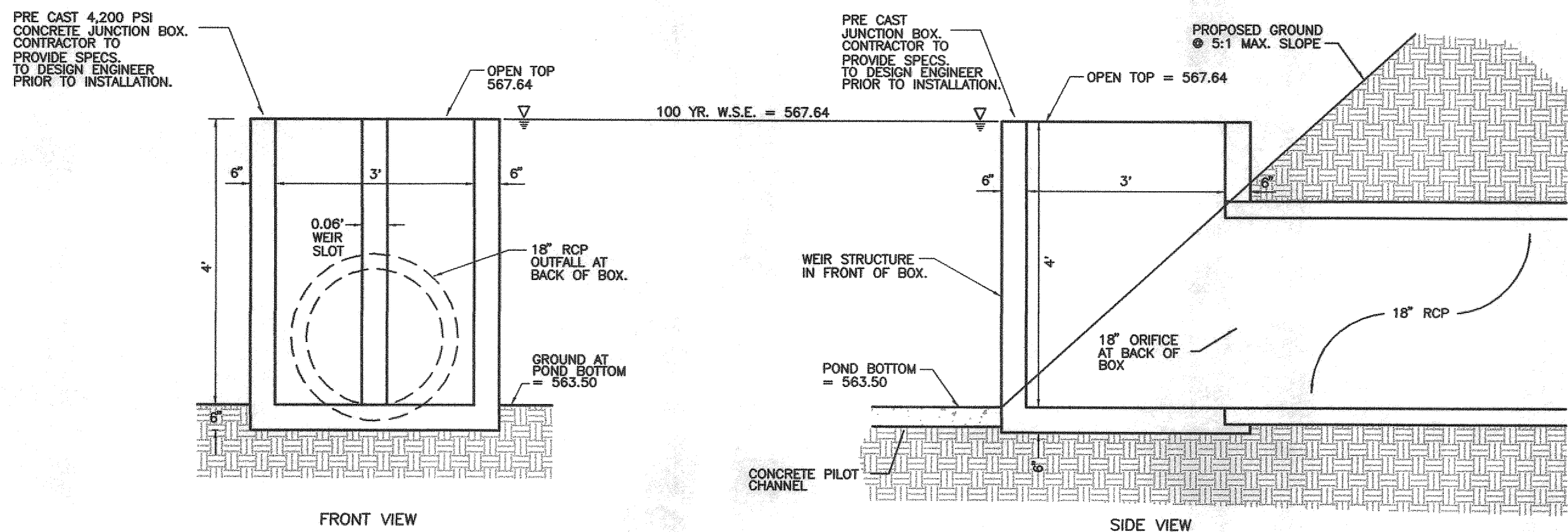
$$Q \text{ CAP. OF } 18" \text{ RCP WITH INLET CONTROL \& } 5' \text{ OF HEAD} = 20.0 \text{ C.F.S.}$$



**PILOT CHANNEL DETAIL**  
N.T.S.



TOP VIEW



FRONT VIEW

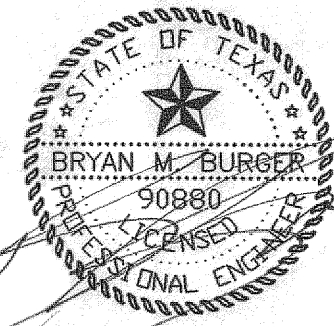
SIDE VIEW

## DETENTION POND C OUTLET STRUCTURE

N.T.S.

AS-BUILT  
DATE: 01-09-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 2-24-12



## SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.  
Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.  
Elevation= 563.63'



REV	DATE	REMARKS
<b>DETENTION POND C CALCULATIONS</b>		
ALDI GROCERY STORE		
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION		
THE CITY OF ROCKWALL, TEXAS		
B. BURGER ENGINEERING Civil Consultants 17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBPE F-12997		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
D.P.	007-008 DETENTION C	C-8.4



PETER TEMUNOVIC AND  
CVIETA TEMUNOVIC  
VOL. 959, PG. 150  
R.P.R.C.T.  
(VACANT)

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E, 393  
P.R.R.C.T.

SUMMER LEE DRIVE

OAK DRIVE

RIDGE ROAD IF.M. 7401

LOT A  
REPLAT OF  
COMMUNITY BANK OF  
ROCKWALL ADDITION  
CAB. D, PG. 133  
P.R.R.C.T.

LOT B-2-A  
REPLAT OF  
COMMUNITY BANK  
OF ROCKWALL ADDITION  
CAB. D, PG. 279  
P.R.R.C.T.

#### SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.

Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.

Elevation= 563.63'

INSTALL:  
1-12"x8" TAPPING SLEEVE & VALVE  
CROSS 180 L.F. OF 8" WATER  
UNDER SUMMER LEE ROAD  
WITH STEEL ENCASMENT PIPE  
PER CITY OF ROCKWALL STANDARDS.

INSTALL:  
1-8"x8" TEE  
3-8" VALVES  
1-8"x6" TEE  
1-6" VALVE  
1-8"x1" SERVICE CONNECTION  
1-8"x2" SERVICE CONNECTION  
1-1" W.M. (DOM.) W/METER BOX  
1-1 1/2" W.M. (IRR.) W/METER BOX

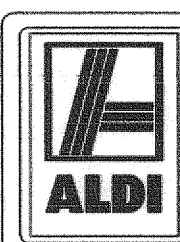
INSTALL:  
1-8"x45" BEND  
1-8"x6" REDUCER  
1-F.H.

INSTALL:  
1-8"x45" BEND  
1-6"x22.5" BEND

INSTALL 6" CLEANOUT  
FL 6" S.S. = 564.71

INSTALL 6" CLEANOUT  
FL 6" S.S. = 563.36

FL 6" S.S. = 564.95



VERSION 4.0 PROTOTYPE  
F.F. = 569.90

REFER TO ARCHITECT PLANS FOR EXACT BUILDING  
DIMENSIONS, TRUCK DOCK & SIDEWALK DETAILS

INSTALL 6" DBL. CLEANOUT  
FL 6" S.S. = 561.21

STA. 4+13.69 LN. A  
CONST. 4' DIA. MANHOLE  
W/ PAMREX RING AND  
COVER PER CITY OF  
ROCKWALL STANDARDS.  
RIM = 568.50  
FL 8" S.S. OUT = 560.60  
FL 8" S.S. IN = 560.70

#### WATER LINE GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR THE CITY OF ROCKWALL.
2. ALL 6" AND 8" WATER MAINS SHALL BE PVC AWWA C900, DR 14 WATER PIPE. ALL 10" AND 12" WATER MAINS SHALL BE PVC AWWA C900, CLASS 150 WATER PIPE ALL "BLUE" IN COLOR PER TOWN SPECIFICATIONS. FOR PVC SERVICE TAPS 1" AND LARGER, TAPPING SADDLES SHALL BE USED. ALL WATER LINES TO BE CLASS 200.
3. ALL WATER MAINS SHALL HAVE MINIMUM COVER AS FOLLOWS: 6", 8", 10", AND 12": 48" BELOW FINISHED PAVEMENT GRADE, OR 60" BELOW EXISTING OR FINISHED GRADE IN UNPAVED AREAS, OR AS REQUIRED TO CLEAR OTHER UTILITIES.
4. FIRE HYDRANTS TO BE CITY OF ROCKWALL APPROVED.
5. VALVES TO BE CITY OF ROCKWALL APPROVED.
6. THE WATER METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AFTER THE PAVING CONTRACTOR HAS COMPLETED THE FINE GRADING BEHIND THE BACK OF THE CURB. EACH SERVICE LOCATION WILL BE MARKED ON THE PAVEMENT OR CURB WITH A BLUE DOT BY THE UTILITY CONTRACTOR AND TIED TO PROPERTY CORNERS ON THE "RECORD DRAWINGS."
7. THE CONTRACTOR SHALL FURNISH A MAINTENANCE BOND TO THE CITY TO RUN TWO (2) YEARS FROM THE DATE OF ACCEPTANCE OF THE SYSTEM BY THE CITY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING "RECORD DRAWING" PLANS TO THE ENGINEER SHOWING THE LOCATION OF WATER SERVICES AND VALVES.
9. FIRE HYDRANTS SHALL BE PAINTED AS PER CITY OF ROCKWALL STANDARDS AND SPECIFICATIONS AND LOCATED IN A PROTECTED AREA WITH 6" CURB OR BOLLARDS.
10. STEAMER NOZZLES ON FIRE HYDRANTS SHALL BE 18" ABOVE THE TOP OF THE CURB ON FINISHED GRADE, AND SHALL FACE THE CENTER OF THE FIRE LANE OR STREET. FIRE HYDRANTS SHALL USUALLY BE LOCATED FOUR (4) FEET BUT NOT LESS THAN THREE (3) FEET NOR MORE THAN SIX (6) FEET, BEHIND THE CURB.
11. ALL WATER LINES SHALL BE HYDROSTATICALLY TESTED PER CITY OF ROCKWALL STANDARDS AND SPECIFICATIONS.
12. ALL WATER LINES SHALL BE STERILIZED PER CITY OF ROCKWALL STANDARDS AND SPECIFICATIONS.
13. ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS AND PROTECTED BY 6" CURB OR BOLLARDS.
14. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THAT NECESSARY CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES EXIST PRIOR TO THE CONSTRUCTION OF ANY SUCH CROSSING.
15. UTILITY TRENCHES SHALL BE BACKFILLED WITH MATERIAL PER CITY OF ROCKWALL SPECIFICATIONS.
16. FIRE HYDRANTS SHALL BE INSTALLED PER CITY OF ROCKWALL STANDARD DETAILS.
17. ALL WATER SERVICES OUTSIDE OF EASEMENTS SHALL BE INSTALLED BY A PLUMBER.
18. ALL AFTER METER WATER SERVICES ARE TYPE "K" COPPER.
19. CONTRACTOR TO INCLUDE ALL CITY WATER AND SEWER FEES IN BID, AS WELL AS PAY CITY IMPACT FEES FOR WATER & S.S.
20. THRUST BLOCKING AT ALL BENDS, TEES & PLUGS SHALL BE INSTALLED PER CITY REQUIREMENTS.
21. INSTALL BLUE EMS DISKS ON THE WATER LINE AT EVERY CHANGE IN DIRECTION, VALVE AND SERVICE.
22. ALL DOMESTIC/IRRIGATION METERS TO HAVE TO HAVE BACKFLOW W DOUBLE CHECKS.

STA. 2+13.90 LN. A  
CONST. 4' DIA. MANHOLE  
W/ PAMREX RING AND  
COVER PER CITY OF  
ROCKWALL STANDARDS.  
RIM = 568.75  
FL 8" S.S. OUT = 559.30  
FL 8" S.S. IN = 559.40

STA. 0+43.40 LN. A  
CONST. 4' DIA. MANHOLE  
W/ PAMREX RING AND  
COVER PER CITY OF  
ROCKWALL STANDARDS.  
RIM = 565.30  
FL 8" S.S. OUT = 558.18  
FL 8" S.S. IN = 558.28

STA. 0+00 LN. A  
CONST. 4' DIA. MANHOLE  
OVER EX. 6" S.S.  
W/ PAMREX RING AND  
COVER PER CITY OF  
ROCKWALL STANDARDS.  
RIM = 564.25  
FL EX. 6" S.S. = 557.82  
FL 8" S.S. IN = 557.92  
(VERIFY)

#### SANITARY SEWER GENERAL NOTES

1. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE CITY OF ROCKWALL STANDARD SPECIFICATIONS.
2. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CONTRACTOR SHALL VERIFY THAT NECESSARY CROSSING CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES EXIST PRIOR TO CONSTRUCTION OF ANY SUCH CROSSING.
3. CONTRACTOR SHALL COORDINATE WITH THE OWNER, ENGINEER OR HIS REPRESENTATIVE AND CITY REPRESENTATIVE REGARDING ANY DEVIATIONS FROM THESE PLANS.
4. CONTRACTOR SHALL MAINTAIN ONE SET OF RECORD DRAWINGS (AS BUILT) ON SITE WHICH WILL BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THIS PROJECT.
5. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL PUBLIC UTILITIES IN THE CONSTRUCTION OF THIS PROJECT; ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, SEWER LATERALS, WATER SERVICE, ETC.
6. THE CONTRACTOR SHALL SET UTILITIES TO PROPER LINE AND GRADE PRIOR TO THE PLACING OF PERMANENT PAVEMENT.
7. SANITARY SEWER PIPE SHALL CONFORM TO CITY SPECIFICATIONS AND SHALL BE MANUFACTURED FROM ONE OF THE FOLLOWING MATERIALS:  

a. Polyvinyl Chloride (PVC)	Diameter
ASTM D 3034 SDR 26	4" - 18"
8. SANITARY SEWER PIPE MUST BE KEPT CLEAR OF BROKEN CONCRETE, DIRT OR ANY OTHER DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS.
9. ALL SANITARY SEWER MAINS ARE TO HAVE 1'-21" JOINT CENTERED ON EITHER SIDE OF WATER MAINS WHERE CROSSINGS OCCUR.
10. CONTRACTOR SHALL TIE A 1" WIDE PIECE OF RED PLASTIC FLAGGING TO THE END OF SEWER SERVICE AND SHALL LEAVE A MINIMUM OF 36" OF FLAGGING EXPOSED AFTER BACKFILL. AFTER CURB AND PAVING IS COMPLETED, CONTRACTOR SHALL MARK THE LOCATION OF THE SEWER SERVICE ON THE CURB IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
11. THE CONTRACTOR SHALL FURNISH A MAINTENANCE BOND TO THE CITY TO RUN 2 YEARS FROM THE DATE OF FINAL ACCEPTANCE OF THE SYSTEM BY THE CITY OF ROCKWALL.
12. ALL SANITARY SEWER LATERALS SHALL BE SIZED AND LOCATED AS SHOWN.
13. ALL SANITARY SEWER LATERALS LOCATED OUTSIDE OF EASEMENTS SHALL BE INSTALLED BY A PLUMBER.
14. CONTRACTOR TO INCLUDE ALL REQUIRED BONDS, TAP FEES, CAMERA FEES IN PROPOSAL.
15. INSTALL GREEN EMS DISKS ON THE SEWER LINE AT EVERY MANHOLE, CLEANOUT AND SERVICE CONNECTION.
16. ALL MANHOLES TO BE RAVEN LINED OR APPROVED EQUAL.
17. ALL MANHOLES SHALL HAVE 30" PAMREX RING AND COVER.

0 15' 30' 60'  
1"=30'

#### LEGEND

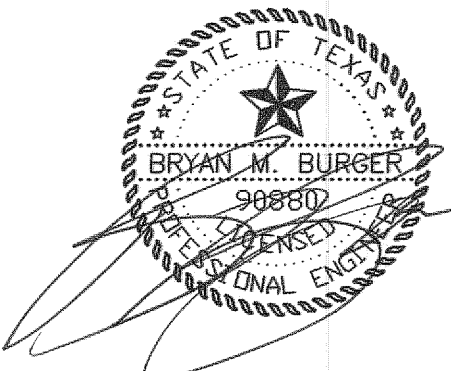
- F.H. FIRE HYDRANT
- CHISELED "X" SET
- O.F.X. CHISELED "X" FOUND
- O.F.I.R. IRON ROD FOUND (SIZE AS NOTED)
- O.S.I.R. IRON ROD SET (SIZE AS NOTED)
- PP OVERHEAD UTILITY POLE W/ CUY
- UNDERGROUND ELECTRIC OR TELEPHONE
- LP LIGHT POLE
- SSMH SANITARY SEWER MANHOLE
- C.O. SAN. SWR. CLEAN OUT
- G.V. GAS VALVE
- W.V. WATER VALVE
- TREE
- MH MANHOLE (TYPE AS NOTED)
- STC BOX TRAFFIC SIGNAL BOX
- TRANS. ELECTRIC TRANSFORMER BOX
- TOWER ELECTRIC TRANSMISSION STEEL TOWER
- CABLE UNDERGROUND CABLE MARKER

- EXIST. STORM SEWER
- EXIST. SANITARY SEWER
- EXIST. WATER
- PROP. SANITARY SEWER
- PROP. WATER
- PROP. STORM SEWER

AS-BUILT  
DATE: 01-09-13



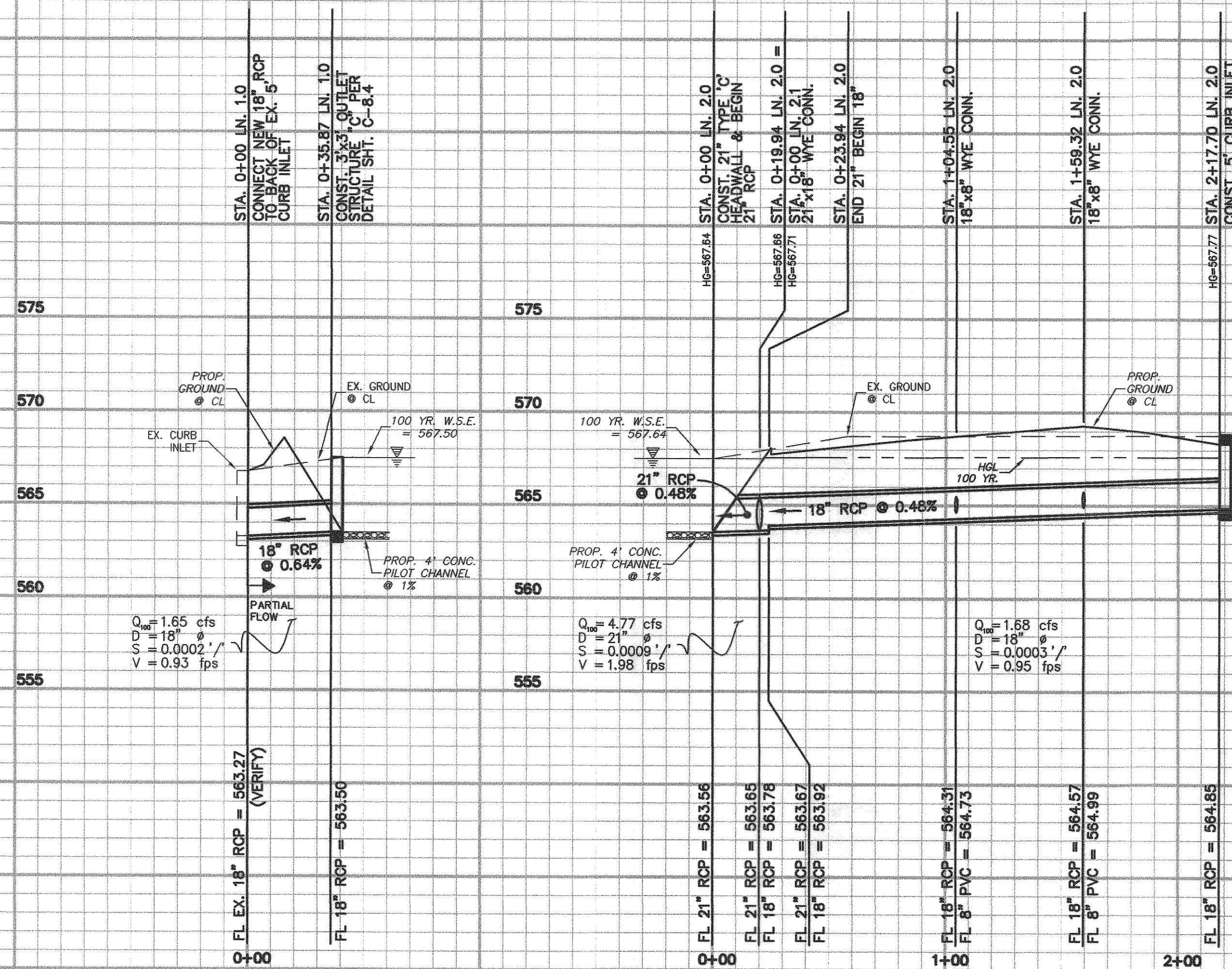
THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 1-8-13



NOTE:  
THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON THE PLANS THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

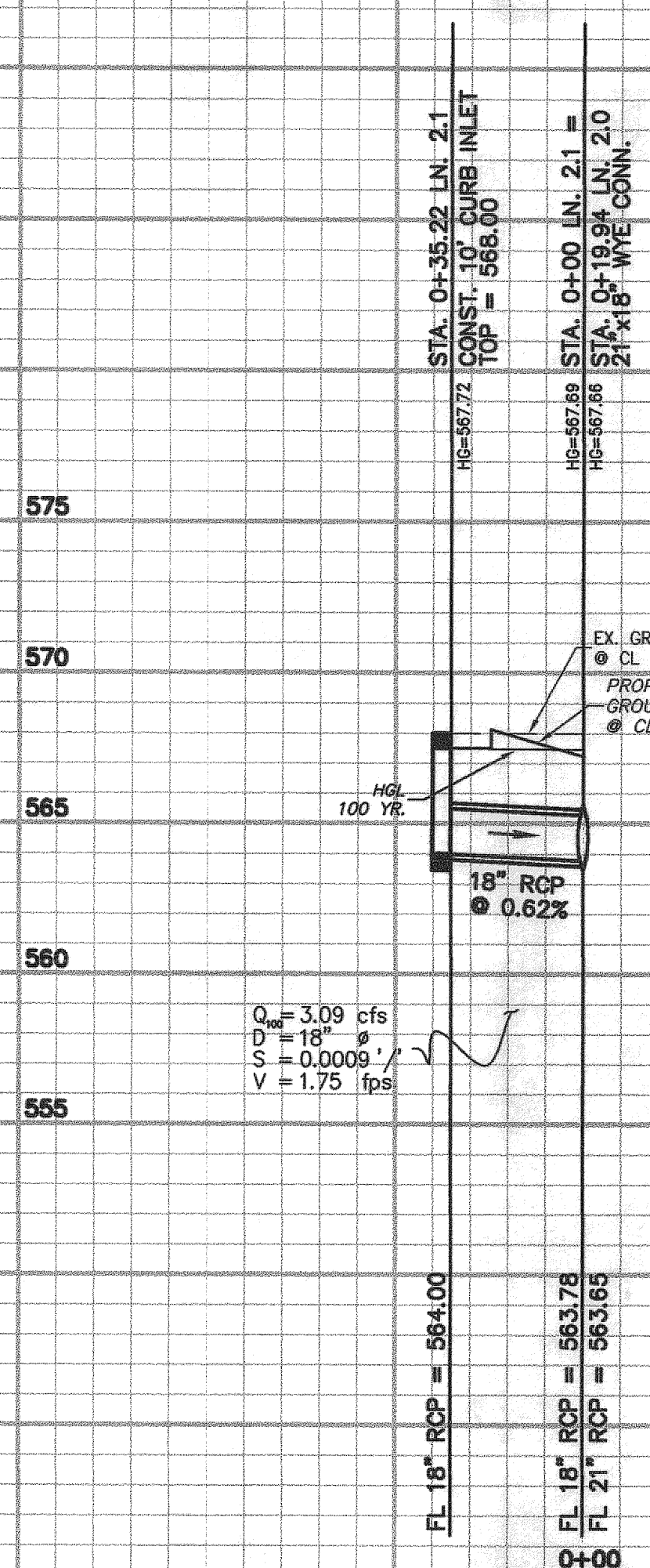
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BMB	JAC	12/11	1"=30'	D.P.	007-008 WATSEW	C-9



