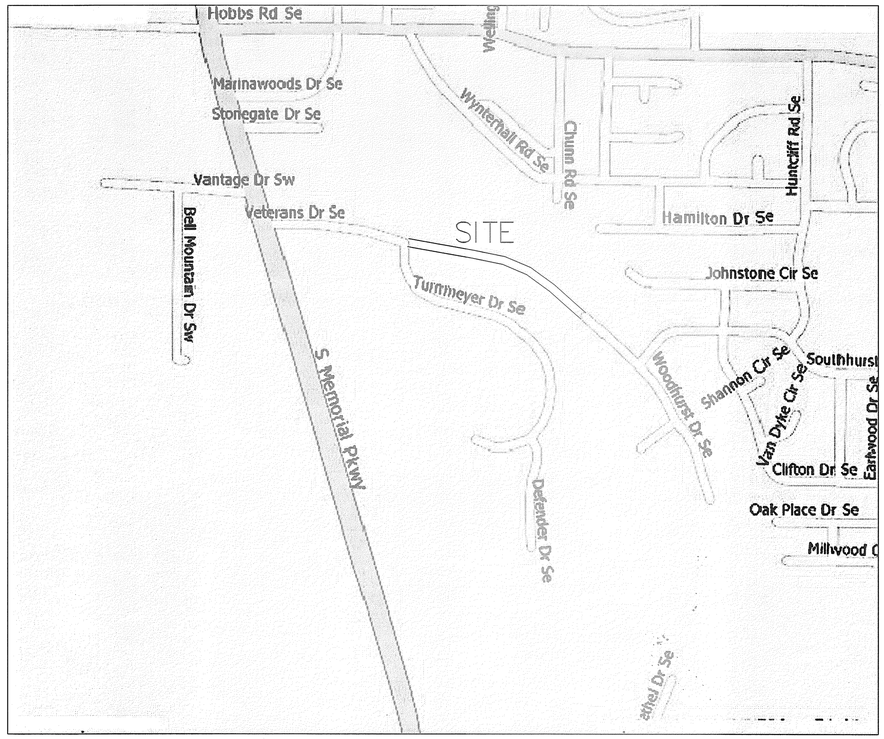
VETERANS DRIVE EXTENSION

A RESUB OF LOTS 4 & 5
REDSTONE VILLAGE
PB. 45 PG. 58



VICINITY MAP
NTS

INDEX TO DRAWINGS:

SHT. NO.	SHT. NAME
1	COVER SHEET
2-3	PRELIMINARY PLAT
4-5	GRADING & DRAINAGE PLAN
6-7	EROSION & SEDIMENT CONTROL PLAN
8-9	STREET PLAN & PROFILE
10	STORM SEWER PROFILES
11	STREET CROSS-SECTIONS
12-18	CONSTRUCTION DETAILS
19	RETAINING WALL DESIGN

OWNER
REDSTONE MILITARY RETIREMENT
RESIDENCE ASSOCIATION
1200 TURNMEYER DR
HUNTSVILLE, AL 35803

DEVELOPER
REDSTONE MILITARY RETIREMENT
RESIDENCE ASSOCIATION
1200 TURNMEYER DR
HUNTSVILLE, AL 35803

GENERAL NOTES

1. A CONSTRUCTION PERMIT WILL BE REQUIRED FROM THE CITY ENGINERING DIVISION BEFORE CONSTRUCTION BEGINS.

2. THE CONTRACTOR WILL BE RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM THE ADJOINING STREETS DURING CONSTRUCTION. ANY DAMAGE TO ADJOINING AND EXISTING STREETS MUST BE REPAIRED BY THE CONTRACTOR DURING THE CONSTRUCTION OF THIS SUBDIVISION.

3. NO FILL DIRT SHALL BE PLACED ON THE PROPERTY THAT MIGHT INTERFERE WITH DRAINAGE FLOW FROM ADJACENT PROPERTY. STORM DRAINAGE SYSTEM SHALL BE INSTALLED PRIOR TO FILL MATERIAL BEING PLACED.

4. THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR TVI, VACUUM TESTING MANHOLES, AND AIR TESTING SEWER LINES.

5. NO CHANGES SHALL BE MADE TO THESE APPROVED PLANS WITHOUT THE ENGINEER OF RECORD BEING NOTIFIED BEFORE CHANGES ARE MADE, AND THE ENGINEER OF RECORD ACQUIRING APPROVAL FROM THE CITY ENGINEER.

6. NO CONSTRUCTION TRAFFIC IS ALLOWED THROUGH "OAKHURST SUB'D" ALL TRAFFIC MUST ENTER AND EXIT USING ALTERNATE ROUTES.

N

COVER

SCALE: 1"=100' 03/27/08

0 100 200 300

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608 Stevens Avenue • Huntsville, AL 35801
phone 256.539.1221 • fax 256.539.1220

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

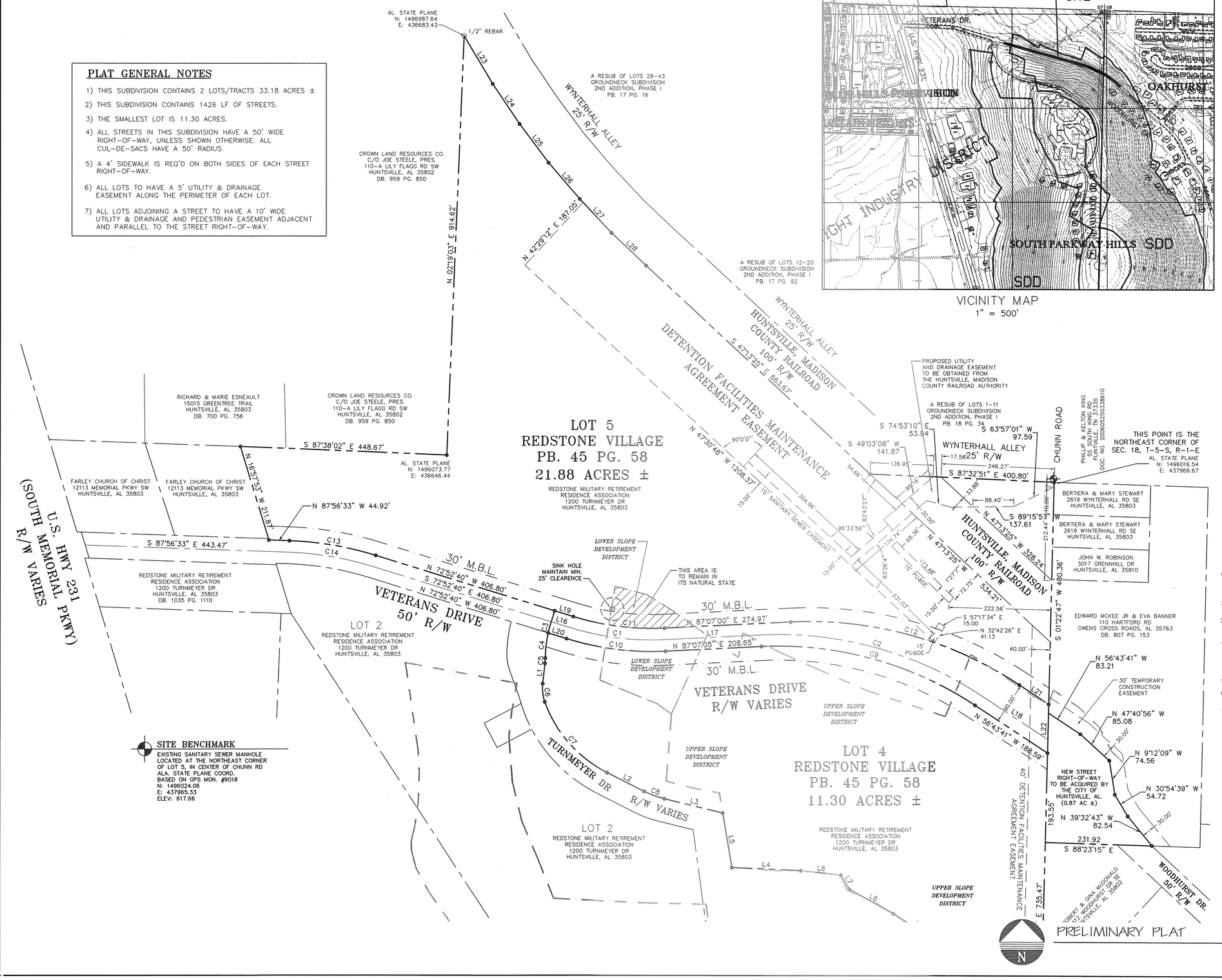
DRAWN BY: M. GILLESPIE
FIELD DATE: -
OFFICE DATE: 03-27-08
CHECKED BY: JMC
DWG. NO.: M-07-070COV

REVISIONS:
REV 4/12/08 PER TECH REVIEW

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 1 OF 19

PLAT GENERAL NOTES

1) THIS SUBDIVISION CONTAINS 2 LOTS/TRACTS 33.18 ACRES ±
2) THIS SUBDIVISION CONTAINS 1426 LF OF STREETS.
3) THE SMALLEST LOT IS 11.30 ACRES.
4) ALL STREETS IN THIS SUBDIVISION HAVE A 50' WIDE RIGHT-OF-WAY, UNLESS SHOWN OTHERWISE. ALL CUL-DE-SACS HAVE A 50' RADIUS.
5) A 4' SIDEWALK IS REQ'D ON BOTH SIDES OF EACH STREET RIGHT-OF-WAY.
6) ALL LOTS TO HAVE A 5' UTILITY & DRAINAGE EASEMENT ALONG THE PERIMETER OF EACH LOT.
7) ALL LOTS ADJOINING A STREET TO HAVE A 10' WIDE UTILITY & DRAINAGE AND PEDESTRIAN EASEMENT ADJACENT AND PARALLEL TO THE STREET RIGHT-OF-WAY.



SITE BENCHMARK

EXISTING SANITARY SEWER MANHOLE
LOCATED AT THE NORTHEAST CORNER
OF LOT 5, IN CENTER OF CHUNN RD
ALA. STATE PLANE COORD.
BASED ON GPS MON. #9018
N: 1496024.06
E: 437965.33
ELEV: 617.66

VICINITY MAP
1" = 500'

Abbreviations

BOC	BACK OF CURB	M.H.	MANHOLE
B.O.L.	BEGINNING OF LINE	MIN.	MINIMUM
CMP	CORRUGATED METAL PIPE	N.I.C.	NOT IN CONTRACT
CONC.	CONCRETE	P.I.	POINT OF INTERSECTION
EL.	ELEVATION	PU&DE	PUBLIC UTILITY & DRAINAGE ESM'T
E.O.L.	END OF LINE	PVMT.	PAVEMENT
EOP	EDGE OF PAVEMENT	RCP	REINFORCED CONCRETE PIPE
ESM'T	EASEMENT	REQ'D	REQUIRED
EXIST.	EXISTING	REQ'TS	REQUIREMENTS
F.F.E.	FINISHED FLOOR ELEVATION	R.S.L.	REAR SETBACK LINE
F.S.L.	FRONT SETBACK LINE	R/W	RIGHT-OF-WAY
I.E.	INVERT ELEVATION	S.S.	SANITARY SEWER
INV.	INVERT	S.S.L.	SIDE SETBACK LINE
LF	LINEAR FEET	TEMP.	TEMPORARY
LOC.	LOCATION	TOC	TOP OF CURB
MAX.	MAXIMUM	TYP	TYPICAL
M.B.L.	MINUMUM BUILDING LINE	U & D	UTILITY AND DRAINAGE
		U.N.O.	UNLESS NOTED OTHERWISE

Legend

- CONCRETE MONUMENT, FOUND
- CONCRETE MONUMENT, SET
- PROPERTY CORNER, FOUND
- PROPERTY CORNER, SET
- CALCULATED POINT
- PROPERTY LINE
- EASEMENTS
- MINIMUM BUILDING LINE (MBL)
- FENCE

NOTE: ALL UTILITY LOCATIONS HAVE BEEN PROVIDED BY THE RESPECTIVE UTILITY DEPARTMENTS OR COMPANIES. CONTRACTORS ARE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, CALL UTILITY COMPANY OR CITY DEPARTMENTS FOR GROUND LOCATIONS BEFORE DIGGING.

GENERAL NOTES

1. NORTH ARROW AS SHOWN HEREON IS BASED ON A WELL DEFINED LINE, WHICH IS SHOWN ON THE SURVEY DRAWING.
2. ALL MEASUREMENTS SHOWN ARE TO U.S. STANDARDS.
3. NO INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHTS-OF-WAY, AND/OR OWNERSHIP WERE FURNISHED SURVEYOR EXCEPT AS SHOWN.
4. ONLY SURFACE UTILITY, STORM AND SANITARY SEWER STRUCTURES WHICH ARE LOCATED WITHIN THE BOUNDARY AND OUTSIDE OF DESIGNATED EASEMENTS ARE SHOWN. NO EFFORT HAS BEEN MADE TO LOCATE ANY SUB-SURFACE UTILITY, STORM AND SANITARY SEWER LINES EXCEPT AS SHOWN.
5. ENCROACHMENTS ABOVE GROUND ARE AS SHOWN.
6. THERE WAS NO FIELD LOCATION ATTEMPTED TO DETERMINE THE EXTENT OF SUB-SURFACE STRUCTURES OR EAVE OVERHANGS, EXCEPT AS SHOWN.
7. THESE CERTIFICATIONS ARE IN ACCORDANCE WITH THE STATE ADMINISTRATIVE CODE; RULE 330-X-2.01 PARAGRAPH B AND RULE 330-X-14.05, CANNON IV, PRACTICE-RULE OF PROFESSIONAL CONDUCT

I, RICHARD D. CAMPBELL, A REGISTERED PROFESSIONAL LAND SURVEYOR WITH THE FIRM OF 4SITE, INC. HEREBY CERTIFY THAT TO THE BEST OF MY INFORMATION, KNOWLEDGE AND BELIEF THAT THE SURVEY SHOWN HEREON MEETS THE MINIMUM TECHNICAL STANDARDS OF PRACTICE FOR LAND SURVEYING IN THE STATE OF ALABAMA AS ADOPTED BY THE ALABAMA BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS.

ACCORDING TO THIS SURVEY, UNDER MY SUPERVISION, THIS THE 14TH DAY OF APRIL, 2008

RICHARD D. CAMPBELL, PLS #19740

ALABAMA REGISTERED 5-14-08 NO. 19740 R.D.C. PROFESSIONAL LAND SURVEYOR RICHARD D. CAMPBELL

05/27/08

PRELIMINARY PLAT

SCALE: 1"=100'

0 100 200 300

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phone 256.539.1221 • fax 256.539.1220

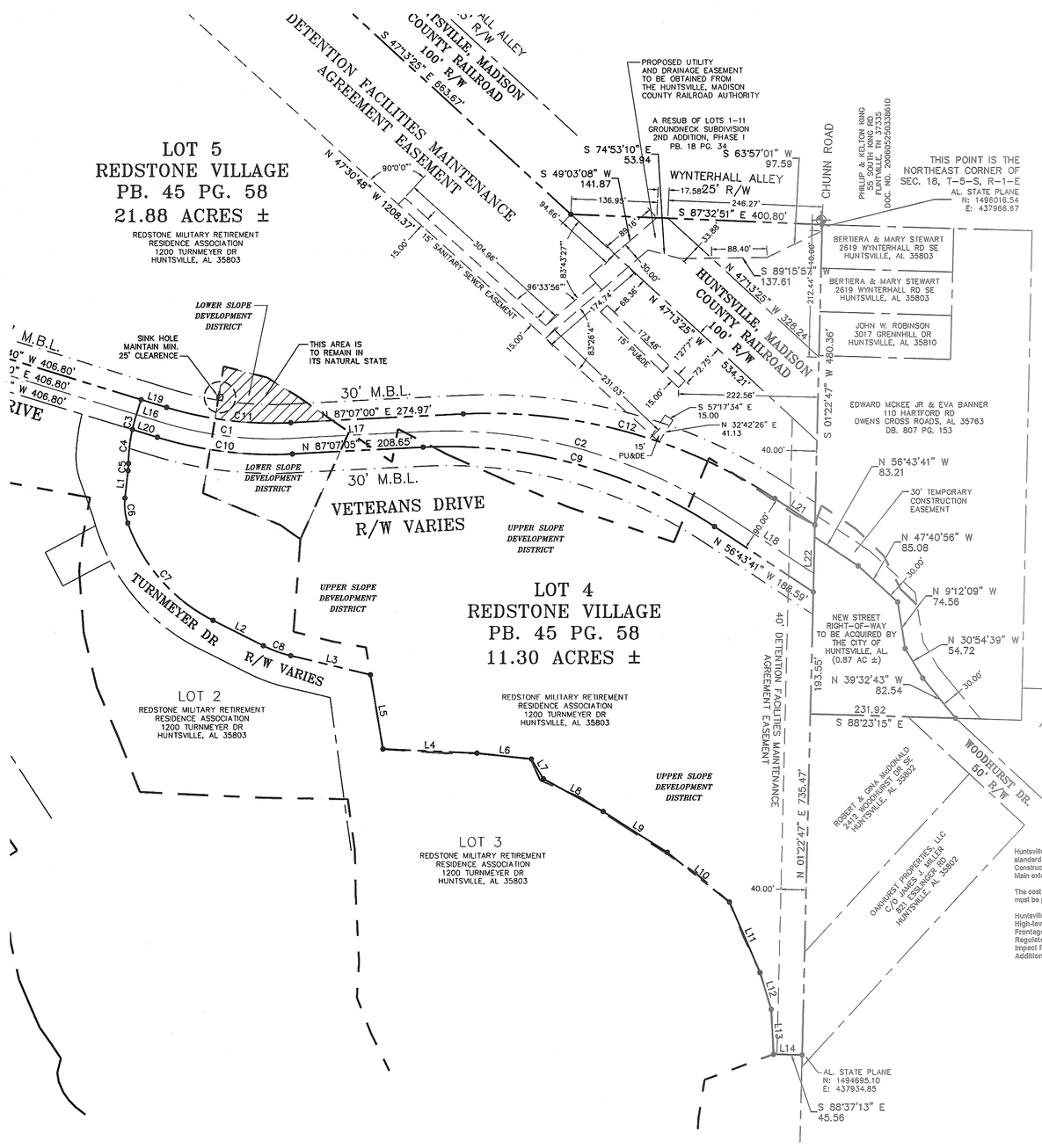
ALABAMA REGISTERED 5-14-08 NO. 19740 R.D.C. PROFESSIONAL LAND SURVEYOR RICHARD D. CAMPBELL

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5 OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS: REV 4/14/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE: --
OFFICE DATE: 03-27-08
CHECKED BY: RDC
DWG. NO.: M-07-070PLAT

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 2 OF 19



CURVE TABLE

NUMBER	DELTA ANGLE	CHORD DIRECTION	CHORD LENGTH	RADIUS	ARC LENGTH	TANGENT
C1	20°00'15"	S 82°52'47" E	208.42	600.00	209.48	105.82
C2	36°09'13"	S 74°48'18" E	496.47	800.00	504.80	261.12
C3	04°28'01"	S 14°53'20" W	20.11	258.00	20.11	10.06
C4	12°06'03"	S 06°36'18" W	54.39	258.00	54.49	27.35
C5	05°54'39"	S 03°30'36" W	11.55	112.00	11.55	5.78
C6	26°01'45"	S 06°32'57" E	39.63	88.00	39.98	20.34
C7	43°47'58"	S 41°27'49" E	205.14	275.00	210.22	110.55
C8	13°04'12"	S 69°53'54" E	46.66	205.00	46.76	23.48
C9	36°09'13"	N 74°48'18" W	480.95	775.00	489.03	252.96
C10	20°00'15"	N 82°52'47" W	217.10	625.00	218.21	110.23
C11	20°00'15"	S 82°52'47" E	199.74	575.00	200.75	101.41
C12	36°09'13"	S 74°48'18" E	514.76	829.48	523.40	270.74
C13	15°03'53"	S 80°24'36" E	190.08	725.00	190.62	95.87
C14	15°03'53"	S 80°24'36" E	183.52	700.00	184.05	92.56

LINE TABLE

NUMBER	DIRECTION	DISTANCE
L1	N 06°27'55" E	43.96'
L2	S 63°21'48" E	89.88'
L3	S 76°26'00" E	130.77'
L4	N 87°28'15" W	149.99'
L5	N 09°35'10" W	119.50'
L6	N 83°51'07" W	87.21'
L7	S 31°26'43" E	36.62'
L8	S 61°21'05" E	108.62'
L9	S 57°17'15" E	121.19'
L10	S 51°16'51" E	127.12'
L11	S 23°40'01" E	121.84'
L12	S 17°03'27" E	60.81'
L13	S 02°59'33" E	71.29'
L14	S 88°37'13" E	45.56'
L16	S 72°52'40" E	42.48'
L17	N 87°07'05" E	208.65'
L18	S 56°43'41" E	173.03'
L19	S 72°52'40" E	42.48'
L20	S 72°52'40" E	42.48'
L21	S 56°43'41" E	76.38'
L22	S 01°22'47" W	106.01'
L23	S 30°34'11" E	122.04'
L24	S 33°44'12" E	105.32'
L25	S 36°31'52" E	105.37'
L26	S 40°29'36" E	104.76'
L27	S 42°56'05" E	101.85'
L28	S 46°17'57" E	103.70'

HUNTSVILLE UTILITIES WATER DEPARTMENT

THE, HSV WATER DEPT., HAS REVIEWED THE REQUIRED SUBMISSION MATERIAL FOR THE PROPOSED SUBDIVISION IN SUFFICIENT DETAIL TO DETERMINE THAT SERVICE CAN BE MADE AVAILABLE. WHEN IMPROVEMENTS ARE COMPLETED, "AS BUILT" CONSTRUCTION PLANS WILL BE SUBMITTED TO THE HUNTSVILLE ENGINEERING DEPARTMENT.

4/10/08 DATE

Sam McElroy NAME AND TITLE ELECTRIC DEPARTMENT

TELEPHONE COMPANY

THE, AT&T, HAS REVIEWED THE REQUIRED SUBMISSION MATERIAL FOR THE PROPOSED SUBDIVISION IN SUFFICIENT DETAIL TO DETERMINE THAT SERVICE CAN BE MADE AVAILABLE. WHEN IMPROVEMENTS ARE COMPLETED, "AS BUILT" CONSTRUCTION PLANS WILL BE SUBMITTED TO THE HUNTSVILLE ENGINEERING DEPARTMENT.

4/11/08 DATE

NAME AND TITLE TELEPHONE SERVICE

Huntsville Utilities can provide Water, Gas and Electric Service according to standard Service Rules and Regulations, Main Extension Policies, and Aide Construction Policies.
Main extensions required at owner/developer expense (on-site).

The cost to relocate any Huntsville Utilities facilities required due to this proje must be paid by the Developer or Property Owner.

Huntsville Utilities Water Department additional requirements:
High-level fees required: _____
Frontage fees required: _____
Regulators required: _____
Impact fees required: $1,000.00 per acre
Additional Fire Protection Required: _____

SITE BENCHMARK

EXISTING SANITARY SEWER MANHOLE LOCATED AT THE NORTHEAST CORNER OF LOT 5, IN CENTER OF CHUNN RD
ALA. STATE PLANE COORD.
BASED ON GPS MON. #9018
N: 1496024.06
E: 437965.33
ELEV: 617.66

CABLE TV COMPANY

THE, COMCAST, HAS REVIEWED THE REQUIRED SUBMISSION MATERIAL FOR THE PROPOSED SUBDIVISION IN SUFFICIENT DETAIL TO DETERMINE THAT SERVICE CAN BE MADE AVAILABLE. WHEN IMPROVEMENTS ARE COMPLETED, "AS BUILT" CONSTRUCTION PLANS WILL BE SUBMITTED TO THE HUNTSVILLE ENGINEERING DEPARTMENT.

4-10-8 DATE

CAE NAME AND TITLE CABLE ALABAMA

HUNTSVILLE UTILITIES ELECTRIC DEPARTMENT

THE, HSV ELECTRIC DEPT, HAS REVIEWED THE REQUIRED SUBMISSION MATERIAL FOR THE PROPOSED SUBDIVISION IN SUFFICIENT DETAIL TO DETERMINE THAT SERVICE CAN BE MADE AVAILABLE. WHEN IMPROVEMENTS ARE COMPLETED, "AS BUILT" CONSTRUCTION PLANS WILL BE SUBMITTED TO THE HUNTSVILLE ENGINEERING DEPARTMENT.

4/10/08 DATE

NAME AND TITLE ELECTRIC DEPARTMENT

NATURAL GAS SERVICE

THE NATURAL GAS DEPARTMENT OF HUNTSVILLE HAS REVIEWED THE REQUIRED SUBMISSION MATERIAL FOR THE PROPOSED SUBDIVISION IN SUFFICIENT DETAIL TO DETERMINE THAT SERVICE (CAN OR CANNOT) BE MADE AVAILABLE. THE APPLICANT, AT THE PRESENT TIME, DOES NOT REQUEST NATURAL GAS SERVICE FOR THIS SUBDIVISION. THE NATURAL GAS DEPARTMENT RESERVES THE RIGHT TO CONSIDER GAS SERVICE FOR THIS SUBDIVISION IN THE FUTURE.

4/10/08 DATE

Joel Perry MANAGER

TRAFFIC ENGINEER

I, Dennis Thomson, THE TRAFFIC ENGINEER FOR THE CITY OF HUNTSVILLE, ALABAMA, CONCUR IN THE GEOMETRIC DESIGN OF THE STREET SYSTEM AS SHOWN IN THIS DRAWING.

4/14/08 DATE

TRAFFIC ENGINEER
CITY OF HUNTSVILLE, ALABAMA

I, RICHARD D. CAMPBELL, THE LAND SURVEYOR OF RECORD, CERTIFY THAT THE SUBDIVISION SHOWN HEREON LIES IN FLOOD HAZARD "X" (OUT) AS SHOWN ON THE FEDERAL INSURANCE ADMINISTRATION'S FLOOD INSURANCE RATE MAP FOR MADISON COUNTY, ALABAMA, COMMUNITY-PANEL NUMBER 0188C0466 D DATED APRIL 20, 1998.

"X" (OUT) REPRESENTS AREAS NOT IN THE 100-YEAR FLOOD PLANE

RICHARD D. CAMPBELL, PLS #19740

ALABAMA REGISTERED 4-14-08 NO. 19740 R.D.C. PROFESSIONAL LAND SURVEYOR RICHARD D. CAMPBELL

LOT 4 UPPER SLOPE DEVELOPMENT DISTRICT

	MAX. IMPERVOUS COVER (SQ. FT.)	MAX. TOTAL BUILDING (SQ. FT.)	MAX. DISTURBED AREA (SQ. FT.)
	49,223	39,378	98,446
AREA PREVIOUSLY DEVELOPED (SQ. FT.)	41,000	0	98,446
AREA REMAINING (SQ. FT.)	0	0	0

PRELIMINARY PLAT

SCALE: 1"=100' 03/27/08

0 100 200 300

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ALABAMA REGISTERED NO. 19740 R.D.C. PROFESSIONAL LAND SURVEYOR RICHARD D. CAMPBELL

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5 OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS: REV 4/14/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE:
OFFICE DATE: OCT. 22, 08
CHECKED BY: RDC
DWG. NO.: M-07-070PLAT

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 3 OF 19

"STREET SYSTEM"

I, JERRY M. CARGILE, REGISTERED ENGINEER, CERTIFY THAT THE INTERSECTION SIGHT DISTANCE OF ANY ROADWAY CONSTRUCTED IN CONJUNCTION WITH THIS SUBDIVISION MEETS OR EXCEEDS SPECIFICATIONS AS SET FORTH IN THE PREVAILING AASHTO STANDARDS TO THE BEST OF MY KNOWLEDGE AND BELIEF.

4-14-08 — DATE — ENGINEER OF RECORD AL PE #19827

I, JERRY M. CARGILE, THE ENGINEER OF RECORD, CERTIFY THAT THE STREET SYSTEM SHOWN IN THESE PLANS MEETS THE CONSTRUCTION STANDARDS OF THE CITY OF HUNTSVILLE AND CONFORMS TO THE DESIGN STANDARDS OF THE HUNTSVILLE SUBDIVISION REGULATIONS AND APPLICABLE AASHTO GEOMETRIC DESIGN POLICY. IT IS CERTIFIED THAT THE INFORMATION SHOWN HEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

4-14-08 — DATE — ENGINEER OF RECORD AL PE #19827

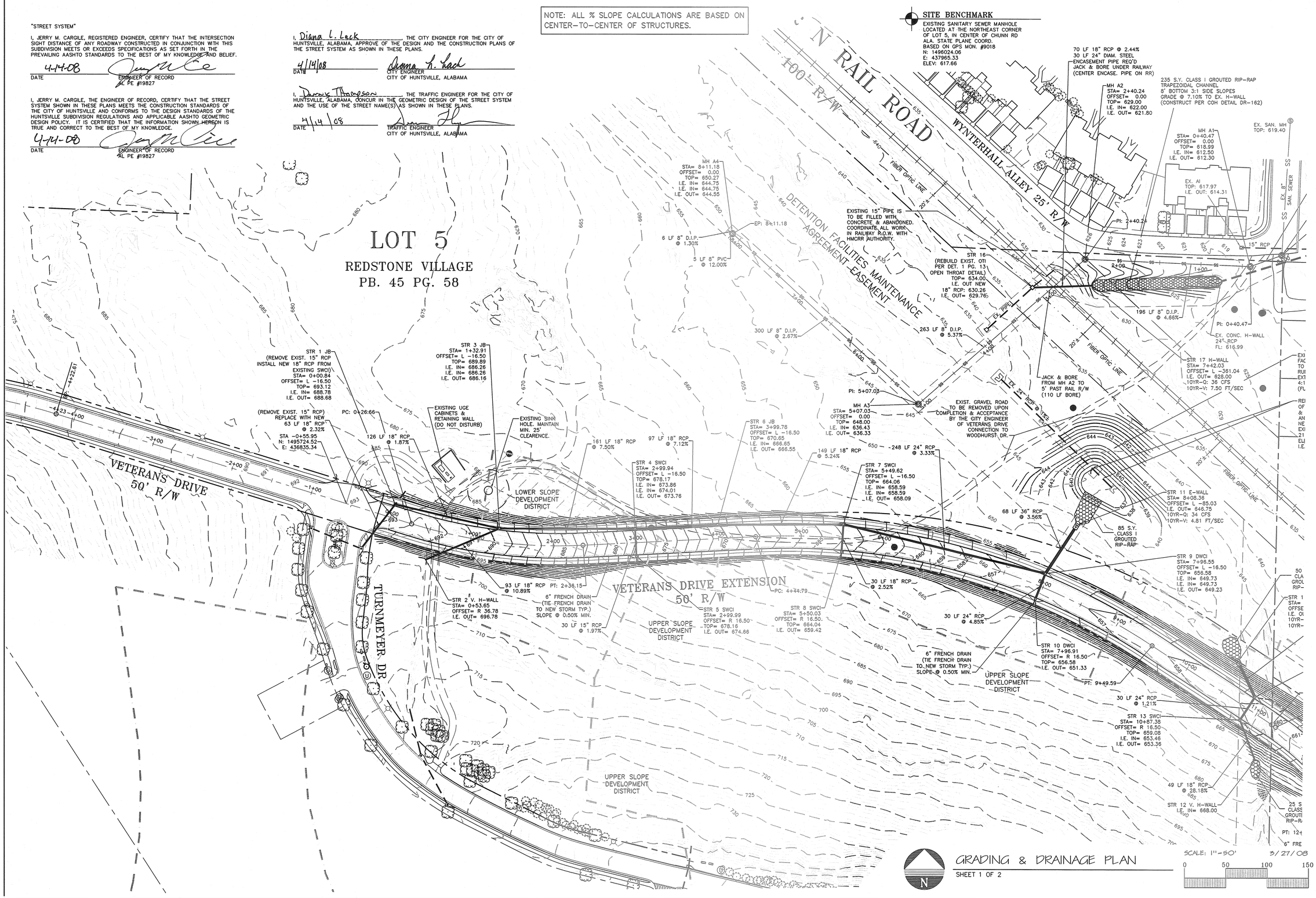
I, Diana L. Lack, THE CITY ENGINEER FOR THE CITY OF HUNTSVILLE, ALABAMA, APPROVE OF THE DESIGN AND THE CONSTRUCTION PLANS OF THE STREET SYSTEM AS SHOWN IN THESE PLANS.

4/14/08 — DATE — CITY ENGINEER, CITY OF HUNTSVILLE, ALABAMA

I, Dennis Thompson, THE TRAFFIC ENGINEER FOR THE CITY OF HUNTSVILLE, ALABAMA, CONCUR IN THE GEOMETRIC DESIGN OF THE STREET SYSTEM AND THE USE OF THE STREET NAME(S) AS SHOWN IN THESE PLANS.

4/14/08 — DATE — TRAFFIC ENGINEER, CITY OF HUNTSVILLE, ALABAMA

NOTE: ALL % SLOPE CALCULATIONS ARE BASED ON CENTER-TO-CENTER OF STRUCTURES.



GRADING & DRAINAGE PLAN

SHEET 1 OF 2

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

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phone 256.539.1221 • fax 256.539.1220

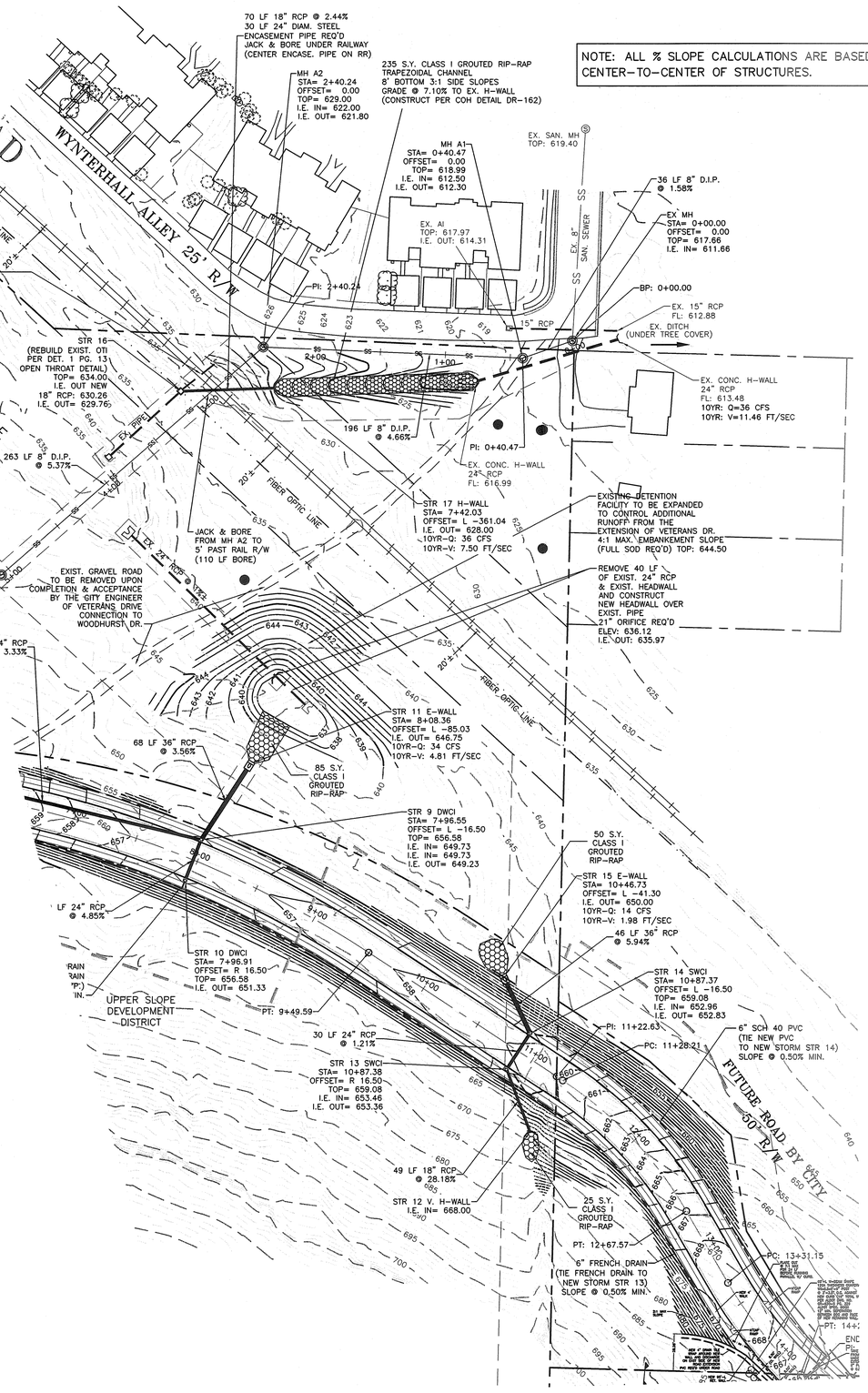
REVISIONS: REV 4/12/08 PER TECH REVIEW

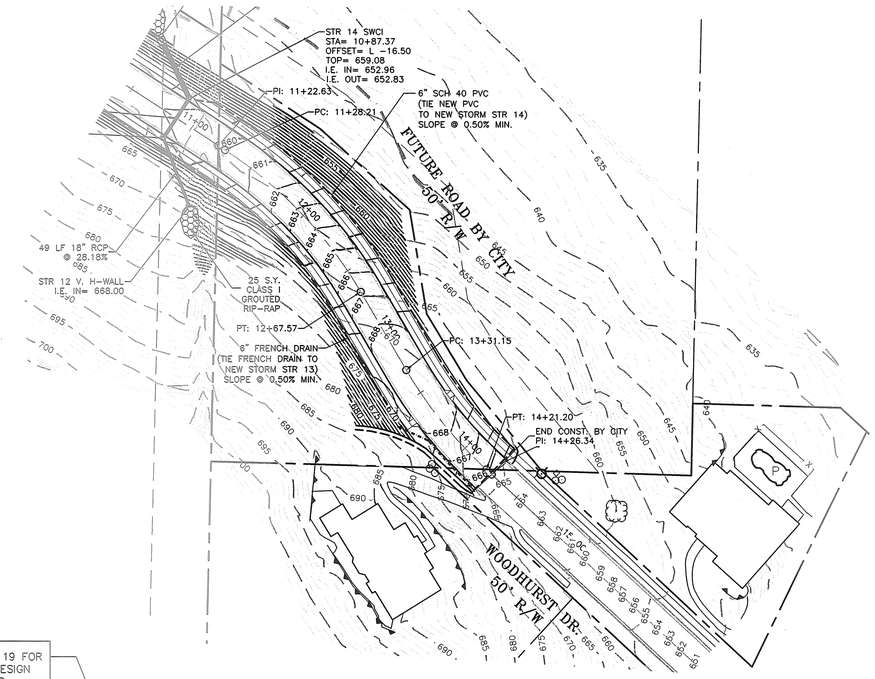
DRAWN BY: M. GILLESPIE
FIELD DATE: --
OFFICE DATE: 01-27-08
CHECKED BY: JMC
DWG. NO.: M-07-070GR

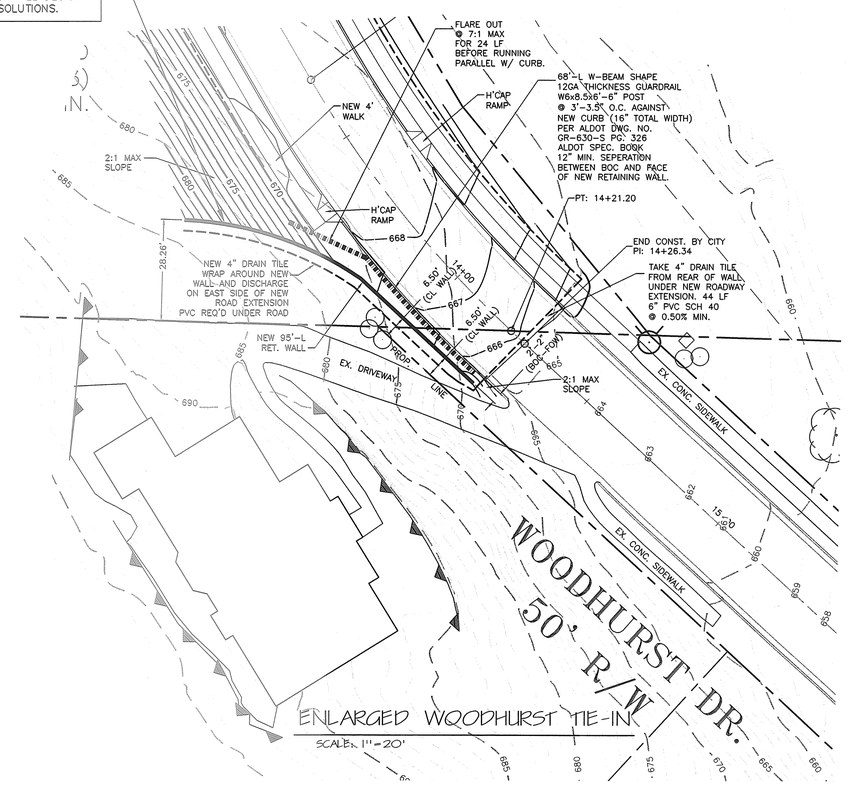
JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 4 OF 19

NOTE: ALL % SLOPE CALCULATIONS ARE BASED ON CENTER-TO-CENTER OF STRUCTURES.