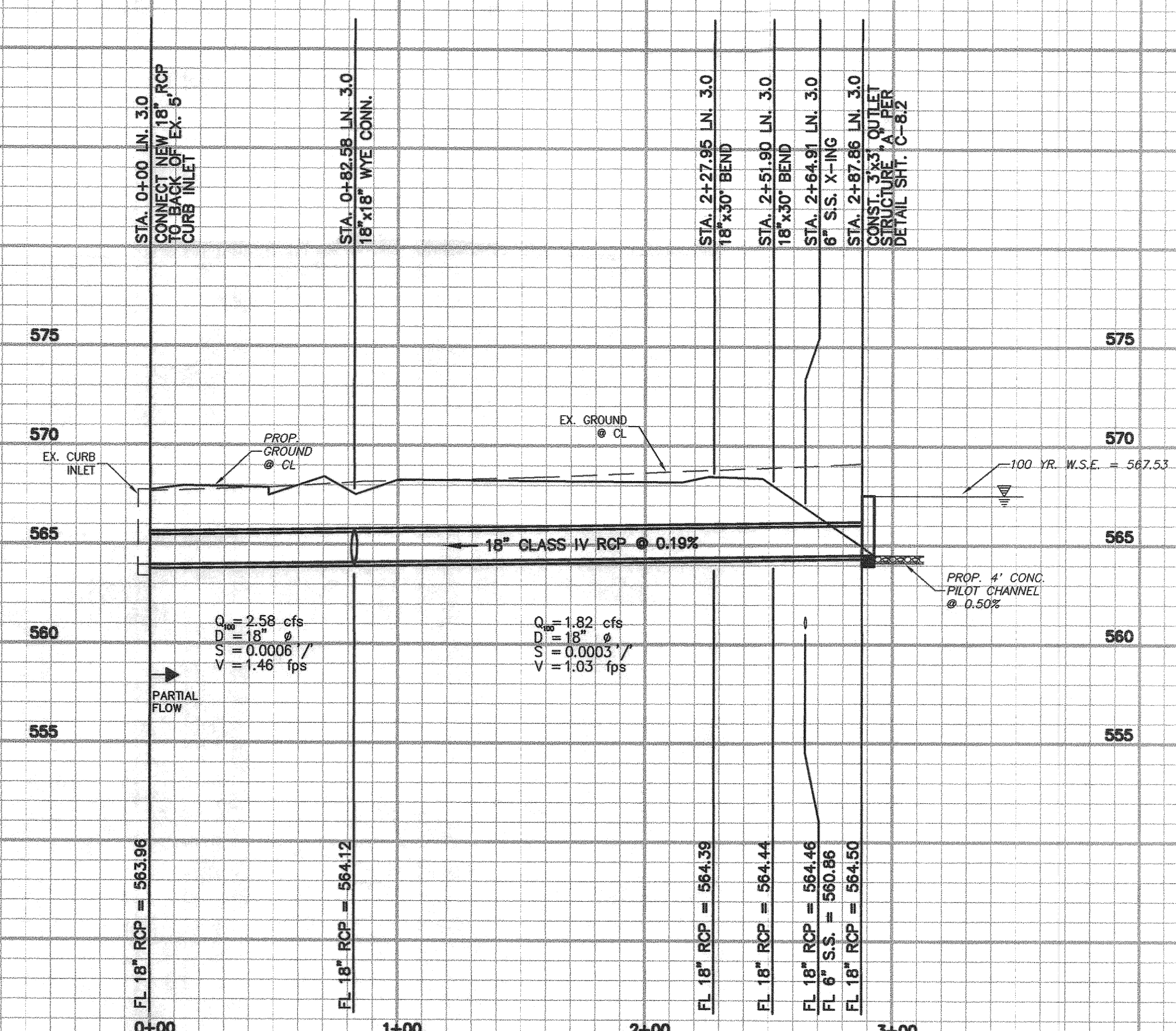


STORM SEWER LINE 1.0

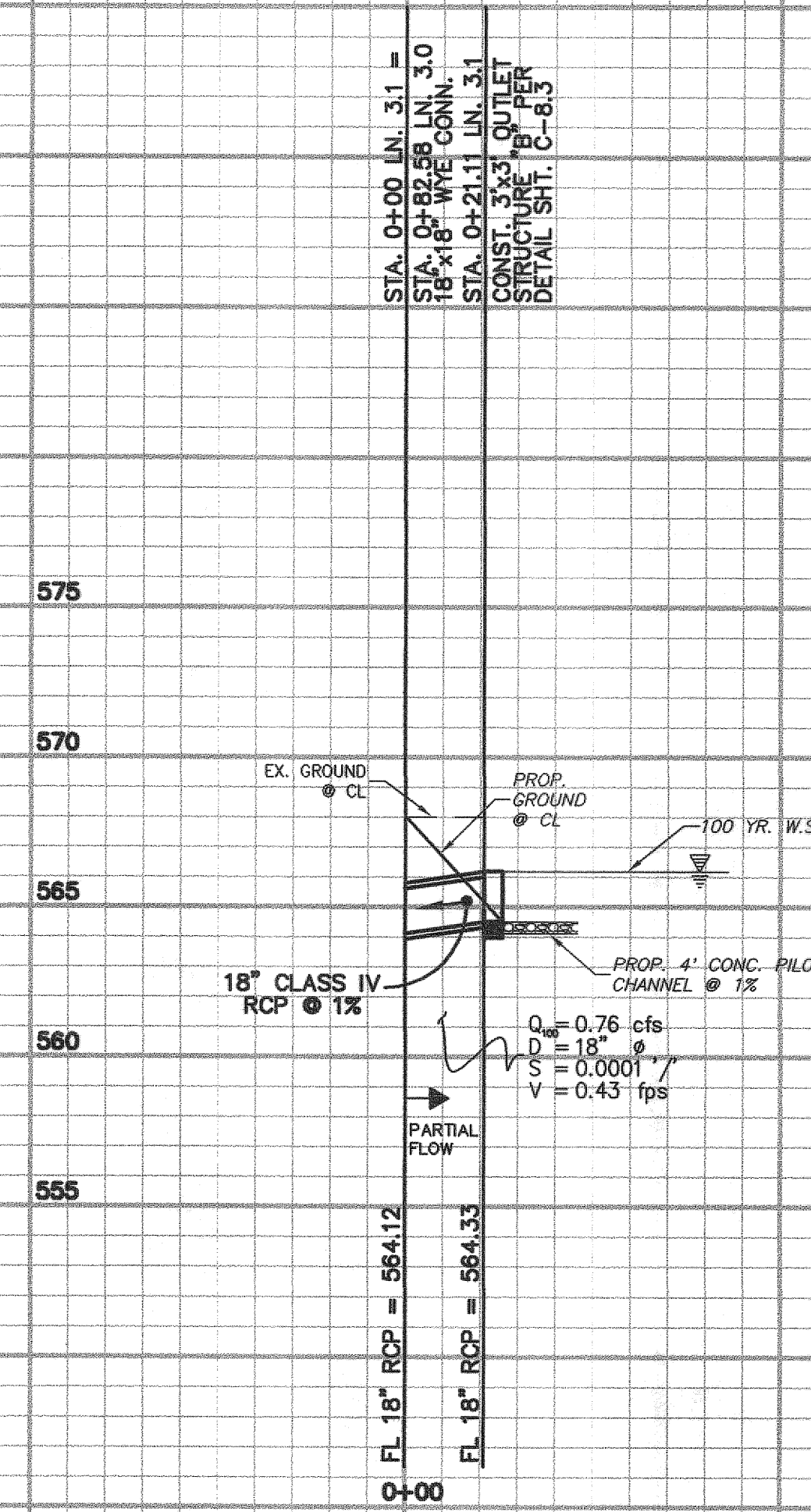
STORM SEWER LINE 2.0  
PRIVATE



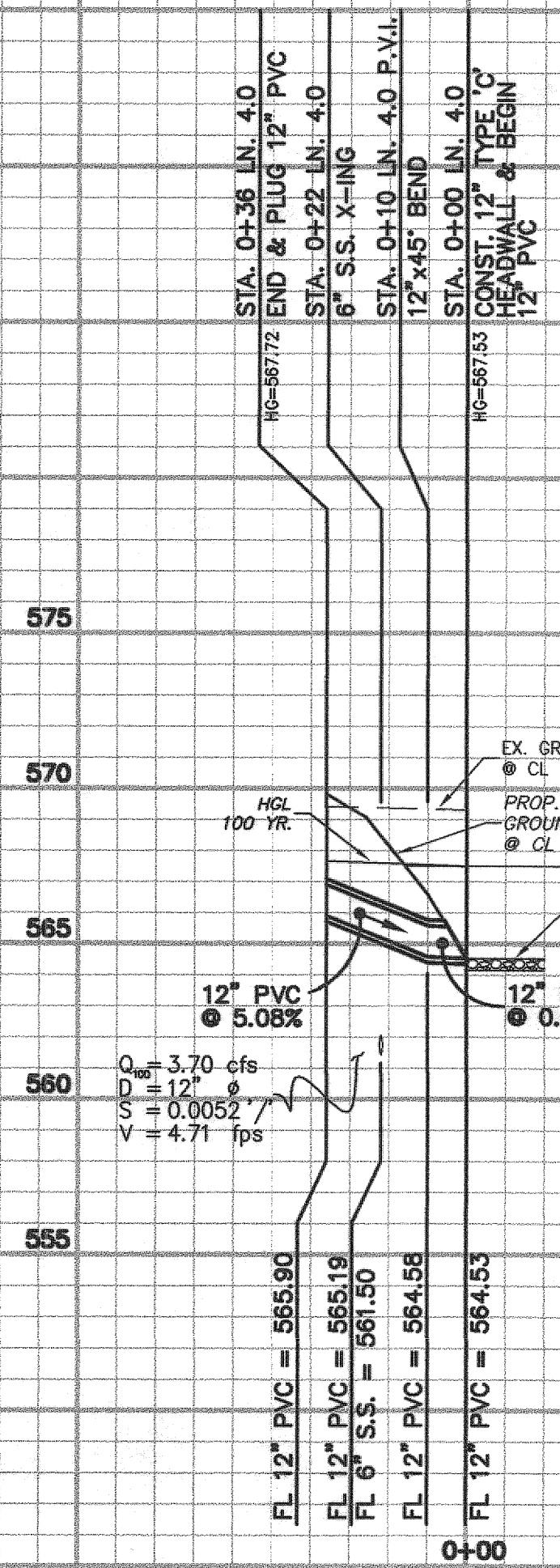
STORM SEWER LINE 2.1  
PRIVATE



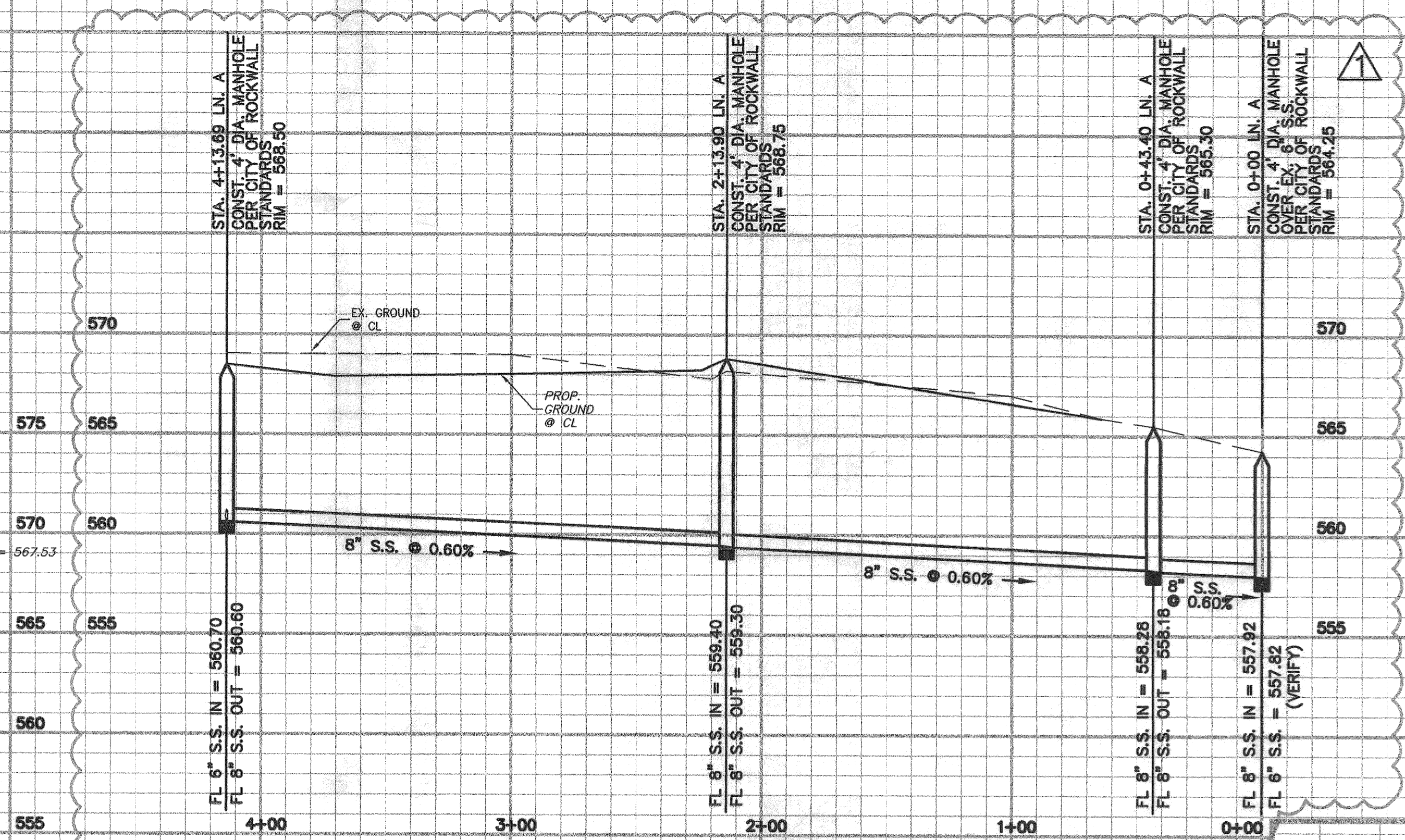
STORM SEWER LINE 3.0



STORM SEWER LINE 3.1



STORM SEWER LINE 4.0  
PRIVATE



SANITARY SEWER LINE A

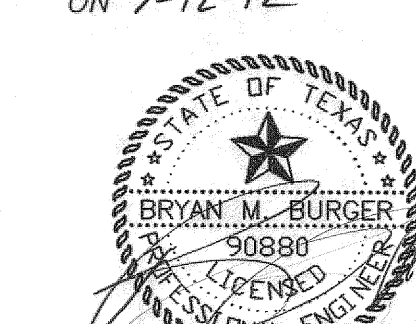
SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet along curb. Inlet is located on the North side of Summer Lee Drive approximately 95' east from the center line of Ridge Road.  
Elevation= 566.55'

BENCH MARK #2: Center of Rim to a sanitary sewer man hole. Man hole is approximately 180' southwest from center line of Oak Drive at 20' alley running along the south property line.  
Elevation= 563.63'



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRYAN M. BURGER, P.E. 90880 ON 7-12-12



1 7/12/12 REVISED S.S. ALIGNMENT DUE TO FIELD CONDITIONS  
REV. DATE REMARKS

PROFILES

ALDI GROCERY STORE  
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION  
THE CITY OF ROCKWALL, TEXAS

BURGER ENGINEERING  
Civil Consultants  
17103 Preston Road, Suite 180N  
Dallas, Texas 75248  
Office: 972.630.3360 Fax: 972.630.3380  
TBPPE F-12997

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BMB	JAC	12/11	1"=40' 1"=5'	D.P.	007-008 PROFILES	C-10

AS-BUILT  
DATE: 01-09-13



PETER TEMUNOVIC AND  
CIVJETA TEMUNOVIC  
VOL. 959, PG. 150  
P.R.R.C.T.  
(VACANT)

LOT 14  
BLOCK A  
HORIZON RIDGE ADDITION  
CAB. E, 393  
P.R.R.C.T.

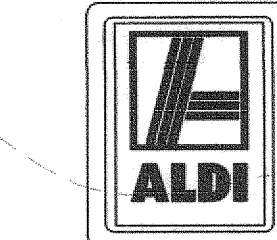
SUMMER LEE DRIVE

OAK DRIVE

RIDGE ROAD (F.M. 740)

LOT A  
REPLAT OF  
COMMUNITY BANK OF  
ROCKWALL ADDITION  
CAB. D, PG. 133  
P.R.R.C.T.

LOT B-2-A  
REPLAT OF  
COMMUNITY BANK  
OF ROCKWALL ADDITION  
CAB. D, PG. 279  
P.R.R.C.T.



VERSION 4.0 PROTOTYPE  
F.F. = 569.90

LOT 2, BLOCK A  
RIDGE/SUMMER LEE ADDITION  
(VACANT)  
FUTURE DEVELOPMENT

LOT 2-RA  
BUFFALO CREEK SHOPPING VILLAGE NO. 2  
CABINET C, SLIDE 385  
P.R.R.C.T.

EX. DAYCARE CENTER

LOT 14

LOT 13  
BLOCK B  
FOXCHASE, PHASE 1  
CAB. C, SL. 49  
D.P.R.C.T.

EX. RETAIL CENTER

LOT 1-RA  
BUFFALO CREEK SHOPPING VILLAGE NO. 2  
CABINET C, SLIDE 385  
P.R.R.C.T.

SITE BENCH MARKS:

BENCH MARK #1: Center of a storm drain inlet  
along curb. Inlet is located on the North side of  
Summer Lee Drive approximately 95' east from  
the center line of Ridge Road.

Elevation= 566.55'

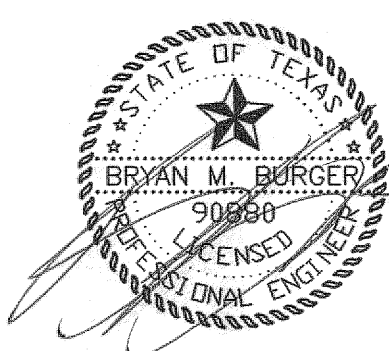
BENCH MARK #2: Center of Rim to a sanitary  
sewer man hole. Man hole is approximately 180'  
southwest from center line of Oak Drive at 20'  
alley running along the south property line.

Elevation= 563.63'

EROSION CONTROL GENERAL NOTES

1. GENERAL CONTRACTOR AND OWNER ARE RESPONSIBLE FOR PREVENTING THE FLOW OR OFF-SITE TRACKING OF SEDIMENT AND OTHER POLLUTANTS TO EXISTING STREETS AND ADJACENT PROPERTIES.
2. ALL POINTS USED AS AN EXIT FROM AREAS OF EXPOSED SOIL MUST HAVE A ROCK STABILIZED CONSTRUCTION ENTRY/EXIT FIFTY FEET (50') IN LENGTH WITH THREE INCH (3") DIAMETER STONE COVER. GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS POINTS AND PREVENTING EXIT AT UNPROTECTED LOCATIONS.
3. IF "SUMP" PUMPS ARE USED TO REMOVE WATER FROM EXCAVATED AREAS, FILTER THE DISCHARGE TO REMOVE SEDIMENT AND OTHER POLLUTANTS BEFORE THE WATER LEAVES THE SITE.
4. PERIMETER EROSION CONTROL MEASURES AND THE ROCK STABILIZED CONSTRUCTION EXIT MUST BE IN PLACE BEFORE STARTING SOIL DISTURBANCE.
5. DISTURBED SOIL MUST BE STABILIZED WITHIN 14 DAYS IN AREAS WHERE GRADING IS TEMPORARILY OR PERMANENTLY STOPPED FOR MORE THAN 21 DAYS.
6. ALL SURFACE AREAS DISTURBED WITHIN OR ADJACENT TO THE CONSTRUCTION LIMITS MUST BE PERMANENTLY STABILIZED. STABILIZATION IS OBTAINED WHEN THE SITE IS COVERED WITH IMPERVIOUS STRUCTURES, PAVING OR A UNIFORM PERENNIAL VEGETATIVE COVER. THE PERENNIAL VEGETATION MUST HAVE A COVERAGE DENSITY OF AT LEAST 70 PERCENT. STABILIZATION IS REQUIRED BEFORE TERMINATING MAINTENANCE AND REMOVAL OF EROSION CONTROL MEASURES.
7. THE GENERAL CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT LEAST ONCE EACH WEEK AND WITHIN 24 HOURS AFTER A STORM EVENT OF 0.5 INCH OR GREATER TO MAINTAIN FUNCTION OF THE CONTROLS. MAINTENANCE IS CRUCIAL TO EROSION CONTROL EFFECTIVENESS. EROSION CONTROL MEASURES THAT PROVE TO BE INEFFECTIVE SHALL BE REPLACED WITH MORE EFFECTIVE MEASURES OR ADDITIONAL MEASURES.
8. FOR DETAILS OF STABILIZATION AND EROSION CONTROL MEASURES, REFER TO THE CONSTRUCTION BEST MANAGEMENT PRACTICES (BMP) MANUAL PUBLISHED BY NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS & CITY OF ROCKWALL.
9. ALL POND SIDES AND BOTTOMS TO HAVE ANCHORED CURLEX INSTALLED PRIOR TO ANY PAVING.
10. 75%-80% OF ALL DISTURBED AREAS TO HAVE MIN. 1" STAND OF GRASS COVERAGE PRIOR TO ENGINEERING ACCEPTANCE.

THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 9-18-11



AS-BUILT  
DATE: 01-09-13

REV	DATE	REMARKS
EROSION CONTROL PLAN		
ALDI GROCERY STORE		
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION		
THE CITY OF ROCKWALL, TEXAS		
B BURGER		17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBP# E-12997
ENGINEERING		
DESIGN	DRAWN	DATE
BMB	JAC	12/11
SCALE	NOTES	FILE
1"=30'	D.P.	007-008 GRADING
NO.	NO.	
	C-11	



## DUST CONTROL

**DESCRIPTION**  
DUST CONTROL INCLUDES THOSE MEASURES NECESSARY TO PREVENT WIND TRANSPORT OF DUST FROM DISTURBED SOIL SURFACES ONTO ROADWAYS, DRAINAGE WAYS, AND SURFACE WATERS.

**PRIMARY USE**  
DUST CONTROL IS APPLIED IN AREAS (INCLUDING ROADWAYS) SUBJECT TO SURFACE AND AIR MOVEMENT TO DUST WHERE ON-SITE AND OFF-SITE IMPACTS TO ROADWAYS, DRAINAGE WAYS, OR SURFACE WATERS ARE LIKELY.

**DESIGN CRITERIA**

- VEGETATE OR MULCH AREAS THAT WILL NOT RECEIVE VEHICLE TRAFFIC IN AREAS WHERE PLANTING, MULCHING, OR PAVING IS IMPRACTICAL. APPLY GRAVEL OR LANDSCAPING ROCK.
- LIMIT DUST GENERATION BY CLEARING ONLY THOSE AREAS WHERE IMMEDIATE ACTIVITY WILL TAKE PLACE, LEAVING THE REMAINING AREA(S) IN THE ORIGINAL CONDITION IF STABLE. MAINTAIN THE ORIGINAL COVER AS LONG AS PRACTICABLE.
- CONSTRUCT NATURAL OR ARTIFICIAL WINDBARRIERS OR WINDSCREENS. THESE MAY BE DESIGNED AS ENCLOSURES FOR SMALL DUST SOURCES.
- SPRINKLE THE SITE WITH WATER UNTIL DAMAGED SUFFICIENTLY TO PREVENT DUST AND REPEAT AS NEEDED. DO NOT APPLY WATER IN QUANTITIES TO CAUSE RUNOFF. IRRIGATION WATER CAN BE USED FOR DUST CONTROL. IRRIGATION SYSTEMS SHOULD BE INSTALLED AS A FIRST STEP ON SITES WHERE DUST CONTROL IS A CONCERN.

**SPECIFICATIONS**  
NO SPECIFICATION FOR CONSTRUCTION OF THIS ITEM IS CURRENTLY AVAILABLE IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.

## APPLICATIONS

PERMETER CONTROL  
SLOPE PROTECTION  
SEDIMENT TRAPPING  
CHANNEL PROTECTION  
TEMPORARY STABILIZATION  
PERMANENT STABILIZATION  
WASTE MANAGEMENT  
HOUSEKEEPING PRACTICES

## TARGETED CONSTITUENTS

- SEDIMENT
- NUTRIENTS/TOXIC MATERIALS
- OIL & GREASE
- FLOATABLE MATERIALS
- OTHER CONSTRUCTION WASTES

## IMPLEMENTATION REQUIREMENTS

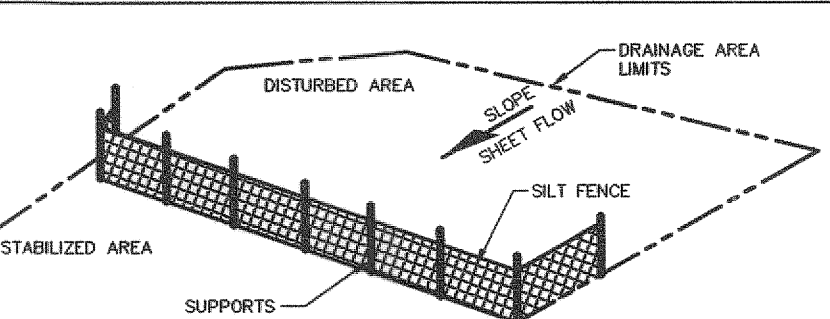
- CAPITAL COST
- MAINTENANCE
- TRAINING
- SUITABILITY FOR SLOPES > 5%

## LEGEND

- SIGNIFICANT IMPACT
- MEDIUM IMPACT
- LOW IMPACT
- UNKNOWN OR QUESTIONABLE IMPACT

E-8

## SILT FENCE



**DESCRIPTION**  
A SILT FENCE CONSISTS OF GEOTEXTILE FABRIC SUPPORTED BY WIRE MESH NETTING OR OTHER BACKING STRETCHED BETWEEN METAL POSTS WITH THE LOWER EDGE OF THE FABRIC SECURELY GROUND 36-INCHES IN THE SOIL. THE FENCE IS TYPICALLY LOCATED DOWNSTREAM OF DISTURBED AREAS TO INTERCEPT RUNOFF IN THE FORM OF SHEET FLOW. A SILT FENCE PROVIDES BOTH FILTRATION AND FLOW FOR SEDIMENT SETTLING BY REDUCING THE VELOCITY OF THE RUNOFF.

**PRIMARY USE**  
SILT FENCE IS NORMALLY USED AS PERMETER CONTROL LOCATED DOWNSTREAM OF DISTURBED AREAS. IT IS ONLY FEASIBLE FOR NON-CONCENTRATED, SHEET FLOW CONDITIONS. IF IT BECOMES NECESSARY TO PLACE A SILT FENCE WHERE CONCENTRATED FLOWS MAY BE EXPERIENCED (E.G. WHERE TWO SILT FENCES JOIN AT AN ANGLE, OR ACROSS MINOR CHANNELS OR GULLIES), IT WILL BE NECESSARY TO REINFORCE THE SILT FENCE AT THAT AREA BY A ROCK BERM OR SAND BERM, OR OTHER STRUCTURAL MEASURES THAT WILL SUPPORT THE SILT FENCE.

**APPLICATIONS**  
SILT FENCE IS AN ECONOMICAL MEANS TO TREAT OVERLAND, NON-CONCENTRATED FLOWS FOR ALL TYPES OF PROJECTS. IT IS MOST APPROPRIATE FOR CONCENTRATED FLOW SITES FOR BOTH SITE DEVELOPERS AND LINEAR (ROADWAY) TYPE PROJECTS. THEY ARE MOST EFFECTIVE WHEN COMBINED WITH SILT SOCKS. DUE TO THE POTENTIAL OF CLOGGING AND LIMITED EFFECTIVENESS, SILT FENCES SHOULD BE USED WITH CAUTION IN AREAS THAT HAVE PREDOMINANTLY CLAY SOIL TYPES. IN THIS LATTER INSTANCE A SOILS ENGINEER OR SOIL SCIENTIST SHOULD CONFIRM THE SUITABILITY OF SILT FENCE FOR THAT APPLICATION.

**DESIGN CRITERIA**

- FENCES ARE TO BE CONSTRUCTED ALONG A LINE OF CONSTANT ELEVATION (ALONG A CONTOUR LINE) WHERE POSSIBLE.
- MAXIMUM DRAINAGE AREA SHALL BE 0.25 ACRE PER 100 LINEAR FEET OF SILT FENCE.
- MAXIMUM FLOW TO ANY 20 FOOT SECTION OF SILT FENCE SHALL BE 1 CFS.
- MAXIMUM DISTANCE OF FLOW TO SILT FENCE SHALL BE 200 FEET OR LESS. IF THE SOLE EXCEEDS 10 PERCENT THE FLOW DISTANCE SHALL BE LESS THAN 50 FEET.
- MAXIMUM SLOPE ADJACENT TO THE FENCE SHALL BE 2:1.
- IF 50% OR LESS SOIL BY WEIGHT, PASSES THE U.S. STANDARD SIEVE NO. 200, SELECT THE APPARENT OPENING SIZE (A.O.S.) TO RETAIN 80% OF THE SOIL.
- IF 80% OR MORE OF SOIL BY WEIGHT, PASSES THE U.S. STANDARD SIEVE NO. 200, SILT FENCES SHALL NOT BE USED UNLESS THE SOIL MASS IS EVALUATED AND FOUND SUITABLE BY A SOIL SCIENTIST OR GEOTECHNICAL ENGINEER CONCERNING THE EROSION OF THE SOIL MASS, DISPERSIVE CHARACTERISTICS, AND THE SEDIMENTAL GRAIN-SIZE CHARACTERISTICS OF THE MATERIAL THAT IS LIKELY TO BE ERODED.
- STONE OVERFLOW STRUCTURES OR OTHER OUTLET CONTROL DEVICES SHALL BE INSTALLED AT ALL LOW POINTS ALONG THE FENCE OR SPACED AT APPROXIMATELY 300 FEET IF THERE IS NO APPARENT LOW POINT.
- FILTER STONE FOR OVERFLOW STRUCTURE SHALL BE 1-1/2" WASHED STONE CONTAINING NO FINES. ANGULAR SHAPED STONE IS PREFERABLE TO ROUNDED SHAPES.

## APPLICATIONS

PERMETER CONTROL  
SLOPE PROTECTION  
SEDIMENT TRAPPING  
CHANNEL PROTECTION  
TEMPORARY STABILIZATION  
PERMANENT STABILIZATION  
WASTE MANAGEMENT  
HOUSEKEEPING PRACTICES

## TARGETED CONSTITUENTS

- SEDIMENT
- NUTRIENTS/TOXIC MATERIALS
- OIL & GREASE
- FLOATABLE MATERIALS
- OTHER CONSTRUCTION WASTES

## IMPLEMENTATION REQUIREMENTS

- CAPITAL COST
- MAINTENANCE
- TRAINING
- SUITABILITY FOR SLOPES > 5%

## LEGEND

- SIGNIFICANT IMPACT
- MEDIUM IMPACT
- LOW IMPACT
- UNKNOWN OR QUESTIONABLE IMPACT

Fe = 0.75

S-1

## SILT FENCE

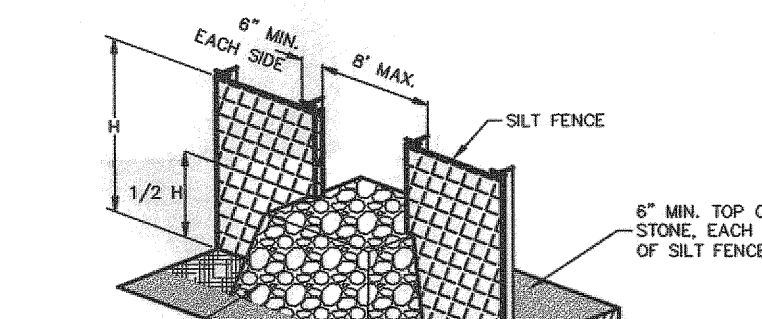
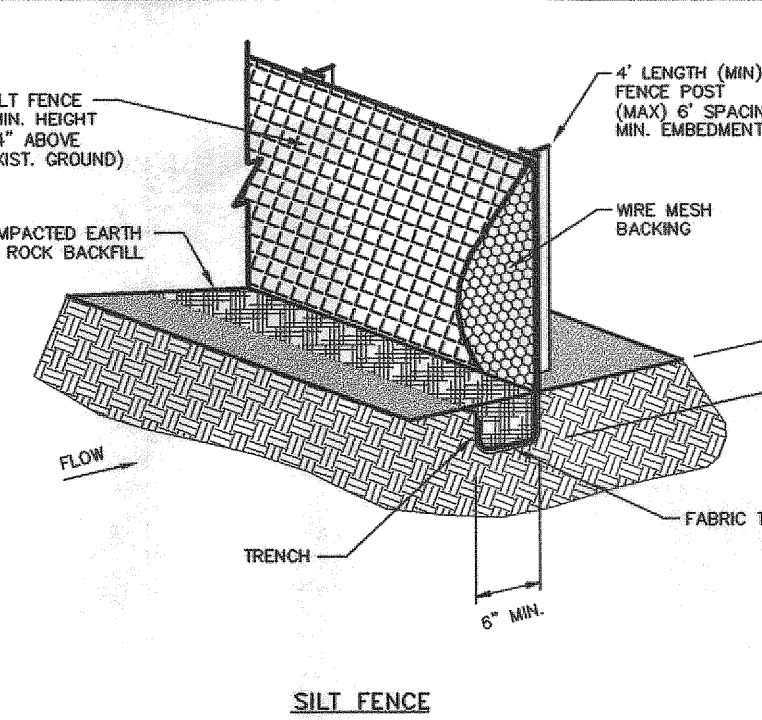
- SILT FENCE FABRIC MUST MEET THE FOLLOWING MINIMUM CRITERIA:
  - TENSILE STRENGTH, ASTM D4833 TEST METHOD FOR INDEX PUNCTURE RESISTANCE OF GEOTEXTILES, SEAMSTRENGTHS AND RELATED PRODUCTS, 300 LBS.
  - PUNCTURE RATING, ASTM D4833 TEST METHOD FOR INDEX PUNCTURE RESISTANCE OF GEOTEXTILES, SEAMSTRENGTHS AND RELATED PRODUCTS, 300 LBS.
  - MULLEN BURST RATING, ASTM D3786 STANDARD TEST METHOD FOR HYDRAULIC BURSTING STRENGTH OF TEXTILE FABRICS-DIAPHRAGM BURSTING STRENGTH TESTER METHOD, 280 P.S.F.
  - APPARENT OPENING SIZE, ASTM D4751 TEST METHOD FOR DETERMINING APPARENT OPENING SIZE OF A GEOTEXTILE, U.S. SIEVE NO. 70 (MAX) TO NO. 100 (MIN).
  - ULTRAPLECT RESISTANCE, ASTM D4355, MINIMUM 10 PERCENT.
- FENCE POSTS SHALL BE GALVANIZED STEEL AND MAY BE T-SECTION OR L-SECTION, 1.5 POUNDS OVERLAP AT BUTTING ENDS A MINIMUM OF 3 FEET AND MUST BE JOINED SUCH THAT NO LEAKAGE OR BYPASS OCCURS.
- SILT FENCE SHALL BE SUPPORTED BY GALVANIZED STEEL WIRE FENCE FABRIC AS FOLLOWS:
  - 4"x4" MESH SIZE, W/4-1/4", MINIMUM 14-GAUGE WIRE FENCE FABRIC.
  - HOO WIRE, 12 GAUGE MESH, SMALL OPENINGS INSTALLED AT BOTTOM OF SILT FENCE.
  - STANDARD 2" X2" CHAIN LINK FENCE FABRIC, OR
  - OTHER WELOID OR WOVEN STEEL FABRICS CONSISTING OF EQUAL OR SMALLER SPACING AS THAT LISTED HEREIN AND APPROPRIATE GAUGE WIRE TO PROVIDE SUPPORT.
- A 6-INCH WIDE TRENCH IS TO BE CUT 6 INCHES DEEP AT THE TOE OF THE FENCE TO ALLOW THE FABRIC TO BE LAPPED AND ANCHORED TO THE SUBSTRATE WITH COMPACTED EARTH OR GRAVEL TO PREVENT BYPASS OF RUNOFF UNDER THE FENCE. FABRIC SHALL OVERLAP AT BUTTING ENDS A MINIMUM OF 3 FEET AND MUST BE JOINED SUCH THAT NO LEAKAGE OR BYPASS OCCURS.
- SUFFICIENT ROW FOR THE OPERATION OF SEDIMENT REMOVAL EQUIPMENT SHALL BE PROVIDED BETWEEN THE SILT FENCE AND OTHER OBSTRUCTIONS IN ORDER TO PROPERLY MAINTAIN THE FENCE.
- THE END OF THE FENCE SHALL BE TURNED UPSTREAM TO PREVENT BYPASS OF STORM WATER.

**LIMITATIONS**  
MINOR FLOW WILL LIKELY OCCUR AT THE UPSTREAM SIDE OF THE SILT FENCE, WHICH COULD RESULT IN MINOR LOCALIZED FLOODING. SILT FENCES ARE NOT INTENDED FOR USE AS CHECK DAMS IN RURAL AREAS OR AS A TEMPORARY EROSION CONTROL MEASURE. FENCES SHALL NOT BE USED WHERE SOIL CONDITIONS PRESENT A MINIMUM TOE-IN DEPTH OF 6 INCHES OR INSTALLATION OF SUPPORT POSTS TO A DEPTH OF 12 INCHES.

**MAINTENANCE REQUIREMENTS**  
SILT FENCE SHOULD BE INSPECTED REGULARLY (AT LEAST AS OFTEN AS REQUIRED BY THE TROES CONSTRUCTION GENERAL PERMIT, APPENDIX A), WHEN SEDIMENT HAS ACCUMULATED TO THE POINT WHERE IT IS NEARLY IMPASSABLE. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES APPROXIMATELY 1/2" TO 1" IN HEIGHT. THE HEIGHT OF THE SEDIMENT SHOULD BE DETERMINED BY THE SOURCE OF EXCESS SEDIMENT AND IMPLEMENT APPROPRIATE BMPs TO PREVENT THE SOURCE OF EXCESS SEDIMENT FROM REOCCURRING.