NOTE: SEE SHEET 19 FOR RETAINING WALL DESIGN PER GEOSOLUTIONS.







ENLARGED WOODHURST TIE-IN
SCALE: 1"=20'

N

GRADING & DRAINAGE PLAN
SHEET 2 OF 2

SCALE: 1"=50' 3/27/08
0 50 100 150

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HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS:
REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE: ---
OFFICE DATE: 03-27-08
CHECKED BY: JMC
DWG. NO.: M-07-070GR

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 5 OF 19

EROSION AND SEDIMENT CONTROL CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCES WITH CRUSHED AGGREGATE BASE COURSE AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL BE ENTERING AND EXITING THE SITE. CONSTRUCTION ENTRANCES USED FOR REMOVAL OF ONSITE MATERIALS SHALL EXTEND TO THE LOADING AREA, BUT IN NO CASE SHALL ANY CONSTRUCTION ENTRANCE BE LESS THAN 50 FEET IN LENGTH OR 6" IN DEPTH. WIDTH SHALL NOT BE LESS THAN 15 FEET.
2. CONSTRUCT SEDIMENT TRAPS (IF ANY ARE INDICATED ON THE PLANS).
3. GRADE IN THE PROPOSED DITCHES AS SHOWN ON THE GRADING PLAN, AND DIRECT DRAINAGE FROM DISTURBED AREAS TO THEM.
4. INSTALL STRAW BALE DAMS IN DITCHES AS THEY ARE CONSTRUCTED, AND INSTALL SILT FENCES AT INDICATED LOCATIONS. INSTALL STRAW BALES AND GRAVEL BAG FILTERS AT STORM SEWER STRUCTURES AS THEY ARE CONSTRUCTED.
5. MULCH, LIME, FERTILIZE AND SEED/SOD ALL DISTURBED AREAS AS SOON AS POSSIBLE FOLLOWING FINAL GRADING.
6. WASH DOWN CONSTRUCTION ENTRANCE AS NECESSARY TO LIMIT MUD AND DEBRIS BEING CARRIED ONTO ADJACENT ROADS. DRAINAGE FROM CONSTRUCTION ENTRANCE SHALL BE GRADED TO DRAIN TO SILT FENCES, OR OTHER EROSION CONTROL MEASURES.
7. FOLLOWING COMPLETION OF PAVEMENT, STORM SYSTEM, AND MULCHING AND SEEDING ACTIVITIES, FLUSH OR CLEAN ALL SEDIMENT FROM STORM PIPE SYSTEM.
8. WHEN CONSTRUCTION IS COMPLETE AND UPON APPROVAL OF THE LOCAL GOVERNING AGENCY, REMOVE SILT FENCES, STRAW BALES, AND GRAVEL BAG FILTERS. SPREAD AND GRADE COLLECTED MATERIALS, AND SEED. SPREAD STRAW AND SEED.
9. REMOVE SEDIMENT FROM DITCHES, AND REGRADE TO DEPTH AND SIZE SHOWN ON THE GRADING PLAN. SPREAD AND GRADE COLLECTED MATERIALS, AND SEED.
10. REMOVE SEDIMENT TRAPS, AND SEED DISTURBED AREA.
11. REMOVE ALL TEMPORARY BMP'S FROM SITE PRIOR TO FINAL INSPECTION OF SUBDIVISION.

SITE BENCHMARK

EXISTING SANITARY SEWER MANHOLE LOCATED AT THE NORTHEAST CORNER OF LOT 5, IN CENTER OF CHUNN RD
ALA. STATE PLANE COORD.
BASED ON GPS MON. #9018
N: 1496024.06
E: 437965.33
ELEV: 617.66

I, JERRY M. CARGILE, THE ENGINEER OF RECORD, CERTIFY THAT THE STORM DRAINAGE AND SANITARY SEWERAGE SYSTEMS SHOWN ON THIS DRAWING IS DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE CITY ENGINEER OF THE CITY OF HUNTSVILLE, ALABAMA, AND THE HUNTSVILLE SUBDIVISION REGULATIONS. IT IS CERTIFIED THAT THE INFORMATION SHOWN HEREON IS TRUE AND CORRECT TO THE BEST OF Y KNOLEDGE. IT IS FURTHER CERTIFIED THAT ADEQUATE STORM DRAINAGE EASEMENTS ARE PROVIDED, WHERE NECESSARY, TO THE BEST OF MY KNOWLEDGE.

4-14-08
DATE

JERRY M. CARGILE
AL PE NUMBER 19827

I, Diana L. Lack, THE CITY ENGINEER FOR THE CITY OF HUNTSVILLE, ALABAMA, APPROVE OF THE DESIGN AND THE CONSTRUCTION PLANS OF THE STORM DRAINAGE AND SANITARY SEWERAGE SYSTEMS AS SHOWN IN THESE PLANS.

4/14/08
DATE

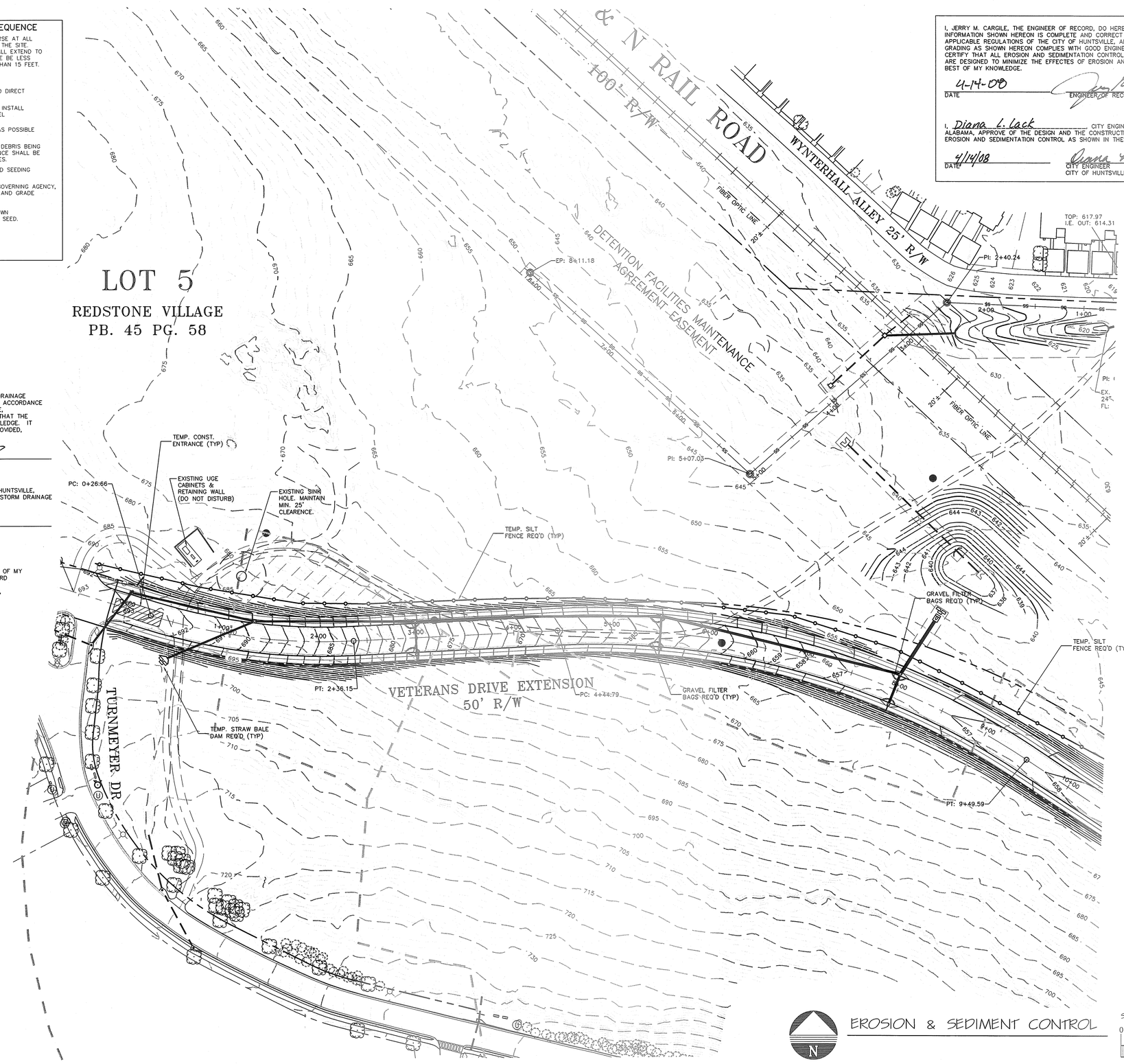
Diana L. Lack
CITY ENGINEER
CITY OF HUNTSVILLE, ALABAMA

"FLOOD HAZARD CERTIFICATE"

I, JERRY M. CARGILE, THE ENGINEER OF RECORD, CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THAT THE SUBDIVISION SHOWN HEREON LIES WITHIN FLOOD HAZARD AREAS "X" "OUT" AS SHOWN HEREON, AND AS SHOWN ON THE FEDERAL INSURANCE ADMINISTRATION'S FLOOD INSURANCE RATE MAPS FOR HUNTSVILLE, ALABAMA.

FIRM PANEL # 01089C0156D

DATED APRIL 20, 1998



EROSION & SEDIMENT CONTROL

SCALE: 1"=50' 05/27/08

0 50 100 150

I, JERRY M. CARGILE, THE ENGINEER OF RECORD, DO HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS COMPLETE AND CORRECT AND IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF THE CITY OF HUNTSVILLE, ALABAMA, AND THAT PROPOSED GRADING AS SHOWN HEREON COMPLIES WITH GOOD ENGINEERING PRACTICE AND FURTHER DO CERTIFY THAT ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS INDICATED HEREON ARE DESIGNED TO MINIMIZE THE EFFECTES OF EROSION AND SEDIMENTATION ON SITE TO THE BEST OF MY KNOWLEDGE.

4-14-08
DATE

ENGINEER OF RECORD

I, Diana L. Lack, CITY ENGINEER FOR THE CITY OF HUNTSVILLE, ALABAMA, APPROVE OF THE DESIGN AND THE CONSTRUCTION PLANS FOR GRADING AND EROSION AND SEDIMENTATION CONTROL AS SHOWN IN THESE PLANS.

4/14/08
DATE

Diana L. Lack
CITY ENGINEER
CITY OF HUNTSVILLE, ALABAMA

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VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5 OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

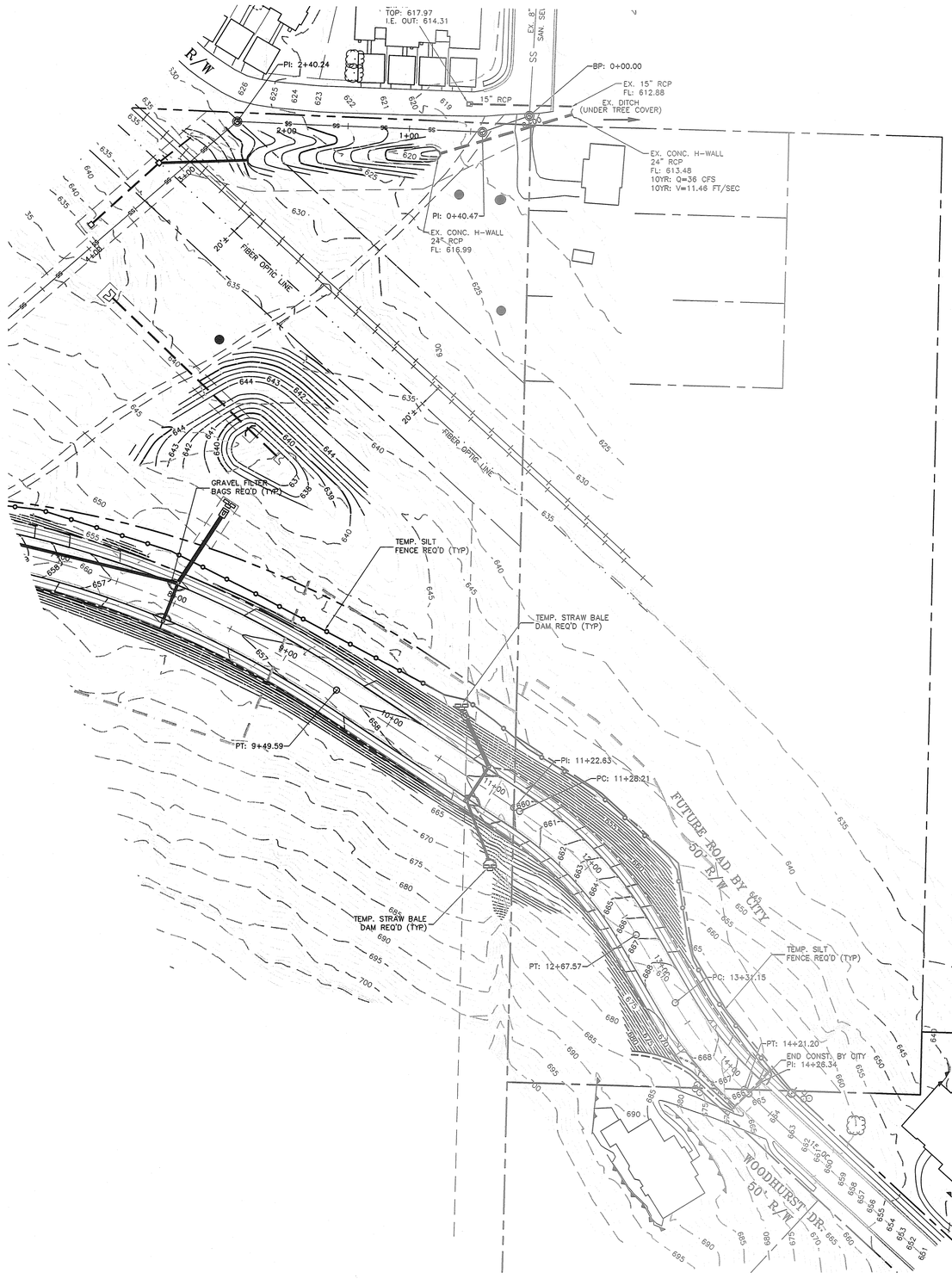
REVISIONS:
REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE:
OFFICE DATE: 03/27/08
CHECKED BY: JMC
DWG. NO.: M-07-070ERC

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 6 OF 19

SITE BENCHMARK

EXISTING SANITARY SEWER MANHOLE
LOCATED AT THE NORTHEAST CORNER
OF LOT 5, IN CENTER OF CHUNN RD
ALA. STATE PLANE COORD.
BASED ON GPS MON. #9018
N: 1496024.06
E: 437965.33
ELEV: 617.66



EROSION & SEDIMENT CONTROL

SCALE: 1"=50' 03/27/08

0 50 100 150

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STATE OF ALABAMA
REGISTERED
LICENSE NO. 17408
PROFESSIONAL ENGINEER
JAMES M. CRAIG