**SPECIFICATION**  
SPECIFICATIONS FOR CONSTRUCTION OF THIS ITEM MAY BE FOUND IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION-NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, SECTION 201.5 SILT FENCE.

## SILT FENCE & STONE OVERFLOW STRUCTURE

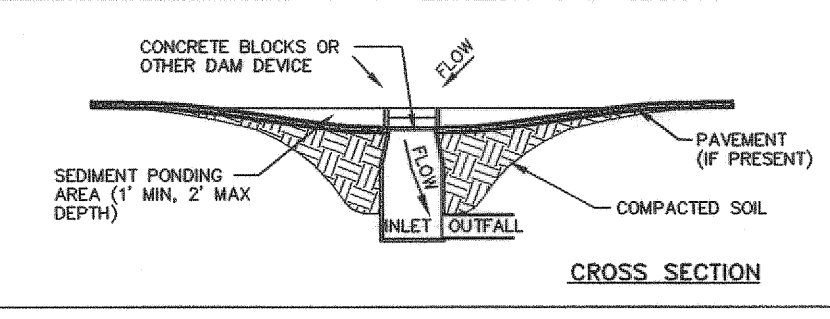


## STONE OVERFLOW STRUCTURE

**DESIGN CRITERIA**

- LOW SPECIAL CAUTION MUST BE EXERCISED WHEN INSTALLING INLET PROTECTION ON PUBLICLY TRAVELED STREETS OR IN DEVELOPED AREAS. ENSURE THAT INLET PROTECTION IS PROPERLY DESIGNED, INSTALLED AND MAINTAINED TO AVOID FLOODING OF THE ROADWAY OR ADJACENT PROPERTIES AND STRUCTURES.
- INLET PROTECTION SHOULD BE DESIGNED AND MAINTAINED IN A MANNER SIMILAR TO SILT FENCE.
- WHERE APPLICABLE, FILTER FABRIC, POSTS, AND WIRE BACING SHALL MEET THE REQUIREMENTS SPECIFIED IN BMP FICHE SHEET S-1, SILT FENCE.
- FILTER GRAVEL SHALL BE 3/4" INCH (BLOCK AND GRAVEL PROTECTION) OR 1-1/2" TO 2 INCHES (STANDARD) WASHED ROUNDED GRAVEL. GRAVEL SHOULD BE PLACED IN A CONCENTRIC SHAPED STONE IS PREFERABLE TO ROUNDED SHAPES.
- CONCRETE BLOCKS SHALL BE STANDARD 8" X 8" X 16" CONCRETE MASONRY UNITS.
- MAXIMUM DEPTH OF FLOW SHALL BE EIGHT (8) INCHES OR LESS.

## INLET PROTECTION



**DESCRIPTION**  
INLET PROTECTION CONSISTS OF A VARIETY OF METHODS OF INTERCEPTING SEDIMENT AT LOW POINTS THROUGH USE OF STONE OR FILTER FABRIC, INLET INSERTS, AND OTHER MATERIALS. THIS IS NORMALLY LOCATED AT THE INLET, PROVIDING EITHER DETENTION OR FILTRATION TO REDUCE SEDIMENT AND FLOATABLE MATERIALS IN STORM WATER.

**PRIMARY USE**  
INLET PROTECTION SHOULD BE CONSIDERED A SECONDARY DEFENSE IN SITE EROSION CONTROL DUE TO THE LIMITED EFFECTIVENESS AND APPLICATION OF THE TECHNIQUE. IT IS NORMALLY USED IN NEW DEVELOPMENTS THAT INCLUDE NEW INLETS OR ROADS WITH NEW CURB INLETS OR DURING MAJOR REPAIRS TO EXISTING ROADWAYS.

**APPLICATIONS**  
DIFFERENT INLET PROTECTION VARIATIONS ARE USED FOR DIFFERENT CONDITIONS AS FOLLOWS:

- FILTER BARRIER PROTECTION (SIMILAR TO A SILT FENCE BARRIER AROUND THE BASIN) IS APPROPRIATE WHEN THE DRAINAGE AREA IS LESS THAN ONE ACRE AND THE INLET SLOPE IS LESS THAN 10 PERCENT. THIS TYPE OF PROTECTION IS NOT APPLICABLE IN PAVED AREAS.
- BLOCK AND GRAVEL (CRUSHED STONE, RECYCLED CONCRETE IS ALSO APPROPRIATE) PROTECTION IS USED WHEN FLOWS EXCEED 0.5 CFS, AND IT IS NECESSARY TO ALLOW FOR OVERTOPPING TO PREVENT FLOODING.
- EXCAVATED IMPROVEMENT PROTECTION AROUND A DROP INTEL MAY BE USED FOR PROTECTION AGAINST SEDIMENT ENTERING A STORM DRAIN SYSTEM. WITH THIS METHOD, IT IS NECESSARY TO INSTALL WEEP HOLES TO ALLOW THE EXCESS WATER TO DRAIN COMPLETELY. THE IMPROVEMENT SHALL BE SIZED SUCH THAT THE VOLUME OF EXCAVATION SHALL BE EQUAL TO 1000 TO 3000 CUBIC FEET PER ACRE OF DISTURBED AREA ENTERING THE INLET FOR FULL EFFECTIVENESS.

**DESIGN CRITERIA**

- SPECIAL CAUTION MUST BE EXERCISED WHEN INSTALLING INLET PROTECTION ON PUBLICLY TRAVELED STREETS OR IN DEVELOPED AREAS. ENSURE THAT INLET PROTECTION IS PROPERLY DESIGNED, INSTALLED AND MAINTAINED TO AVOID FLOODING OF THE ROADWAY OR ADJACENT PROPERTIES AND STRUCTURES.
- INLET PROTECTION SHOULD BE DESIGNED AND MAINTAINED IN A MANNER SIMILAR TO SILT FENCE.
- WHERE APPLICABLE, FILTER FABRIC, POSTS, AND WIRE BACING SHALL MEET THE REQUIREMENTS SPECIFIED IN BMP FICHE SHEET S-1, SILT FENCE.
- FILTER GRAVEL SHALL BE 3/4" INCH (BLOCK AND GRAVEL PROTECTION) OR 1-1/2" TO 2 INCHES (STANDARD) WASHED ROUNDED GRAVEL. GRAVEL SHOULD BE PLACED IN A CONCENTRIC SHAPED STONE IS PREFERABLE TO ROUNDED SHAPES.
- CONCRETE BLOCKS SHALL BE STANDARD 8" X 8" X 16" CONCRETE MASONRY UNITS.
- MAXIMUM DEPTH OF FLOW SHALL BE EIGHT (8) INCHES OR LESS.

## APPLICATIONS

PERMETER CONTROL  
SLOPE PROTECTION  
SEDIMENT TRAPPING  
CHANNEL PROTECTION  
TEMPORARY STABILIZATION  
PERMANENT STABILIZATION  
WASTE MANAGEMENT  
HOUSEKEEPING PRACTICES

## TARGETED CONSTITUENTS

- SEDIMENT
- NUTRIENTS/TOXIC MATERIALS
- OIL & GREASE
- FLOATABLE MATERIALS
- OTHER CONSTRUCTION WASTES

## IMPLEMENTATION REQUIREMENTS

- CAPITAL COST
- MAINTENANCE
- TRAINING
- SUITABILITY FOR SLOPES > 5%

## LEGEND

- SIGNIFICANT IMPACT
- MEDIUM IMPACT
- LOW IMPACT
- UNKNOWN OR QUESTIONABLE IMPACT

VARIES

S-4

## INLET PROTECTION

POSITIVE DRAINAGE IS CRITICAL IN THE DESIGN OF INLET PROTECTION. IF OVERFLOW IS NOT PROVIDED FOR AT THE INLET, EXCESS FLOWS SHALL BE ROUTED THROUGH ESTABLISHED SWALES, STREETS, OR OTHER WATERCOURSES TO MINIMIZE DAMAGE DUE TO FLOODING.

FILTER BARRIER PROTECTION

SILT FENCE SHALL CONSIST OF 6 FEET ON CENTER, A 6 INCH WIDE TRENCH IS TO BE CUT 6 INCHES DEEP AT THE TOE OF THE FENCE TO ALLOW THE FABRIC TO BE LAD BELOW THE SURFACE AND BACKFILLED WITH COMPACTED EARTH OR GRAVEL. THIS ENTRAINMENT PREVENTS ANY BYPASS OF RUNOFF UNDER THE FENCE.

BLOCK AND GRAVEL PROTECTION (CURB AND DROP INLETS)

CONCRETE BLOCKS ARE TO BE PLACED ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH ENDS BUTTING, OPENINGS IN THE BLOCKS SHOULD FACE OUTWARD, NOT UPWARD. 1/2" X 1/2" WIRE MESH SHALL THEN BE PLACED OVER THE OUTSIDE FACE OF THE BLOCKS COVERING THE HOLES. FILTER STONE SHALL BE PLACED AGAINST THE WIRE MESH TO THE TOP OF THE BLOCKS WITH THE BASE OF THE STONES BEING A MINIMUM OF 18 INCHES FROM THE BLOCK. ALTERNATIVELY WHERE LOTTS STONE IS A CONCERN (STREETS, ETC.), THE FILTER STONE MAY BE PLACED IN APPROPRIATELY SIZED GEOTEXTILE FABRIC BAGS. PERIODICALLY WHEN THE STONE FILTER BECOMES CLOGGED, THE STONE MUST BE REMOVED AND CLEANED IN A PROPER MANNER OR REPLACED WITH NEW STONE AND ENTRAINMENT PREVENTS ANY BYPASS OF RUNOFF UNDER THE FENCE.

EXCAVATED IMPROVEMENT PROTECTION

AN EXCAVATED IMPROVEMENT SHALL BE SIZED TO PROVIDE A STORAGE VOLUME OF BETWEEN 1000 AND 3000 CUBIC FEET PER ACRE OF DISTURBED AREA. THE TRAP SHALL HAVE A MINIMUM DEPTH OF ONE FOOT AND A MAXIMUM DEPTH OF 2 FEET AS MEASURED FROM THE TOP OF THE INLET AND SHALL HAVE SLOPESIDES OF 2:1 OR FLATTER. WEEP HOLES ARE TO BE INSTALLED IN THE INLET WALLS TO ALLOW FOR THE COMPLETE DRAINAGE OF THE TRAP. WHEN THE STORAGE CAPACITY OF THE IMPROVEMENT HAS BEEN REDUCED BY ONE-HALF, THE SILT SHALL BE REMOVED AND DISPOSED IN A PROPER MANNER.

INLET INSERTS ARE COMMERCIALY AVAILABLE TO REMOVE SEDIMENT, CONSTITUENTS (POLLUTANTS) TO SEDIMENT AND OIL AND GREASE. MAINTENANCE IS REQUIRED TO REMOVE SEDIMENT AND DEBRIS THAT CLOG THE FILTERS. INLET INSERTS SHALL HAVE A BYPASS FUNCTION TO PREVENT FLOODING FROM CLOSING OR HIGH FLOWS.

**LIMITATIONS**  
SPECIAL CAUTION MUST BE EXERCISED WHEN INSTALLING INLET PROTECTION ON PUBLICLY TRAVELED STREETS OR IN DEVELOPED AREAS. ENSURE THAT INLET PROTECTION IS PROPERLY DESIGNED, INSTALLED AND MAINTAINED TO AVOID FLOODING OF THE ROADWAY OR ADJACENT PROPERTIES AND STRUCTURES.

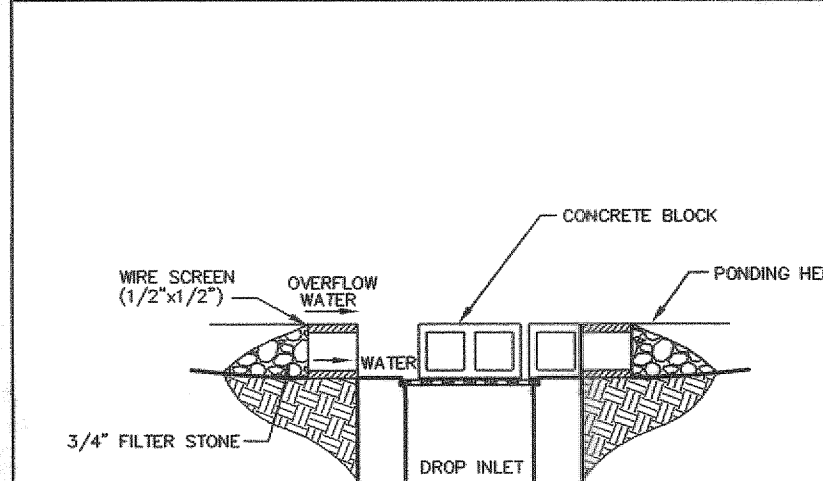
INLET PROTECTION IS ONLY VABLE AT LOW POINT INLETS. INLETS THAT ARE ON A SLOPE CANNOT BE EFFECTIVELY PROTECTED BECAUSE STORM WATER WILL BYPASS THE INLET AND CONTINUE DOWNSTREAM, CAUSING AN OVERFLOW CONDITION AT INLETS DOWNSTREAM.

**MAINTENANCE REQUIREMENTS**  
INLET PROTECTION SHOULD BE INSPECTED REGULARLY (AT LEAST AS OFTEN AS REQUIRED BY THE TROES CONSTRUCTION GENERAL PERMIT, APPENDIX A), WHEN SILT FENCE IS USED AND THE FABRIC BECOMES CLOGGED, IT SHOULD BE CLEANED OR, IF NECESSARY, REPLACED. ALSO, SEDIMENT SHOULD BE REMOVED WHEN IT REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE INLET PROTECTION DEVICE. IF A SHARP IS USED, SEDIMENT SHOULD BE REMOVED WHEN THE VOLUME OF THE BASIN IS REDUCED BY 50%.

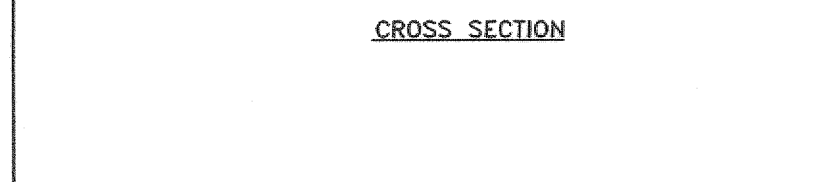
**FOR SYSTEMS USING FILTER STONE**  
WHEN THE FILTER STONE BECOMES CLOGGED WITH SEDIMENT, SPECIAL CAUTION MUST BE EXERCISED WHEN INSTALLING INLET PROTECTION ON PUBLICLY TRAVELED STREETS OR IN DEVELOPED AREAS. ENSURE THAT INLET PROTECTION IS PROPERLY DESIGNED, INSTALLED AND MAINTAINED TO AVOID FLOODING OF THE ROADWAY OR ADJACENT PROPERTIES AND STRUCTURES.

**SPECIFICATION**  
SPECIFICATIONS FOR CONSTRUCTION OF THIS ITEM MAY BE FOUND IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION-NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, SECTION 201.5 INLET PROTECTION.

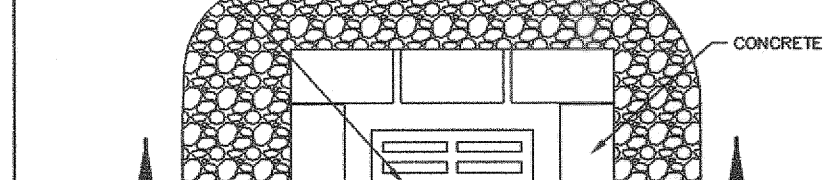
## INLET PROTECTION - DROP INLET



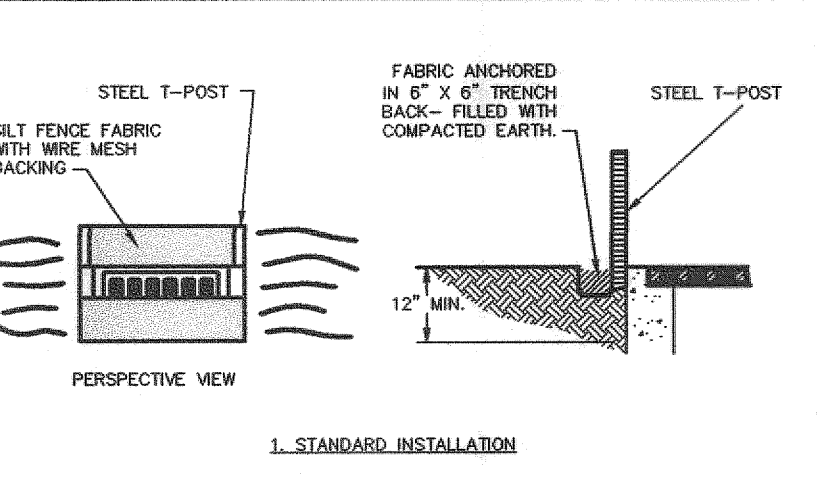
## CROSS SECTION



## PLAN VIEW



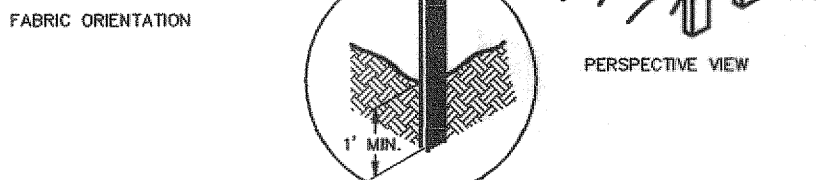
## INLET PROTECTION - FILTER BARRIER



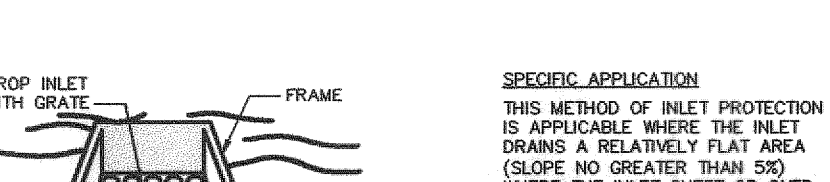
## 1. STANDARD INSTALLATION



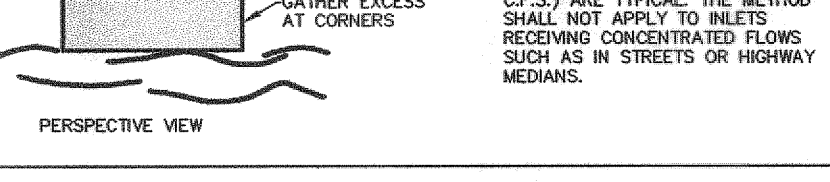
## PERSPECTIVE VIEW



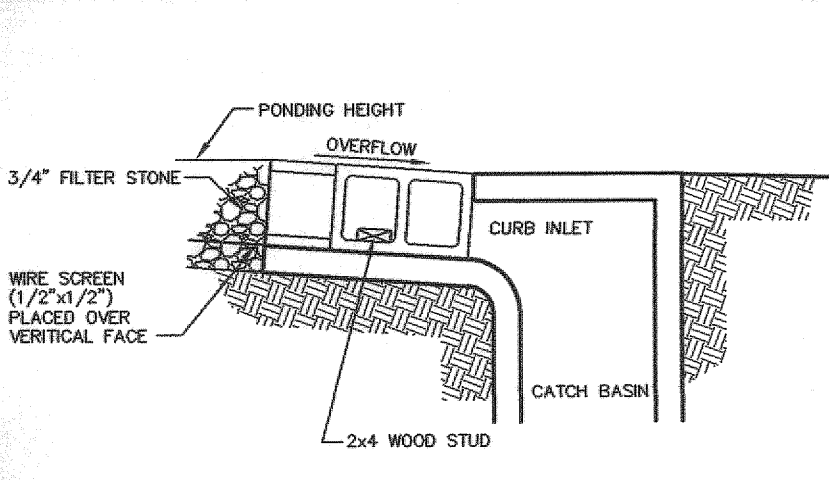
## DETAIL A



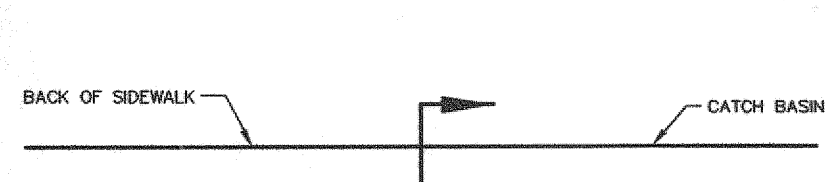
## PERSPECTIVE VIEW



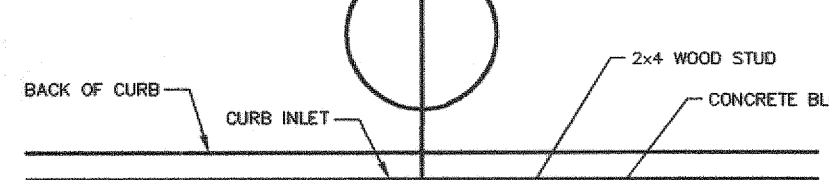
## INLET PROTECTION - CURB (PRIVATE)



## CROSS SECTION



## PLAN VIEW



## VEGETATION

PROVIDE 4-8 INCHES OF TOPSOIL OVER ROCK, GRAVEL, OR OTHERWISE UNSUITABLE SOILS. POOR QUALITY TOPSOIL SHOULD BE AMENDED WITH COMPOST BEFORE APPLYING SEED OR SOO. AMENDMENT SHOULD BE THREE PARTS OF TOPSOIL TO ONE PART COMPOST BY VOLUME THOROUGHLY BLENDING.

SEED BED SHOULD BE WELL PLUVIORIZED, LOOSE AND UNIFORM.

**PLANT SELECTION, FERTILIZATION AND SEEDING**

- USE ONLY HIGH QUALITY, USDA CERTIFIED SEED.
- SEEDS SHOULD BE ADAPTED TO THE CLIMATE AND SOIL CONDITIONS AND SEASON AS SHOWN BELOW, OR CONSULT WITH THE LOCAL OFFICE OF THE NATURAL RESOURCE CONSERVATION SERVICE (NRCS) OR ENGINEERING EXTENSION SERVICE AS NECESSARY FOR SELECTION OF PROPER SPECIES AND APPLICATION TECHNIQUE IN THIS AREA.
- SEEDING RATE SHOULD BE IN ACCORDANCE WITH THE TABLE BELOW OR AS RECOMMENDED BY THE NRCS OR ENGINEERING EXTENSION SERVICE.
- FERTILIZER SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION WITH PROPER SPREADING EQUIPMENT. TYPICAL APPLICATION RATE FOR 10-10-10 GRADE FERTILIZER IS 10 LBS. PER 1000 FT<sup>2</sup>.
- IF HYDRO-SEEDING IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 SECONDS.
- EVENLY APPLY SEED USING CYCLONE SEEDER, SEED DRILL, CULPACKER, OR OTHER APPROPRIATE EQUIPMENT.
- PROVIDE ADEQUATE WATER TO AID IN ESTABLISHMENT OF VEGETATION.
- USE APPROPRIATE MULCHING TECHNIQUES WHERE NECESSARY, ESPECIALLY DURING COLD PERIODS OF THE YEAR.

## SODDING

SOD SHALL BE ST. AUGUSTINE GRASS, COMMON BERMUDAGRASS, BUFFALO GRASS, OR OTHER PERMANENTLY SEEDING VEGETATION. BROOMS MUST BE ADAPTED TO LOCAL CLIMATE, SOIL CONDITIONS AND SEASON AS SHOWN BELOW, OR CONSULT WITH THE LOCAL OFFICE OF THE NATURAL RESOURCE CONSERVATION SERVICE (NRCS) OR ENGINEERING EXTENSION SERVICE AS NECESSARY FOR SELECTION OF PROPER SPECIES AND APPLICATION TECHNIQUE IN THIS AREA.

## ADDITIONAL GUIDANCE

ESTABLISHING A GOOD VEGETATIVE COVER IS DEPENDENT OF THE SEASON OF THE YEAR. SEEDS SHOULD BE PLANTED IN THE FALL OR THE YEAR MAY NOT BE COSTLY WHEN COMPARED TO OTHER TECHNIQUES. VEGETATION MAY REQUIRE A PERIOD OF DAYS TO WEEKS BEFORE ESTABLISHMENT. LACK OF WATER AND LACK OF OR IMPROPER USE OF SOIL AMENDMENTS (COMPOST, FERTILIZER, ETC.) WILL USUALLY RESULT IN POOR TURF.

ESTABLISHMENT, ALTERNATE EROSION CONTROL (E.G. MULCHING, SODDING, VEGETATIVE STRIPS, ETC.) SHOULD BE USED UNTIL VEGETATION CAN BE ESTABLISHED.

VEGETATION IS NOT APPROPRIATE FOR AREAS SUBJECT TO HEAVY PEDESTRIAN OR VEHICULAR TRAFFIC. VEGETATION, AS A TEMPORARY TECHNIQUE, IS MOSTLY WHEN COMPARED TO OTHER TECHNIQUES. VEGETATION MAY REQUIRE A PERIOD OF DAYS TO WEEKS BEFORE ESTABLISHMENT. LACK OF WATER AND LACK OF OR IMPROPER USE OF SOIL AMENDMENTS (COMPOST, FERTILIZER, ETC.) WILL USUALLY RESULT IN POOR TURF.

ESTABLISHMENT, ALTERNATE EROSION CONTROL (E.G. MULCHING, SODDING, VEGETATIVE STRIPS, ETC.) SHOULD BE USED UNTIL VEGETATION CAN BE ESTABLISHED.

## TEMPORARY VEGETATION

THE TABLE ON THE FOLLOWING PAGE LISTS RECOMMENDED PLANT SPECIES FOR THE NORTH CENTRAL TEXAS REGION DEPENDING ON THE SEASON FOR PLANTING.

## VEGETATION

### RECOMMENDED GRASS MIXTURE FOR TEMPORARY EROSION CONTROL:

SEASON	COMMON NAME	RATE (LBS/ACRE)
AUG 15-NOV 30	TALL FESCUE	4.0
	WESTERN WHEAT GRASS	5.0
	WEED (RED, WINTER)	30.0
MAY 1-AUG 31	FOXTAIL MILLET	30.0
FEB 15-MAY 31	ANNUAL RYE	20.0
SEP 1-DEC 31		

### RECOMMENDED NATIVE GRASSES FOR PERMANENT EROSION CONTROL:

GRASS	FULL TURF APPLICATION	RATE
BUFFALO GRASS	3-4 lbs./1000 sqft.	
BLUE GRAMA	2 lbs./1000 sqft.	
SIDE OATS GRAMA	APPLIED WITH OTHER NATIVE SEED	1/4 lb./1000 sqft.

## MAINTENANCE REQUIREMENTS

PROTECT NEWLY SEEDD AREAS FROM EXCESSIVE RUNOFF AND TRAFFIC UNTIL VEGETATION IS ESTABLISHED. A WATERING AND FERTILIZING SCHEDULE WILL BE REQUIRED AS PART OF THE SWPPP TO PROTECT AND MAINTAIN THE VEGETATION. VEGETATION SHOULD BE INSPECTED REGULARLY (AT LEAST AS OFTEN AS REQUIRED BY THE TROES CONSTRUCTION GENERAL PERMIT, APPENDIX A), TO ENSURE THAT THE PLANT MATERIAL IS ESTABLISHED PROPERLY AND REMAINING HEALTHY. BARE SPOTS SHALL BE RESEDED.

VEGETATION IS NOT APPROPRIATE FOR AREAS THAT WILL NOT REQUIRE MOWING FREQUENTLY. VEGETATION IS NOT APPROPRIATE FOR AREAS THAT WILL NOT REQUIRE MOWING FREQUENTLY. VEGETATION IS NOT APPROPRIATE FOR AREAS THAT WILL NOT REQUIRE MOWING FREQUENTLY.

## MULCHING

- COMPOST AND WOOD MULCH MIXTURES SHOULD BE A BLEND OF 50% UNTREATED WOOD MULCH WITH 50% COMPOST MEASURED BY VOLUME. WOOD MULCH SHOULD BE LESS THAN OR EQUAL TO 5 IN. IN LENGTH WITH 80% PASSING A 2 IN. SCREEN AND LESS THAN 30% PASSING A 1 IN. SCREEN. THE COMPOST SHALL MEET THE PHYSICAL REQUIREMENTS SPECIFIED IN TABLE 1 OF TROES SPECIAL SPECIFICATION 1005. COMPOST, WHICH CAN BE FOUND IN APPENDIX F.
- PRIOR TO THE PLACEMENT OF ANY MULCH, THE AREA TO BE MULCHED MUST BE GRADED IN ACCORDANCE WITH PLANS.
- FERTILIZATION AND SOIL TREATMENT SHOULD THEN BE DONE PRIOR TO PLACEMENT OF MULCH WITH THE EXCEPTIONS OF WHEN SEED IS TO BE APPLIED BY MEANS OF HYDRO-SEED. SEED IS TO BE PLACED IN PLACE BY COMING, USING A TACKIFIER, OR COVERING WITH NETTING.
- DURING WINTER MONTHS, MULCHING SHOULD BE DISTRIBUTED BY HAND OR BY MECHANICAL MEANS, BUT TO BE EFFECTIVE A COMPLETE COVERING IS REQUIRED.
- REFER TO THE TABLE ON THE FOLLOWING PAGE FOR ADDITIONAL GUIDANCE.

## LIMITATIONS

MULCHES ARE SUBJECT TO REMOVAL BY WIND OR WATER UNDER SEVERE CLIMATIC CONDITIONS. MULCHES LOWER THE SOIL TEMPERATURE, WHICH MAY RESULT IN LONGER SEED GERMINATION PERIODS.

MULCH SHOULD NOT BE APPLIED WITHIN THE ORDINARY HIGH-WATER MARK OF SURFACE WATERS, AS IT CAN BE A POTENTIAL FLOATION MATERIAL.

**MAINTENANCE REQUIREMENTS**  
MULCHED AREAS SHOULD BE INSPECTED REGULARLY (AT LEAST AS OFTEN AS REQUIRED BY THE TROES CONSTRUCTION GENERAL PERMIT, APPENDIX A) FOR THIN OR BARE SPOTS CAUSED BY NATURAL DECOMPOSITION OR WEATHER-RELATED EVENTS. MULCH IN HIGH TRAFFIC AREAS SHOULD BE REPLACED ON A REGULAR BASIS TO MAINTAIN UNIFORM PROTECTION. EXCESS MULCH SHOULD BE BROUGHT TO THE SITE AND STOCKPILED FOR USE DURING THE MAINTENANCE PERIOD TO DRESS PROBLEM SPOTS.

## SPECIFICATION

SPECIFICATIONS FOR CONSTRUCTION OF THIS ITEM



# DEBRIS AND TRASH MANAGEMENT

DESCRIPTION  
LARGE VOLUMES OF DEBRIS AND TRASH ARE OFTEN GENERATED AT CONSTRUCTION SITES INCLUDING PACKAGING, PALETTES, WOOD WASTE, CONCRETE WASTE, SOIL, ELECTRICAL WIRING, CUTTINGS, AND A VARIETY OF OTHER MATERIALS. THERE ARE SEVERAL TECHNIQUES AND PROCEDURES FOR REDUCING THE POTENTIAL OF STORM WATER CONTAMINATION FROM SOLID WASTE THROUGH APPROPRIATE STORAGE AND DISPOSAL. RECYCLING OF CONSTRUCTION DEBRIS AND TRASH REDUCES THE VOLUME OF MATERIAL TO BE DISPOSED OF AND ASSOCIATED COSTS.

PRIMARY USE  
DEBRIS AND TRASH MANAGEMENT SHOULD BE A PART OF ALL CONSTRUCTION PROJECTS. BY LIMITING THE TRASH AND DEBRIS ON SITE, STORM WATER QUALITY IS IMPROVED ALONG WITH REDUCED CLEAN UP REQUIREMENTS AT THE COMPLETION OF THE PROJECT.

APPLICATIONS  
SOLID WASTE MANAGEMENT FOR CONSTRUCTION SITES IS BASED ON PROPER STORAGE AND DISPOSAL PROCEDURES BY CONSTRUCTION WORKERS AND SUPERVISORS. KEY ELEMENTS OF A CONSTRUCTION SITE WASTE MANAGEMENT PROGRAM INCLUDE: IDENTIFYING WASTE, COORDINATION AND VIGILANCE IS REQUIRED ON THE PART OF SUPERVISORS AND WORKERS TO ENSURE THAT THE REMEDIATION AND PREVENTION MEASURES ARE FOLLOWED. FORTY-THREE LISTINGS DESCRIBE THE TARGETED MATERIALS AND RECOMMENDED PROCEDURES:

- DUST (DUSTS, AND DEMOLITION) DEBRIS
- DIMENSIONAL LUMBER
- MISCELLANEOUS WOOD (PALETTES, PLYWOOD, ETC)
- COPPER (PIPE AND ELECTRICAL WIRING)
- MISCELLANEOUS METAL (STEEL, PIPE, CONDUIT, SHEATHING, NAILS, ETC)
- INSULATION
- CONCRETE, BRICK, AND MORTAR
- SHINGLES
- ROOFING MATERIALS
- GYPSUM BOARD
- TRASH
- TRASH AND CARDBOARD (PACKAGING, CONTAINERS, WRAPPERS)
- PLASTIC (PACKAGING, BOTTLES, CONTAINERS)
- STYROFOAM (CUPS, PACKING, AND FORMS)
- FOOD AND BEVERAGE CONTAINERS
- FOOD WASTE

STORAGE PROCEDURES

- WHEREVER POSSIBLE, MINIMIZE PRODUCTION OF DEBRIS AND TRASH.
- DESIGNATE A FORMER SUPERVISOR TO OVERSEE AND ENFORCE PROPER DEBRIS AND TRASH PROCEDURES.
- DESIGNATE CONSTRUCTION WORKERS IN PROPER DEBRIS AND TRASH STORAGE AND HANDLING PROCEDURES.
- SEPARATELY IDENTIFY HAZARDOUS WASTE FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS.
- SEPARATELY RECYCLABLE CONSTRUCTION DEBRIS FROM NON-RECYCLABLE MATERIALS.
- KEEP DEBRIS AND TRASH UNDER COVER IN EITHER A CLOSED DUMPSTER OR OTHER ENCLOSED TRASH CONTAINER THAT LIMITS CONTACT WITH RAIN AND RUNOFF AND PREVENTS LIGHT MATERIALS FROM BLOWING OUT.
- STORE WASTE MATERIALS AWAY FROM DRAINAGE DITCHES, SWALES AND CATCH BASINS.
- DO NOT ALLOW TRASH CONTAINERS TO OVERFLOW.
- DO NOT ALLOW WASTE MATERIALS TO ACCUMULATE ON THE GROUND.
- PROHIBIT LITTERING BY WORKERS AND VISITORS.
- POLICE SITE DAILY FOR LITTER AND DEBRIS.
- ENFORCE SOLID WASTE HANDLING AND STORAGE PROCEDURES.

DISPOSAL PROCEDURES

- IF FEASIBLE, RECYCLE CONSTRUCTION AND DEMOLITION DEBRIS SUCH AS WOOD, METAL, AND CONCRETE.
- GENERAL CONSTRUCTION DEBRIS MAY BE HAULED TO A LICENSED CONSTRUCTION DEBRIS LANDFILL (TYPICALLY LESS EXPENSIVE THAN A SANITARY LANDFILL).
- USE WASTE AND RECYCLING HAULERS/FACILITIES APPROVED BY THE LOCAL JURISDICTION.

## APPLICATIONS

PERMITTER CONTROL  
SLOPE PROTECTION  
SEDIMENT TRAPPING  
CHANNEL PROTECTION  
TEMPORARY STABILIZATION  
PERMANENT STABILIZATION

WASTE MANAGEMENT  
HOUSEKEEPING PRACTICES

## TARGETED CONSTITUENTS

- SEDIMENT
- NUTRIENTS/TOXIC MATERIALS
- OIL & GREASE
- FLOATABLE MATERIALS
- OTHER CONSTRUCTION WASTES

## IMPLEMENTATION REQUIREMENTS

- CAPITAL COST
- MAINTENANCE
- TRAINING
- SUITABILITY FOR SLOPES > 5%

## LEGEND

- SIGNIFICANT IMPACT
- MEDIUM IMPACT
- LOW IMPACT
- UNKNOWN OR QUESTIONABLE IMPACT

## M-1

<h1>DEBRIS AND TRASH MANAGEMENT</h1>	<h1>APPLICATIONS</h1>
<h2>EDUCATION</h2> <ul style="list-style-type: none"> <li>EDUCATE ALL WORKERS ON SOLID WASTE STORAGE AND DISPOSAL PROCEDURES.</li> <li>INSTRUCT WORKERS IN IDENTIFICATION OF SOLID WASTE AND HAZARDOUS WASTE.</li> <li>HAVE REGULAR MEETINGS TO DISCUSS AND REINFORCE DISPOSAL PROCEDURES (INCORPORATE IN REGULAR SAFETY SEMINARS).</li> <li>CLEARLY MARK ON ALL DEBRIS AND TRASH CONTAINERS WHICH MATERIALS ARE ACCEPTABLE.</li> </ul>	<ul style="list-style-type: none"> <li>PERIMETER CONTROL</li> <li>SLOPE PROTECTION</li> <li>SEDIMENT TRAPPING</li> <li>CHANNEL PROTECTION</li> </ul>
<h2>QUALITY CONTROL</h2> <ul style="list-style-type: none"> <li>FOREMAN AND/OR CONSTRUCTION SUPERVISOR SHALL MONITOR ON-SITE SOLID WASTE STORAGE AND DISPOSAL PROCEDURES.</li> <li>DISCIPLINE WORKERS WHO REPEATEDLY VIOLATE PROCEDURES.</li> </ul>	<ul style="list-style-type: none"> <li>TEMPORARY STABILIZATION</li> <li>PERMANENT STABILIZATION</li> </ul>
<h2>REQUIREMENTS</h2> <ul style="list-style-type: none"> <li>JOB-SITE WASTE HANDLING AND DISPOSAL EDUCATION AND AWARENESS PROGRAM.</li> <li>COMPLIANCE BY WORKERS.</li> <li>SUFFICIENT AND APPROPRIATE WASTE STORAGE CONTAINERS.</li> <li>TIMELY REMOVAL OF STORED SOLID WASTE MATERIALS.</li> <li>TRAINING WORKERS AND MONITORING COMPLIANCE.</li> </ul>	<ul style="list-style-type: none"> <li>WASTE MANAGEMENT</li> <li>HOUSEKEEPING PRACTICES</li> </ul>
<h2>LIMITATIONS</h2> <p>ONLY ADDRESSES NON-HAZARDOUS SOLID WASTE. ONE PART OF A COMPREHENSIVE CONSTRUCTION SITE MANAGEMENT PROGRAM.</p>	<h2>TARGETED CONSTITUENTS</h2> <ul style="list-style-type: none"> <li>SEDIMENT</li> <li>NUTRIENTS TOXIC MATERIALS</li> <li>OIL &amp; GREASE</li> <li>FLOATABLE MATERIALS</li> <li>OTHER CONSTRUCTION WASTES</li> </ul>
	<h2>IMPLEMENTATION REQUIREMENTS</h2> <ul style="list-style-type: none"> <li>CAPITAL COST</li> <li>MAINTENANCE</li> <li>TRAINING</li> <li>SUITABILITY FOR SLOPES &gt; 5%</li> </ul>
	<h2>LEGEND</h2> <ul style="list-style-type: none"> <li>● SIGNIFICANT IMPACT</li> <li>◐ MEDIUM IMPACT</li> <li>○ LOW IMPACT</li> <li>† UNKNOWN OR QUESTIONABLE IMPACT</li> </ul>

# CHEMICAL MANAGEMENT

DESCRIPTION

CHEMICAL MANAGEMENT ADDRESSES THE PROBLEM OF STORM WATER POLLUTED WITH CHEMICAL POLLUTANTS THROUGHOUT SPILLS OR OTHER FORMS OF CONTACT. THE OBJECTIVE OF THE CHEMICAL MANAGEMENT IS TO MINIMIZE THE POTENTIAL OF STORM WATER CONTAMINATION FROM CONTAMINATED CHEMICALS THROUGH APPROPRIATE RECOGNITION, HANDLING, STORAGE, AND DISPOSAL PRACTICES.

IT IS NOT THE INTENT OF CHEMICAL MANAGEMENT TO SUPERSEDE OR REPLACE NORMAL SITE ASSESSMENT AND REMEDIATION PROCEDURES. SIGNIFICANT SPILLS AND/OR CONTAMINATION WARRANT IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS. SUSPECTED JOB-SITE CONTAMINATION SHOULD BE IMMEDIATELY REPORTED TO REGULATORY AGENCIES AND PROTECTED BY APPROPRIATE MEASURES. SIGNIFICANT SITES SHOULD BE REPORTED TO THE NATIONAL RESPONSE CENTER (NRC) AT (800) 424-8862.

PRIMARY USE

THESE MANAGEMENT PRACTICES ALONG WITH APPLICABLE OSHA AND EPA GUIDELINES SHOULD BE INCORPORATED AT ALL CONSTRUCTION SITES THAT USE OR GENERATE HAZARDOUS WASTES, WASTE MATERIALS SUCH AS FUEL, OIL, GREASE, FERTILIZER, AND PESTICIDE ARE HANDLED AT MOST CONSTRUCTION SITES.

INSTALLATION, APPLICATION AND DISPOSAL CRITERIA

THE CHEMICAL MANAGEMENT TECHNIQUES PRESENTED HERE ARE BASED ON PROPER STORAGE, HANDLING, APPLICATION AND DISPOSAL PROCEDURES FOR CONSTRUCTION WORKERS. SUPERVISORS, KEY ELEMENTS ARE EDUCATION, PROPER DISPOSAL PRACTICES, AS WELL AS PROVISIONS FOR SAFE STORAGE. THE FOLLOWING LISTING ARE LISTS DESCRIBING THE TARGETED MATERIALS AND RECOMMENDED PROCEDURES:

- o TARGETED CHEMICAL MATERIALS
  - PAINTS
  - SOLVENTS
  - STAINS
  - WOOD PRESERVATIVES
  - CUTTING OILS
  - GREASES
  - ROOFING TAR
  - PESTICIDES, HERBICIDES, & FERTILIZER
  - FUELS & LUBE OILS
  - ANTIFREEZE

STORAGE PROCEDURES

- o WHEREVER POSSIBLE, MINIMIZE USE OF HAZARDOUS MATERIALS.
- o MINIMIZE GENERATION OF HAZARDOUS WASTES ON THE JOB-SITE.
- o SEGREGATE POTENTIALLY HAZARDOUS WASTE FROM NON HAZARDOUS CONSTRUCTION SITE DEBRIS.
- o DESIGNATE A FOREMAN OR SUPERVISOR TO OVERSEE HAZARDOUS MATERIALS HANDLING PROCEDURES.
- o KEEP CHEMICALS IN APPROPRIATE CONTAINERS (CLOSED DRUMS OR SIMILAR) AND UNDER COVER.
- o KEEP CHEMICALS AWAY FROM DRAINAGE DITCHES, SWALES AND CATCH BASINS.
- o USE CONTAINMENT BERMES IN FUELING AND MAINTENANCE AREAS WHERE THE POTENTIAL FOR SPILLS IS HIGH.

WASTE HANDLING

- o ENSURE THAT ADEQUATE HAZARDOUS WASTE STORAGE VOLUME IS AVAILABLE.
- o ENSURE THAT HAZARDOUS WASTE COLLECTION CONTAINERS ARE CONVENIENTLY LOCATED.
- o DO NOT ALLOW POTENTIALLY HAZARDOUS WASTE MATERIALS TO ACCUMULATE.
- o PREVENT HAZARDOUS WASTE HANDLING AND DISPOSAL PROCEDURES.
- o CLEARLY MARK ON THE CONTAINER HAZARDOUS WASTE CONTAINERS WHICH MATERIALS ARE ACCEPTABLE FOR THE CONTAINER.

DISPOSAL PROCEDURES

- o ENSURE THAT ADEQUATE CLEANUP AND CONTAINMENT MATERIALS ARE AVAILABLE ON-SITE.
- o REGULARLY SCHEDULE HAZARDOUS WASTE REMOVAL TO MINIMIZE ON-SITE STORAGE.
- o USE ONLY LICENSED HAZARDOUS WASTE HAULERS.

# APPLICATIONS

PERMITTE CONTROL

SLOPE PROTECTION

SEDIMENT TRAPPING

CHANNEL PROTECTION

TEMPORARY STABILIZATION

PERMANENT STABILIZATION

WASTE MANAGEMENT

HOUSEKEEPING PRACTICES

# TARGETED CONSTITUENTS

- o SEDIMENT
- o NUTRIENTS TOXIC MATERIALS
- o OIL & GREASE
- o FLOATABLE MATERIALS
- o OTHER CONSTRUCTION WASTES

# IMPLEMENTATION REQUIREMENTS

- o CAPITAL COST
- o MAINTENANCE
- o TRAINING
- o SUITABILITY FOR SLOPES > 5%

# LEGEND

- SIGNIFICANT IMPACT
- MEDIUM IMPACT
- LOW IMPACT
- UNKNOWN OR QUESTIONABLE IMPACT

M-2

<h1>CHEMICAL MANAGEMENT</h1>		<h1>APPLICATIONS</h1>	
<p><b>EDUCATION</b></p> <ul style="list-style-type: none"> <li>INSTRUCT WORKERS ON SAFETY PROCEDURES FOR CONSTRUCTION SITE CHEMICAL STORAGE.</li> <li>INSTRUCT WORKERS IN IDENTIFICATION OF CHEMICAL POLLUTANTS.</li> <li>ENSURE THAT WORKERS ARE TRAINED IN PROCEDURES FOR SPILL PREVENTION AND RESPONSE.</li> <li>EDUCATE WORKERS OF POTENTIAL DANGERS TO HUMANS AND THE ENVIRONMENT FROM CHEMICAL POLLUTANTS.</li> <li>EDUCATE ALL WORKERS ON CHEMICAL STORAGE AND DISPOSAL PROCEDURES.</li> <li>HAVE REGULAR MEETINGS TO DISCUSS AND REINFORCE IDENTIFICATION, HANDLING, AND DISPOSAL PROCEDURES (INCORPORATE IN REGULAR SAFETY SEMINARS).</li> <li>ESTABLISH A CONTINUING EDUCATION PROGRAM TO INDOCRINATE NEW EMPLOYEES.</li> </ul>		<p>PERMITE CONTROL</p> <p>SLOPE PROTECTION</p> <p>CHANNEL TRAPPING</p> <p>SHEDD, PROTECTION</p> <p>TEMPORARY STABILIZATION</p> <p>PERMANENT STABILIZATION</p> <div style="border: 1px solid black; padding: 2px;"> <p>WASTE MANAGEMENT</p> </div> <div style="border: 1px solid black; padding: 2px;"> <p>HOUSEKEEPING PRACTICES</p> </div>	
<p><b>QUALITY ASSURANCE</b></p> <ul style="list-style-type: none"> <li>FOREMAN AND/OR CONSTRUCTION SUPERVISOR SHALL MONITOR ON-SITE CHEMICAL STORAGE AND DISPOSAL PROCEDURES.</li> <li>EDUCATE AND IF NECESSARY, DISCIPLINE WORKERS WHO VIOLATE PROCEDURES.</li> <li>ENSURE THAT THE HAZARDOUS WASTE DISPOSAL CONTRACTOR IS REPUTABLE AND LICENSED.</li> </ul>		<p><b>TARGETED CONSTITUENTS</b></p> <ul style="list-style-type: none"> <li>SEDIMENT</li> <li>NUTRIENTS TOXIC MATERIALS</li> <li>OIL &amp; GREASE</li> <li>FLOATABLE MATERIALS</li> <li>OTHER CONSTRUCTION WASTES</li> </ul>	
<p><b>REQUIREMENTS</b></p> <ul style="list-style-type: none"> <li>JOB-SITE CHEMICAL AND HAZARDOUS WASTE HANDLING AND DISPOSAL EDUCATION AND AWARENESS PROGRAM.</li> <li>COMMITMENT BY MANAGEMENT TO IMPLEMENT CHEMICAL STORAGE AND HAZARDOUS WASTE MANAGEMENT PRACTICES.</li> <li>COMPLIANCE BY WORKERS.</li> <li>SUFFICIENT AND APPROPRIATE CHEMICAL AND HAZARDOUS WASTE STORAGE CONTAINERS.</li> <li>TIMELY REMOVAL OF STORED HAZARDOUS WASTE MATERIALS.</li> </ul>		<p><b>IMPLEMENTATION REQUIREMENTS</b></p> <ul style="list-style-type: none"> <li>CAPITAL COST</li> <li>MAINTENANCE</li> <li>TRAINING</li> <li>SATISFACTORY FOR SLOPES &gt; 5%</li> </ul>	
<p><b>COST</b></p> <ul style="list-style-type: none"> <li>POSSIBLE MODEST COST IMPACT FOR ADDITIONAL CHEMICAL STORAGE CONTAINERS.</li> <li>SMALL COST IMPACT FOR TRAINING AND MONITORING.</li> <li>POTENTIAL COST IMPACT FOR HAZARDOUS WASTE COLLECTION AND DISPOSAL BY LICENSED HAULER – ACTUAL COST DEPENDS ON TYPE OF MATERIAL AND VOLUME.</li> </ul>		<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>NONCRITICAL IMPACT</li> <li>MEDIUM IMPACT</li> <li>LOW IMPACT</li> <li>UNKNOWN OR QUESTIONABLE IMPACT</li> </ul>	
<p><b>LIMITATIONS</b></p> <p>THIS PRACTICE IS NOT INTENDED TO ADDRESS SITE-ASSESSMENTS AND PRE-EXISTING CONTAMINATION, MAJOR CONTAMINATION, LARGE SPILLS AND OTHER SERIOUS HAZARDOUS WASTE INCIDENTS REQUIRING IMMEDIATE RESPONSE FROM SPECIALISTS.</p> <p>DEMOLITION ACTIVITIES AND POTENTIAL PRE-EXISTING MATERIALS, SUCH AS LEAD AND ASBESTOS, ARE NOT ADDRESSED BY THIS PROGRAM. SITE-SPECIFIC INFORMATION ON PLANS IS NECESSARY.</p> <p>CONTAMINATED SOILS ARE NOT ADDRESSED.</p>			
		<p><b>M-2</b></p>	

# CONCRETE WASTE MANAGEMENT

**DESCRIPTION**

CONCRETE WASTE AT CONSTRUCTION SITES COMES IN TWO FORMS: 1) EXCESS FRESH CONCRETE MIX INCLUDING TRUCKS AND EQUIPMENT WASHING, AND 2) CONCRETE DUST AND CONCRETE DEBRIS RESULTING FROM DEMOLITION. BOTH FORMS HAVE THE POTENTIAL TO IMPAIR WATER QUALITY THROUGH STORM WATER RUNOFF CONTACT WITH THE WASTE.

**PRIMARY USE**

CONCRETE WASTE IS PRESENT AT MOST CONSTRUCTION SITES. THIS BMP SHOULD BE UTILIZED AT SITES IN WHICH CONCRETE WASTE IS PRESENT.

**APPLICATIONS**

A NUMBER OF WATER QUALITY PARAMETERS CAN BE AFFECTED BY INTRODUCTION OF CONCRETE - ESPECIALLY FRESH CONCRETE. CONCRETE IMPACTS THE pH OF RUNOFF, ALTERS THE NATURAL CHEMICAL CHANGES IN WATER BODIES AND HARMING AQUATIC LIFE. SUSPENDED SOLIDS IN THE FORM OF BOTH CEMENT AND AGGREGATE DUST ARE ALSO GENERATED FROM BOTH FRESH AND DEMOLISHED CONCRETE WASTE.

**UNACCEPTABLE CONCRETE WASTE DISPOSAL PRACTICES**

- DUMPING IN WASHOUT AREAS ON THE JOB-SITE.
- ILLEGAL DUMPING OFF-SITE.
- DUMPING INTO DITCHES OR DRAINAGE FACILITIES.

**RECOMMENDED DISPOSAL PRACTICES**

- AVOID UNACCEPTED DISPOSAL PRACTICES LISTED ABOVE.
- DEVELOP PREDETERMINED, SAFE CONCRETE DISPOSAL AREAS.
- PROVIDE A WASHOUT AREA WITH A MINIMUM OF 500 SQ. FEET OF CONTAINMENT AREA VOLUME FOR EVERY 100 CYBIC YARDS OF CONCRETE POURED.
- NEVER DUMP WASTE CONCRETE INTO ANY DRAINAGE FACILITY OR INTO ANY OTHER'S KNOWLEDGE AND CONSENT.
- EXCESSIVE WASHOUT RUNOFF SHALL BE DISCHARGED IN AN AREA PROTECTED BY ONE OR MORE SEDIMENT REMOVAL BMP'S SHALL BE DONE IN A MANNER THAT DOES NOT RESULT IN A VIOLATION OF GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.

**EDUCATION**

- DRIVERS AND EQUIPMENT OPERATORS SHOULD BE INSTRUCTED ON PROPER DISPOSAL AND EQUIPMENT WASHING PRACTICES (SEE ABOVE).
- SUPERVISORS MUST BE MADE AWARE OF THE POTENTIAL ENVIRONMENTAL CONSEQUENCES OF IMPROPERLY HANDLED CONCRETE WASTE.

**ENFORCEMENT**

- THE CONSTRUCTION SITE MANAGER OR FOREMAN MUST ENSURE THAT EMPLOYEES AND EQUIPMENT OPERATORS FOLLOW PROPER PROCEDURES FOR CONCRETE DISPOSAL AND EQUIPMENT WASHING.
- VIOLATIONS INVOLVING DISPOSAL OR EQUIPMENT CLEANING DIRECTIVES MUST BE REDUCED OR DISCIPLINED IF NECESSARY.

**DEMOLITION PRACTICES**

- MONITOR WEATHER AND WIND DIRECTION. EXCESS CONCRETE DUST IS NOT DETERMINING DRAINAGE STRUCTURES AT STOP OF WATER.
- WHEN APPROPRIATE, CONSTRUCT SEDIMENT TRAPS OR OTHER TYPES OF SEDIMENT DETENTION DEVICES DOWNSTREAM OF DEMOLITION ACTIVITIES.

**REQUIREMENTS**

- USE PREDETERMINED DISPOSAL SITES FOR WASTE CONCRETE.
- DISPERSE DUMPING WASTE CONCRETE ANYWHERE BUT PREDETERMINED AREAS.
- ASSIGN PREDETERMINED TRUCK AND EQUIPMENT WASHING AREAS.
- EDUCATE OWNERS AND OPERATORS ON PROPER DISPOSAL AND EQUIPMENT CLEANING PROCEDURES.

**COSTS**

- ANNUAL COST IMPACT FOR TRAINING AND MONITORING.
- CONCRETE DISPOSAL COST DEPENDS ON AVAILABILITY AND DISTANCE TO SUITABLE DISPOSAL AREAS.
- ADDITIONAL COSTS INVOLVED IN EQUIPMENT WASHING CAN BE SIGNIFICANT.

**LIMITATIONS**

CONCRETE WASTE MANAGEMENT IS ONE PART OF A COMPREHENSIVE CONSTRUCTION SITE WASTE MANAGEMENT PROGRAM.

## APPLICATIONS

PERMITTER CONTROL  
SLOPE PROTECTION  
SEDIMENT TRAPPING  
CHANNEL PROTECTION  
TEMPORARY STABILIZATION  
PERMANENT STABILIZATION

WASTE MANAGEMENT  
HOUSEKEEPING PRACTICES

## TARGETED CONSTITUENTS

- SEDIMENT
- NUTRIENTS TOXIC MATERIALS
- OIL & GREASE
- FLOATABLE MATERIALS
- OTHER CONSTRUCTION WASTES

## IMPLEMENTATION REQUIREMENTS

- CAPITAL COST
- MAINTENANCE
- TRAINING
- SUITABILITY FOR SLOPES > 5%.

## LEGEND

- SIGNIFICANT IMPACT
- MODERIM IMPACT
- LOW IMPACT
- UNKNOWN OR QUESTIONABLE IMPACT

M-3

## CONCRETE SAWCUTTING WASTE MANAGEMENT

### APPLICATIONS

PERMITTER CONTROL  
SLOPE PROTECTION  
SEDIMENT TRAPPING  
CHANNEL PROTECTION  
TEMPORARY STABILIZATION  
PERMANENT STABILIZATION

WASTE MANAGEMENT  
HOUSEKEEPING PRACTICES

### DESCRIPTION

SAW CUTTING OF CONCRETE PAVEMENT IS A ROUTINE PRACTICE, NECESSARY TO CONTROL SHRINKAGE CRACKING IMMEDIATELY FOLLOWING PLACEMENT OF PLASTIC CONCRETE. IT IS ALSO USED TO REMOVE CURB SECTIONS AND PAVEMENT SECTIONS FOR PAVEMENT REPAIRS, UTILITY TRENCHES, AND DRAINWAYS. SAWCUTTING FOR JOINTS INVOLVES SAWING A NARROW, SHALLOW GROOVE IN THE CONCRETE. WHILE SAWCUTTING FOR REMOVALS IS USUALLY DONE FULL DEPTH THROUGH THE SLAB. WATER IS USED TO CONTROL SAW SLABE TEMPERATURE AND TO FLUSH THE DETRITUS FROM THE SAWED GROOVE. THE RESULTING SLURRY OF PROCESS WATER AND FINE PARTICLES AND HIGH PH MUST BE PROPERLY MANAGED.

A NUMBER OF WATER QUALITY PARAMETERS CAN BE AFFECTED BY INTRODUCTION OF CONCRETE FINES. CONCRETE AFFECTS THE PH OF RUNOFF, CAUSING SIGNIFICANT CHEMICAL CHANGES TO WATER BODIES AND HARMING AQUATIC LIFE. SUSPENDED SOLIDS IN THE FORM OF SAW FINES ARE ALSO GENERATED FROM SAWCUTTING OPERATIONS.

### DESIGN CRITERIA

#### SLURRY COLLECTOR

- DURING SAW CUTTING OPERATIONS, THE SLURRY AND CUTTINGS SHALL BE CONTINUOUSLY VACUUMED TO CONTROL THE FLOW OF WATER FROM THE OPERATIONS SITE.
- THE SLURRY AND CUTTINGS SHALL NOT BE ALLOWED TO DRAIN TO THE STORM DRAIN SYSTEM, STREAM, STREAM OR OTHER WATER BODY.
- THE SLURRY AND CUTTINGS SHALL NOT BE ALLOWED TO REMAIN ON THE PAVEMENT TO DRY OUT.

#### SLURRY DISPOSAL

- DEVELOP PREDETERMINED, SAFE SLURRY DISPOSAL AREAS.
- COLLECTED SLURRY AND CUTTINGS SHALL BE DISCHARGED IN AN AREA PROTECTED BY ONE OR MORE SEDIMENT REMOVAL BMPs AND SHALL BE DONE IN A MANNER WHICH DOES NOT RESULT IN A VIOLATION OF GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
- NEVER DUMP WASTE ILLEGITIMATELY OR WITHOUT PROPERTY OWNER'S KNOWLEDGE AND CONSENT.
- SLURRY MAY BE DISPOSED OF IN FACILITIES DESIGNATED FOR WASHDOWN OF CONCRETE TRUCKS (SEE M-3, CONCRETE WASTE MANAGEMENT).

### MAINTENANCE

PROJECT PERSONNEL SHOULD INSPECT THE OPERATIONS TO ASSURE THAT OPERATORS ARE DILIGENT IN CONTROLLING THE WATER PRODUCED BY THE SAW CUTTING ACTIVITIES. FOLLOWING OPERATIONS THE PAVEMENT SHOULD BE INSPECTED TO INSURE THAT WASTE REMOVAL HAS BEEN ADEQUATELY PERFORMED.