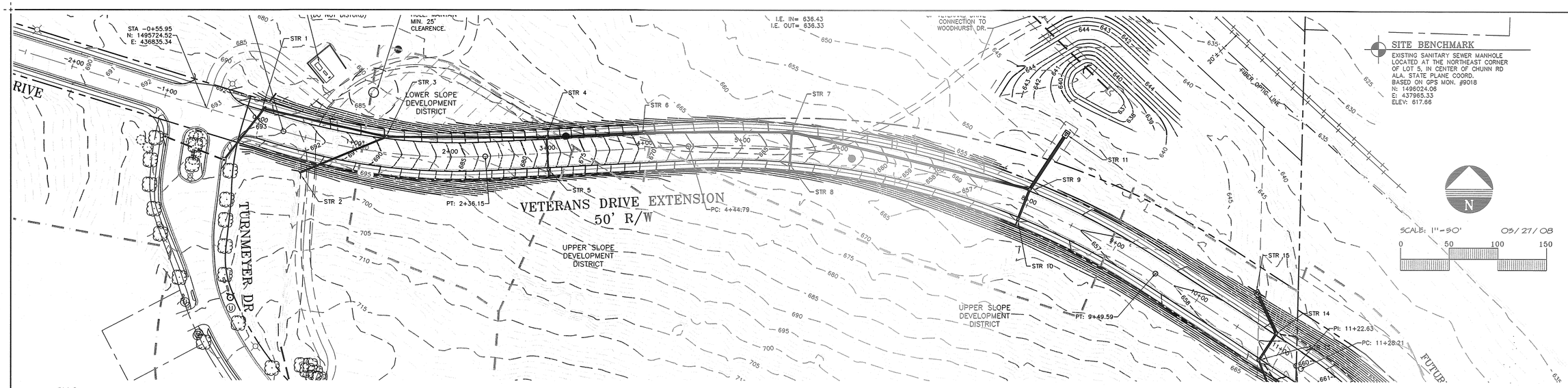
VETERANS DRIVE EXTENSION

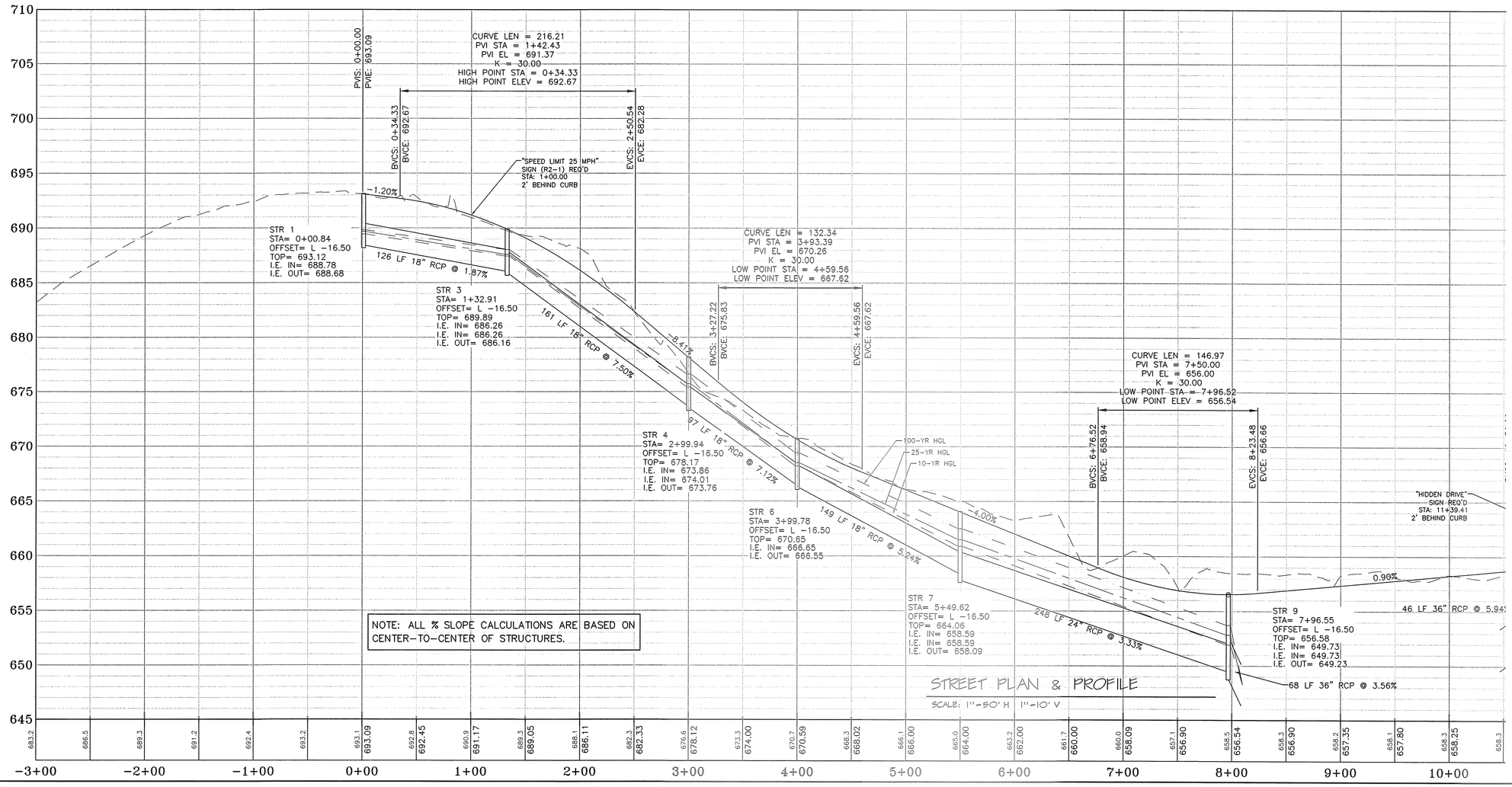
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

DRAWN BY: M. GILLESPIE
FIELD DATE:
OFFICE DATE: 03-27-08
CHECKED BY: JMC
DWG. NO.: M-07-070ERC

REVISIONS:
REV 4/12/08 PER TECH REVIEW

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 7 OF 19





NOTE: ALL % SLOPE CALCULATIONS ARE BASED ON CENTER-TO-CENTER OF STRUCTURES.

STREET PLAN & PROFILE

SCALE: 1"=50' H 1"=10' V

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ALABAMA REGISTERED PROFESSIONAL ENGINEER NO. 19827 JAMES M. CLEMENT

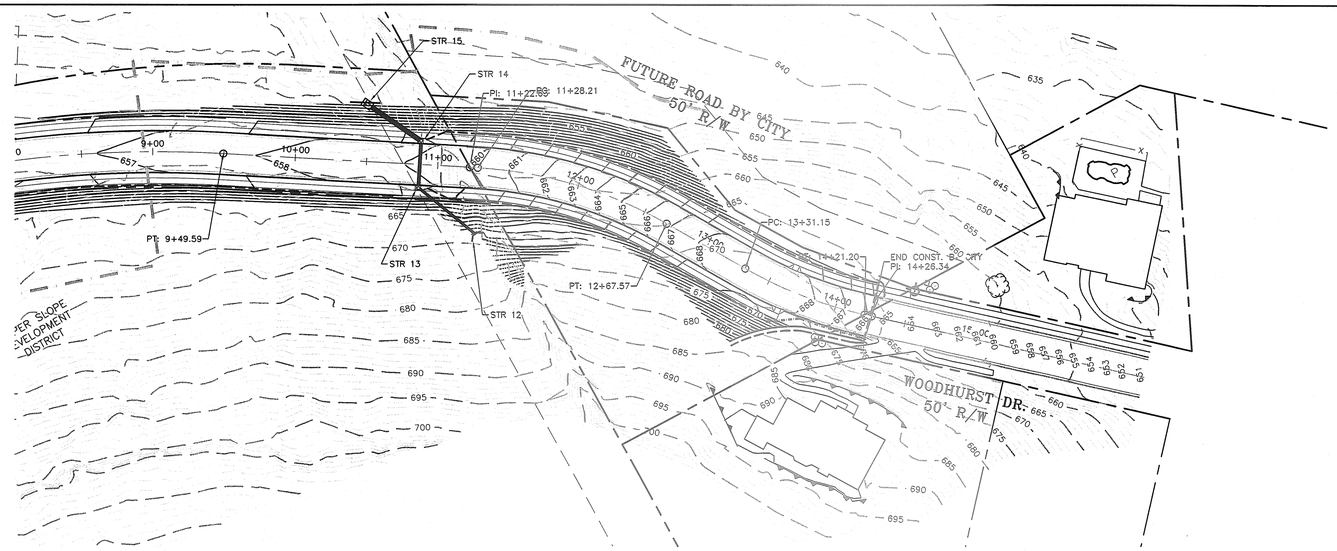
VETERANS DRIVE EXTENSION

A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS:
REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE:
OFFICE DATE: 03-27-08
CHECKED BY: JMC
DWG. NO.: M-07-070PLAT

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 8 OF 19

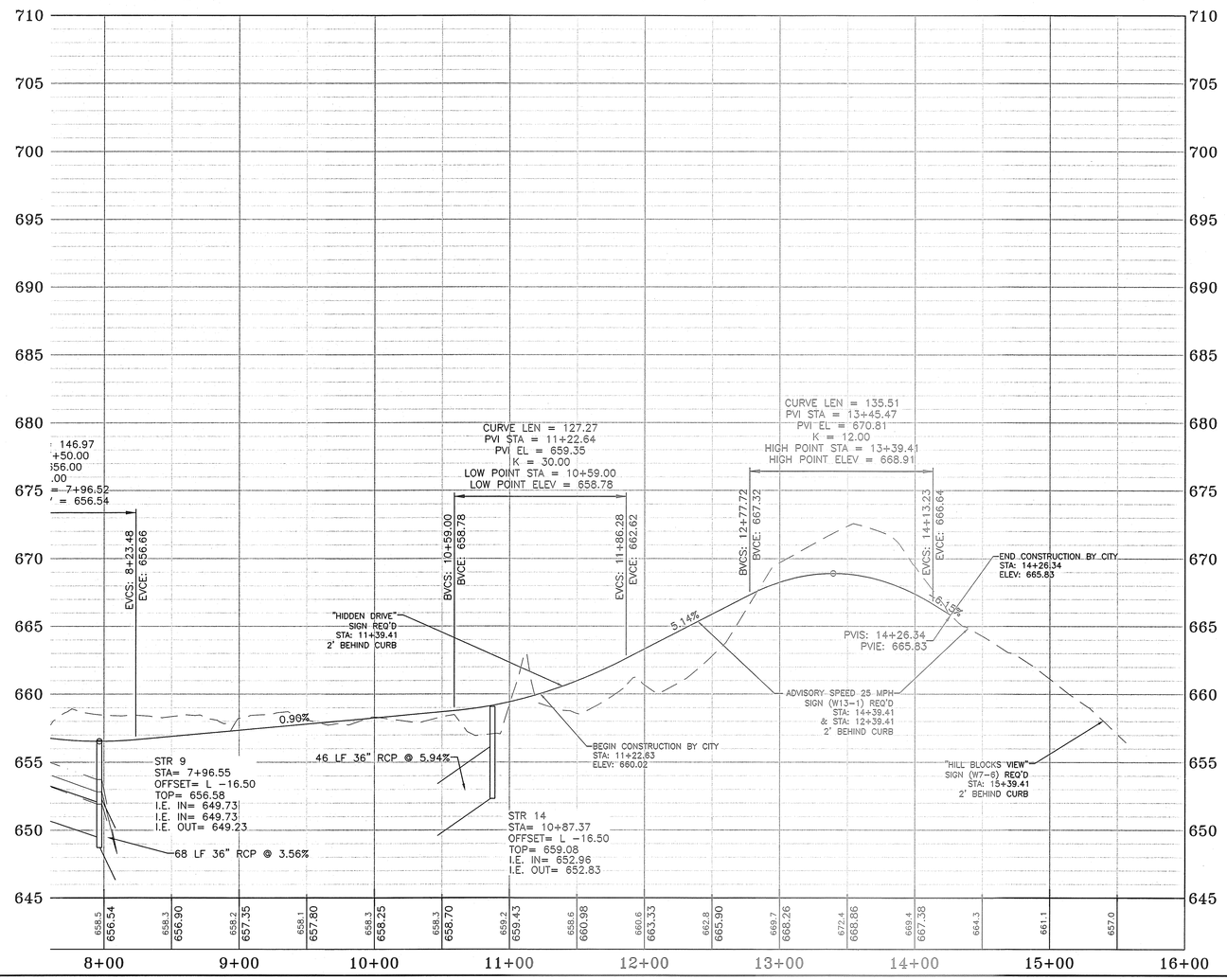


SITE BENCHMARK

EXISTING SANITARY SEWER MANHOLE
LOCATED AT THE NORTHEAST CORNER
OF LOT 5, IN CENTER OF CHUNN RD
ALA. STATE PLANE COORD.
BASED ON GPS MON. #9018
N: 1498024.06
E: 437965.33
ELEV: 617.66

SCALE: 1"=50' 05/27/08

0 50 100 150



NOTE: ALL % SLOPE CALCULATIONS ARE BASED ON CENTER-TO-CENTER OF STRUCTURES.

STREET PLAN & PROFILE

SCALE: 1"=50' H 1"=10' V

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VETERANS DRIVE EXTENSION

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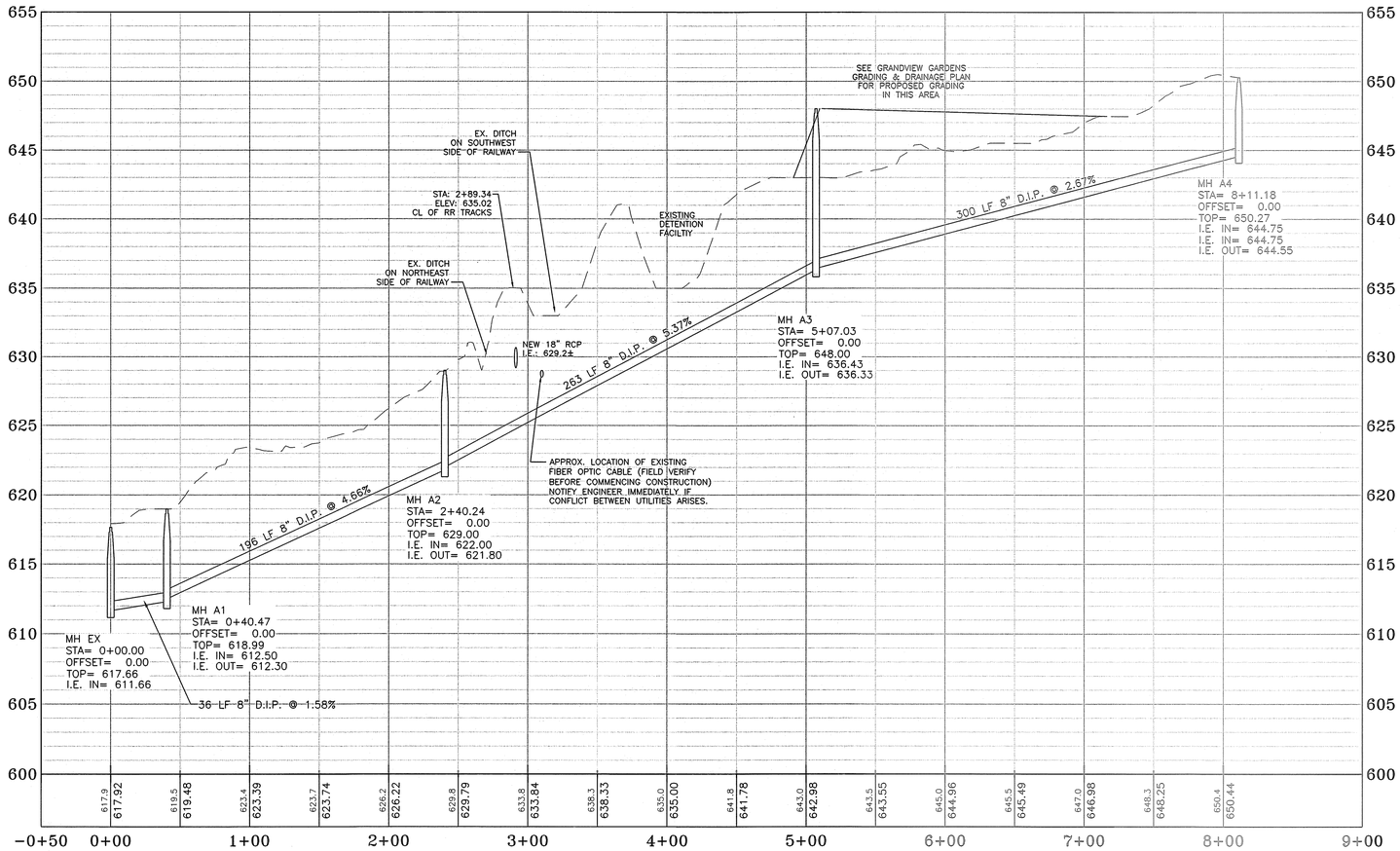
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS:
REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE:
OFFICE DATE: 03-27-08
CHECKED BY: JMC
DWG. NO.: M-07-070PLAT

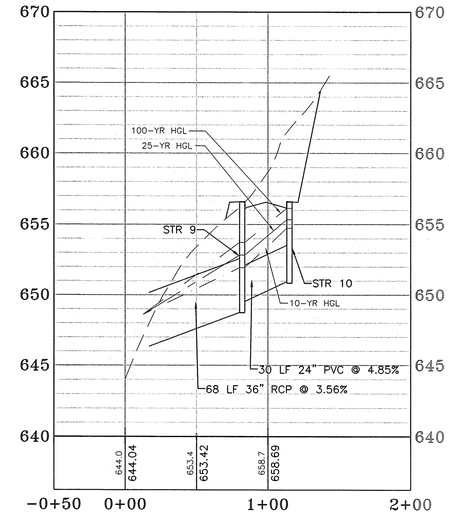
JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 9 OF 19



NEW SANITARY SEWER PROFILE

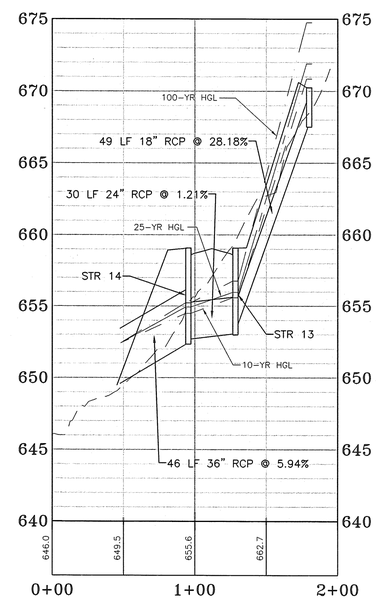
SCALE: 1"=50' H 1"=10' V

NOTE: ALL % SLOPE CALCULATIONS ARE BASED ON CENTER-TO-CENTER OF STRUCTURES.



STORM SEWER PROFILE "A"

SCALE: 1"=50' H 1"=10' V



STORM SEWER PROFILE "B"

SCALE: 1"=50' H 1"=10' V

NOTE: ALL % SLOPE CALCULATIONS ARE BASED ON CENTER-TO-CENTER OF STRUCTURES.

SITE BENCHMARK

EXISTING SANITARY SEWER MANHOLE LOCATED AT THE NORTHEAST CORNER OF LOT 5, IN CENTER OF CHUNN RD
ALA. STATE PLANE COORD.
BASED ON GPS MON. #9018
N: 1496024.06
E: 437965.33
ELEV: 617.66

STORM & SAN. SEWER PROFILES

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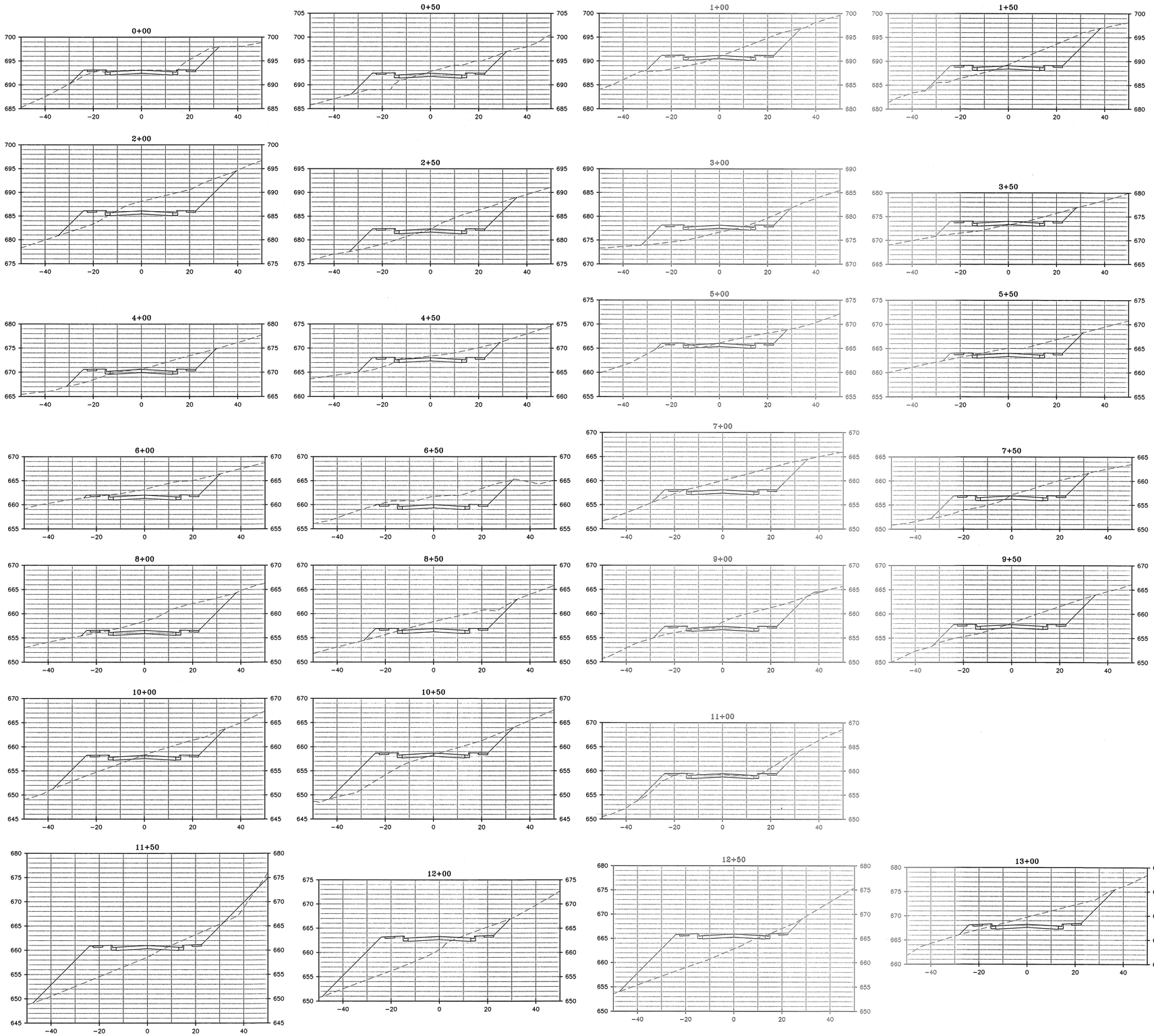
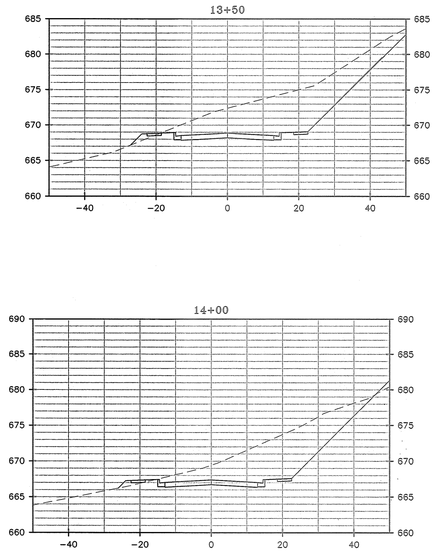
VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