## TARGETED CONSTITUENTS

- SEDIMENT
- NUTRIENTS TOXIC MATERIALS
- OIL & GREASE
- FLOATABLE MATERIALS
- OTHER CONSTRUCTION WASTES

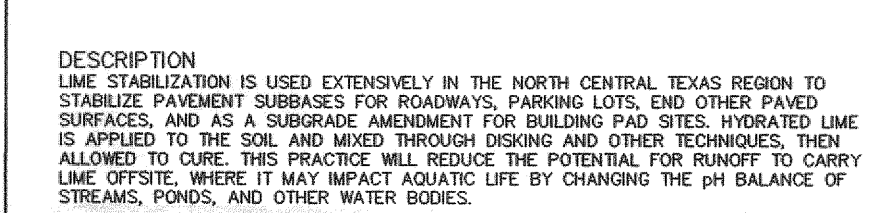
## IMPLEMENTATION REQUIREMENTS

- CAPITAL COST
- MAINTENANCE
- TRAINING
- SUITABILITY FOR SLOPES > 5%

### LEGEND


- SIGNIFICANT IMPACT
- MODERATE IMPACT
- LOW IMPACT
- ? UNKNOWN OR QUESTIONABLE IMPACT

M-4

<h1>LINE STABILIZATION MANAGEMENT</h1> 	<h2>TARGETED SUSTAINMENTS</h2> <ul style="list-style-type: none"> <li>PERMITTER CONTROL</li> <li>SLOPE PROTECTION</li> <li>SEDIMENT COLLECTION</li> <li>CHANNEL PROTECTION</li> <li>TEMPORARY STABILIZATION</li> <li>PERMANENT STABILIZATION</li> <li>WASTE MANAGEMENT</li> <li>HOUSEKEEPING PRACTICES</li> </ul>
<h3>DESCRIPTION</h3> <p>LINE STABILIZATION IS USED EXTENSIVELY IN THE NORTH CENTRAL TEXAS REGION TO STABILIZE PAVEMENT SUBBASES FOR ROADWAYS, PARKING LOTS, AND OTHER PAVED SURFACES. AND AS A SURFACE ENHANCEMENT FOR BUILDING SITES. STABILIZED LIME IS APPLIED TO THE SOIL AND MIXED THROUGH DIGGING AND OTHER TECHNIQUES, THEN ALLOWED TO CURE. THIS MIXTURE REDUCE THE POTENTIAL FOR RUNOFF TO CARRY LIME OFFSITE, WHERE IT MAY IMPACT AQAUTIC LIFE BY CHANGING THE PH BALANCE OF STREAMS, PONDS, AND OTHER WATER BODIES.</p> <h3>PRIMARY USE</h3> <p>THE BMP SHOULD BE IMPLEMENTED WHEN LIME IS REQUIRED FOR SOIL STABILIZATION.</p> <h3>APPLICATIONS</h3> <p>LIME STABILIZATION CAN BE USED UNDER A VARIETY OF CONDITIONS. THE ENGINEER SHOULD DETERMINE THE APPLICABILITY OF LIME STABILIZATION BASED ON SITE CONDITIONS SUCH AS AVAILABLE OPEN SPACE, QUANTITY OF AREA TO BE STABILIZED, PROXIMITY OF NEARBY WATER COURSES AND OTHER BMPs EMPLOYED AT THE SITE. THE USE OF DIVERGION LINES AND INTERCEPTOR SWALES (SEE APPROPRIATE FACT SHEETS) TO DIVERT RUNOFF AWAY FROM AREAS TO BE STABILIZED CAN BE USED IN CONJUNCTION WITH THESE TECHNIQUES TO REDUCE THE IMPACT OF THE LIME.</p> <h3>DESIGN CRITERIA</h3> <ul style="list-style-type: none"> <li>THE CONTRACTOR SHALL LIMIT LIME OPERATIONS TO THAT WHICH CAN BE THOROUGHLY MIXED AND COMPACTED BY THE END OF EACH WORKDAY.</li> <li>NO TRAFFIC OTHER THAN WATER TRUCKS AND MIXING EQUIPMENT SHALL BE ALLOWED TO PASS OVER THE SPREAD LIME UNTIL AFTER COMPLETION.</li> <li>AREAS ADJACENT AND DOWNSTREAM OF STABILIZED AREAS SHALL BE ROUGHENED TO INTERCEPT LIME FROM RUNOFF AND REDUCE RUNOFF VELOCITY.</li> <li>GEOTEXTILE FABRICS SUCH AS THOSE USED FOR SILT FENCE SHOULD NOT BE USED TO APPARENT OPENING SIZE OF THE FABRIC.</li> <li>FOR AREAS IN WHICH PHASING OF LIME OPERATIONS IS IMPRACTICAL, USE OF A CURING SEAL SUCH AS LIQUID ASPHALT, GRADE MC-250 OR MC-800 APPLIED AT A RATE OF 0.15 GALLONS PER SQ. YD. OF SURFACE CAN BE USED TO PROTECT THE BASE.</li> <li>USE OF SEDIMENT BASINS WITH A SIGNIFICANT (&gt;36 HOUR) DRAINOWN TIME IS ENCOURAGED FOR LARGE AREAS TO BE STABILIZED (SEE 5-4-6 SEDIMENT BASIN).</li> <li>PROVIDE CONTAINMENT AROUND LIME STORAGE, LOADING, AND DISPENSING AREAS.</li> </ul>	<h2>TARGETED SUSTAINMENTS</h2> <ul style="list-style-type: none"> <li>SO SEDIMENT</li> <li>SO NUTRIENTS TOXIC MATERIALS</li> <li>SO OIL &amp; GREASE</li> <li>SO FLOATABLE MATERIALS</li> <li>SO OTHER CONSTRUCTION WASTES</li> </ul> <h2>IMPLEMENTATION REQUIREMENTS</h2> <ul style="list-style-type: none"> <li>SO CAPITAL COSTS</li> <li>SO MAINTENANCE</li> <li>SO TRAINING</li> <li>SO SUSTAINABILITY FOR SLOPES &gt; 5%</li> </ul> <h2>LEGEND</h2> <ul style="list-style-type: none"> <li>SO SIGNIFICANT IMPACT</li> <li>SO MODERATE IMPACT</li> <li>SO LOW IMPACT</li> <li>SO UNKNOWN OR QUESTIONABLE IMPACT</li> </ul>
<h3>LIMITATIONS</h3> <p>LIME STABILIZATION CAN BE PART OF AN OVERALL PLAN TO REDUCE POLLUTANTS FROM AN ACTIVE CONSTRUCTION SITE. IN THE CASE OF POLLUTION DUE TO LIME, PREVENTION OF CONTAMINATION IS THE ONLY EFFECTIVE METHOD TO ADDRESS THIS POLLUTANT. PROPER APPLICATION AND MIXING ALONG WITH AVOIDING APPLICATIONS WHEN THERE IS A SIGNIFICANT PROBABILITY OF RAIN WILL REDUCE LIME RUNOFF.</p>	<h2>M-6</h2>

SANITARY FACILITIES	
DESCRIPTION	<p>PERMITTER CONTROL</p> <p>SLOPE PROTECTION</p> <p>SEDIMENT TRAPPING</p> <p>CHANNEL PROTECTION</p> <p>TEMPORARY STABILIZATION</p> <p>PERMANENT STABILIZATION</p> <p>WASTE MANAGEMENT</p> <p>HOUSEKEEPING PRACTICES</p>
PROCEDURES	
<ul style="list-style-type: none"> <li>o SANITARY FACILITIES MUST BE PROVIDED ON THE SITE IN CLOSE PROXIMITY TO AREAS WHERE PEOPLE ARE WORKING.</li> <li>o PORTABLE TOILETS MUST BE PROVIDED IF NO PERMANENT FACILITIES ARE AVAILABLE.</li> <li>o LOCATE PORTABLE TOILETS A MINIMUM OF 20 FEET AWAY FROM STORM DRAIN INLETS, CONVEYANCE CHANNELS, OR SURFACE WATERS.</li> <li>o IF UNABLE TO MEET 20-FOOT DISTANCE REQUIREMENT, PROVIDE CONTAINMENT FOR PORTABLE TOILETS.</li> <li>o PORTABLE TOILETS SHOULD BE REGULARLY SERVICED.</li> </ul>	<p><b>TARGETED CONSTITUENTS</b></p> <ul style="list-style-type: none"> <li>o SEDIMENT</li> <li>● NUTRIENTS TOXIC MATERIALS</li> <li>o OIL &amp; GREASE</li> <li>o FLOATABLE MATERIALS</li> <li>● OTHER CONSTRUCTION WASTES</li> </ul> <p><b>IMPLEMENTATION REQUIREMENTS</b></p> <ul style="list-style-type: none"> <li>o CAPITAL COST</li> <li>● MAINTENANCE</li> <li>● TRAINING</li> <li>o SUITABILITY FOR SLOPES &gt; 5%</li> </ul> <p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>● SIGNIFICANT IMPACT</li> <li>● MODERATE IMPACT</li> <li>o LOW IMPACT</li> <li>? UNKNOWN OR QUESTIONABLE IMPACT</li> </ul>
	M-7

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY  
BRYAN M. BURGER, P.E. 90880  
ON 2-24-12



AS-BUILT  
DATE: \_\_\_\_\_

REV	DATE	REMARKS

**EROSION CONTROL**

ALDI GROCER

LOT 1, BLOCK A - RIDGE/

THE CITY OF ROCKWELL

**B** BURGER  
ENGINEERING  
Civil Consultants

DESIGN	DRAWN	DATE	SCALE
ENR	11/2	12/11	



CLEAR AND GRUB

1. THE CONTRACTOR SHALL REVIEW PLANS AND IDENTIFY AND SAFELY MARK ALL PLANTS AND TREES TO BE SAVED. THE CONTRACTOR SHALL PROTECT ALL PLANTS AND TREES AND BE SAVED THROUGHOUT THE CONTRACT. THIS SHALL INCLUDE PROHIBITING ANY WORK WITHIN THE DRIP LINE OF THE TREE EXCEPT UNDER THE SUPERVISION OF A LICENSED LANDSCAPE ARCHITECT
2. ALL AREAS TO BE CLEARED AND GRUBBED SHALL BE SURVEYED IN THE FIELD TO ESTABLISH THE APPROPRIATE LIMITS OF WORK.
3. THE CONTRACTOR SHALL TAKE WHAT EVER MEASURES NECESSARY TO LOCATE AND PROTECT EXISTING UTILITIES, STRUCTURES, AND OTHER FACILITIES TO REMAIN.
4. ALL TREES, SHRUBS, STUMPS, ROOTS AND OTHER DEBRIS SHALL BE REMOVED FROM SITE OUTSIDE CITY LIMITS AND DISPOSED OF IN A LEGAL MANNER.
5. NO BURNING WILL BE ALLOWED ON SITE.

DEMOLITION

1. THE CONTRACTOR SHALL INSPECT ALL STRUCTURES, FACILITIES AND AREAS SLATED FOR DEMOLITION TO GAIN A FULL UNDERSTANDING OF THE WORK REQUIRED. THE CONTRACTOR SHALL TAKE WHAT EVER MEASURES NECESSARY TO PROTECT THE SAFETY OF THE PUBLIC, HIS EMPLOYEES AND AGENTS DURING THE INSPECTIONS AND SUBSEQUENT WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE MATERIALS DAMAGED DUE TO HIS WORK OR FAILURE TO PROTECT THROUGHOUT THE DURATION OF HIS CONTRACT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH ALL APPROPRIATE UTILITY OWNERS, OPERATORS AND USERS PRIOR TO DISSECTION AND DEMOLITION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION. ALL PLUGS, STOPS AND CAPS SHALL BE PER AGENCIES REQUIREMENTS AND IF NONE EXIST THEN A 3000 PSI CONCRETE PLUG WITH A THICKNESS EQUAL TO THE DIAMETER OF THE PIPE SHALL BE USED.
3. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND STOP ALL WORK IN AREAS WHERE HAZARDOUS MATERIALS ARE DISCOVERED. WHEN REQUIRED, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE ENVIRONMENTAL AND HEALTH AGENCIES.
5. NO BURNING, EXPLOSIVES OR OTHER POTENTIALLY DANGEROUS METHODS OF DEMOTION WILL BE ALLOWED UNLESS WRITTEN PERMISSION IS GRANTED BY THE OWNER AND ALL APPROPRIATE PERMITS ARE GRANTED.
6. THE CONTRACTOR WILL PROVIDE WHAT EVER SAFETY EQUIPMENT AND DEVICES ARE NECESSARY TO PROTECT THE ADJACENT PROPERTIES, STRUCTURES AND OTHER AREAS SLATED TO REMAIN. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE ANY DAMAGE CAUSED BY HIS WORK. THIS WILL ALSO INCLUDE EROSION CONTROL, DUST CONTROL AND SETTLEMENT.
7. ALL AREAS SHALL BE BROUGHT BACK TO THEIR ORIGINAL GRADE OR THAT OF THE SURROUNDING AREA, WHICH EVER IS CLOSER TO THE FINAL GRADES OF THE PROJECT FOR THAT AREA. ALL AREAS REQUIRING FILL SHALL BE COMPACTED TO THE REQUIREMENTS OF THE AREA BUT IN NO CASE LESS THAN 95% OF MODIFIED PROCTOR (ASTM D 1557).

EARTHWORK

1. PRIOR STARTING ANY CUTS OF FILLS THE CONTRACTOR SHALL STRIP AND STOCKPILE ALL TOPSOIL. STRIPPING OF TOPSOIL CAN ONLY COMMENCE AFTER THE CLEAR AND GRUB OPERATIONS ARE COMPLETE IN THAT AREA. TOPSOIL SHALL BE STOCKPILED IN AREAS DESIGNATED ON THE PLANS OR APPROVED BY THE OWNERS REPRESENTATIVE. THE CONTRACTOR SHALL REVIEW THE SOILS REPORTS, BORING LOGS AND WHEN NECESSARY HIS OWN FIELD VERIFICATION SO AS TO BE FAMILIAR WITH THE DEPTH OF TOPSOIL. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT OVER AND UNDER REMOVAL.
2. UNLESS OTHERWISE NOTED, THE GRADES SHOWN ON THE PLANS ARE FINISHED GRADES. THEREFORE, PAVEMENT, FLOORS, SUBBASE AND OTHER IMPROVEMENTS MUST BE SUBTRACTED TO CALCULATE SUBGRADE ELEVATIONS.
3. THE CONTRACTOR SHALL MAINTAIN A SURVEY GRID OF NOT LESS THAN 100' X 100' OR OTHER MEANS ACCEPTABLE TO THE OWNERS REPRESENTATIVE THAT WILL INDICATE LOCATION AND AMOUNT OF CUT OR FILLS REMAINING. AT SUBGRADE THIS GRID SHALL BE 50' X 50' WITH LOCATION AND FINAL GRADE MARKED CLEARLY OR SURVEY SHALL BE COMPLETED DEMONSTRATING THAT THE SUBGRADE IS +/- 0.1 FEET OF REQUIRED SUBGRADE.
4. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL RETAIN AND PAY ALL COSTS FOR SOIL COMPACTION TESTING TO BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY. FOR EACH LIFT PLACED, COMPACTION TESTING SHALL BE DONE EVERY 2000 SQ. FT. IN TRENCHES, COMPACTION TESTING SHALL BE DONE EVERY OTHER LIFT WITH AT LEAST 1 TEST EVERY 100 LF.
5. COMPACTION REQUIREMENTS SHALL BE THOSE OUTLINED IN THE SOILS REPORT. IF THE SOILS REPORT IS NOT CLEAR OR DOES NOT GIVE REQUIREMENTS THE FOLLOWING WILL BE USED. UNDER AND TO 20 FEET OUTSIDE THE BUILDING ENVELOPE THE SOILS SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR). UNDER PROPOSED OR FUTURE PAVEMENT AREAS, INCLUDING 10 FEET OUTSIDE SUBBASE AREAS, THE SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY PER ASTM D 1557 (MODIFIED PROCTOR). LANDSCAPE AND LAWN AREAS SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER ASTM D 1557 (MODIFIED PROCTOR). THE TESTING LAB SHALL TEST SOILS IN ACCORDANCE WITH ASTM D2922 (NUCLEAR METHOD) WITH PROCTORS FOR EACH SOIL TYPE.
6. UNLESS OTHERWISE NOTED IN THE SOILS REPORT OR ON THE DRAWINGS, THE ON SITE MATERIAL SHALL BE USED TO MAKE FILLS. ALL MATERIAL TO BE USED FOR FILL SHALL BE FREE OF ORGANICS, FROZEN MATERIAL, CONTAMINATED MATERIAL, DEBRIS AND ANY ROCKS LARGER THAN 4 INCHES. FOR FILL PLACEMENT WITHIN 1 FOOT OF SUBGRADE, NO ROCK SHALL BE GREATER THAN 2 INCHES IN DIAMETER. THE CONTRACTOR SHALL BEAR ALL COST ASSOCIATED WITH DRIVING, SEGREGATING OR REQUIRED METHODS TO TREAT SOILS TO MEET COMPACTION AND OTHER REQUIREMENTS.
7. FILLS SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES IN MASS FILLS AND 8 INCHES IN TRENCH OR RESTRICTED AREAS.
8. IF IMPORTED MATERIAL IS REQUIRED, THE SOURCE AND A RANDOM COMPOSITE SAMPLE SHALL BE REVIEWED BY THE TESTING LABORATORY PRIOR TO BEING BROUGHT TO SITE. THE TESTING LABORATORY SHALL TEST FOR PERCENT PASSING THE 200 SIEVE THAT DOES NOT EXCEED THE EXISTING ON SITE MATERIAL OR IN NO CASE GREATER THAN 35%. THEY SHALL ALSO VERIFY CONSISTENCY WITH EXISTING ON SITE MATERIALS AND ALL OTHER REQUIREMENTS. WAIVERS TO THESE REQUIREMENTS CAN ONLY BE GIVEN JOINTLY BY ALDI AND THE GEOTECHNICAL ENGINEER THAT PREPARED THE SOILS REPORT.
9. THE TESTING LAB MAY RESTRICT SOME ON SITE MATERIALS FROM BEING USED AS FILL IN BUILDING OR PAVEMENT AREAS WHEN IT IS THEIR OPINION THAT THE MATERIAL WILL NOT MEET REQUIREMENTS STATED HERE. IF SUCH CONDITIONS DO EXIST AND OTHER MATERIAL IS NOT AVAILABLE ON SITE, THE OWNERS REPRESENTATIVE MUST AUTHORIZE IN WRITING THE USE OF IMPORT MATERIAL UNLESS THERE WILL BE NO ADDITION COST TO THE CONTRACT.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EARTHWORK OPERATIONS FROM WEATHER AND GROUND WATER INCLUDING KEEPING POSITIVE DRAINAGE, DIVERT DRAINAGE, DEWATERING AND SEALING DISTURBED AREAS WITH A STEEL DRUM ROLLER PRIOR TO INCOMENT WEATHER.
11. PRIOR PLACEMENT OF FILLS, IN AREAS WHERE THE FINAL FILL DEPTH WILL BE LESS THAN 4 FEET, THE AREA SHALL BE PROOF ROLLED WITH A 10 TON ROLLER OR A LOADED 10 WHEEL DUMP TRUCK. SOFT AREAS SHALL BE SCARIFIED, DRIED AND RE-COMPACTED PRIOR TO FILL BEING PLACED. RETEST BY PROOF ROLL AS NECESSARY.
12. ALL FINAL SUBGRADE UNDER PROPOSED PAVEMENT, BUILDING OR OTHER STRUCTURE SHALL BE PROOF ROLLED AS DESCRIBED ABOVE FOR THE IDENTIFYING OF SOFT AREAS. AREAS FOUND TO BE UNACCEPTABLE SHALL BE SCARIFIED, DRIED AND RE-COMPACTED. RETEST BY PROOF ROLL AS NECESSARY.

13. TRENCH EXCAVATION REQUIRING SHEETING, SHORING OR OTHER STABILIZING DEVICES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER AND MEET ALL O.S.H.A. REQUIREMENTS. ALL EXCAVATIONS SHALL MAINTAIN SAFE SIDE SLOPES IN ACCORDANCE WITH LOCAL, STATE AND O. S. H. A. REQUIREMENTS. NO STOCKING OF MATERIAL CLOSE TO AN OPEN CUT OR STEEP SLOPE WILL BE PERMITTED IN AN EFFORT TO PREVENT CAVENS.
14. TRENCH EXCAVATIONS SHALL BE MADE UNIFORM AND STRAIGHT TO THE FOLLOWING WIDTHS: (FOR PIPES 36 INCHES OR LESS THE TRENCH WIDTH SHALL BE THE DIAMETER PLUS 2 FEET); (FOR PIPES 36 INCHES OR GREATER THE WIDTH SHALL BE THE DIAMETER PLUS 3 FEET). ADDITIONAL WIDTH WILL ONLY BE ALLOWED WHEN COMPACTION EQUIPMENT LIMITATIONS REQUIRE AND ONLY AFTER APPROVAL OF THE ENGINEER OF RECORD. NO MORE TRENCH SHALL BE OPEN IN ONE DAY THAN CAN BE PROPERLY BACKFILLED IN THAT SAME DAY TO MINIMIZE WEATHER AND SAFETY CONCERNS. WHEN BACKFILLING AROUND PIPES PROVIDE UNIFORM SUPPORT AT INVERT AND PROPER COMPACTION UNDER, ALONG AND OVER THE PIPE. CARE SHALL BE GIVEN WHILE BACKFILLING AROUND PIPES TO PREVENT DAMAGE TO THE PIPES INCLUDING: PLACING BACKFILL/BEDDING BY HAND, USING HAND OPERATED PLATE TAMPS OR JUMPING JACKS, AND OTHER LOAD RESTRICTIVE TECHNIQUES UNTIL FILLS ARE A MINIMUM OF 2 FEET OR MANUFACTURES RECOMMEND DEPTH, WHICH EVER IS GREATER, ABOVE THE TOP OF THE PIPE. COMPACTION REQUIREMENTS ARE NOT RELIEVED IN THESE AREAS AND WILL REMAIN AS STATED ON THE DRAWINGS OR ABOVE.
15. IF ROCK IS ENCOUNTERED THAT WAS NOT INDICATED ON THE PLANS OR SOILS REPORT, THE AREA FOR REMOVAL SHOULD BE MEASURED AND REVIEWED WITH THE OWNERS REPRESENTATIVE PRIOR TO ROCK REMOVAL. ROCK WILL BE DEFINED AS THE NATURAL EARTH MATERIALS THAT CAN NOT BE REMOVED WITH CONVENTIONAL EARTH WORKING EQUIPMENT.
16. WHERE ROCK IS ADJACENT TO A STRUCTURE OR UTILITY, THE ROCK SHALL BE REMOVED TO A MINIMUM OF 6 INCHES BELOW AND 1 TIMES THE DIAMETER, BUT NOT LESS THAN 1 FOOT OR GREATER THAN 3 FEET ON ANY SIDE.
17. NO EXPLOSIVES WILL BE ALLOWED UNTIL ALL PERMITS ARE GRANTED AND THE OWNER HAS SIGNED OFF. PRE AND POST BLAST REPORTS MUST BE KEPT AND RECORDED. ALL STRUCTURES WITHIN THE AREA OF THE BLAST MUST RECEIVE A PRE-BLAST SURVEY. ALL BLASTING MUST BE PERFORMED BY A LICENSED BLASTER.
18. UNLESS OTHERWISE NOTED ON THE DRAWINGS, THE CONTRACTOR SHALL REMOVE ALL EXISTING TOPSOIL, CUT MATERIAL AND/OR WASTE MATERIAL FROM SITE AND DISPOSE OF IN A LEGAL MANNER OUTSIDE CITY LIMITS.
19. ALL FILL TO BE COMPACTED USING A SHEEPS FOOT ROLLER UP TO 9' FROM BUILDING PAD.

EROSION CONTROL

1. PRIOR TO CONSTRUCTION EQUIPMENT ENTERING OR EXITING THE SITE, A CONSTRUCTION ENTRANCE SHALL BE BUILT UNLESS EXISTING CONDITIONS PREVENT ANY TRACKING OF DIRT, MUD, OR DEBRIS OFF THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE TO KEEP ALL ROADS, PARKING LOTS, SIDEWALKS AND ADJACENT PROPERTIES FREE OF DIRT, MUD OR OTHER DEBRIS. THIS WILL INCLUDE BUILDING THE CONSTRUCTION ENTRANCE, SWEEPING, SCRAPING AND WASHING THE PAVEMENT SURFACES WHEN EVER NEEDED. THE CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS. IF A DETAIL IS NOT PROVIDED, CONSTRUCT THE ENTRANCES WITH A CLEAN 2 TO 3 INCH STONE, 6 INCHES THICK, OVER STABILIZING FABRIC TO THE DIMENSIONS OF 12 FEET WIDE BY 50 LONG. THE ENTRANCE SHOULD BE LOCATED SO THAT ALL VEHICLES LEAVING THE SITE WILL UTILIZE IT.
2. ALL EROSION CONTROL DEVICES SHALL BE PLACED AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH FEDERAL, STATE, LOCAL AND MANUFACTURES RECOMMENDATIONS. THE CONTRACTOR SHALL PLACE AND MAINTAIN ALL EROSION CONTROL DEVICES AS NEEDED THROUGH OUT THE PROJECT.
3. SILT FENCE SHALL HAVE STEEL POSTS 2X2 INCH AND 4 FEET LONG WOVEN INTO THE FABRIC. THE BASE OF THE SILT FENCE SHALL BE EXCAVATED SO AS TO PROVIDE AN AREA TO BURY THE BOTTOM OF THE FABRIC AT LEAST 6 INCHES INTO THE GROUND. THE STAKES SHALL BE DRIVEN TO A DEPTH THAT WILL PLACE THE BOTTOM FABRIC AT THE BOTTOM OF THE TRENCH. THEN BACKFILL THE BOTTOM FABRIC ON THE UPSTREAM SIDE WITH THE MATERIAL THAT WAS EXCAVATED.
4. SILT FENCE SHALL BE PLACED WHERE EVER SURFACE DRAINAGE CAN LEAVE THE SITE.
5. STONE FILTERS SHALL BE PLACED IN ALL DRAINAGE WAYS BUT NOT IN STREAMS, CREEKS OR RIVERS. STONE FILTERS SHALL CONSIST OF A UNIFORM MIX OF 2 TO 3/4 INCHES CLEAN STONE WRAPPED IN FILTER FABRIC AND COVERED WITH 4 INCH STONE.
6. SEDIMENT TRAPS SHALL BE PLACED AND MAINTAINED AS NEEDED. THEY SHALL BE SIZED TO PROVIDE ADEQUATE STORAGE TO ALLOW SEDIMENT TO PRECIPITATE OUT PRIOR DISCHARGING DOWN STREAM.
7. TEMPORARY SEEDING SHALL CONSIST OF LIME @ 1/4 TON PER ACRE, FERTILIZER 5-10-10 @ 600 POUNDS PER ACRE, RYEGRASS (ANNUAL OR PERENNIAL) @ 40 POUNDS PER ACRE AND STRAW MULCH @ 2 TON PER ACRE ONLY IN STAGE 1 OR 2 OF DROUGHT CONDITIONS. JUTE MESH SHALL BE PLACED OVER MULCH AND STAKED WHENEVER WINDS OR SLOPE WILL CAUSE THE MULCH AND SEED TO BECOME DEPLETED OR ERODED. AREAS SHALL BE TEMPORARY SEEDING WHEN ONLY IN STAGE 1 OR 2 OF DROUGHT CONDITIONS. THEY ARE SUBJECT TO EROSION AND WILL LIE DORMANT FOR A MONTH OR MORE.

GENERAL CONSTRUCTION CONDITIONS

1. THE TERM OF OWNER AS USED IN THESE SPECIFICATIONS AND NOTES SHALL INCLUDE THE OWNER, THE PROPERTY, THE COMPANY OR PARTY THAT SIGNED THE CONTRACT FOR THIS WORK AND THE AGENTS OF EACH. THE OWNERS REPRESENTATIVE SHALL BE THE INDIVIDUAL OR PARTY ASSIGNED BY THE OWNER TO BE THE OWNERS REPRESENTATIVE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY PERMITS, CONNECTION PERMITS, FEES, INSPECTIONS AND RECORD KEEPING REQUIRED BY ALL MUNICIPAL, UTILITY, HEALTH, ENVIRONMENTAL, STATE OR FEDERAL AGENCIES THAT MAY HAVE JURISDICTION. FURTHERMORE, THE CONTRACTOR SHALL BE RESPONSIBLE TO MEET OR EXCEED ALL REQUIREMENTS OF THE AGENCIES OR AUTHORITIES HAVING JURISDICTION OVER HIS WORK. ALL CONFLICTS IN REQUIREMENTS OF DIFFERENT AGENCIES, AUTHORITIES AND/OR THE DESIGN SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE BEFORE PROCEEDING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND MAINTAIN THE PROPERTY AND PROJECT LIMITS THROUGH OUT THE PROJECT. ALL CONFLICTS BETWEEN THE DESIGN AND THE PROJECT/PROPERTY LIMITS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE BEFORE PROCEEDING. UNLESS DESCRIBED IN THE CONTRACT DOCUMENTS OR SHOWN ON THE DRAWINGS THE OWNER HAS NOT SECURED ANY RIGHT OF WAYS, EASEMENTS OR AGREEMENTS WITH OTHER PROPERTY OWNERS OR PROPERTY USERS. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE AND MAINTAIN ANY TEMPORARY RIGHT OF WAYS, EASEMENTS, PERMITS OR AGREEMENTS HE MAY NEED TO PERFORM HIS WORK. ALL SUCH AGREEMENTS SHALL HOLD THE OWNER, ENGINEER AND HIS AGENTS HARMLESS AND THE RESPONSIBILITY OF THE CONTRACTOR TO BEAR ALL COSTS. THE CONTRACTOR SHALL COPY THE OWNER ON RELEASES OF ALL AGREEMENTS PRIOR TO FINAL PAYMENT BY THE OWNER TO THE CONTRACTOR.
4. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEY, LAYOUT AND RECORD DRAWINGS FOR THIS CONTRACT. ANY CONFLICTS IN SURVEY/LAYOUT AND THE DESIGN OR AGENCIES REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL PROTECT AND SAFEGUARD ALL EXISTING SURVEY MONUMENTS, CONTROL AND TIE-DOWNS. THE CONTRACTOR SHALL PAY ALL COSTS TO REPAIR OR REPLACED DAMAGED SURVEY MONUMENTS, CONTROL AND TIE-DOWNS.
5. NO CHANGES TO THE DESIGN OR MATERIALS SPECIFIED MAY BE MADE WITHOUT WRITTEN AUTHORIZATION BY THE ENGINEER, CITY OF ROCKWALL PLANNING STAFF AND CITY ENGINEER OR IN THE CASE OF UTILITIES OR ROAD WORK TO BE DEDICATED, THE AUTHORITY RECEIVING DEDICATION. AT THE END OF THE CONTRACT, THE CONTRACTOR SHALL PROVIDE TO THE OWNER A RECORD SET OF THE DRAWINGS REFLECTING ALL CHANGES MADE BY THE CONTRACTOR DURING CONSTRUCTION.
6. EROSION CONTROL IS NECESSARY WHEN EVER SEDIMENT, DUST, EROSION, OR CONFINED WATER RUN-OFF MAY OCCUR. THE CONTRACTOR SHALL BE RESPONSIBLE TO PLACE AND MAINTAIN WHAT EVER EROSION CONTROL OR RUN-OFF PROTECTION IS REQUIRED TO PROTECT HIS WORK, THE WORK OF OTHERS, THE PROJECT, ADJACENT PROPERTIES AND THE HEALTH AND WELL BEING OF THE WORKERS, PUBLIC AND SURROUNDING NATURAL RESOURCES. THEY SHALL BE FAMILIAR WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS REGARDING EROSION AND RUN-OFF CONTROL.
7. THE CONTRACTOR SHALL BE FAMILIAR WITH THE PROJECT SITE AND ALL ADJACENT PEDESTRIAN, TRAFFIC AND BUSINESS USES. THE CONTRACTOR SHALL TAKE WHAT EVER PRECAUTIONS AND STEPS NECESSARY TO MAINTAIN SAFETY AND OPERATION OF THESE USES IN ACCORDANCE WITH FEDERAL, STATE, COUNTY AND LOCAL.

- REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS AND DAMAGES CAUSED FROM HIS FAILURE TO TAKE PROPER AND ADEQUATE PRECAUTIONS. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS REGARDING THESE USES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS AND DELAYS ASSOCIATED WITH WEATHER, GROUNDWATER, AND OTHER OCCURRENCES THAT COULD BE EXPECTED OR ARE COMMON WITH THIS TYPE WORK. THE CONTRACTOR SHALL REVIEW ALL PERTINENT DOCUMENTS INCLUDING SOILS REPORTS, SOILS BORINGS AND OTHER SOIL OR SITE DATA.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO SAVE AND PROTECT HIS WORK THROUGH OUT THE CONTRACT. ANY DAMAGES REQUIRING REPAIRS OR REPLACEMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE.

10. WHEN WORK IS DONE WITHIN A ROAD, UTILITY OR PRIVATE EASEMENT, RIGHT OF WAY OR OTHER PROPERTY AGREEMENT THE CONTRACTOR SHALL DO ALL WORK WITHIN THAT AREA PER THE AUTHORITY HAVING JURISDICTION.
11. WHEN SEPARATE SITE AND BUILDING CONTRACTS ARE PERFORMED THE SITE CONTRACTOR SHALL BE RESPONSIBLE TO BRING UTILITIES TO WITHIN 5 FEET OF BUILDING FACE UNLESS NOTED OTHERWISE ON DRAWINGS OR CONTRACT DOCUMENTS.
12. ALL UTILITIES ARE SHOWN PER SURFACE SURVEYS AND/OR RECORD MAPS AND MAY VARY FROM ACTUAL IN FIELD LOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY STAKE OUTS AND LOCATING UTILITIES PRIOR TO COMMENCING WORK. ANY DAMAGE TO UTILITIES DUE TO IMPROPER STAKE OUT, LACK OF STAKE OUT OR THE FAILURE TO VERIFY DIFFERENCES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, REPLACE OR PAY DAMAGES AT NO EXPENSE TO THE CONTRACT.

PAVEMENT AND STRUCTURAL SUBBASE

1. THE TYPE OF SUBBASE REQUIRED FOR EACH USE SHALL BE CALLED OUT ON THE DRAWINGS.
2. FINAL GRADINGS OF SUBBASE SHALL BE TO +/- 1 INCH OF THAT DESIGNATED ON THE DRAWINGS AND +/- 1 INCH OF THE REQUIRED THICKNESS FOR THICKNESS OF 8 INCHES OR GREATER AND +/- 1/4 INCH FOR THICKNESS LESS THAN 8 INCHES.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN PREPARING THE SUBGRADE TO RECEIVE SUBBASE. THIS SHALL INCLUDE FINE GRADINGS AND COMPACTING AS NECESSARY TO MEET THE REQUIREMENTS STATED HERE AND UNDER "EARTHWORK".
4. THE AMOUNT OF TESTING REQUIRED TO VERIFY THE COMPACTION SHALL BE THE SAME AS STATED UNDER "EARTHWORK".

SANITARY SEWER SYSTEMS

1. THE SANITARY SEWER SYSTEM SHALL BE SUPPLIED AND PLACED INACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL SANITARY SEWER AUTHORITY FOR THIS PROJECT IS THE CITY OF ROCKWALL AND THE TREATMENT PLANT IS THE CITY OF ROCKWALL.
2. ALL SANITARY SEWER MATERIAL, TYPES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS. IF THE PLANS DO NOT LIST ALL INFORMATION OR ARE UNCLEAR USE THE FOLLOWING.
3. UNLESS OTHERWISE NOTED SANITARY PIPE AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 3034, SDR 35, WITH GASKETS PER ASTM D 3212, ELASTOMERIC SEAL. THE PIPE SHALL BE BEDDED 6 INCHES BELOW AND 6 INCHES ABOVE WITH CLEAN STONE OF A UNIFORM MIX RANGING IN SIZE OF 1/4 INCH TO 3/4 INCH.
4. FORCEMAIN PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 2241, SDR 21OR LOWER IF PRESSURES ARE HIGH IN SYSTEM WITH GASKETS PER ASTM D 3199, AND ELASTOMERIC SEAL. THE PIPE SHALL BE ENCASED IN A RUN OF CRUSH STONE OR GRAVEL MATERIAL WITH 100% PASSING THE 2 INCH SIEVE AND 2 TO 10% PASSING THE 200 SIEVE.
5. MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS. GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443 AND MORTARED WATER TIGHT WITH A WATERPROOF/PLUG MORTAR. THE INVERT SHALL BE MADE WITH CONCRETE OR 1/4 ROUND SECTION OF PIPE. PIPE JOINTS SHALL BE A PRESS WEDGE OR CAST IN PLACE BOLT. BOTH WILL HAVE ADDITIONAL VOIDS FILLED WITH WATERPROOF/PLUG MORTAR. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT. EXTERIOR MANHOLES SHALL BE COATED WITH A SEAL COAT ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
6. CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE PIPE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT. CLEANOUTS SHOULD BE NO MORE THAN 90 FEET APART ON LATERS.
7. MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "SANITARY" CAST INTO IT. THE MINIMUM SIZE WILL BE A 30 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.
8. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATION AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS.
9. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN.
10. ALL TAPS TO MAIN LINES SHALL BE MADE WITH SADDLES WHEN THE TAP IS 1/2 THE DIAMETER OR LESS OF THE EXISTING PIPE, BUT MADE WITH A SLEEVE WHEN THE TAP IS GREATER THAN 1/2 THE DIAMETER OR EQUAL TO THE EXISTING PIPE. IF CONNECTIONS ARE REQUIRED TO EQUAL SIZE PIPES OF 3 INCHES OR GREATER, A MANHOLE SHOULD BE INSTALLED OVER THE CONNECTION POINT AND INVERTS FORMED. WHEN CONNECTING TO AN EXISTING MANHOLE THE CONNECTING PIPE HOLE SHALL BE CORED AND A PRESS WEDGE INSTALLED. THE CONNECTION SHALL BE MORTARED UP WITH WATERPROOF/PLUG MORTAR. INSIDE THE EXISTING MANHOLE, THE EXISTING INVERT SHALL BE BROKE OUT IN A MANNER THAT PROTECTS FROM DEBRIS ENTERING THE LIVE SYSTEM, WHILE A NEW INVERT IS FORMED.

11. SANITARY MANHOLES SHALL BE VISUALLY LAMPED AFTER BACKFILL TO VERIFY ALIGNMENT, CLEANLINESS AND THERE IS NO DAMAGE TO THE SYSTEM. AFTER THE SYSTEM HAS BEEN BACKFILLED FOR 30 DAYS, THE SYSTEM WILL BE RELAMPED AND MAY BE TESTED WITH A MANDEIL SIZED AT 95% OF THE INTENDED INSIDE DIAMETER.
12. GRAVITY SYSTEMS SHALL BE AIR TESTED BETWEEN MANHOLES TO 3.5 PSI FOR 5 MINUTES PER ASTM F 1417 FOR PLASTIC PIPES.
13. MANHOLES SHALL BE TESTED SEPARATELY FOR LEAKAGE OR INFILTRATION USING ASTM C 969. THE ALLOWED LEAKAGE = 0.1 GALLONS/(FEET OF DIAMETER\*(FEET OF HEAD)\*(# OF HOURS)) AND THE TEST SHALL RUN FOR 24 HOURS.
14. WHEN NECESSARY TO VERIFY SYSTEM INTEGRITY THE ENTIRE SYSTEM MAY BE TESTED FOR INFILTRATION AND EXFILTRATION USING ASTM C 969. THE SYSTEM SHALL BE BROKEN UP INTO SECTIONS WHEN NECESSARY TO CONSIDER GROUNDWATER DEPTH, LENGTH AND ELEVATION DIFFERENCES.
15. FAILURE OF ANY TESTING SHALL REQUIRE THE CONTRACTOR TO REPAIR OR REPLACED THE FAILED SECTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT.
16. AFTER ALL TESTING IS COMPLETE AND BEFORE THE SYSTEM IS TURNED OVER TO THE AUTHORITY HAVING JURISDICTION THE SYSTEM SHALL BE CHECKED TO VERIFY IT IS CLEAN AND FREE OF DIRT, DEBRIS AND OTHER FOREIGN MATTER. THE CONTRACTOR SHALL CLEAN ANY SECTIONS REQUIRING SUCH AT NO ADDITIONAL EXPENSE TO THE CONTRACT.

SEEDING AND LANDSCAPING

1. TOPSOIL SHALL BE REMOVED FROM STOCKPILES AND SPREAD IN THE AREAS SHOWN ON THE PLANS. THE DEPTH OF TOPSOIL SHALL BE AS SHOWN ON THE PLANS. IF THE DEPTH OF TOPSOIL IS NOT GIVEN THE FOLLOWING SHALL BE USED: "A MINIMUM OF 4 INCHES IN LAWN AREAS" AND "A MINIMUM OF 12 INCHES IN LANDSCAPE PLANTING AREAS".
2. AFTER THE TOPSOIL IS IN PLACE IT SHALL BE FINE GRADED REMOVING ALL ROOTS, STICKS, STONES AND DEBRIS GREATER THAN 2 INCHES IN ANY DIMENSION. THE TOPSOIL SHALL BE FINE GRADED TO THE LINES AND GRADES SHOWN ON THE PLANS.
3. THE TOPSOIL SOIL SHALL HAVE A PH OF 5.5 TO 7.5 AND AN ORGANIC CONTENT OF 3 TO 20%. THE GRADATION OF THE TOPSOIL SHALL BE 100% PASSING 2 INCH SIEVE, 85 TO

- 100% PASSING THE 1 INCH SIEVE, 65 TO 100% PASSING THE 3/4 INCH SIEVE AND 20 TO PASSING THE NO. 200 SIEVE.
4. LIME OF TYPE I RECOMMENDED FOR SOIL CONDITIONING SHALL BE USED TO TREAT ACIDIC SOILS.
5. LAWN FERTILIZER SHALL BE 55% NITROGEN, 10% PHOSPHORUS AND 10% POTASH WHERE 50% OF THE NITROGEN IS DERIVED FROM UREAFORM SOURCE.
6. LAWN SEED (WHEN NOT GIVEN ON THE PLANS) SHALL BE "50% BY WEIGHT, 85% PURITY, 85% GERMINATION OF PENNINE PERENNIAL RYE", "30% BY WEIGHT, 97% PURITY, 80% GERMINATION OF PENNLAWN RED FESCUE", "20% BY WEIGHT, 85% PURITY, 80% GERMINATION OF COMMON KENTUCKY BLUEGRASS".
7. WHEN PLACING BY HYDROSEEDING APPLICATION FERTILIZER SHALL BE PLACED AT 80 POUNDS PER ACRE, HYDROMULCH AT 1,200 POUNDS PER ACRE, WATER AT 500 GALLONS PER ACRE AND SEED AT A MINIMUM OF 220 POUNDS PER ACRE. ALL OVER SPRAY AREAS SHALL BE PROPERLY CLEANED AND RESTORED AT NO EXPENSE TO THE CONTRACT.
8. IF PLACING BY MECHANICAL MEANS, FERTILIZER SHALL BE PLACED AT 25 POUNDS PER 1,000 SQUARE FEET, SEED AT 5 POUNDS PER 1,000 SQUARE FEET, AND STRAW MULCH AT 2 TONS PER ACRE. PLACE FERTILIZER AND SEED, THEN LIGHTLY RAKE AND THE ROLL WITH 200 POUND ROLLER. MULCH THE AREA AND THEN WATER. STRAW MAY NEED TO BE SECURED TO PREVENT IT BLOWING AWAY.
9. WATER LAWN AREAS AS NEEDED TO PROMOTE GROWTH. THE CONTRACTOR WILL BE RESPONSIBLE TO WATER, RESEED OR WORK WHEN NECESSARY TO INSURE THE GROWTH OF THE LAWN UNTIL A COMPLETE AND UNIFORM STAND OF GRASS HAS GROWN AND BEEN CUT AT LEAST TWICE.
10. UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL AREAS NOT RECEIVING STRUCTURES, PAVEMENT, RIP RAP, LANDSCAPING OR OTHER IMPROVEMENTS OR FUTURE IMPROVEMENTS SHALL BE CONSIDERED LAWN AREAS AND RECEIVE TOPSOIL AND SEEDING PER DRAWINGS AND ABOVE STATED REQUIREMENTS.
11. PLANTINGS SHALL BE SUPPLIED IN ACCORDANCE WITH THE PLANS AND ANSI 260.1 "AMERICAN STANDARD FOR NURSERY STOCK IN GOOD HEALTH, VIGOROUS, AND FREE OF INSECTS, LARVAE, EGGS, DEFECTS AND DISEASE.
12. PLANTING BEDS SHALL BE PREPARED BY LOOSENING THE TOP 1 FOOT OF TOPSOIL. PLANTS SHALL BE LOCATED PER THE PLANS. THE HOLES SHALL BE EXCAVATED (PER THE DETAILS ON THE DRAWINGS) WITH THE CENTER SLIGHTLY HIGHER TO PROMOTE DRAINAGE. USE A TOPSOIL BACKFILL MIX OF 4 PARTS TOPSOIL, 1 PART PEAT MOSS, AND 10 POUNDS 10-5-10 PLANTING FERTILIZER AND PROPERLY MIXED PER CUBIC YARD. BERN AROUND PLANTS TO FORM A BOWL SHAPE.
13. WEED BARRIER MADE FROM FIBERGLASS AND ULTRA-VIOLET LIGHT RESISTANT SHALL BE PLACED UNDER ALL PLANTING BEDS PRIOR MULCHING.
14. ALL TREES AND SHRUBS SHALL BE STAKED AS DETAILED ON THE DRAWINGS. TREE WRAPPING WILL BE PROVIDED AT THE BASE OF ALL TREES AS DETAILED.
15. MULCH SHALL BE 50% SHREDDED BARK AND 50% WOOD CHIPS, 1/2 TO 2 INCH IN SIZE, UNIFORMLY MIXED AND FREE OF ELM WOOD. MULCH SHALL BE PLACED UNIFORMLY OVER THE PLANTING BED ALLOWING NO WEED BARRIER TO BE SEEN.
16. ALL LANDSCAPING SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE. ANY DAMAGE TO PLANTING OR WEEDS SHALL BE GUARANTEED FROM THE TIME OF REPLACEMENT IF AFTER FINAL ACCEPTANCE.
17. MUST COMPLY WITH THE CITY OF ROCKWALL'S DROUGHT CONDITIONS AT THE TIME OF PLANTING.

SITE CONCRETE - INCLUDING CURB, SIDEWALKS AND GUTTERS

1. THE DIMENSIONS SHALL BE THOSE SHOWN ON THE DRAWINGS. THE CONCRETE MIX SHALL BE AS SHOWN ON THE PLANS AT 28 DAYS MADE WITH TYPE I OR TYPE II CEMENT, PER ASTM C 150, AND AGGREGATES MEETING STATE DEPARTMENT OF TRANSPORTATION REQUIREMENTS. SLUMP FOR SUP FIRMING SHALL BE 1 INCH +/- 1/4 INCH AND FOR FORMED CONCRETE THE SLUMP SHALL BE 3 INCH +/- 1 INCH. AIR ENTRAINMENT MIXTURE SHALL MEET THE REQUIREMENTS OF ASTM C 266.4R +/- 1.5% FOR SUP FIRM FORM WORK AND 6% +/- 1.5% FOR FORMED AND PLACED CONCRETE. WATER REDUCING AGENT SHALL CONFORM TO ASTM C 484, TYPE A. CURING COMPOUNDS SHALL CONFORM TO ASTM C209, TYPE I, CLASS A MOISTURE LOSS OF NOT MORE THAN .055 GR/GS ON WHEN APPLIED AT 200 SQ FT PER GALLON.
2. SIDEWALKS, GUTTERS AND CURBS SHALL BE PLACED ON COMPACTED SUBBASE, CONSISTENT WITH THE PAVEMENT SUBBASE, AS SHOWN ON THE DRAWINGS. WHEN SUBBASE DETAILS ARE MISSING AND NO AGENCY HAS JURISDICTION USE THE FOLLOWING: SIDEWALKS AND GUTTERS SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF COMPACTED SUBBASE AND CURBS SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF COMPACTED SUBBASE. USE OF LEAVE UP SLOPE IS PROHIBITED UNDER PAVEMENT.
3. ALL FORMING, PLACEMENT, MATERIALS AND CURING SHALL CONFORM TO THE LATEST ADDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND ALL SIMILAR STATE DEPARTMENT OF TRANSPORTATION REQUIREMENTS.
4. REINFORCING SHALL BE INACCORDANCE WITH THAT SPECIFIED ON THE DRAWINGS AND THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICES". REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60, DEFORMED, WELDED WIRE FABRIC SHALL BE ASTM A 185, WELDED WIRE STEEL FABRIC.
5. SIDEWALKS AND GUTTERS SHALL HAVE A BROOM FINISH PERPENDICULAR TO FLOW WITH A PICTURE FRAME EDGE JOINT ALL THE WAY AROUND. CURBS SHALL HAVE A SMOOTH FINISH OR LIGHT RUB FINISH, BUT CONSISTENT THROUGH OUT THE PROJECT.
6. EXPANSION JOINTS SHALL BE PLACED EVERY 50 FEET AND AT ADJOINING STRUCTURES SUCH AS WALLS, MANHOLES AND VAULTS. EXPANSION JOINT MATERIAL SHALL BE PREMOULDED, 1/4 INCH MATERIAL WITH 1/4 INCH CAP INACCORDANCE WITH ASTM D1751. AFTER CONCRETE HAS SET, THE CAP SHOULD BE REMOVED AND VOID FILLED WITH WATERPROOF JOINT FILLER. CURB AND GUTTER SHALL BE CUT OR TOOL JOINED TO 1/8 THE DEPTH EVERY 10 FEET. SIDEWALKS SHOULD HAVE TOOLED OR CUT JOINTS TO 1/8 THE DEPTH IN SQUARES OR AS CLOSE TO SQUARE AS POSSIBLE NOT EXCEEDING 5FT X5FT.

STORM WATER SYSTEM

1. THE STORM WATER SYSTEM SHALL BE SUPPLIED AND PLACED INACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL STORM WATER AUTHORITY FOR THIS PROJECT IS THE CITY OF ROCKWALL AND THE EROSION CONTROL AND RUN-OFF AUTHORITY IS THE CITY OF ROCKWALL.
2. STORM DESIGN INCLUDES MANY VARIABLES, SUCH AS PIPE ROUGHNESS COEFFICIENT, THAT CAN AFFECT THE ACTUAL FINAL RUN-OFF. IF NO ALTERNATIVE MATERIALS ARE LISTED ON THE UTILITY DRAWINGS NO SUBSTITUTIONS MAY BE MADE BY THE CONTRACTOR UNLESS FIRST REVIEWED AND ACCEPTED BY THE ENGINEER.
3. ALL STORM MATERIAL, TYPES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS. IF THE PLANS DO NOT LIST ALL INFORMATION OR ARE UNCLEAR USE THE FOLLOWING.
4. STORM PIPE 18 INCHES AND UP SHALL BE CLASS III REINFORCED CONCRETE PIPE (RCP). STORM PIPE 18 INCHES AND UP SHALL BE CLASS IV RCP IF COVER IS 2 FEET OR LESS (PUBLIC STORM).
5. STORM PIPE BELOW 18 INCHES SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 3034, SDR 35 WITH GASKETS PER ASTM D 3212, ELASTOMERIC SEAL. THE PIPE SHALL BE BEDD 6 INCHES BELOW AND UP HALF ITS DIAMETER WITH CLEAN STONE OF A UNIFORM MIX RANGING IN SIZE FROM 1/4 INCH TO 3/4 INCH. (PRIVATE STORM ONLY)
6. END SECTIONS SHALL BE THE SAME MATERIAL AS THE PRECEDING PIPE AND APPROPRIATE COLLAR.
7. MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS. THE MANHOLE SHALL BE SIZED TO A MINIMUM OF 2 FOOT GREATER THAN THE LARGEST DIAMETER PIPE ENTERING OR EXISTING. INCREASE SIZE OF MANHOLE IF IN THE SAME HORIZONTAL PLANE THERE IS TWO AREAS WHERE THE AREA BETWEEN TWO PIPES IS LESS THAN 8 INCHES OR HALF OR THE CIRCUMFERENCE IS SUPPORTED BY LESS THAN 1/2 OF THE DIAMETER OF THE MANHOLE. INVERTS SHALL BE SMOOTH CAST IN PLACE CONCRETE. UNLESS OTHERWISE INDICATED, 4 INCH WEEDS COVER WITH FILTER FABRIC AND 2 INCH STONE SHALL BE PROVIDED AT THE CROWN OF PIPES AND AT SUBGRADE ELEVATION. GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT.
8. INLETS SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR MANHOLES.
9. MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "STORM" CAST INTO IT. THE MINIMUM SIZE WILL BE A 30 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.

11. CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE PIPE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT
12. GROUTED RIP RAP SHALL BE PLACED AT THE END OF ALL OUTFALL STRUCTURES. UNLESS OTHERWISE NOTED, THE RIP RAP SHALL BE A CLEAN DURABLE STONE WITH AVERAGE WEIGHTS OF 100 POUNDS. THE RIP RAP SHALL BE PLACED ON 1 FOOT OF GRAVEL SUBBASE OR STABILIZING FABRIC.
13. DRY WELLS SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR MANHOLES WITH THE ADDITION OF OPENINGS OF APPROXIMATELY 15% OF THE RINGS INTERIOR SURFACE. THE OPENINGS SHALL BE 1 X 3 INCH SLOTS OR 1 INCH DIAMETER ON THE INSIDE SURFACE. DRY WELLS SHALL BE BACKFILLED WITH A MINIMUM OF 1 FOOT OF CLEAN STONE SIZED BETWEEN 3 AND 4 INCHES. OUTSIDE THE STONE THE ENTIRE STRUCTURE SHALL BE WRAPPED IN FILTER FABRIC TO PREVENT OUTSIDE SOILS FROM ENTERING THE STONE AND DRY WELL.
14. UNLESS OTHERWISE NOTED, TRENCH DRAINS SHALL BE MADE WITH 4 INCH PERFORATED CORRUGATED POLYETHYLENE PIPE ENCASED IN CLEAN STONE SIZED BETWEEN 2 INCH AND 3/4 INCH AND THEN WRAPPED IN FILTER FABRIC. OUTSIDE DIMENSIONS OF THE TRENCH DRAIN WILL NOT BE LESS THAN 1 FOOT.
15. ALL JOINTS BETWEEN PIPES AND PRECAST STRUCTURES SHALL BE MORTARED TIGHT.
16. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATION AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS.
17. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN.
18. ANY PIPES FOUND WITH DIAMETER DEFLECTIONS GREATER THAN 5% OF THE SPECIFIED PIPE DIAMETER WILL BE REPAIRED OR REPLACED. ANY ALIGNMENT DIFFERENTIALS GREATER THAN 5% OF THE DIAMETER OF THE PIPE WILL BE CORRECTED OR REPLACED.
19. ANY CLEANING, REPAIRS OR REPLACEMENT REQUIRED, DUE TO FAILURE OF TESTING OR POOR WORKMANSHIP, SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE CONTRACT.

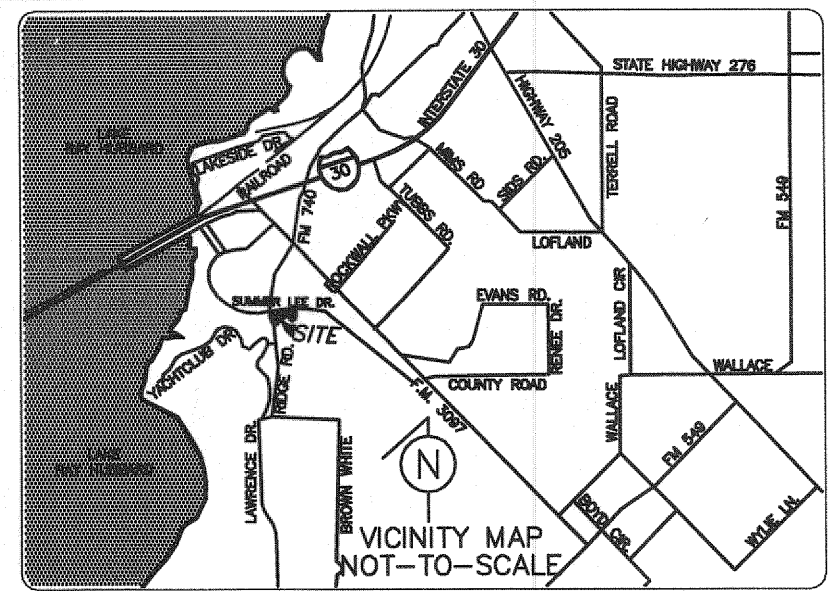
TRAFFIC SIGNAGE AND PAVEMENT MARKINGS

1. PAVEMENT MARKINGS SHALL BE THE TYPE, COLOR, SIZE AND LOCATIONS SHOWN ON THE PLANS. IF THE INFORMATION ON THE PLANS IS NOT COMPLETE AND AUTHORITY HAVING JURISDICTION DOES NOT HAVE REQUIREMENTS REGARDING THIS USE THE FOLLOWING. PAINT SHALL BE SUPPLIED IN ACCORDANCE WITH AASHTO, M 248 LATEST ADDITION. COLORS SHALL BE AS FOLLOWS (YELLOW-PARKING STALLS, HANDICAP PARKING AND CHARACTERS, PARKING ISLANDS, TRAFFIC CONTROL LETTERING AND CHARACTERS AND FIRE LANES) (WHITE - STOP BARS, PEDESTRIAN CROSSINGS AND STOP LETTERING).
2. THE PAVEMENT SHALL BE CLEAN AND FREE OF DIRT, DUST, MOISTURE, OILS AND OTHER FOREIGN MATERIALS. ANY OLD PAVEMENT MARKINGS SHALL BE REMOVED UNLESS PAINTING ARE COMPATIBLE AND OVERLAY IDENTICALLY. THE SURFACE OF THE PAVEMENT PRIOR APPLICATION SHALL BE 45 DEGREES F AND RISING UNLESS MANUFACTURE'S RECOMMENDATIONS ARE GREATER.
3. THE SIGNAGE SHALL BE THE TYPE AND LOCATED PER THE DRAWINGS. THE SIGNAGE SHALL BE PLACED IN ACCORDANCE WITH THE LOCAL HIGHWAY, COUNTY HIGHWAY AND STATE DEPARTMENT OF TRANSPORTATION. IF LOCAL, COUNTY OR STATE CODES DO NOT EXIST USE AASHTO M268.
4. POSTS, BRACKETS AND FRAMES SHALL BE STEEL PER ASTM A-36, A-242, A-441, A-572, A588, GRADE 50 AND HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. ALL CUTTING, DRILLING OR OTHER BOLT MODIFICATIONS SHALL BE PAINTED WITH GALVANIZING PAINT. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.
5. POST HOLES SHALL BE A MINIMUM OF FOUR FEET DEEP AND 12 INCHES IN DIAMETER UNLESS POOR SOILS OR FROST CONDITIONS REQUIRE GREATER DEPTH. SIGN POSTS SHALL BE KEPT PLUMB, 6 INCHES OFF BOTTOM AND CENTERED AS 3000 PSI CONCRETE IS PLACED AROUND THE POST. THE OVERALL SIGN AND POST SYSTEM SHOULD BE ABLE TO WITHSTAND 33 POUNDS PER SQUARE FOOT.
6. CONTRACTORS CAN PLACE SIGNS ON POSTS AFTER CONCRETE HAS CURED FOR SEVEN DAYS OR 1/2 STRENGTH IS ACHIEVED.
7. ALL HANDICAP STRIPING AND SIGNAGE SHALL MEET THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. FIRE LANE STRIPING AND SIGNAGE SHALL MEET THE REQUIREMENTS OF THE LOCAL BUILDING INSPECTOR AND FIRE DEPARTMENT.

WATER SYSTEMS AND SERVICES

1. THE WATER SYSTEMS AND SERVICES SHALL BE SUPPLIED AND PLACED INACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL WATER AUTHORITY FOR THIS PROJECT IS THE CITY OF ROCKWALL AND THE HEALTH DEPARTMENT IS THE CITY OF ROCKWALL.
2. IF THE AUTHORITY HAVING JURISDICTION DOES NOT HAVE SPECIFIC REQUIREMENTS REGARDING MATERIALS AND PLACEMENT THE FOLLOWING WILL BE USED.
3. ALL WATER PIPING, FITTINGS AND APPURTENANCES SHALL BE PLACED A MINIMUM OF 4 FEET DEEP. PIPE SIZES 4 INCHES AND UP SHALL BE DUCTILE IRON OR POLYVINYL CHLORIDE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE DUCTILE IRON). PIPE SIZES BELOW 4 INCHES SHALL BE COPPER OR POLYETHYLENE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE COPPER).
4. THE MINIMUM SEPARATION BETWEEN WATER SERVICES AND SEWER LINES SHALL BE 24 INCHES, UNLESS CONCRETE ENCASED, MEASURED VERTICALLY FROM OUTSIDE TO OUTSIDE OF PIPE AT THE CROSSING. A STANDARD LENGTH OF WATER PIPE SHALL BE CENTER AT THE CROSSING TO MAXIMIZE THE DISTANCE BETWEEN THE CROSSING AND THE NEAREST WATER SERVICE PIPE JOINT. WHEN THE WATER SERVICE RUNS UNDER THE SEWER LINE, A GRAVEL OR CRUSH STONE BACKFILL MEETING THE REQUIREMENTS OF SUBBASE SHALL BE PLACED AND COMPACTED AROUND THE WATER PIPE UP HALF THE DIAMETER OF THE SEWER PIPE TO PROVIDE ADEQUATE SUPPORT TO THE SEWER LINE. WATER SERVICES AND SEWER LINES RUNNING PARALLEL SHALL HAVE A MINIMUM SEPARATION OF 10 FEET MEASURED FROM OUTSIDE OF PIPE TO OUT





# LANDSCAPE TABULATIONS

SITE REQUIREMENTS (site area 112,194 s.f.)  
Requirements: 15% site area to be landscaped

Required: 16,829 s.f. (15%)  
Provided: 47,650 s.f. (42%)

FRONT YARD REQUIREMENTS  
Requirements: 50% of required landscape must be located in front yard

Required: 8,414 s.f. (50%)  
Provided: 17,826 s.f.