DRAWN BY: M. GILLESPIE
FIELD DATE: ---
OFFICE DATE: 03-27-08
CHECKED BY: MWG
DWG. NO.: M-07-070PROF

REVISIONS:
REV 4/12/08 PER TECH REVIEW

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 10 OF 17





Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
0+00.00	33.23	9.04	0.00	0.00	0.00	0.00	0.00
0+50.00	52.82	56.08	79.68	60.30	79.68	60.30	19.38
1+00.00	74.97	55.35	118.32	103.18	198.00	163.48	34.52
1+50.00	105.98	50.29	167.54	97.82	365.54	261.30	104.24
2+00.00	137.55	44.04	225.49	87.34	591.03	348.64	242.39
2+50.00	87.25	62.94	208.15	99.06	799.19	447.70	351.49
3+00.00	19.32	89.08	98.68	140.77	897.86	588.46	309.40
3+50.00	23.23	53.41	39.40	131.94	937.26	720.40	216.86
4+00.00	51.96	33.17	69.62	80.17	1006.88	800.56	206.32
4+50.00	39.88	25.56	85.04	54.38	1091.92	854.94	236.98
5+00.00	39.97	6.43	73.94	29.61	1165.86	884.55	281.30
5+50.00	64.72	9.88	96.94	15.10	1262.79	899.65	363.14
6+00.00	83.21	2.96	136.97	11.89	1399.76	911.54	488.23
6+50.00	103.19	0.20	172.59	2.93	1572.35	914.46	657.89
7+00.00	130.81	11.47	216.66	10.81	1789.01	925.27	863.75
7+50.00	62.14	75.99	178.66	80.97	1967.67	1006.24	961.43
8+00.00	154.69	5.75	200.77	75.68	2168.44	1081.92	1086.52
8+50.00	92.91	16.73	229.26	20.82	2397.71	1102.73	1294.97
9+00.00	90.41	20.21	169.74	34.21	2567.45	1136.95	1430.50
9+50.00	79.52	45.76	157.34	61.08	2724.79	1198.03	1526.76
10+00.00	62.74	77.14	131.73	113.79	2856.52	1311.82	1544.69
10+50.00	48.87	124.90	103.34	187.08	2959.86	1498.90	1460.96
11+00.00	19.35	16.70	63.16	131.11	3023.02	1630.02	1393.01
11+50.00	0.00	0.00	17.91	15.46	3040.94	1645.48	1395.46
12+00.00	0.00	0.00	0.00	0.00	3040.94	1645.48	1395.46
12+50.00	10.08	236.10	9.33	218.61	3050.27	1864.09	1186.18
13+00.00	103.97	12.48	105.60	230.16	3155.87	2094.25	1061.63
13+50.00	236.35	4.00	315.11	15.25	3470.98	2109.50	1361.48
14+00.00	94.67	4.50	306.50	7.87	3777.48	2117.37	1660.11

SCALES:
1" = 20' H
1" = 10' V

STREET CROSS-SECTIONS

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VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS:

DRAWN BY: M. GILLESPIE
FIELD DATE: ---
OFFICE DATE: 10-29-08
CHECKED BY: JMC
DWG. NO.: M-07-070CROS

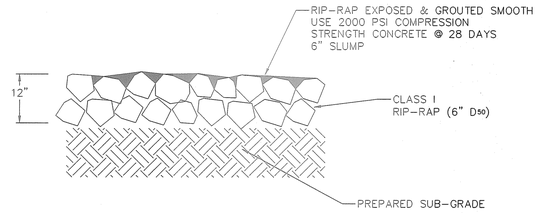
JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 11 OF 19

LEGEND

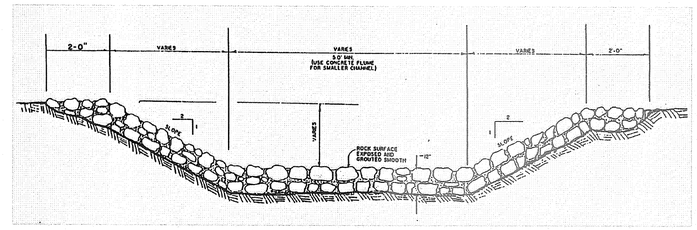
	CONCRETE MONUMENT, FOUND
	CONCRETE MONUMENT, SET
	PROPERTY CORNER, FOUND
—x	PROPERTY CORNER, SET
	PROPERTY LINE
—x—	FENCE
	CONCRETE
	DIRECTION OF FLOW
—OHT—	OVERHEAD TELEPHONE LINE
—OHE—	OVERHEAD ELECTRIC LINE
—UGE—	UNDERGROUND ELECTRIC LINE
	EXISTING SANITARY SEWER MANHOLE
—S—	EXISTING SANITARY SEWER LINE
	PROPOSED SANITARY SEWER MANHOLE
—S—	PROPOSED SANITARY SEWER LINE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
—W—	EXISTING WATER LINE
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING WATER SERVICE
—W—	PROPOSED WATER LINE
	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT
	EXISTING SIGN
—G—	EXISTING GAS LINE
—G—	PROPOSED GAS LINE
—610—	EXISTING CONTOURS
× 652.2	EXISTING SPOT ELEVATION
—610—	PROPOSED CONTOURS
—610.5—	
BOC 655.34	PROPOSED SPOT ELEVATION
	TREE LINE
	EXISTING TREES
	TEMPORARY SILT FENCE
	TEMPORARY STRAW BALES
1/11	DETAIL NO. 1, SHEET 11

ABBREVIATIONS

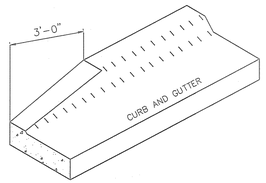
BOC	BACK OF CURB
B.O.L.	BEGINNING OF LINE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
EL.	ELEVATION
E.O.L.	END OF LINE
EOP	EDGE OF PAVEMENT
ESM'T	EASEMENT
EXIST.	EXISTING
F.F.E.	FINISHED FLOOR ELEVATION
F.S.L.	FRONT SETBACK LINE
I.E.	INVERT ELEVATION
INV.	INVERT
LF	LINEAR FEET
LOC.	LOCATION
MAX.	MAXIMUM
M.B.L.	MINUMUM BUILDING LINE
M.H.	MANHOLE
MIN.	MINIMUM
N.I.C.	NOT IN CONTRACT
P.I.	POINT OF INTERSECTION
PROP.	PROPOSED
PVMT.	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
REQ'TS	REQUIREMENTS
R.S.L.	REAR SETBACK LINE
R/W	RIGHT-OF-WAY
S.S.	SANITARY SEWER
S.S.L.	SIDE SETBACK LINE
TEMP.	TEMPORARY
TOC	TOP OF CURB
TYP	TYPICAL
U & D	UTILITY AND DRAINAGE
U.N.O.	UNLESS NOTED OTHERWISE



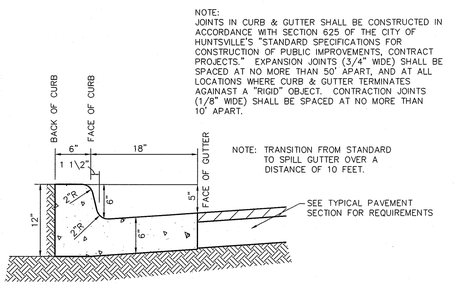
7/12 GROUTED RIP-RAP
NOT TO SCALE



8/12 GROUTED RIP-RAP DITCH
NOT TO SCALE



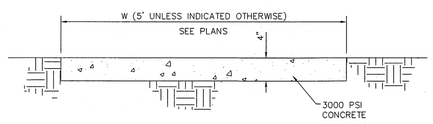
6/12 CURB END DETAIL
NOT TO SCALE



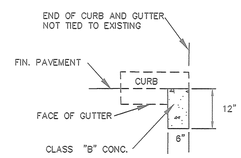
NOTE:
JOINTS IN CURB & GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 625 OF THE CITY OF HUNTSVILLE'S "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS, CONTRACT PROJECTS." EXPANSION JOINTS (3/4" WIDE) SHALL BE SPACED AT NO MORE THAN 50' APART, AND AT ALL LOCATIONS WHERE CURB & GUTTER TERMINATES AGAINAST A "RIGID" OBJECT. CONTRACTION JOINTS (1/8" WIDE) SHALL BE SPACED AT NO MORE THAN 10' APART.

1/12 STANDARD CURB & GUTTER
NOT TO SCALE

NOTE: CONTRACTION JOINTS SHALL BE SPACED AT "W" (MAX) CENTER TO CENTER, AND SHALL BE FORMED USING PLASTIC OR HARDBOARD PREFORMED STRIPS (1/3 DEPTH OF SLAB) PLACED IN THE SIDEWALK AND CURB AT THE TIME OF CONSTRUCTION, OR BY SAWCUTTING THE SIDEWALK AND CURB TO 1/3 DEPTH WITHIN 12 HOURS AFTER CONSTRUCTION.

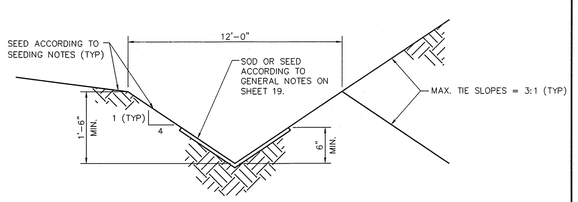


2/12 SIDEWALK DETAIL
NOT TO SCALE



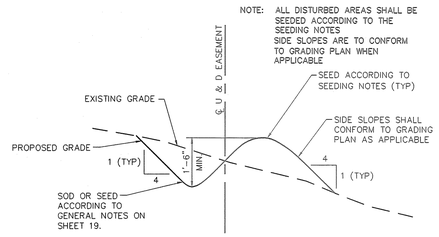
NOTE: THIS DETAIL TO BE USED IN PLACES WHERE PUBLIC STREETS ARE DEAD-ENDED WITHOUT A PERMANENT CUL-DE-SAC (I.E. FOR FUTURE EXTENSIONS.

5/12 STANDARD CONCRETE STREET HEADER
NOT TO SCALE



3/12 DITCH "A"
NOT TO SCALE

NOTE: ALL DISTURBED AREAS SHALL BE SEEDED ACCORDING TO THE SEEDING NOTES
SIDE SLOPES ARE TO CONFORM TO GRADING PLAN WHEN APPLICABLE



4/12 BERM/SWALE
NOT TO SCALE

GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR MAKING APPLICATION, AND PAYING FOR ALL NECESSARY PERMITS.
2. THE CONTRACTOR SHALL PREVENT THE DESTRUCTION OF ALL SURVEY MONUMENTS, BENCH MARKS, PROPERTY CORNERS AND ALL OTHER SURVEY POINTS. WHERE THE REMOVAL OF SUCH POINTS IS NECESSARY FOR THE ACCOMPLISHMENT OF THE WORK, THE CONTRACTOR IS TO INFORM THE ENGINEER IN WRITING, PRIOR TO THE DISTURBANCE OF ANY POINT, AND IS NOT TO DISTURB THE POINT UNTIL WRITTEN PERMISSION TO DO SO HAS BEEN GRANTED BY THE ENGINEER.
3. ALL EXISTING TREES AND SHRUBS OUTSIDE OF THE LIMITS OF WORK SHALL BE PROTECTED DURING CONSTRUCTION, AND ARE NOT TO BE DAMAGED IN ANY MANNER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING STREETS AND OTHER STRUCTURES WHICH IS CAUSED BY CONSTRUCTION ACTIVITIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF ALL BOULDERS, DEBRIS, EXCESS CONSTRUCTION MATERIALS, MATERIAL GENERATED FROM THE DEMOLITION OF EXISTING STRUCTURES AND FACILITIES, AND TRASH.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING EXISTING UTILITIES LOCATED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OR COMPLETENESS OF THE EXISTING UTILITIES SHOWN ON THE PLANS.
7. UNLESS INDICATED OTHERWISE ON THE PLANS, ALL STORM DRAINAGE PIPES SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76). COMPACTED GRANULAR MATERIAL FOR BEDDING SHALL BE REQUIRED WHERE UNSUITABLE GROUND WATER OR OTHER CONDITIONS PREVENT THE CONTRACTOR FROM OBTAINING A PROPERLY SHAPED TRENCH BOTTOM.
8. ALL PAVEMENT CUTS SHALL BE REPAIRED WITH MATERIAL IN KIND TO THAT REMOVED.
9. UNLESS INDICATED OTHERWISE ON THE PLANS, ALL RIP RAP SHALL BE CLASS I, IN ACCORDANCE WITH SECTION 814, ALDOT., 1995, AND SHALL BE GROUTED WHERE INDICATED ON THE PLANS.
10. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

    THE CONTRACTOR SHALL PROVIDE ADEQUATE TRAFFIC CONTROL DEVICES AND SAFETY MEASURES FOR CONSTRUCTION WORK WITHIN PUBLIC RIGHT-OF-WAYS AND OTHER AREAS WHICH REQUIRE ITS' USE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

    THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE DOES NOT INCLUDE REVIEW OF THE CONTRACTOR'S SAFETY MEASURES IN ON, OR NEAR THE CONSTRUCTION SITE.

REINFORCED CONCRETE NOTES

1. ALL CONCRETE SHALL BE AIR ENTRAINED 3000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, (CLASS "A."), UNLESS NOTED OTHERWISE ON THE PLANS.
2. ALL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED WITH CONTINUOUS SHEAR KEYS IN ACCORDANCE WITH THE SHEAR KEY DETAIL ON THE PLANS.
3. ALL REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS, AND SHALL CONFORM TO ASTM A615, FOR BILLET STEEL.
4. LAP SPLICES AND BAR EMBEDMENTS SHALL BE IN ACCORDANCE WITH THE TABLE ON THE PLANS.
5. CONCRETE AIR CONTENT AND SLUMP SHALL BE IN ACCORDANCE WITH THE TABLE ON THE PLANS.
6. ALL REINFORCING BARS SHALL BE SHOP BENT IN ACCORDANCE WITH THE TABLE ON THE PLANS. HEATING OF REINFORCING BARS TO BEND THEM, OR STRAIGHTEN THEM WILL NOT BE ALLOWED.
7. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, SMOOTH FABRIC WITH AN ASTM YIELD STRENGTH OF 65,000 PSI.

PAVEMENT CONSTRUCTION GENERAL NOTES

1. ALDOT., 2004, SHALL MEAN ALABAMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2004 EDITION.
2. CRUSHED AGGREGATE BASE COURSE PLANT MIXED SHALL BE PLACED IN ACCORDANCE WITH SECTION 301, ALDOT., 1995. ALL MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 825, TYPE B. 100% COMPACTION.
3. PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PLACED IN ACCORDANCE WITH SECTION 450, ALDOT., 2004.
4. THE SITE SHALL BE CLEARED AND ALL UNSUITABLE MATERIAL REMOVED PRIOR TO PLACING AND COMPACTING EMBANKMENTS.
5. ALL SUBGRADES SHALL BE CLEARED AND GRUBBED, SCARIFIED TO A DEPTH OF 6", AND THEN RECOMPACTED TO 100% OF THE MAXIMUM DRY DENSITY, PLUS OR MINUS 2% OF OPTIMUM MOISTURE (ASTM-D6798).
6. IN ROCK EXCAVATION A MINIMUM OF 1 FOOT OF SOIL SHALL BE PLACED OVER ROCK PRIOR TO PLACEMENT OF BASE MATERIAL.

EARTHWORK GENERAL NOTES

1. THE SITE TOPOGRAPHY AND OTHER TOPOGRAPHIC DATA SHOWN ON THE PLANS OR INCLUDED IN THE SPECIFICATIONS ARE FOR THE INFORMATION OF THE CONTRACTOR. THE CONTRACTOR SHALL MAKE SUCH ADDITIONAL INVESTIGATIONS AS REQUIRED TO ACQUAINT HIMSELF ADEQUATELY WITH THE SITE, INCLUDING SUBSURFACE SOIL CONDITIONS, FOR PREPARATION OF HIS BID, AND FOR THE SUCCESSFUL EXECUTION OF THE WORK.
2. UNLESS INDICATED OTHERWISE ON THE PLANS, ALL PROPOSED CONTOURS AND ALL PROPOSED SPOT ELEVATIONS SHOWN ARE FINISHED GRADE.
3. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE PROTECTION OF HIS WORK. SUCH GRADING AS IS REQUIRED FOR THIS PURPOSE SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. THE OWNER MAY DIRECT THE CONTRACTOR TO PERFORM SUCH GRADING AND DRAINAGE AS IS NECESSARY TO PREVENT SURFACE RUNOFF FROM DAMAGING THE WORK.
4. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL SILT FENCES, STRAW BALES, AND OTHER EROSION & SEDIMENT CONTROL MEASURES TO PREVENT LOOSE DIRT AND SEDIMENT FROM WASHING ONTO STREETS AND ADJACENT PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF EROSION & SEDIMENT CONTROL MEASURES UNTIL FINAL INSPECTION BY THE LOCAL GOVERNING AGENCY.
5. ALL EARTH FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY, PLUS OR MINUS 2% OF OPTIMUM MOISTURE (ASTM-D6798), EXCEPT FOR EARTH FILLS UNDER ROADS WHICH ARE TO COMPLY WITH THE PAVING SPECIFICATIONS.
6. ALL EARTH FILL SHALL BE PLACED IN UNIFORM LAYERS OR LIFTS NOT EXCEEDING 6" IN COMPACTED THICKNESS, UNLESS INDICATED OTHERWISE ON THE PLANS.
7. ALL EARTH FILL SHALL BE PLACED IN ACCORDANCE WITH SECTION 210, ALDOT., 1995. ALL EARTH FILL UNDER BUILDINGS SHALL ALSO MEET THE REQUIREMENTS OF THE ARCHITECT'S PLANS AND SPECIFICATIONS.

SEEDING NOTES

1. THE CONTRACTOR IS REQUIRED TO FURNISH ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR THE SEEDING OF ALL DISTURBED AREAS, AND OTHER AREAS SPECIFIED ON THE GRADING PLANS. ALL SPECIFIED SURFACE AREAS SHALL BE SEEDED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS.
2. TOPSOIL SHALL BE STRIPPED AND STOCK PILED DURING CONSTRUCTION. A MINIMUM OF 6 INCHES OF CONDITIONED AND AMENDED TOPSOIL SHALL BE RESPREAD OVER ALL AREAS SPECIFIED FOR SEEDING. GRADING SHALL CONFORM WITH THE GRADING PLAN.
3. SEEDING SHALL BE AS FOLLOWS:
   (A) "REBEL" OR "FALCON" FESCUE SEED ('TIL APRIL 15TH) WITH 95% GERMINATION. APPLICATION RATE SHALL BE 8 LBS. PER 1,000 SQUARE FEET.
   (B) BERMUDA SEED (FROM APRIL 15TH TO AUGUST 15TH) WITH 95% GERMINATION. APPLICATION RATE SHALL BE 3 LBS. PER 1,000 SQUARE FEET.
4. SOIL AMENDMENT SHALL BE RECOMMENDED USING LIME OR SULFUR TO ACHIEVE A SOIL PH OF 5.5 TO 6.5.
5. "2-4-D ROUNDUP" OR EQUIVALENT POST-EMERGENT HERBICIDE SHALL BE REQUIRED TO KILL EXISTING WEEDS PRIOR TO SEEDING. "TREFLAN," "DACTAL" OR EQUIVALENT PRE-EMERGENT HERBICIDE SHALL BE REQUIRED FOR ALL SEEDED AREAS TO PREVENT WEED GERMINATION.
6. PROTECTION OF SEEDED AREAS ON STEEP SLOPES SHALL BE PROVIDED USING A "SUPER DUTY EXCELSIOR EROSION CONTROL BLANKET" AS MANUFACTURED BY "PPS PACKAGING COMPANY," P.O. BOX 56 FOWLER, CA. 93625, OR APPROVED EQUIVALENT WHERE INDICATED ON THE GRADING PLAN. APPLICATION OF "EXCELSIOR" BLANKET SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE INDICATED ON THE PLANS, APPLY BLANKET TO THE SLOPE AFTER PROPER PREPARATION AND SEEDING OF THE GROUND.

CONSTRUCTION DETAILS

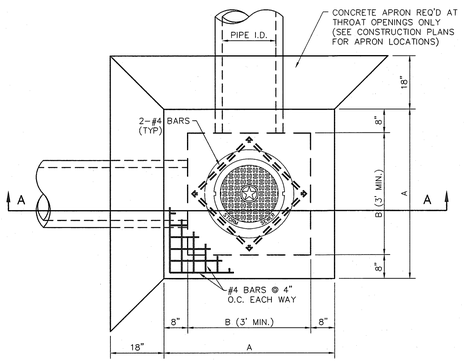
land planning | engineering | surveying | landscape architecture
SITE INCORPORATED
608 Stevens Avenue • Huntsville, AL 35801
phone 256.539.1221 • fax 256.539.1220

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

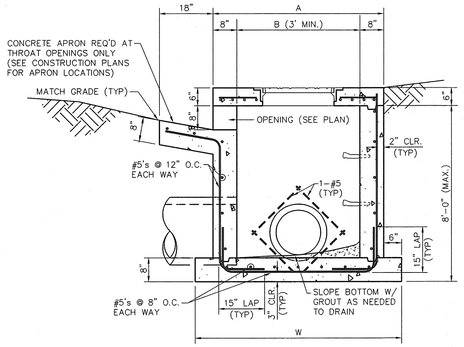
REVISIONS:
REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE:
OFFICE DATE: 01-21-08
CHECKED BY: JMC
DWG. NO.: M-07-070DET

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 12 OF 13



PLAN



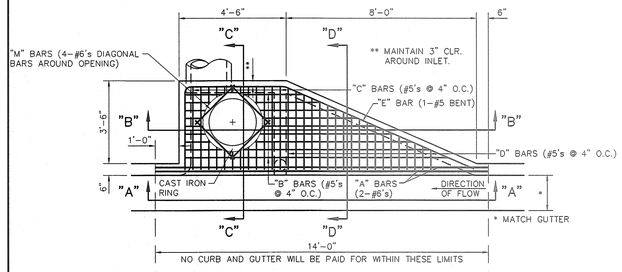
SECTION "A"–"A"

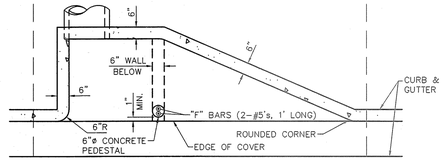
NOTES

1. ALL CONCRETE SHALL BE CLASS "A" AND SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.
2. REINFORCING SHALL BE INTERMEDIATE GRADE (GRADE 60) DEFORMED BARS AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL CONCRETE REINFORCEMENT BARS, ASTM A-15 AND DEFORMATIONS CONFORMING TO ASTM A-305.
3. STEPS ARE REQUIRED ON ALL INLET BOXES WHEN DIMENSION FROM BOTTOM SLAB FLOW LINE TO TOP OF TOP SLAB IS GREATER THAN 4'-0".
4. WHEN BRICK CONSTRUCTION IS USED, WALLS SHALL BE 8" BRICK WHEN H < 5', USE 12" BRICK WHEN H > 5', WITH 1/2" THICK MORTAR ON BOTH SIDES.

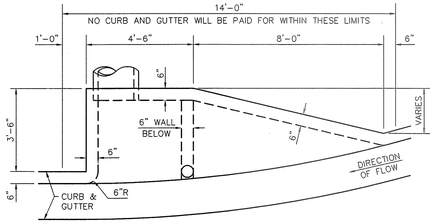
INLET DIMENSIONS			
PIPE I.D.	A	B	W
12"	4'-4"	3'-0"	5'-4"
15"	4'-4"	3'-0"	5'-4"
18"	4'-4"	3'-0"	5'-4"
21"	4'-6"	3'-2"	5'-6"
24"	4'-9"	3'-5"	5'-9"
30"	5'-4"	4'-0"	6'-4"
36"	5'-10"	4'-6"	6'-10"

1/13 OPEN THROAT INLET
NOT TO SCALE

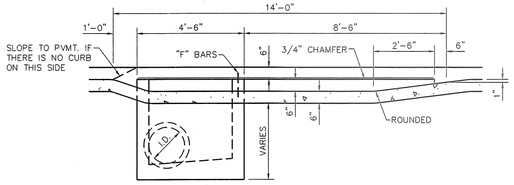




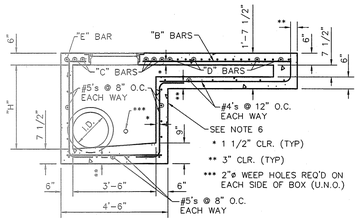
PLAN VIEW



PLAN ON RADIUS



SECTION "A–A"



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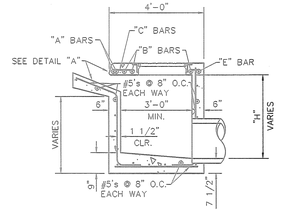
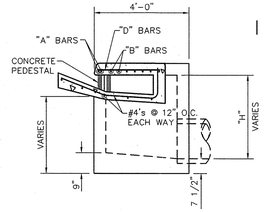
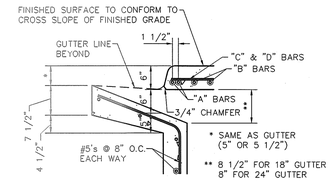


SECTION "C–C"



SECTION "D–D"

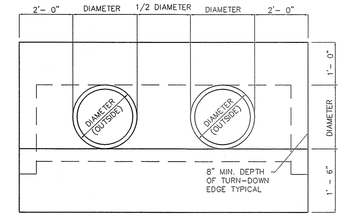


DETAIL "A"

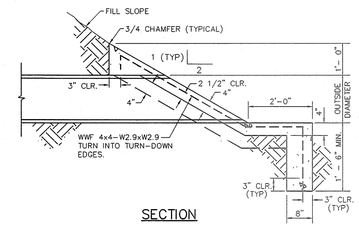
NOTES:

1. ALL CONCRETE SHALL BE CLASS "A" AND DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. @ 28 DAYS.
2. ALL REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS.
3. STEPS SHALL BE REQUIRED WHEN DIMENSION "H" IS GREATER THAN 3'-6" (SEE DETAIL).
4. TO ACCOMODATE LARGE DIAMETER PIPE, OR TO FIT OTHER CONDITIONS IT MAY BE NECESSARY TO INCREASE ONE OR BOTH PLAN DIMENSIONS OF THE INLET BOX AND COVER SLAB. MINIMUM INSIDE DIMENSIONS OF INLET BOX SHALL BE AS SHOWN OR EQUAL TO THE PIPE I.D. + 24" (WHICHEVER IS GREATER).
5. PIPES MAY CONNECT WITH INLETS FROM ANY DIRECTION AND AS MANY CONNECTIONS SHALL BE MADE AS NECESSARY.
6. WHEN BRICK CONSTRUCTION IS USED, WALLS WILL BE 8" THICK BRICK WITH 1/2" MORTAR INSIDE AND OUT WHEN THE DIMENSION "H" IS LESS THAN OR EQUAL TO 5'-0". WHEN "H" EXCEEDS 5'-0" BUT IS LESS THAN 12'-0", WALLS SHALL BE 12" THICK BRICK WITH 1/2" MORTAR INSIDE AND OUT. BRICK WILL NOT BE PERMITTED WHEN "H" EXCEEDS 12'-0". WHEN "H" EXCEEDS 12'-0", REFER TO APPLICABLE JUNCTION BOX DETAIL (TRAFFIC TYPE) FOR INLET BOX STEEL REQUIREMENTS.
7. WHERE THE DIRECTION OF FLOW IS FROM BOTH SIDES OF THE INLET, SIDE WING OPENINGS SHALL BE BUILT ON BOTH SIDES OF THE INLET BOX.
8. FOR INLETS REQUIRING WING OPENINGS ON BOTH SIDES, PAYMENT WILL BE MADE UNDER THE ITEM "S-INLET (2-WING)". FOR INLETS REQUIRING ONLY ONE WING OPENING, PAYMENT WILL BE MADE UNDER THE ITEM "S-INLET (1-WING)".

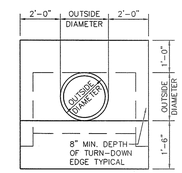
2/13 "S" TYPE INLET DETAIL
NOT TO SCALE



ELEVATION
DOUBLE PIPE



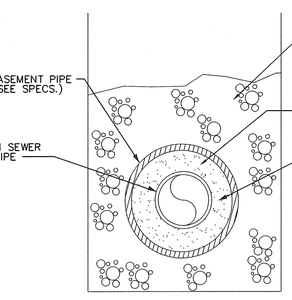
SECTION



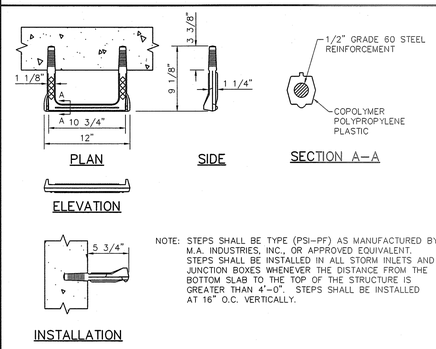
NOTE: USE 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.

ELEVATION
SINGLE PIPE

5/13 CONCRETE SLOPE PAVED ENDWALL (SINGLE PIPE)
NOT TO SCALE

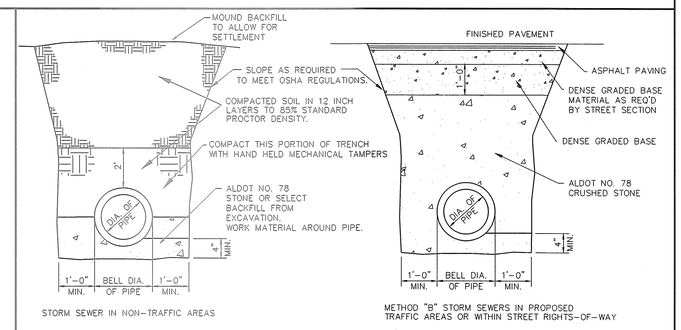


1A/13 PIPE ENCASEMENT FOR STORM SEWER BORINGS
NOT TO SCALE



NOTE: STEPS SHALL BE TYPE (PSI-PF) AS MANUFACTURED BY M.A. INDUSTRIES, INC., OR APPROVED EQUIVALENT. STEPS SHALL BE INSTALLED IN ALL STORM INLETS AND JUNCTION BOXES WHENEVER THE DISTANCE FROM THE BOTTOM SLAB TO THE TOP OF THE STRUCTURE IS GREATER THAN 4'-0". STEPS SHALL BE INSTALLED AT 16" O.C. VERTICALLY.

3/13 STEP DETAIL
NOT TO SCALE

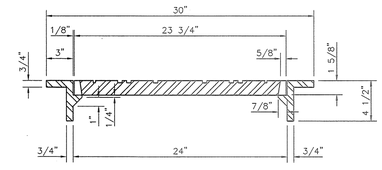


STORM SEWER IN NON-TRAFFIC AREAS

METHOD "B" STORM SEWERS IN PROPOSED TRAFFIC AREAS OR WITHIN STREET RIGHTS-OF-WAY

4/13 STORM SEWER PIPE BEDDING
NOT TO SCALE

PLAN



SECTION

NOTE: COVER AND FRAME SHALL CONFORM TO THE REQ'TS OF CLASS 30 FOR GRAY IRON CASTINGS (ASTM, A 48). FRAME & COVER SHALL BE CERTIFIED BY MFR. TO BE TRAFFIC BEARING UNLESS OTHERWISE NOTED.

6/13 STORM SEWER RING & COVER DETAIL
NOT TO SCALE

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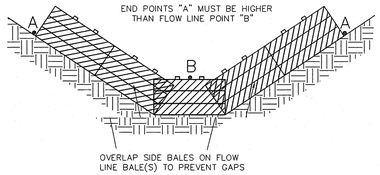
608 Stevens Avenue • Huntsville, AL 35801
phone 256.539.1221 • fax 256.539.1220

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS: REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE: ---
OFFICE DATE: 07-11-08
CHECKED BY: JMC
DWG. NO.: M-07-070DET

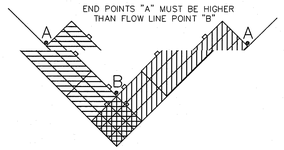
JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 13 OF 13

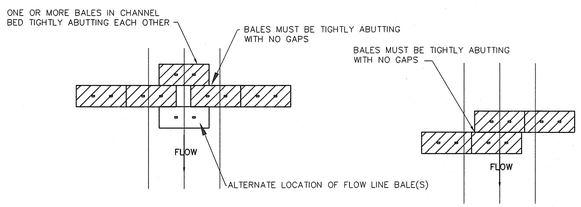


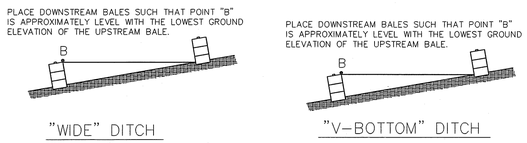
18 INCH BY 36 INCH BALES

VALUE OF Z	MINIMUM NUMBER OF BALES
1.0 OR <	1 **
1.0 – 3.5	2 **
3.5 – 5.0	3 **
5.0 – 7.0	4 **
7.0 – >	NOT RECOMMENDED

** ASSUMES DEPTH OF WATER ABOVE POINT "B" WILL NOT EXCEED 6 INCHES.

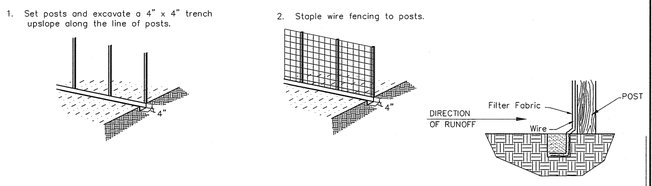






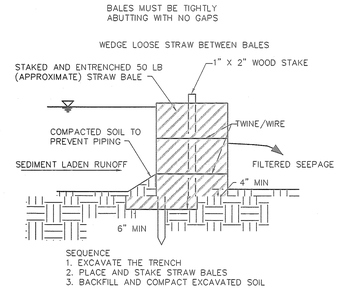
INSTALLATON OF STRAW BALE DAMS FOR DRAINAGE CHANNELS

1/14 NOT TO SCALE



DETAILS FOR PLACING SILT FENCES

2/14 NOT TO SCALE



INSTALLATION OF STRAW BALES

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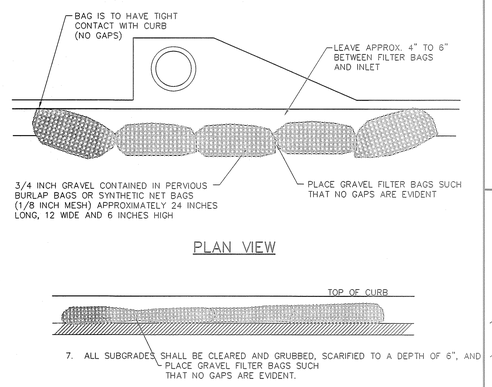
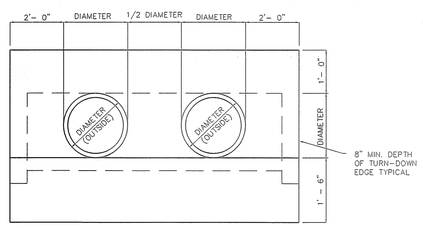
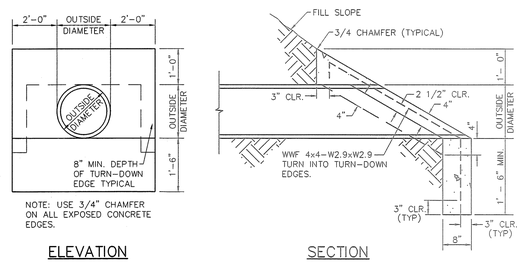


GRAVEL FILTER FOR "S" INLET

4/14 NOT TO SCALE



ELEVATION
DOUBLE PIPE

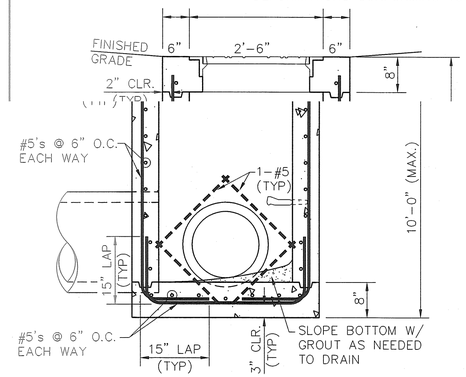


CONCRETE SLOPE PAVED HEADWALL (SINGLE PIPE)

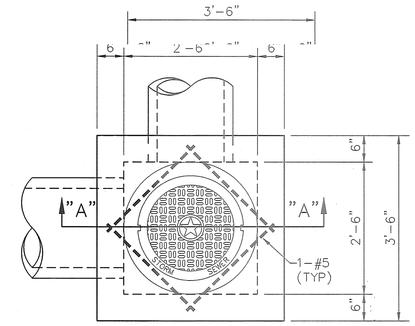
5/14 NOT TO SCALE

NOTES:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS (CLASS "A").
2. ALL REINFORCING SHALL BE GRADE 60 DEFORMED BARS, AND SHALL CONFORM TO THE REQ'TS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL (ASTM A-15), WITH DEFORMATIONS CONFORMING TO ASTM A-305.