STREET REQUIREMENTS  
Requirements: (1) tree 3" cal. per 50 l.f. of frontage

SUMMER LEE DRIVE (314.53 l.f.)  
Required: (6) trees, 3" cal.  
Provided: (6) trees, 3" cal.

STREET REQUIREMENTS: SCENIC OVERLAY  
Requirements: (3) canopy tree 4" cal. and (4) accent trees, 4" ht. per 100 l.f. of frontage

RIDGE ROAD (426.66 l.f.)  
Required: (12) trees, 4" cal.  
Provided: (9) trees, 3" cal.  
(17) trees, 4" ht.

PARKING LOT (74 spaces; 40,588 s.f.)  
Requirements: 5% of total parking lot area and (1) tree, 3" cal. per 20 parking spaces

Required: (4) trees, 3" cal.  
Provided: (4) trees, 3" cal.  
2,029 s.f. (5%)

DETENTION PONDS:  
Requirements: (1) tree, 3" cal. per 780 s.f. of Pond Area  
POND 'A': 13,776 s.f.:  
Required: (18) trees  
Provided: (18) trees  
POND 'B': 3,046 s.f.:  
Required: (4) trees  
Provided: (4) trees  
POND 'C': 4,681 s.f.:  
Required: (6) trees  
Provided: (6) trees

# LANDSCAPE NOTES

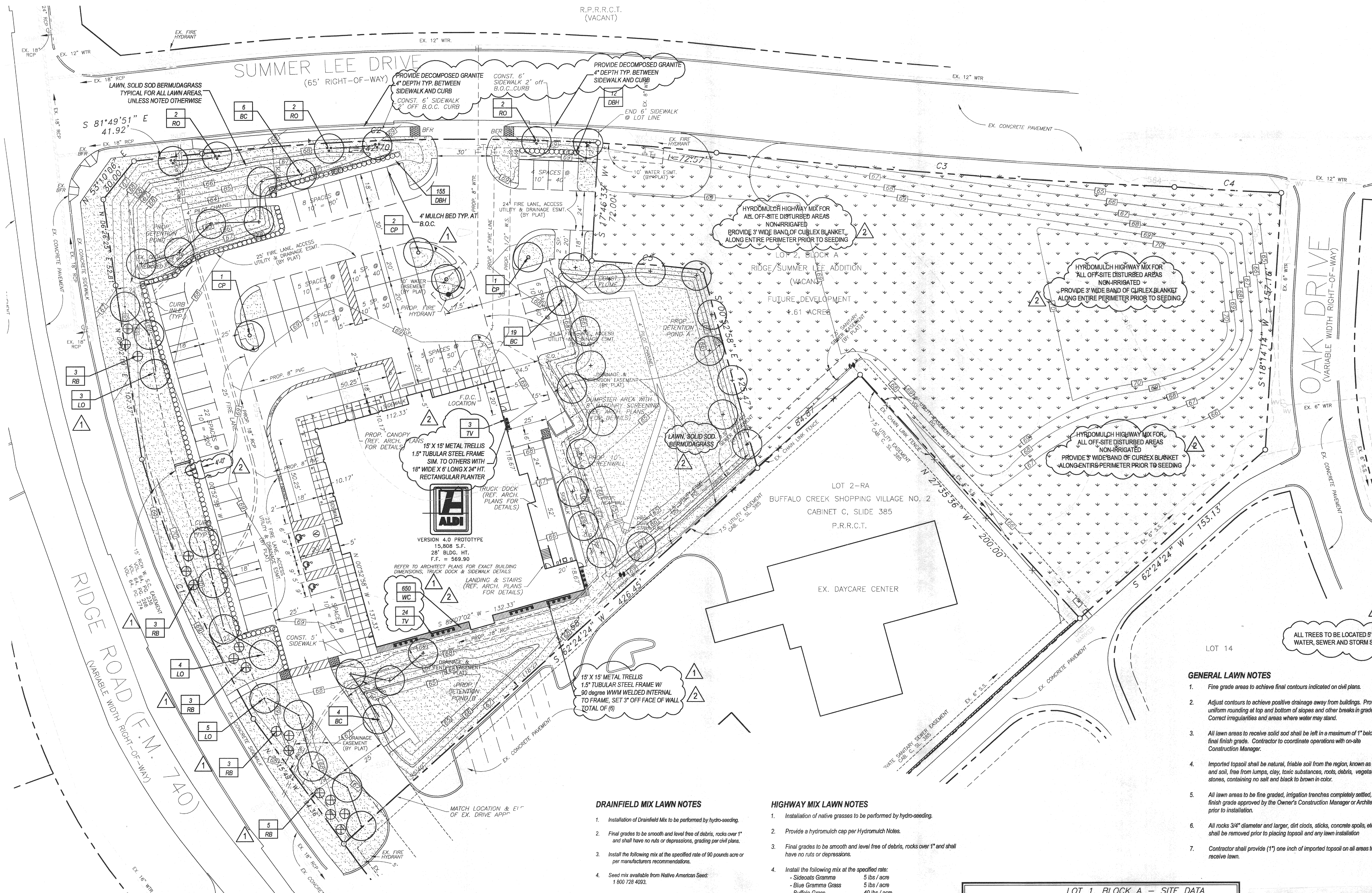
- Contractor shall verify all existing and proposed site elements and notify Architect of any discrepancies. Survey data of existing conditions was supplied by others.
- Contractor shall locate all existing underground utilities and notify Architect of any conflicts. Contractor shall exercise caution when working in the vicinity of underground utilities.
- Contractor is responsible for obtaining all required landscape and irrigation permits.
- Contractor to provide a minimum 2% slope away from all structures.
- All planting beds and lawn areas to be separated by steel edging. No steel to be installed adjacent to sidewalks or curbs.
- All landscape areas to be 100% irrigated with an underground automatic irrigation system and shall include rain and freeze sensors.
- All lawn areas to be Solid Sod Bermudagrass, unless otherwise noted on the drawings.

# MAINTENANCE NOTES

- The Owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of all landscape.
- All landscape shall be maintained in a neat and orderly manner at all times. This shall include mowing, edging, pruning, fertilizing, watering, weeding and other such activities common to landscape maintenance.
- All landscape areas shall be kept free of trash, litter, weeds and other such material or plants not part of this plan.
- All plant material shall be maintained in a healthy and growing condition as is appropriate for the season of the year.
- All plant material which dies shall be replaced with plant material of equal or better value.
- Contractor shall provide separate bid proposal for one year's maintenance to begin after final acceptance.

# GENERAL LAWN NOTES

- Fine grade areas to achieve final contours indicated on civil plans.
- Adjust contours to achieve positive drainage away from buildings. Provide uniform rounding at top and bottom of slopes and other breaks in grade. Correct irregularities and areas where water may stand.
- All lawn areas to receive solid sod shall be left in a maximum of 1" below final finish grade. Contractor to coordinate operations with on-site Construction Manager.
- Imported topsoil shall be natural, friable soil from the region, known as bottom and soil, free from lumps, clay, toxic substances, roots, debris, vegetation, stones, containing no salt and black to brown in color.
- All lawn areas to be fine graded, irrigation trenches completely settled, and finish grade approved by the Owner's Construction Manager or Architect prior to installation.
- All rocks 3/4" diameter and larger, dirt clods, sticks, concrete spoils, etc. shall be removed prior to placing topsoil and any lawn installation.
- Contractor shall provide (1") one inch of imported topsoil on all areas to receive lawn.



# DRAINFIELD MIX LAWN NOTES

- Installation of Drainfield Mix to be performed by hydro-seeding.
- Final grades to be smooth and level free of debris, rocks over 1" and shall have no ruts or depressions, grading per civil plans.
- Install the following mix at the specified rate of 90 pounds/acre or per manufacturers recommendations.
- Seed mix available from Native American Seed: 1 800 728 4033.

# HIGHWAY MIX LAWN NOTES

- Installation of native grasses to be performed by hydro-seeding.
- Provide a hydromulch cap per Hydromulch Notes.
- Final grades to be smooth and level free of debris, rocks over 1" and shall have no ruts or depressions.
- Install the following mix at the specified rate:
  - Sideoats Gramma 5 lbs / acre
  - Blue Gramma Grass 5 lbs / acre
  - Buffalo Grass 40 lbs / acre
  - Green Sprangletop 5 lbs / acre
  - Lovegrass 6 lbs / acre

# PLANT LIST

TREES	QTY.	TYPE	COMMON NAME	BOTANICAL NAME	SIZE	REMARKS
1	28	BC	Bald Cypress	Taxodium distichum	3" cal.	container grown, 13' ht., 4" spread min., 4" clear trunk
4	4	CP	Chinese Pistache	Pistacia chinensis	3" cal.	container grown, 13' ht., 4" spread min., 4" clear trunk
12	12	LO	Live Oak	Quercus virginiana	4" cal.	container grown, 14' ht., 5' spread min., 5" clear trunk
6	6	RO	Red Oak	Quercus shumardii	3" cal.	container grown, 13' ht., 4" spread min., 4" clear trunk
17	17	RB	Texas Redbud	Cercis canadensis 'Texensis'	5' ht.	B&B, single trunk

# SHRUBS

QTY.	TYPE	COMMON NAME	BOTANICAL NAME	SIZE	REMARKS
167	DBH	Dwarf Burford Holly	Ilex cornuta 'Burfordii nana'	24" ht.	container grown, 24" ht. 36" o.c.

# GROUNDCOVERS

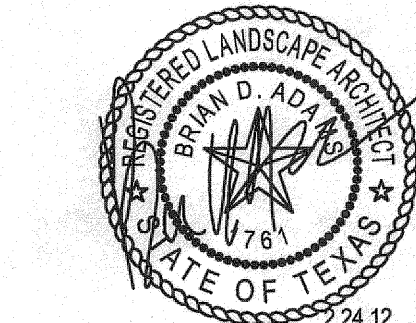
QTY.	TYPE	COMMON NAME	BOTANICAL NAME	SIZE	REMARKS
650	WC	Wintercreeper	Euonymus fortunei coloratus	4" pots	container, (3) 12" runners min.
27	TV	Trumpet Vine	Cynodon dactylon	5 gal.	container, (6) 36" runners min.
		Common Bermudagrass		solid sod	refer to notes

NOTE: Plant list is an aid to bidders only. Contractor shall verify all quantities on plan. All heights and spreads are minimums. All plant material shall meet or exceed remarks as indicated. All trees to have straight trunks and be matching within varieties.

LOT 1, BLOCK A - SITE DATA	
SITE AREA:	2,5756 AC. (112,194 S.F.)
ZONING DISTRICT:	GENERAL RETAIL (GR)
PROPOSED USE:	GROCERY STORE
BUILDING AREA:	15,809 S.F.
	28' (SINGLE STORY)
REQUIRED: 1 SPACE/250 SF OF BUILDING AREA	64
PROVIDED:	74 (3 H.C.)
OFF-STREET LOADING:	1
PROVIDED:	1
LANDSCAPE AREA:	16,829 S.F. (15.00%)
REQUIRED:	47,650 S.F. (42.47%)
PROVIDED:	64,544 S.F. (57.53%)
IMPERVIOUS AREA:	

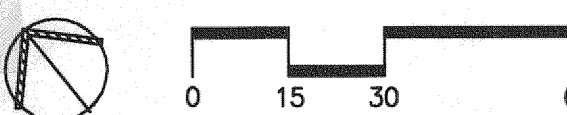
ENGINEER:  
BURGER ENGINEERING, LLC  
17103 PRESTON ROAD, SUITE 180N  
DALLAS, TEXAS 75248  
(972) 630-3360  
CONTACT: BRYAN M. BURGER, P.E.

APPLICANT:  
ALDI, INC.  
2500 WESTCOURT ROAD  
DENTON, TEXAS 76207  
(940) 220-5400  
CONTACT: HEATHER RIMMER



# 01 LANDSCAPE PLAN

SCALE: 1" = 30'-0"



REV.	DATE	REMARKS
2	2/24/12	CITY COMMENTS
1	2/24/12	CITY COMMENTS

# LANDSCAPE PLAN

ALDI GROCERY STORE

LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION

THE CITY OF ROCKWALL, TEXAS

BURGER ENGINEERING  
Civil Consultants  
17103 Preston Road, Suite 180N  
Dallas, Texas 75248  
Office: 972.630.3360 Fax: 972.630.3380  
TBPE F-12997

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BDA	BDA	01/16/12		D.P.	007-008 SITE PLAN	L-1



SECTION 02800 - LANDSCAPE

PART 1 - GENERAL

1.1 REFERENCE DOCUMENTS

Refer to bidding requirements, special provisions, and schedules for additional requirements.

1.2 DESCRIPTION OF WORK

Work included: Furnish all supervision, labor, materials, services, equipment and appliances required to complete the work covered in conjunction with the landscaping covered in these specifications and landscaping plans, including:

- Planting (trees, shrubs, and grass)
- Bed preparation and fertilization
- Notification of sources
- Water and Maintenance until final acceptance
- Guarantee

1.3 REFERENCE STANDARDS

- American Standard for Nursery Stock, published by American Association of Nurserymen: 27 October 1990, Edition, by American National Standards Institute, Inc. (Z60.1) - plant material.
- American Joint Committee on Horticultural Nomenclature: 1942 Edition of Standardized Plant Names.
- Texas Association of Nurserymen, Grades and Standards.
- Hortis Thid, 1976 - Cornell University

1.4 NOTIFICATION OF SOURCES AND SUBMITTALS

- The Contractor shall, within ten (10) days following acceptance of bid, notify the Architect/Owner of the sources of plant materials and bed preparation required for the project.
- Samples: Provide representative quantities of sandy loam soil, mulch, bed mix material, gravel, and crushed stone. Samples shall be approved by Architect before use on project.
- Product Data: Submit complete product data and specifications on all other specified materials.
- Submit three representative samples of each variety of ornamental trees, shrubs, and groundcover plants for Architect's approval. When approved, tag, install, and maintain as representative samples for final installed plant materials.
- File Certificates of Inspection of plant material by state, county, and federal authorities with Architect, if required.
- Soil Analysis: Provide sandy loam soil analysis if requested by the Architect.

PART 3 - EXECUTION

3.1 BED PREPARATION & FERTILIZATION

- Landscape Contractor to inspect all existing conditions and report any deficiencies to the Owner.
- All planting areas shall be conditioned as follows:
  - Prepare new planting beds by scraping away existing grass and weeds as necessary. Till existing soil to a depth of six (6") inches prior to placing compost and fertilizer. Apply fertilizer as per manufacturers recommendations. Add six (6") inches of compost and till into a depth of six (6") inches of the topsoil. Apply organic fertilizer such as Sustane or Green Sense at the rate of twenty (20) pounds per one thousand (1,000) square feet.
  - All planting areas shall receive a two (2") inch layer of specified mulch.
  - Backfill for tree pits shall be as follows: Use existing top soil on site (use imported topsoil as needed) free from large clumps, rocks, debris, caliche, subsoils, etc., placed in nine (9") inch layers and watered in thoroughly.
- Grass Areas:
  - Areas to be Solid Sod Bermudagrass: Blocks of sod should be laid joint to joint, (staggered joints) after fertilizing the ground first. Roll grass areas to achieve a smooth, even surface. The joints between the blocks of sod should be filled with topsoil where they are evidently gaped open, then watered thoroughly.
  - Areas to be Hydromulch Common Bermudagrass: Hydromulch with bermudagrass seed at a rate of two (2) pounds per one thousand (1,000) square feet. Use a 4' x 8' batter board against the bed areas.

3.2 INSTALLATION

- Maintenance of plant materials shall begin immediately after each plant is delivered to the site and shall continue until all construction has been satisfactorily accomplished.
- Plant materials shall be delivered to the site only after the beds are prepared and area ready for planting. All shipments of nursery materials shall be thoroughly protected from the drying winds during transit. All plants which cannot be planted at once, after delivery to the site, shall be well protected against the possibility of drying by wind and sun. Balls of earth of B & B plants shall be kept covered with soil or other acceptable material. All plants remain the property of the Contractor until final acceptance.
- Position the trees and shrubs in their intended location as per plan.
- Notify the Landscape Architect for inspection and approval of all positioning of plant materials.
- Excavate pits with vertical sides and horizontal bottom. Tree pits shall be large enough to permit handling and planting without injury to balls of earth or roots and shall be of such depth that, when planted and settled, the crown of the plant shall bear the same relationship to the finish grade as it did to soil surface in original place of growth.

JOB CONDITIONS

- General Contractor to complete the following punch list: Prior to Landscape Contractor initiating any portion of landscape installation, General Contractor shall leave planting bed areas three (3") inches below finish grade of sidewalks, drives and curbs as shown on the drawings. All lawn areas to receive solid sod shall be left one (1") inch below the finish grade of sidewalks, drives, and curbs. All construction debris shall be removed prior to Landscape Contractor beginning any work.
- General Contractor shall provide topsoil as described in Section 02200 - Earthwork.
- Storage of materials and equipment at the job site will be at the risk of the Landscape Contractor. The Owner cannot be held responsible for theft or damage.

1.6 MAINTENANCE AND GUARANTEE

- Maintenance:
  - The Landscape Contractor will be held responsible for the maintenance of all work from the time of planting until final acceptance by the Owner. No trees, shrubs, groundcover or grass will be accepted unless they show a healthy growth and satisfactory foliage conditions.
  - Maintenance shall include watering of trees and plants, cultivation, weeding, spraying, edging, pruning of trees, mowing of grass, cleaning up and all other work necessary of maintenance.
  - A written notice requesting final inspection and acceptance should be submitted to the Owner at least seven (7) days prior to completion. An on-site inspection by Owner and Landscape Contractor will be completed prior to written acceptance.
  - After final acceptance of installation, the Landscape Contractor will not be required to do any of the above listed work.
- Guarantee:
  - Trees shall be guaranteed for a twelve (12) month period after acceptance. Shrubs and groundcover shall be guaranteed for twelve (12) months. The Contractor shall replace all dead materials as soon as weather permits and upon notification of the Owner. Plants, including trees, which have partially died so that shape, size, or symmetry has been damaged, shall be considered subject to replacement. In such cases, the opinion of the Owner shall be final.
    - Plants used for replacement shall be of the same size and kind as those originally planted and shall be planted as originally specified. All work, including materials, labor and equipment used in replacements, shall carry a twelve (12) month guarantee. Any damage, including rule in lawn or bed areas, incurred as a result of making replacements shall be immediately repaired.
    - All the direction of the Owner, plants may be replaced at the start of the next year's planting season. In such cases, dead plants shall be removed from the premises immediately.
    - When plant replacements are made, plants, soil mix, fertilizer and mulch are to be utilized as originally specified and respected in accordance with Contract requirements. All replacements are to be included under "Work" of this section.

1.7 QUALITY ASSURANCE

- General: Comply with applicable Federal, State, County and Local regulations governing landscape materials and work.
- Personnel: Employ only experienced personnel who are familiar with the required work. Provide full time supervision by a qualified foreman acceptable to Landscape Architect.
- Selection of Plant Material:
  - Make contact with suppliers immediately upon obtaining notice of contract acceptance to select and book materials. Develop a program of maintenance (pruning and fertilization) which will insure the purchased materials will meet and/or exceed project specifications.
  - Landscape Architect will provide a key identifying each tree location on site. Written verification will be required to document material selection, source and delivery schedules to site.
  - Owner and/or Architect shall inspect all plant materials when reasonable at place of growth for compliance with requirements for genus, species, cultivar/variety, size and quality.
  - Owner and/or Architect retains the right to further inspect all plant material upon arrival at the site and during installation for size and condition of root balls, limbs, branching habit, insects, injuries, and latent defects.
  - Owner and/or Architect may reject unsatisfactory or defective material at any time during the process of work. Remove rejected materials from the site immediately. Plants damaged in transit or at job site shall be rejected.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

- Preparation:
  - Balled and Burlapped (B&B) Plants: Dig and prepare shipment in a manner that will not damage roots, branches, shape, and future development.
  - Container Grown Plants: Deliver plants in rigid container to hold ball shape and protect root mass.

A. Delivery:

- Deliver packaged materials in sealed containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
- Deliver only plant materials that can be planted in one day unless adequate storage and watering facilities are available on job site.
- Protect root balls by heeling in with sawdust or other approved moisture retaining material if not planted within 24 hours of delivery.
- Protect plants during delivery to prevent damage to root balls or desiccation of leaves. Keep plants moist at all times. Cover all materials during transport.
- Notify Architect of delivery schedule 72 hours in advance so plant material may be observed upon arrival at job site.
- Remove rejected plant material immediately from site.
- To avoid damage or stress, do not lift, move, adjust to plumb, or otherwise manipulate plants by trunk or stems.

PART 2 - PRODUCTS

2.1 PLANTS

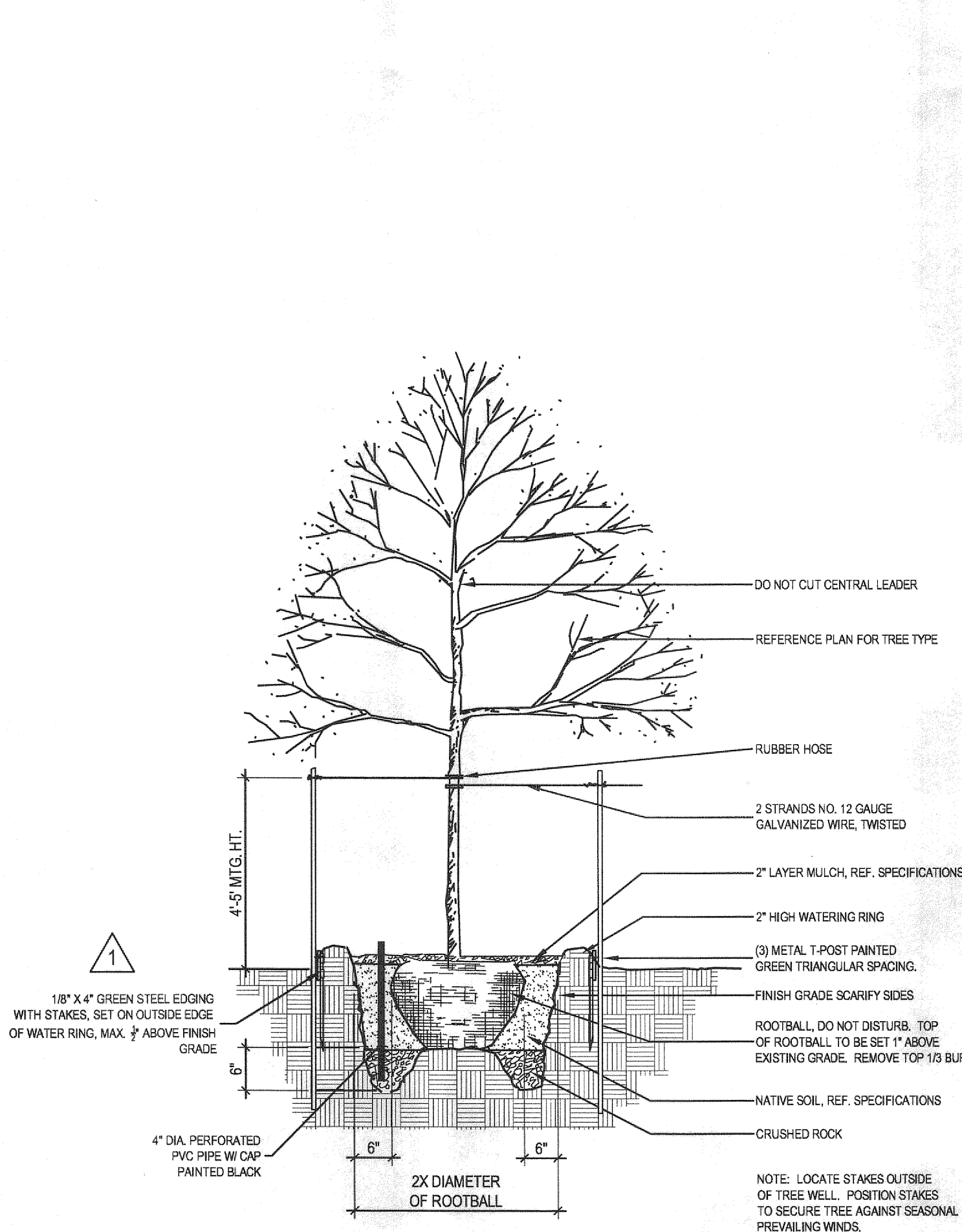
- General: Well-formed No. 1 grade or better nursery grown stock. Listed plant heights are from tops of root balls to nominal tops of plants. Plant spread refers to nominal outer width of the plant, not to the outer leaf tips. Plants will be individually approved by the Architect and his decision as to their acceptability shall be final.
- Quantities: The drawings and specifications are complimentary. Anything called for on one and not the other is as binding as if shown and called for on both. The plant schedule is as add to bidders only. Confirm all quantities on plan.
- Quality and size: Plant materials shall conform to the size given on the plan, and shall be healthy, symmetrical, well-shaped, full branched, and well rooted. The plants shall be free from injurious insects, diseases, injuries to the bark or roots, broken branches, objectionable disfigurements, insect eggs and larvae and are to be of specimen quality.
- Approval: All plant materials shall be subject to the approval of the Owner. All plants which are found unsuitable in growth, or in any unhealthy, badly shaped, or undersized condition, will be rejected by the Landscape Architect, either before or after planting, and shall be removed at the expense of the Landscape Contractor and replaced with acceptable plants as specified.
- Trees shall be healthy, full-branched, well-shaped and shall meet the trunk diameter and height requirements of the plant schedule. Balls shall be firm, neat, slightly tapered, and well wrapped in burlap. Any tree loose in the ball or with broken ball at time of planting will be rejected. Balls shall be ten (10") inches in diameter for each one (1") inch of trunk diameter. Measured six (6") inches above ball. Nomenclature conforms to the customary nursery usage: for clarification, the term "multi-trunk" defines a plant having three (3) or more trunks of nearly equal diameter.
- Pruning: All pruning of trees and shrubs, as directed by the Landscape Architect, shall be executed by the Landscape Contractor at no additional cost to the Owner.

2.2 SOIL PREPARATION MATERIALS

- Sandy Loam
  - Friable, fertile, dark, loamy soil, free of clay lumps, subsoil, stones and other extraneous material and reasonably free of weeds and foreign grasses. Loam containing Dalasgrass or Nutgrass shall be rejected.
  - Physical properties as follows:
    - Clay - between 7-27 percent
    - Silt - between 15-25 percent
    - Sand - less than 52 percent
  - Organic matter shall be 3%-10% of total dry weight.
  - If requested, provide a certified soil analysis conducted by an approved soil testing laboratory verifying that sandy loam meets the above requirements.
- Organic Material: Compost with a mixture of 80% vegetative matter and 20% animal waste. Ingredients should be a mix of course and fine textured material.
- Premixed Bedding Soil as supplied by Vital Earth Resources, Gladewater, Texas; Professional Bedding Soil as supplied by Living Earth Technology, Dallas, Texas or Acid Geo Municipal Mix as supplied by Soil Building Systems, Dallas, Texas or approved equal.
- Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.
- Mulch: Double Shredded Hardwood Mulch, partially decomposed, dark brown. Living Earth Technologies or approved equal.
- Organic Fertilizer: Fertilife, Sustane, or Green Sense or equal as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.
- Commercial Fertilizer: 10-20-10 or similar analysis. Nitrogen source to be a minimum 50% slow release organic Nitrogen (SCU or UF) with a minimum 8% sulphur and 4% iron, plus micronutrients.
- Peat: Commercial sphagnum peat moss or partially decomposed shredded pine bark or other approved organic material.

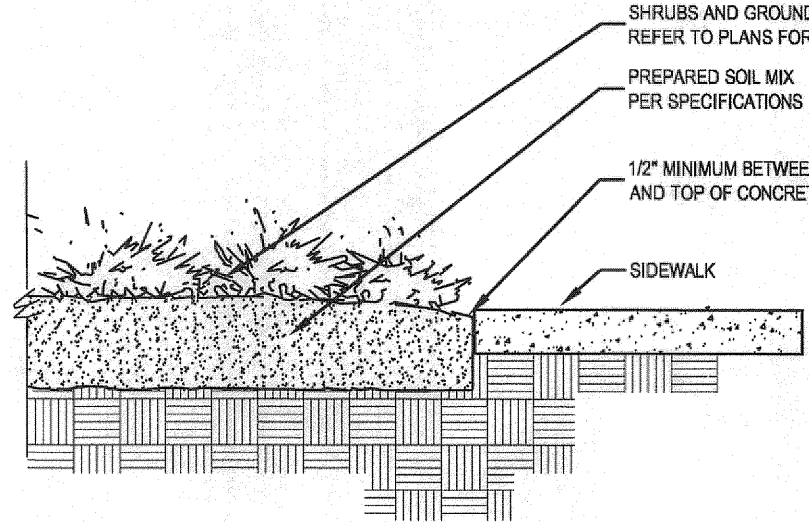
2.3 MISCELLANEOUS MATERIALS

- Steel Edging: Shall be Ryerson "Estate Curbing", 1/8" x 4" with stakes 4' on center.
- Staking Material for Shade Trees:
  - Post: Studded T-Post, #1 Amco with anchor plate, 6'-0" length; paint green.
  - Wire: 1/2 gauge, single strand, galvanized wire.
  - Rubber hose: 2 ply, fiber reinforced hose, minimum 1/2 inch inside diameter. Color: Black.
- Gravel: Washed natural pea gravel, graded 1 in. to 1-1/2 in.
- Filter Fabric: Mirafil 140N by Celanese Fibers Marketing Company, available at Lotland Co., (214) 631-5250 or approved equal.