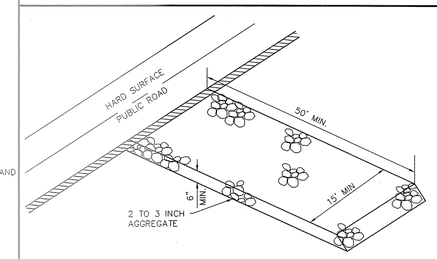
SECTION "A"–"A"



PLAN – JUNCTION BOX

JUNCTION BOX/15"–24" PIPES

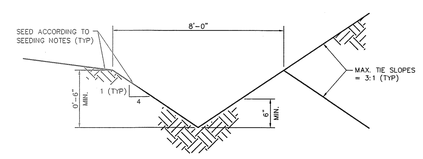
6/14 NOT TO SCALE



TEMPORARY CONSTRUCTION ENTRANCE

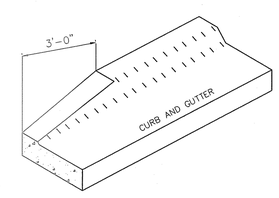
7/14 NOT TO SCALE

NOTE: ALL DISTURBED AREAS SHALL BE SEEDED ACCORDING TO THE SEEDING NOTES
SIDE SLOPES ARE TO CONFORM TO GRADING PLAN WHEN APPLICABLE



SIDE LOT SWALE

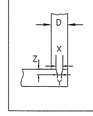
8/14 NOT TO SCALE



CURB END DETAIL

9/14 NOT TO SCALE

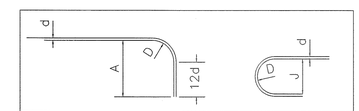
SHEAR KEY DETAIL



WALL (D) THICKNESS	NOMINAL KEY SIZE	X	Y	Z
4" – 7"	2" X 2"	1 1/2"	1"	1 1/2"
8" – 13"	2" X 4"	3 1/2"	3"	1 1/2"
14" – 20"	2" X 6"	5 1/2"	5"	1 1/2"
SEE DRAWINGS	2" X 8"	7 1/4"	6 3/4"	1 1/2"
	2" X 10"	9 1/4"	8 3/4"	1 1/2"
	4" X 4"	3 1/2"	3"	3 1/2"
	4" X 6"	5 1/2"	5"	3 1/2"
	4" X 8"	7 1/4"	6 3/4"	3 1/2"
	4" X 10"	9 1/4"	8 3/4"	3 1/2"
	4" X 12"	11 1/4"	10 3/4"	3 1/2"

SLUMP TABLE

TYPE OF CONSTRUCTION	SLUMP (INCHES) MAX.	SLUMP (INCHES) MIN.
REINFORCED FOOTINGS AND SLABS	3	1
REINFORCED WALLS AND PAVEMENTS	4	1
	6	3



BAR BEND TABLE AND EMBEDMENT TABLE

BAR SIZE(d)	#3	#4	#5	#6	#7	#8	#9	#10
DIAMETER	0.375"	0.5"	0.625"	0.75"	.875"	1.0"	1.128"	1.27"
D	2.25"	3.0"	3.75"	4.50"	5.25"	6.0"	9.02"	10.16"
A	6"	8"	10"	12"	14"	16"	19"	22"
J	3"	4"	5"	6"	7"	8"	11.25"	12.75"
LAP SPACE LENGTH	16"	16"	18"	26"	35"	45"	57"	73"
EMBEDMENT LENGTH	12"	12"	14"	20"	27"	35"	44"	56"

CONSTRUCTION DETAILS

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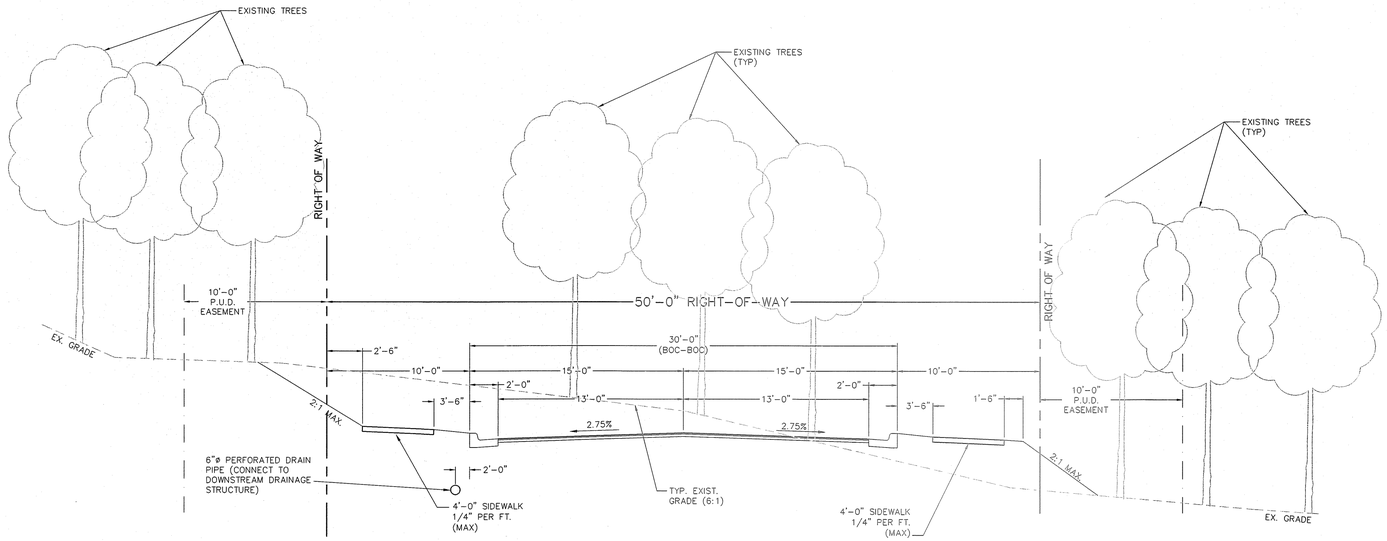
phone 256.539.1221 • fax 256.539.1220

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

REVISIONS:

DRAWN BY: M. GILLESPIE
FIELD DATE:

JOB NO.: M-07-070
SCALE: AS NOTED
OFFICE DATE: 01-21-08
CHECKED BY: JMC
DWG. NO.: M-07-070DET

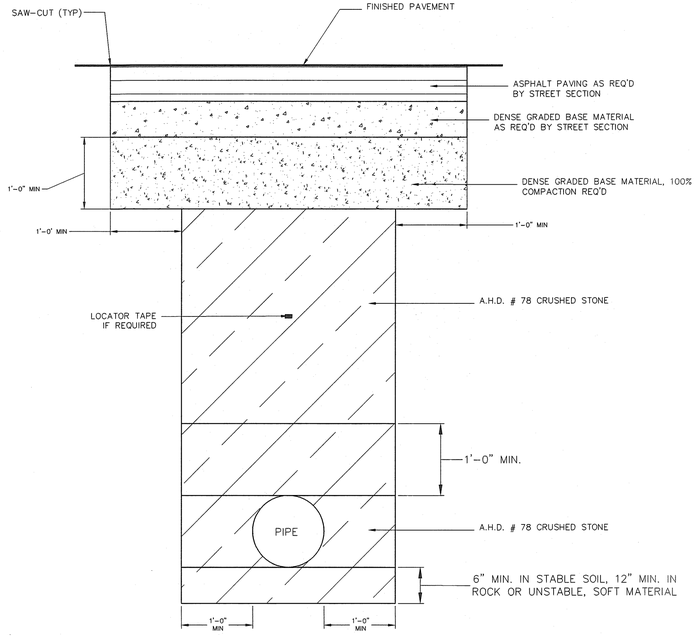


1. 424-A (1") SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE, 3/8" MAX AGGREGATE SIZE MIX, ESAL RANGE A/B
2. 424-B (2") SUPERPAVE BITUMINOUS CONCRETE BINDER LAYER 1" MAX AGGREGATE SIZE MIX, ESAL RANGE A/B
3. 0.10 GAL./S.Y. EMULSIFIED ASPHALT OR 0.07 GAL./S.Y. TACK COAT. ALL MATERIALS ARE TO BE IN ACCORDANCE WITH SECTION 405 OF THE ALDOT SPECIFICATIONS.
4. 5" LAYER OF DENSE GRADED AGGREGATE BASE COURSE, CITY OF HUNTSVILLE, REF. 301 OF SPECIFICATIONS, ALL MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 825 TYPE "B" COMPACTION TO 100% OF PROCTOR DENSITY.
5. SIDEWALK IS TO BE 4' WIDE, 4" THICK AND 3000 PSI CONCRETE (BROOM FINISHED)
6. 1/2" PREMOLDED EXPANSION JOINT (BITUMINOUS) USE NEXT TO BUILDING, STRUCTURES, AND CURBS. SPACE AT 50' INTERVALS MAX. ALL EDGES AND JOINTS TO BE ROUNDED AT 1/4" RAD.
7. FORM CONSTRUCTION JOINTS BY 1/8" METAL PLATES REMOVED AFTER FINISHING, OR BY CUTTING SLAB TO 1\3 OF FULL DEPTH. SPACE AT 5' INTERVALS MAX. AND ROUND EDGES WITH A 1/4" RAD. FINISHING GROOVE TOOL..

1/15 TYPICAL STREET SECTION (30' BOC TO BOC)

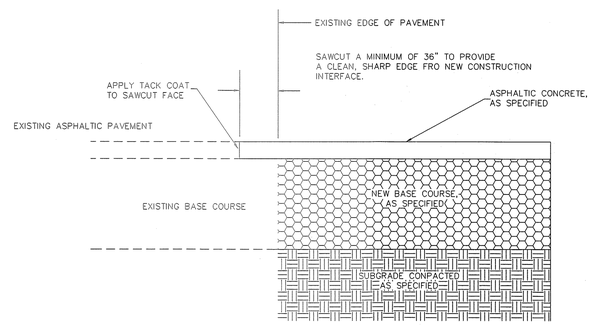
NOT TO SCALE

P.U.D. = PUBLIC UTILITY & DRAINAGE



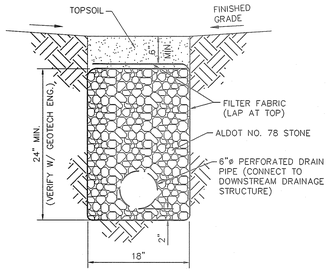
2/15 UTILITY CROSSING/ STREET REPAIR DETAIL

NOT TO SCALE



3/15 NEW/EXISTING PAVEMENT INTERFACE

NOT TO SCALE



4/15 "FRENCH DRAIN" DETAIL

NOT TO SCALE

CONSTRUCTION DETAILS

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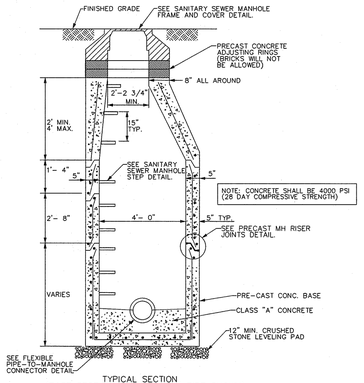
PB. 45 PG. 58

REVISIONS:
REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE:
OFFICE DATE: 01-21-08
CHECKED BY: JMC
DWG. NO.: M-07-070DET

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 15 OF 13

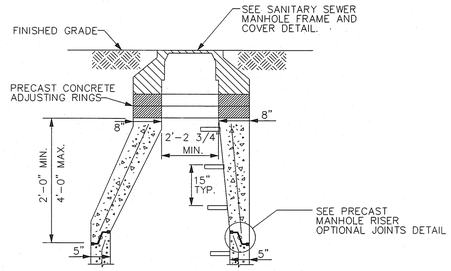


TYPICAL SECTION
(BASE SECTION FOR 6" – 24" PIPE SHOWN)

1/16 STANDARD SANITARY SEWER MANHOLE DETAIL

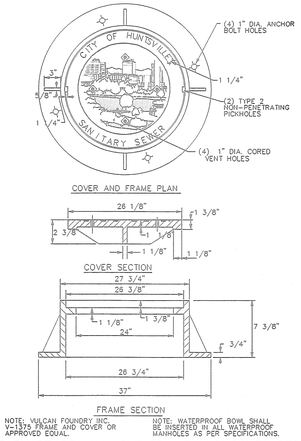
NOT TO SCALE

NOTE: FOR MANHOLES LESS THAN 4.5' IN DEPTH, CONTRACTOR SHALL PROVIDE A SPECIAL ORDER MANHOLE OR A POURED-IN-PLACE MANHOLE AS APPROVED BY THE CITY ENGINEER.



4/16 STANDARD SANITARY SEWER MANHOLE ECCENTRIC TOP SECTION DETAIL

NOT TO SCALE

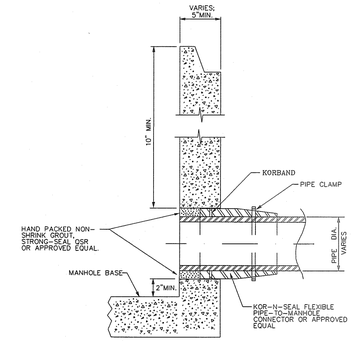


NOTE: VULCAN FOUNDRY INC. V-1375 FRAME AND COVER OR APPROVED EQUAL.

NOTE: WATERPROOF BOWL SHALL BE INSERTED IN ALL WATERPROOF MANHOLES AS PER SPECIFICATIONS.

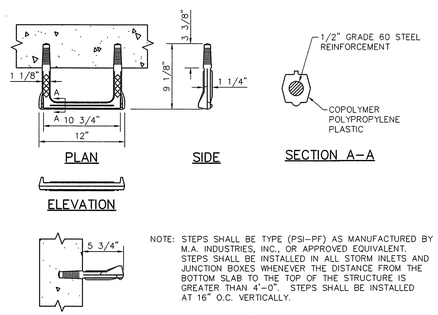
7/16 SANITARY SEWER MANHOLE FRAME AND COVER DETAIL

NOT TO SCALE



10/16 FLEXIBLE PIPE-TO-MANHOLE CONNECTOR DETAIL

NOT TO SCALE

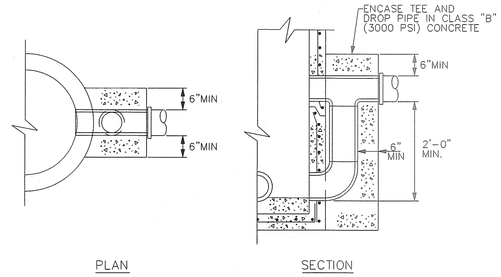


NOTE: STEPS SHALL BE TYPE (PSI-PF) AS MANUFACTURED BY M.A. INDUSTRIES, INC., OR APPROVED EQUIVALENT. STEPS SHALL BE INSTALLED IN ALL STORM INLETS AND JUNCTION BOXES WHENEVER THE DISTANCE FROM THE BOTTOM SLAB TO THE TOP OF THE STRUCTURE IS GREATER THAN 4'-0". STEPS SHALL BE INSTALLED AT 16" O.C. VERTICALLY.

INSTALLATION

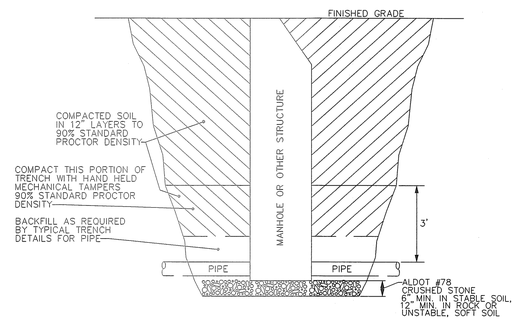
2/16 STEP DETAIL

NOT TO SCALE



5/16 SANITARY SEWER MANHOLE DROP CONNECTION DETAIL

NOT TO SCALE

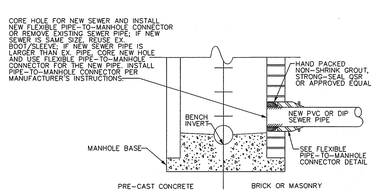


BEDDING AND BACKFILL REQUIREMENTS AROUND MANHOLES AND OTHER DRAINAGE & SANITARY SEWER STRUCTURES IN NON-TRAFFIC AREAS

8/16

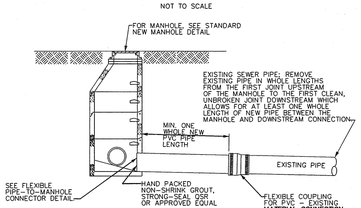
NOT TO SCALE

8. ALL PLANS SHALL CONTAIN THE FOLLOWING NOTES:
   A) "ALL SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS OF THE CIVIL ENGINEER."
   B) "THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR TVI, VACUUM TESTING MANHOLES, AND AIR TESTING SEWER LINES. A 48-HOUR NOTICE IS REQUIRED PRIOR TO TESTING PROCEDURES. REPRESENTATIVES FROM BOTH THE CITY ENGINEERING OFFICE AND WATER POLLUTION CONTROL SHALL BE PRESENT TO VERIFY TESTING RESULTS."
   C) "NOTICE TO CONTRACTOR: THE CONTRACTOR SHALL PROVIDE THE CITY ENGINEER WITH A COMPLETE SET OF RECORD DRAWINGS (AS-BUILTS) IN DIGITAL FORM (DGN OR DXF FORMAT) AND HARDCOPY FORM UNLESS OTHERWISE SPECIFIED, UPON COMPLETION OF CONSTRUCTION. THEY SHALL INCLUDE ACTUAL FIELD ANGLES BETWEEN LINES, ALL ACTUAL SERVICE LINES AND TEE LOCATIONS, THE DISTANCE OF THE END OF SERVICE LINES, TO PROPERTY CORNERS AND LINES, THE DEPTH TO TOP OF THE END OF THE SERVICE LINE, AND SHALL REFLECT ALL ALIGNMENT AND GRADE CHANGES FROM THE DESIGN DRAWINGS MADE DURING CONSTRUCTION. RECORD DRAWINGS MUST BE COMPLETED AND SUBMITTED PRIOR TO ACCEPTANCE OF THE SEWERS INTO THE PUBLIC SYSTEM AND ANY CONNECTIONS BEING MADE THERETO.
   D) "NOTICE TO CONTRACTOR: ALL EVIDENT EXISTING UTILITIES ARE SHOWN. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY EXACT SIZES AND LOCATIONS OF ALL EXISTING UTILITIES BEFORE INITIATING ANY CONSTRUCTION OPERATIONS. ANY EXISTING STRUCTURE, PIPING OR UTILITY DISTURBED OR DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND/OR ENGINEER. THE CONTRACTOR SHALL CALL: ALABAMA LINE LOCATION CENTER, INC., 1-800-292-8525 AND HUNTSVILLE UTILITIES, 1-256-882-8255, TWO (2) DAYS BEFORE ANY EXCAVATION ON THIS PROJECT." IF THE PROJECT IS WITHIN AN ALDOT RIGHT-OF-WAY, ADD THE FOLLOWING SENTENCE. "THIS REQUIREMENT OF THE ALABAMA DEPARTMENT OF TRANSPORTATION AND ALABAMA ACT 94-487."