01 TREE PLANTING DETAIL

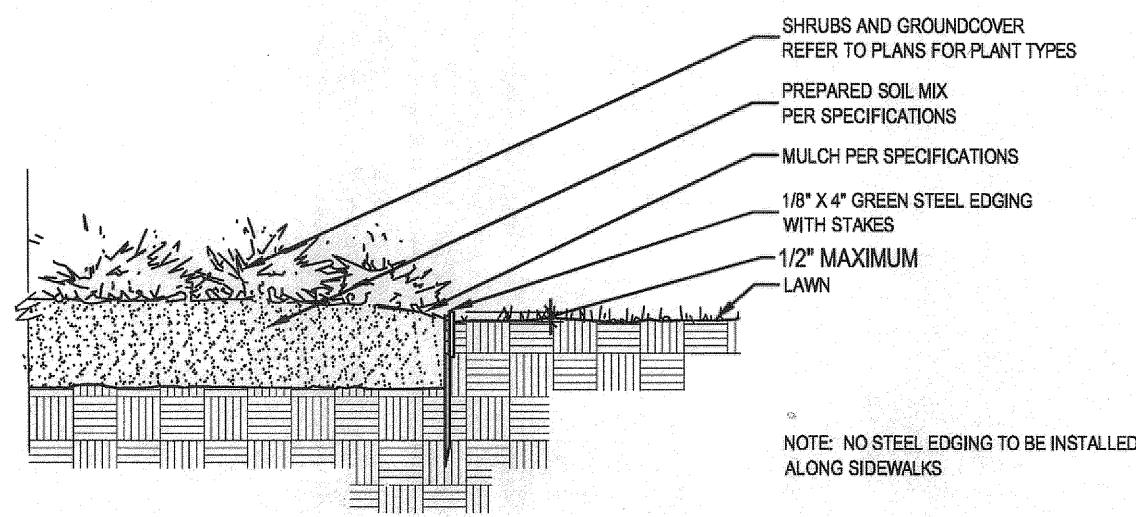
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02 SIDEWALK / MULCH DETAIL

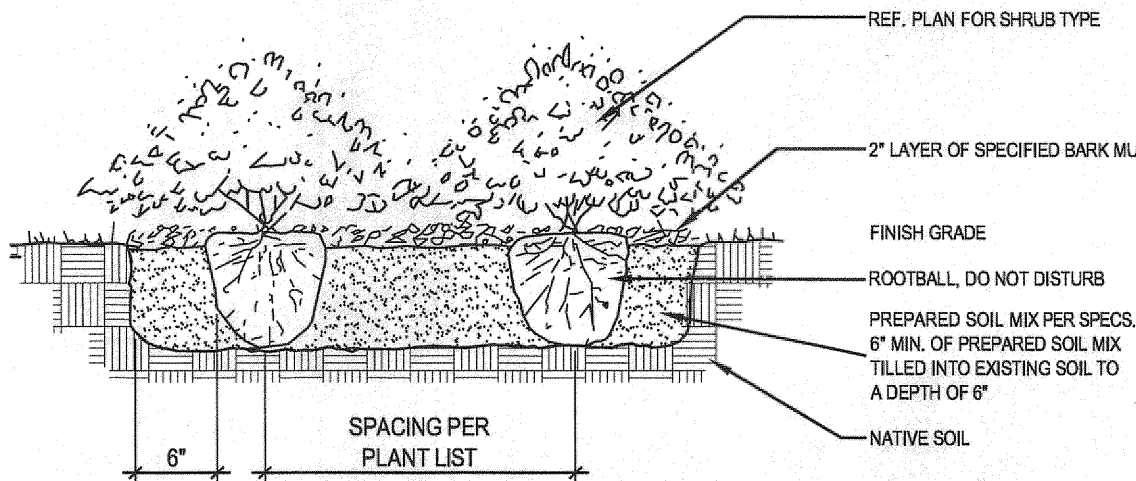
no steel along sidewalks

NOT TO SCALE



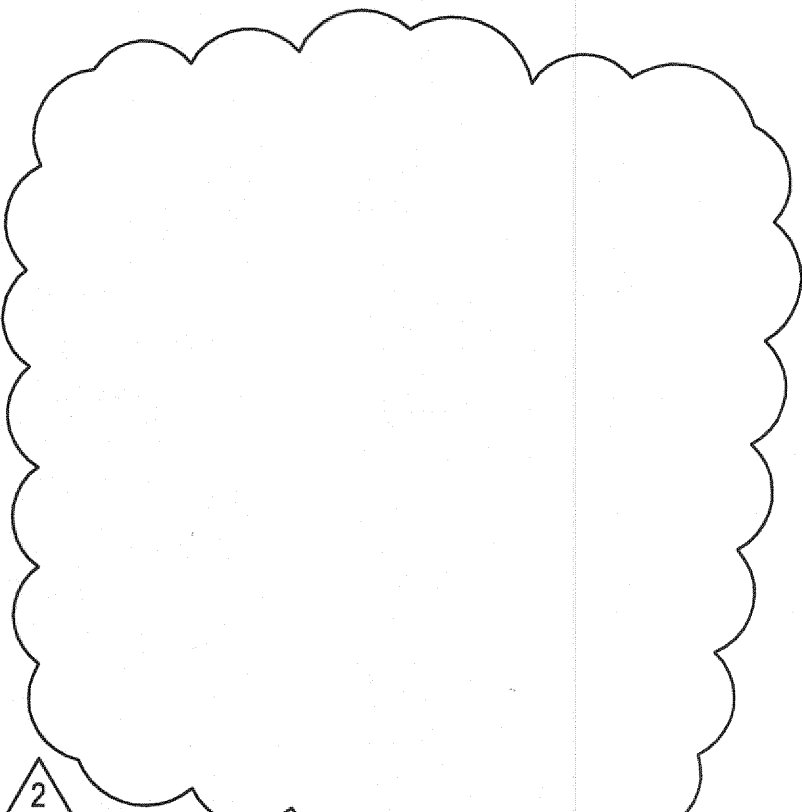
03 STEEL EDGING DETAIL

NOT TO SCALE



04 SHRUB / GROUND COVER DETAIL

NOT TO SCALE



SOLID SOD NOTES

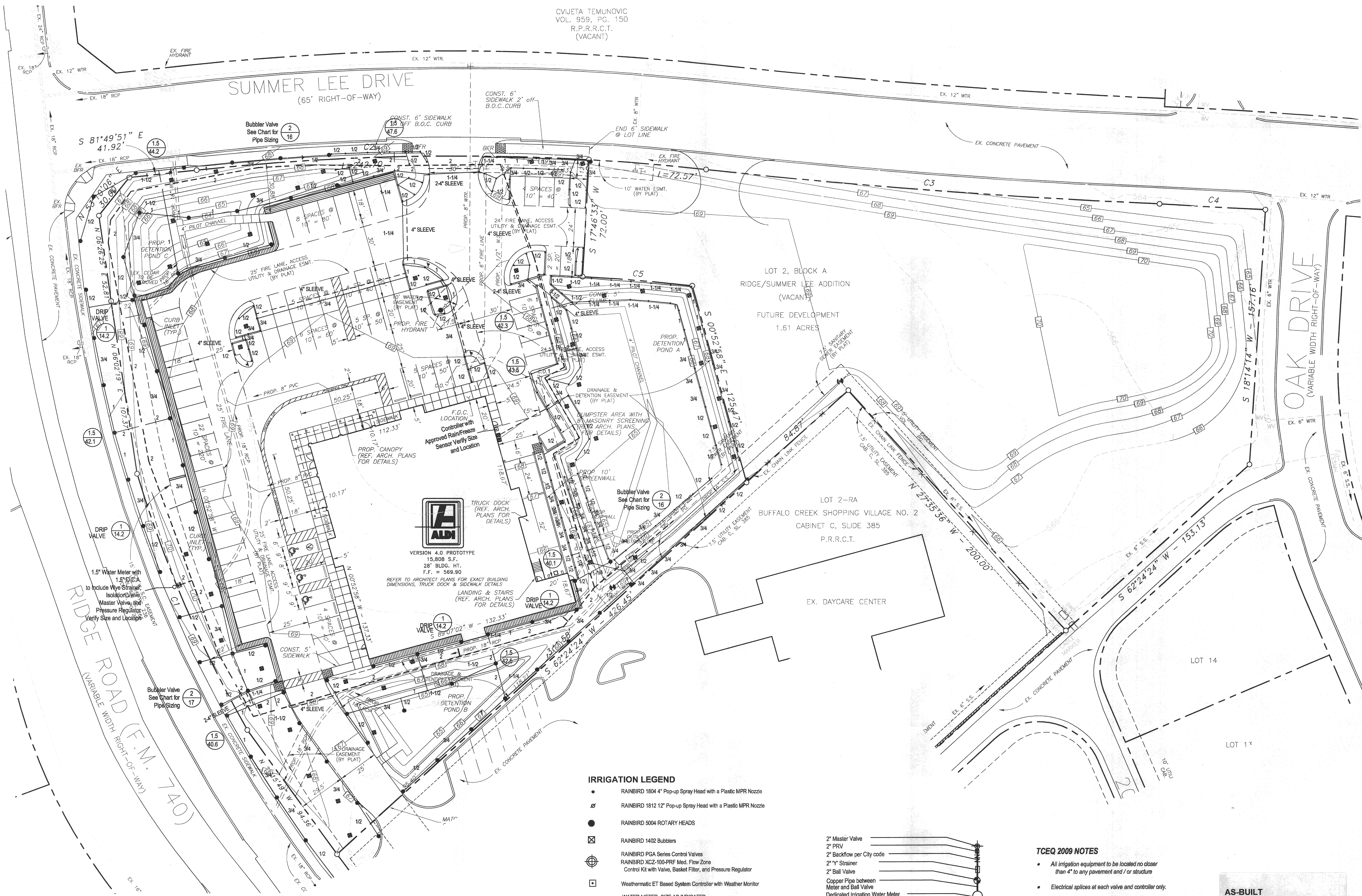
- Fine grade areas to achieve final contours indicated. Leave areas to receive topsoil 3" below final desired grade in planting areas and 1" below final grade in turf areas.
- Adjust contours to achieve positive drainage away from buildings. Provide uniform rounding at top and bottom of slopes and other breaks in grade. Correct irregularities and areas where water may stand.
- All lawn areas to receive solid sod shall be left in a maximum of 1" below final finish grade. Contractor to coordinate operations with on-site Construction Manager.
- Contractor to coordinate with on-site Construction Manager for availability of existing topsoil.
- Plant sod by hand to cover indicated area completely. Insure edges of sod are touching. Top dress joints by hand with topsoil to fill voids.
- Roll grass areas to achieve a smooth, even surface, free from unnatural undulations.
- Water sod thoroughly as sod operation progresses.
- Contractor shall maintain all lawn areas until final acceptance. This shall include, but not limited to: mowing, watering, weeding, cultivating, cleaning and replacing dead or bare areas to keep plants in a vigorous, healthy condition.
- Contractor shall guarantee establishment of an acceptable turf area and shall provide replacement from local supply if necessary.

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1708 N. Griffin Street  
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Tel 214.871.0083  
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AS-BUILT  
DATE: 01-09-13

2	2.24.12	CITY COMMENTS				
1	2.8.12	CITY COMMENTS				
REV.	DATE	REMARKS				
LANDSCAPE SPECIFICATIONS						
ALDI GROCERY STORE						
LOT 1, BLOCK A – RIDGE/SUMMER LEE ADDITION						
THE CITY OF ROCKWALL, TEXAS						
<b>B</b> URGER ENGINEERING Civil Consultants		17103 Preston Road, Suite 180N Dallas, Texas 75248 Office: 972.630.3360 Fax: 972.630.3380 TBPE F-12997				
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BDA	BDA	01/16/12		D.P.	007-008 SITE PLAN	L-2

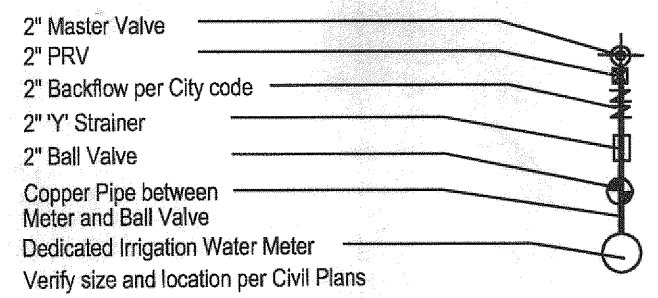




- IRRIGATION NOTES**
- All sprinkler equipment numbers reference the RAINBIRD equipment catalog unless otherwise indicated.
  - LAWN SPRAY HEADS are RB 1804 installed as per detail shown.
  - SHRUB SPRAY HEADS are RB 1812 installed as per detail shown.
  - ELECTRIC CONTROL VALVES shall be RAINBORD PGA SERIES installed per detail shown. Size valves as shown on plan. Valves shall be installed in value boxes large enough to permit manual operation, removal of solenoid and/or valve cover without any earth excavation.
  - AUTOMATIC CONTROLLER shall be installed at location shown. Power (120V) shall be located in a junction box within five (5) feet of controller location by other trades.
  - All 24 volt valve wiring is to be UF 14 single conductor. All wire splices are to be permanent and waterproof.
  - SLEEVES shall be installed by General Contractor. Sleeve material shall be Schedule 40. Size as indicated on plan.
  - Ten days prior to start of construction, Landscape or Irrigation Contractor shall verify static water pressure. If static pressure is less than 65 P.S.I., do not work until notified to do so by Owner.
  - All main line and lateral piping to a minimum of 12 inches of cover. All piping under paving shall have a minimum of 18" of cover.
  - The Irrigation Contractor shall coordinate installation of the system with the Landscape Contractor so that all plant material will be watered in accordance with the intent of the plans and specifications.
  - The Irrigation Contractor shall select the proper arc and radius for each nozzle to insure 100% and proper coverage of all lawn areas and plant material. All nozzles in parking lot islands and planting beds shall be low angle to minimize over spray on pavement surfaces. No water will be allowed to spray on building.

- DRIP IRRIGATION NOTES**
- Drip Irrigation Equipment numbers reference Rainbird Equipment Catalog unless otherwise noted.
  - Landscape Contractor shall be required to supply Owner's Construction Manager with all equipment specifications and maintenance guidelines.
  - Landscape Contractor shall be required to follow Manufacturer's Specifications and Installation guidelines for drip system.
  - PRESSURE COMPENSATING EMITTERS shall be: Multioutlet Rain Bug EM6-M101, Multi outlet Shrub Bug EM76-M101 or approved equal. (1 PER EVERY 6' - 4" POTS)
  - SINGLE OUTLET PRESSURE COMPENSATING EMITTERS shall be: Rain Bug Emitters EM-M05, -M10, -M20 and Shrub Bug Emitters EM-M10, -M20 or approved equal. (1 PER EACH 1 OR 5 GAL PLANT)
  - DRIP PRESSURE REGULATORS shall be: PSHLA-15, PSHLA-20, PSH-HMB-20, PSH-HMB-25 or approved equal.
  - Y-FILTERS shall be: RBY-075-200, RBY-100-200 or approved equal.
  - MAIN IRRIGATION TUBING shall be: RBT-150P, RBT-160V or approved equal.
  - EMITTER DISTRIBUTION TUBING shall be: RBT-150P, RBT-160V or approved equal.
  - SUBTERRANEAN EMITTER BOX shall be: SEB-6 or approved equal.
  - Drip system piping only occurs within shrub / groundcover beds and rock mulch areas. Piping shall be a maximum 4" depth and a minimum 2" depth.
  - Contractor shall verify that all drip system valves and spray system valves are sectioned separately on controller.

- IRRIGATION LEGEND**
- RAINBIRD 1804 4" Pop-up Spray Head with a Plastic MPR Nozzle
  - RAINBIRD 1812 12" Pop-up Spray Head with a Plastic MPR Nozzle
  - RAINBIRD 9004 ROTARY HEADS
  - RAINBIRD 1402 BUBBLERS
  - RAINBIRD PGA Series Control Valves
  - RAINBIRD XCZ-100-PRF Med. Flow Zone Control Kit with Valve, Basket Filter, and Pressure Regulator
  - Weathermatic ET Based System Controller with Weather Monitor
  - WATER METER, SIZE AS INDICATED
  - D.C.A. SIZE AS INDICATED
  - to include Wye Strainer, Isolation Valve, Master Valve, and Pressure Regulator
  - PVC CLASS 200 LATERAL LINE
  - PVC CLASS 200 MAINLINE
  - PVC SCHEDULE 40 SLEEVEING
  - VALVE SIZE GPM
  - NETAFIM TECHLINE#TDL6-1210 (18" LATERAL SPACING, 12" EMITTER SPACING)
  - PVC LATERAL PIPING SIZED AS REQUIRED
  - INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURERS SPECIFICATIONS
  - NETAFIM DISC FILTER #DF100-080
  - NETAFIM PRESSURE REGULATOR #PRV15025
  - INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURERS SPECIFICATIONS



**TCEQ 2009 NOTES**

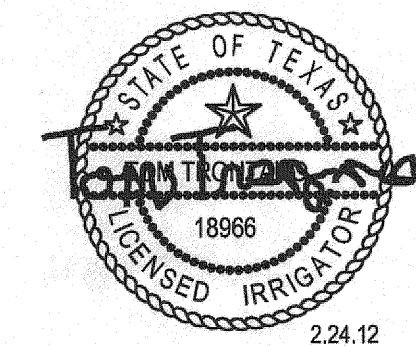
- All irrigation equipment to be located no closer than 4" to any pavement and / or structure
- Electrical splices at each valve and controller only.
- Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ) MC-178 / P.O. BOX 13087 Austin, Texas 78711-3087 www.tceq.state.tx.us

**BUBBLER PIPING CHART**

1-5 BUBBLERS - 1/2" PIPE
6-10 BUBBLERS - 3/4" PIPE
11-20 BUBBLERS - 1" PIPE
21-30 BUBBLERS - 1 1/4" PIPE
31-40 BUBBLERS - 1 1/2" PIPE

- SLEEVEING NOTES**
- Contractor shall lay sleeves and conduits at twenty-four (24) inches below finish grade of the top of pavement.
  - Contractor shall extend sleeves one (1") foot beyond edge of all pavement.
  - Contractor shall cap pipe ends using PVC caps.
  - All sleeves shall be Schedule 40 PVC pipe.
  - Contractor shall furnish Owner and Irrigation Contractor with an "as-built" drawing showing all sleeve locations.

**AS-BUILT DATE:** 01-09-13



**ENGINEER:**  
BURGER ENGINEERING, LLC  
17103 PRESTON ROAD, SUITE 180N  
DALLAS, TEXAS 75248  
(972) 630-3360  
CONTACT: BRYAN M. BURGER, P.E.

**APPLICANT:**  
ALDI, INC.  
2500 WESTCOURT ROAD  
DENTON, TEXAS 76207  
(940) 220-5400  
CONTACT: HEATHER RIMMER

**01 IRRIGATION PLAN**  
SCALE: 1" = 30'-0"

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REV.	DATE	REMARKS

**IRRIGATION PLAN**  
ALDI GROCERY STORE  
LOT 1, BLOCK A - RIDGE/SUMMER LEE ADDITION  
THE CITY OF ROCKWALL, TEXAS

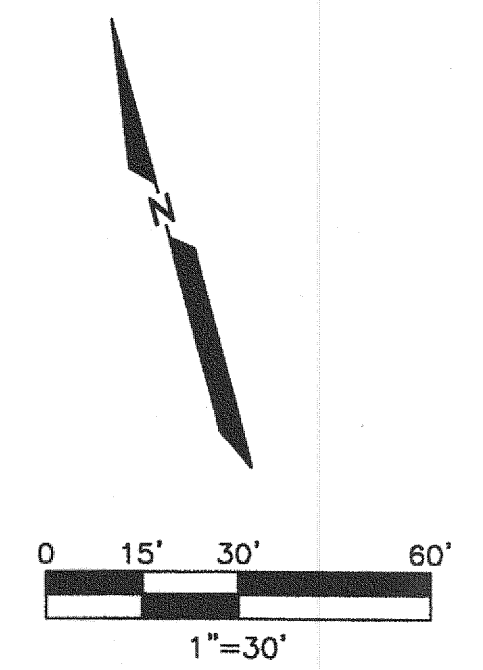
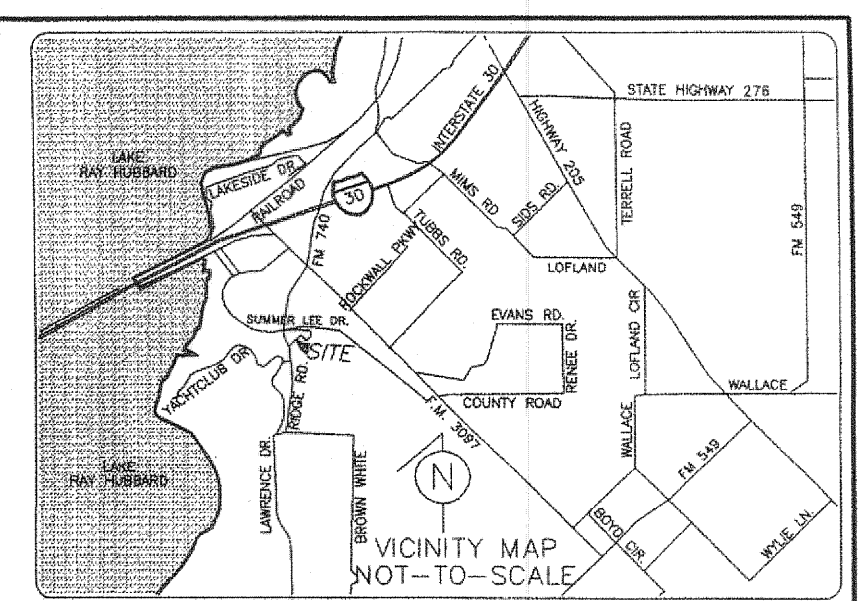
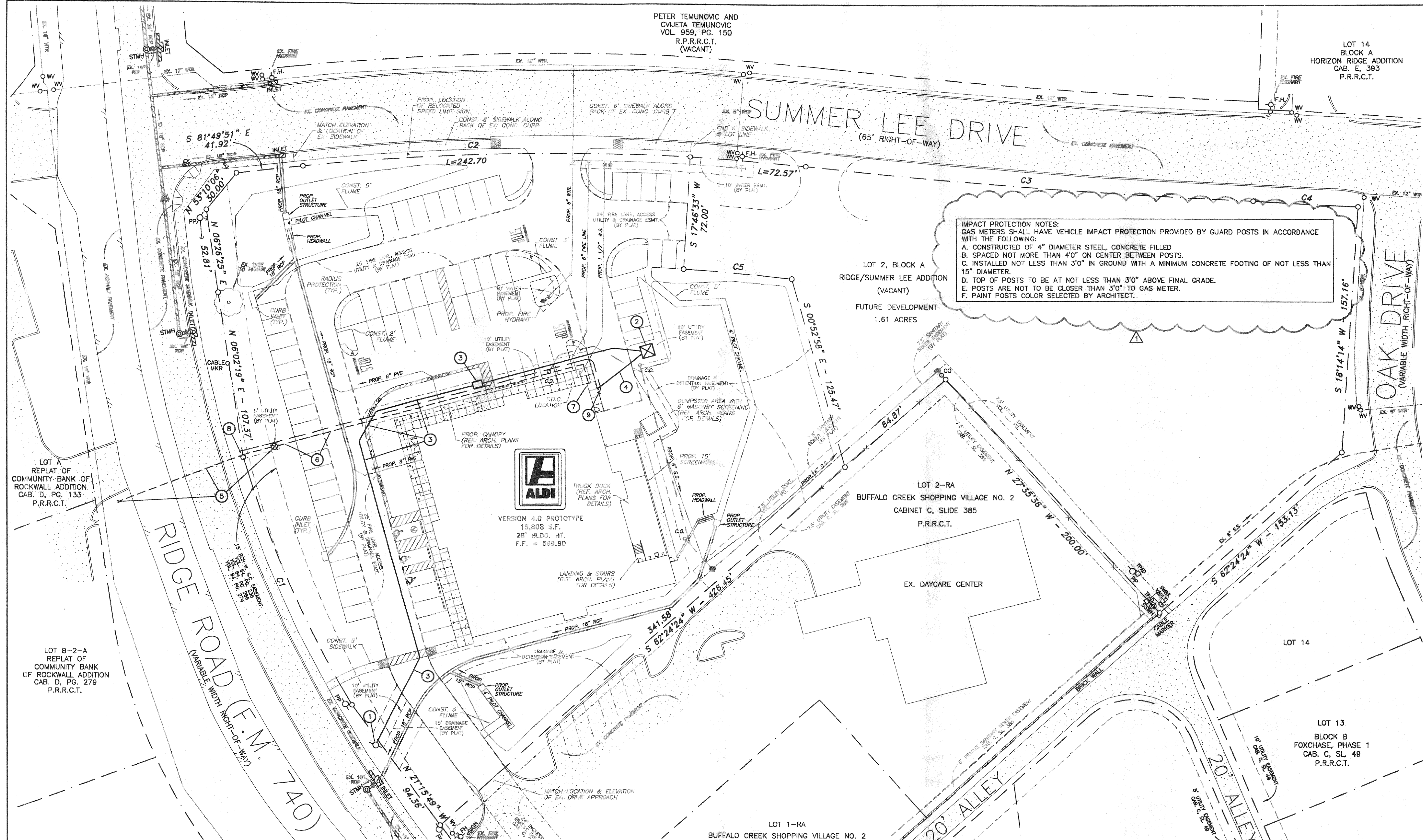
**BURGER ENGINEERING**  
Civil Consultants  
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TBPE F-12997

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
TT	TT	02/24/12		D.P.	007-008 SITE PLAN	L-3









UTILITY COMPANY CONTACTS	
ONCOR ELECTRIC DELIVERY	MR. RANDY VOIGHT 972-551-7233 RANDY.VOIGHT@ONCOR.COM
ATMOS ENERGY	MS. DINAH WOOD 972-485-8277 DINAH.WOOD@ATMOSENERGY.COM
AT&T	MR. BRIAN DUNCAN 903-457-2303 BD5618@ATT.COM



OWNER:  
ALDI, INC.  
2500 WESTCOURT ROAD  
DENTON, TEXAS 76207  
(940) 220-5400  
CONTACT: HEATHER RIMMER

#### EXISTING UTILITIES NOTES

CONTRACTOR IS TO CONTACT 1-800-DIG-TESS AND HAVE THEM LOCATE ALL BURIED UTILITIES WHICH MAY BE AFFECTED IN ANY WAY BY THE WORK OF THIS PROJECT.

1-800-DIG-TESS WILL LOCATE UTILITIES WITHIN 2'0" HORIZONTALLY OF THEIR EXISTING BURIED LOCATION.

NEITHER DIG-TESS NOR THE UTILITY COMPANIES WILL WARRANTY EXISTING DEPTH OF BURIED UTILITIES. CONTRACTOR IS TO CAREFULLY DIG "POTHOLES" UNTIL DEPTH AND EXACT HORIZONTAL LOCATIONS OF ALL UTILITIES CAN BE VERIFIED.

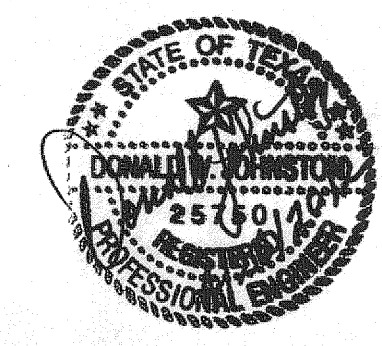
IF DISCREPANCIES AND CONFLICTS ARE DISCOVERED, CONTACT THE OWNER'S REPRESENTATIVE FOR DIRECTIONS PRIOR TO PROCEEDING WITH AFFECTED WORK.

#### GENERAL NOTES

- COORDINATE ALL WORK WITH UTILITY COMPANIES AND OWNER'S REPRESENTATIVE.
- STAKE CENTERLINE OF TRENCHES, ENDS OF LINES AND CORNERS OF PADS FOR UTILITY COMPANIES. COORDINATE EXACT LOCATIONS WITH CIVIL ENGINEER AND WITH UTILITY COMPANIES.
- VERIFY ALL DIMENSIONS WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
- INTENT IS TO ROUTE UTILITY LINES IN A COMMON TRENCH WHERE POSSIBLE. MAINTAIN SEPARATION OF UTILITY LINES PER RESPECTIVE UTILITY COMPANY'S REQUIREMENTS. BACKFILL AND COMPACT TRENCH PER SOILS ENGINEER'S RECOMMENDATIONS.

#### NOTES BY SYMBOL 'O' - MEP SITE PLAN

- ONCOR TO PROVIDE NEW IN-LINE POWER POLE WITH PRIMARY RISER.
- PROVIDE CONCRETE PAD PER ONCOR STANDARDS. ONCOR TO PROVIDE PAD MOUNTED TRANSFORMER WITH METER LOCATED ON TRANSFORMER. VERIFY EXACT LOCATION WITH ONCOR. PROVIDE PAINTED, CONCRETE FILLED PIPE BOLLARDS PER ONCOR IF REQUIRED BY ONCOR.
- PROVIDE (2) 4" PRIMARY CONDUITS WITH PULLSTRINGS PER ONCOR STANDARDS. PROVIDE PRIMARY PULLBOX WITH TRAFFIC RATED COVER PER ONCOR STANDARDS. VERIFY EXACT LOCATION WITH ONCOR AND CIVIL ENGINEER.
- PROVIDE (2) 4" SECONDARY CONDUITS WITH PULLSTRINGS FROM TRANSFORMER TO WITHIN 5'-0" OF BUILDING WALL, CAP, STAKE AND LABEL ENDS. BUILDING CONTRACTOR TO PROVIDE CONDUITS EXTENSION TO BUILDING SWITCHGEAR AND PROVIDE SECONDARY CONDUITS AND TERMINATIONS DURING BUILDING CONSTRUCTION.
- ATMOS TO PROVIDE BORE AND GAS PIPING ACROSS RIDGE ROAD (F.M. 740) TO A METER IN EASEMENT ON SITE. VERIFY EXACT LOCATION OF METER WITH ATMOS.
- PROVIDE PRIVATE 1" GAS PIPING AT 5 PSI PRESSURE FROM METER TO BUILDING PER ATMOS STANDARDS.
- PROVIDE GAS PIPING STUBUP TO A MAIN SHUTOFF VALVE AND PRESSURE REGULATOR SET FOR 10" WC (6 OZ) DISCHARGE PRESSURE AT BUILDING. VERIFY EXACT LOCATION AT BUILDING.
- PROVIDE (1) 3" TELEPHONE CONDUIT WITH PULLSTRING PER AT&T STANDARDS FROM STREET RIGHT-OF-WAY TO BUILDING.
- STUB (1) 3" TELEPHONE CONDUIT TO WITHIN 5'-0" OF BUILDING WALL, CAP, STAKE AND LABEL END. BUILDING CONTRACTOR TO PROVIDE CONDUIT EXTENSION TO INTERIOR TERMINAL BOARD DURING BUILDING CONSTRUCTION. AT&T TO PROVIDE MINIMUM 6 PAIR CABLE FROM STREET RIGHT-OF-WAY TO TERMINAL BOARD AND PROVIDE TERMINATIONS DURING BUILDING CONSTRUCTION.



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972-234-1945  
robinett01@aol.com  
TBPE F-3821

AS-BUILT  
DATE: 01-09-13

1	4/25/12	AS INDICATED				
REV.	DATE	REMARKS				
SITE PLAN – MEP						
ALDI GROCERY STORE						
LOT 1, BLOCK A – RIDGE/SUMMER LEE ADDITION						
THE CITY OF ROCKWALL, TEXAS						
<b>B</b>		BURGER		17103 Preston Road, Suite 180N		
<b>ENGINEERING</b>				Dallas, Texas 75248		
Civil Consultants				Office: 972.630.3360 Fax: 972.630.3380		
				TBPE F-12997		
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RAR	RAR	3/5/12	1"=30'	-	007-008 R&A#01-12	MEP-1