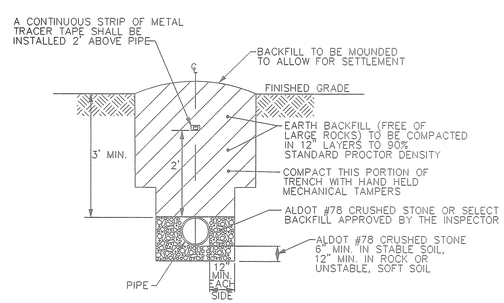
CONNECTION OF NEW SEWER TO EXISTING MANHOLE

NOT TO SCALE



3/16 CONNECTION OF NEW MANHOLE TO EXISTING SEWER

NOT TO SCALE

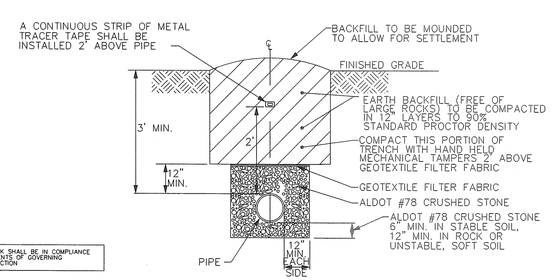


TYPICAL TRENCH DETAIL FOR DUCTILE IRON OR REINFORCED CONCRETE SANITARY SEWER PIPE IN NON-TRAFFIC AREA

6/16

NOT TO SCALE

NOTE: ALL EXCAVATION WORK SHALL BE IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF GOVERNING AUTHORITIES HAVING JURISDICTION



NOTE: ALL EXCAVATION WORK SHALL BE IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF GOVERNING AUTHORITIES HAVING JURISDICTION

TYPICAL TRENCH DETAIL FOR PVC & FLEXIBLE SANITARY SEWER PIPE IN NON-TRAFFIC AREAS

9/16

NOT TO SCALE

SANITARY SEWER CONST. DETAILS

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VETERANS DRIVE EXTENSION
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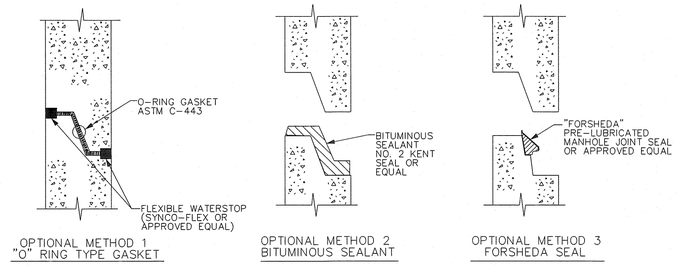
PB. 45 PG. 58

REVISIONS:
REV 4/12/08 PER TECH REVIEW

DRAWN BY: M. GILLESPIE
FIELD DATE: ---
OFFICE DATE: 12-21-06
CHECKED BY: JMC
DWG. NO.: M-07-070DET

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 16 OF 13



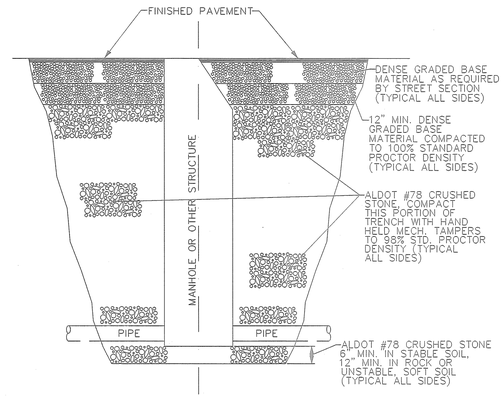
OPTIONAL METHOD 1
"O" RING TYPE GASKET

OPTIONAL METHOD 2
BITUMINOUS SEALANT

OPTIONAL METHOD 3
FORSHEDA SEAL

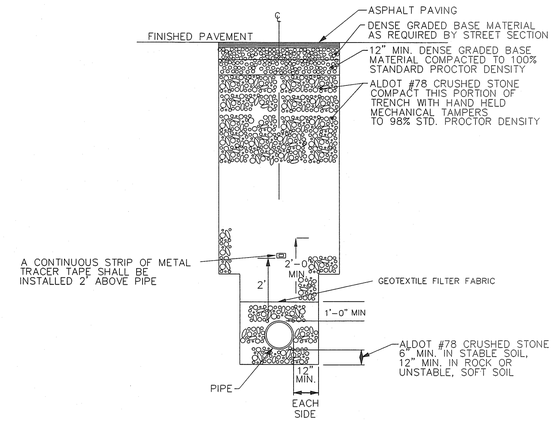
NOTE:
ALL JOINTS SHALL BE OF SUCH DESIGN AS WILL PERMIT EFFECTIVE JOINING WITH NO LEAKAGE AND INFILTRATION AND TO PERMIT PLACEMENT WITHOUT APPRECIABLE IRREGULARITIES ON THE INTERIOR WALL.

1/17 PRECAST MANHOLE RISER OPTIONAL JOINTS
NOT TO SCALE



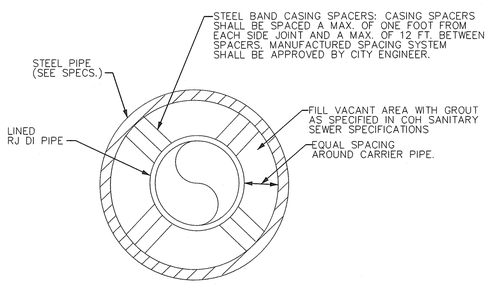
BEDDING AND BACKFILL REQUIREMENTS AROUND MANHOLES AND OTHER DRAINAGE & SANITARY SEWER STRUCTURES WITH TRAFFIC AREAS

2/17 NOT TO SCALE

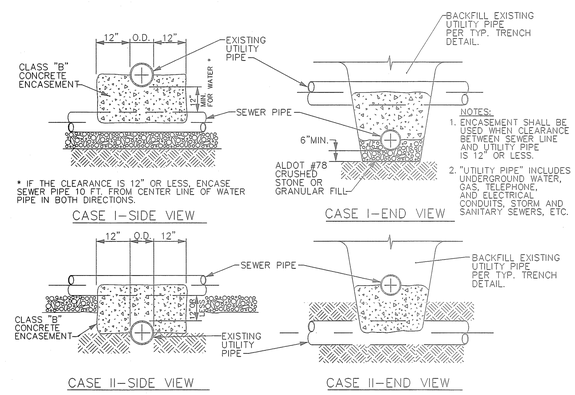


3/17 TYPICAL TRENCH DETAIL FOR SANITARY SEWER PIPE IN TRAFFIC AREA
NOT TO SCALE

NOTES:
1. ALL EXCAVATION WORK SHALL BE IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF GOVERNING AUTHORITIES HAVING JURISDICTION.
2. TRAFFIC AREAS TO EXTEND 5 FT. BEYOND BACK OF CURB OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED ON THE PLAN VIEW.

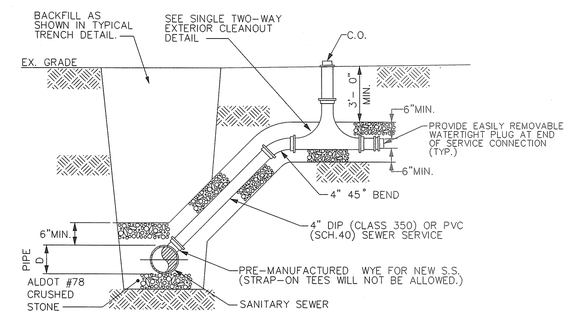


4/17 PIPE ENCASEMENT DETAIL FOR BORINGS
NOT TO SCALE

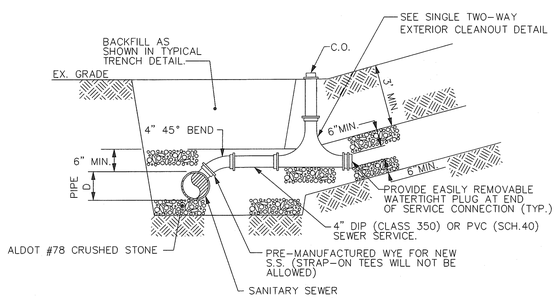


5/17 UTILITY CROSSING DETAILS
NOT TO SCALE

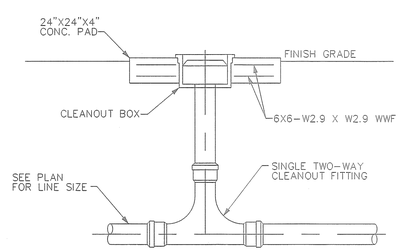
NOTE:
RELOCATION OF A UTILITY OTHER THAN CITY OF HUNTSVILLE SEWERS WILL BE THE RESPONSIBILITY OF THAT UTILITY. HOWEVER, CONTRACTOR SHALL COORDINATE WITH OTHER UTILITIES.



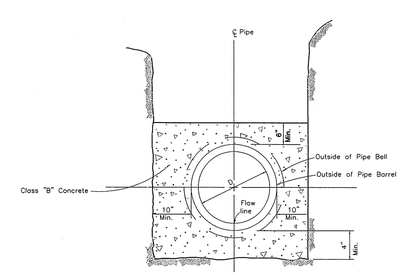
6/17 SERVICE CONNECTION FOR DEEP SEWER (MORE THAN 6')
NOT TO SCALE



7/17 SERVICE CONNECTION FOR SHALLOW SEWER (6' OR LESS)
NOT TO SCALE



8/17 SINGLE TWO-WAY EXTERIOR CLEANOUT
NOT TO SCALE



9/17 CONCRETE ENCASEMENT
N.T.S.

SANITARY SEWER CONST. DETAILS

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PB. 45 PG. 58

REVISIONS:

DRAWN BY: M. GILLESPIE
FIELD DATE: ---
OFFICE DATE: 04-21-08
CHECKED BY: JMC
DWG. NO.: M-07-070DET

JOB NO.: M-07-070
SCALE: AS NOTED
SHT. NO. 17 OF 13

Design specifications for detectable (truncated) warnings

The detectable warning is defined as "a standardized surface feature built in or applied to the walking surface or other elements to warn visually impaired people of hazards on a circulation path".

All detectable warnings shall be in compliance with the Americans with Disabilities Act of 1990 Accessibility Guidelines (ADAAG) as detailed in 28 CFR Part 36. Detectable warnings shall consist of raised truncated domes with a:

- Bottom diameter of 23 mm (0.9 in);
- Top diameter of 10 mm (0.4 in);
- Height of 5 mm (0.2 in);
- Center-to-center spacing of 60 mm (2.35 in);
- The color of the detectable warning should contrast visually with adjoining surfaces; either light on dark or dark on light. The material used to provide contrast should contrast by at least 70 percent.

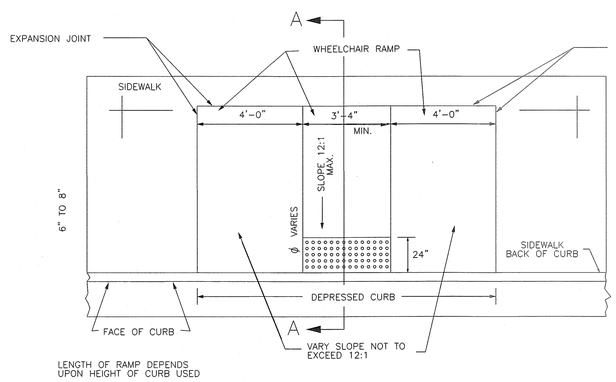
Detectable warnings shall be laid out on a triangular grid or a square grid (parallel alignment). When installed on curb ramps, only the lower 610 mm (2 ft) of the entire curb ramp width shall be covered (excluding the flared sides) rather than the entire length of the ramp to maximize the detectability and to minimize the negative impact on people who rely on wheeled devices for mobility. The detectable warnings shall be installed such that the edge nearest the curb line is 152 mm to 200 mm (6 in to 8 in) behind the curb line.

Acceptable manufacturers and products are:

1) Whitacre-Greer Fireproofing Company, 1400 S. Mahoning Ave, Alliance, OH, 44601, ADA Paver, 4" x 8" x 2-1/4", Clear Red (Rustic) #30
2) Hanover Architectural Products, 240 Bender Road, Hanover, PA 17331, Detectable Warning Paver, 4" x 8" x 2", Red or Quarry Red.
3) Pavestone Company, 7322 Bonnyshire Drive, Chattanooga, Tennessee, Detectable Warning Paver, 4" x 8" x 2-3/8", Red

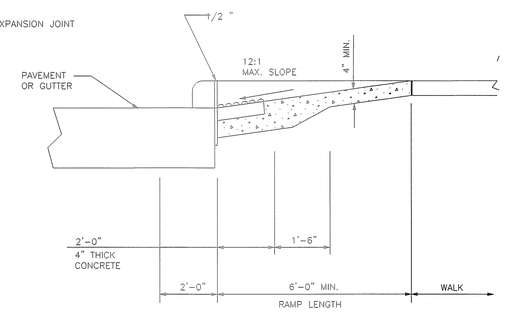
GENERAL NOTES

1. THE EXPANSION JOINT IS TO BE REPLACED WHERE THE NEW RAMP OR SIDEWALK JOINS EXISTING PAVEMENT STRUCTURE.
2. EXPANSION JOINT MATERIAL TO BE IN ACCORDANCE WITH ARTICLE 832.01 AND 832.02 OF ALABAMA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
3. THE SUBGRADE SHALL BE FREE OF ALL ROOTS AND OTHER UNDESIRABLE MATERIALS WITH THE ROOTS CUT BACK ONE (1) FOOT FROM FACE OF SIDEWALK.
4. RAMPS SHALL HAVE A NON-SKID SURFACE APPLIED BY BRUSHING TRANSVERSELY OR GROOVING.
5. WHERE SIDEWALKS ARE REQUIRED, THIS PLAN SHALL BE USED AT PEDESTRIAN CROSSWALKS FOR SAFE AND CONVENIENT MOVEMENT OF THE HANDICAPPED AND PERSONS USING WHEEL CHAIRS.
6. INSTALL DETECTABLE WARNINGS (TRUNCATED DOMES) FOR A DISTANCE OF 24" FROM THE BACK OF THE CURB FOR THE ENTIRE WIDTH OF THE RAMP OPENING SHOWN.
7. PAVERS SHALL MEET ASTM C 902 CLASS SX, TYPE I, OR C 936, OR C 1272 TYPE R.
8. PAVERS WILL BE LAID ON TOP OF A 4" CONCRETE BASE. SETTING BED AND JOINTS TO BE MORTARED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, OR WITH A MAXIMUM 1/2 " THICK BED OF LATEX MODIFIED CEMENT MORTAR. MORTAR JOINTS TO A WIDTH OF 3/8 ". PAVERS SHALL NOT BE DIRECTLY TOUCHING EACH OTHER UNLESS THAY HAVE SPACING BARS.
9. MORTARED JOINTS ARE TO BE FLUSH WITH THE TOP SURFACE AND STRUCK SO AS TO GIVE A SMOOTH SURFACE. PAVERS SHALL BE LAID SUCH THAT JOINTS ARE LEVEL WITH ADJOINING JOINTS SO AS TO PROVIDE A SMOOTH TRANSITION FROM BRICK TO BRICK AND BRICK TO CONCRETE SURFACE.
10. THE SURFACE OF ANY TWO ADJACENT UNITS SHOULD NOT DIFFER BY MORE THAN 1/8 " IN HEIGHT. BRICKS SHALL BE PLACED IN A HERRINGBONE PATTERN WHERE FEASIBLE. IN ALL CASES, THE PATTERN OF THE DOMES IS TO BE MAINTAINED PER ADA REQUIREMENTS. FACE OF ALL BRICK SHALL BE CLEAN OF CEMENT AND PROTECTED SO AS TO AVOID CHIPPING DURING CONSTRUCTION.
11. EXPANSION JOINTS SHALL BE PROVIDED IN THE CURB RAMP AS EXTENSIONS OF WALK JOINTS FOR A NEW CONCRETE WALK. A 1/2 " EXPANSION JOINT FILLER SHALL BE PROVIDED AROUND THE EDGE OF RAMPS BUILT IN EXISTING CONCRETE WALKS. LINES SHOWN ON THIS DRAWING INDICATE THE RAMP EDGE AND SLOPE CHANGES AND ARE NOT NECESSARILY JOINT LINES.



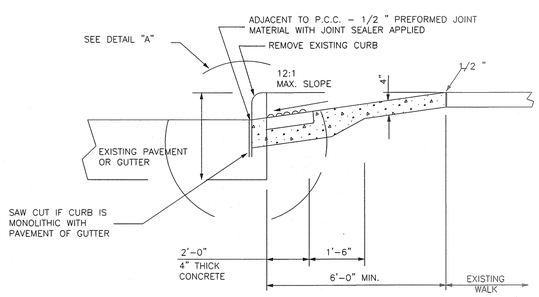
PLAN VIEW

NTS



SECTION A-A
NORMAL DETAIL
(GUTTER SHOWN)

NTS



SECTION A-A
MODIFICATION TO EXISTING WALK DETAIL

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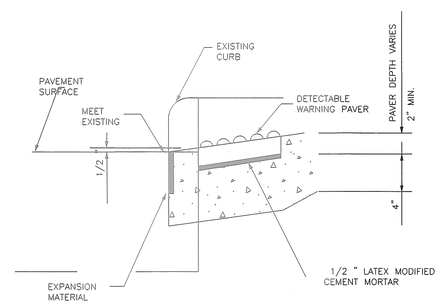


DETAIL "A"

NTS

1/18 TYPICAL H'CAP RAMP DETAIL

NOT TO SCALE

CONSTRUCTION DETAILS

land planning | engineering | surveying | landscape architecture

SITE INCORPORATED

608 Stevens Avenue • Huntsville, AL 35801
phone 256.539.1221 • fax 256.539.1220

VETERANS DRIVE EXTENSION
A RESUBDIVISION OF LOT 4 & 5
OF REDSTONE VILLAGE
HUNTSVILLE, AL SEC. 18, T-5-S, R-1-E
PB. 45 PG. 58

DRAWN BY: M. GILLESPIE
FIELD DATE: ---
OFFICE DATE: 01-21-08
CHECKED BY: JMC
DWG. NO.: M-07-070DET

REVISIONS:

JOB NO.: M-07-070

SCALE: AS NOTED

SHT. NO. 18 OF 19

GEO SOLUTIONS, L.L.C.

Geotechnical Engineering and Materials Testing Services

March 20, 2008

Fuqua and Partners
112 Washington Street, NE
Huntsville, Alabama 35801

Attention: Mr. Steve Smith

Subject: Proposed Segmental Retaining Wall
Veterans Drive Extension
Huntsville, Alabama
Project No.: 08-152

Dear Mr. Smith:

As requested we have prepared options for a retaining wall along a portion of the proposed Veterans Drive Extension. To aid in the design of the proposed wall, we have reviewed roadway and wall layout plans prepared by 4-Site Engineering.

Based on our review of the plans provided, it is proposed to construct 78 lineal feet of segmental retaining wall along a portion of the Veterans Drive Extension. Based on our review of the plans provided, it appears the wall will have a maximum height of approximately 7 feet.

The attached wall detail is based on using Keystone "Compac" block units. Backfill in the reinforced area should consist of open graded stone such as ALDOT No. 57 or 67 stone. The stone should extend at least to the end of the reinforcement grid.

Periodic reviews by the geotechnical engineer of record, or his representative are recommended. These reviews should be performed during excavation of the wall foundation as well as during placement of block wall backfill. Provisions for positive drainage behind the wall should be provided and maintained. Water should not be allowed to pond behind the back of the wall.

Please note the design detail is applicable to Keystone "Compac" block units only. In the even a different block manufacturer or Keystone block type is selected, new design details will likely be required.

P. O. Box 11488 • Huntsville, AL 35814 • 256-837-6708 • Fax 256-837-6702

Should you have any questions regarding this letter or the attached detail, please call.

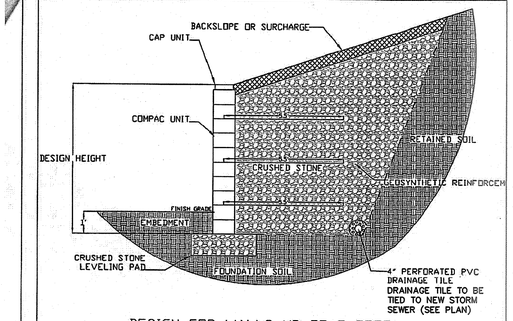
Respectfully submitted,

GEO Solutions, L.L.C.

William T. Kennard, P.E.
Partner

ALABAMA REGISTERED NO. 19707 PROFESSIONAL ENGINEER WILLIAM T. KENNARD

Attachments: Figure 1 – Retaining Wall Design



DESIGN FOR WALLS UP TO 7 FEET

NOTES:

1) WALL HEIGHT IS THE TOTAL HEIGHT OF THE WALL FROM LEVELING PAD TO TOP OF WALL.

2) THE DRAWINGS ASSUME THE USE OF ONE OF THE FOLLOWING MATERIALS:

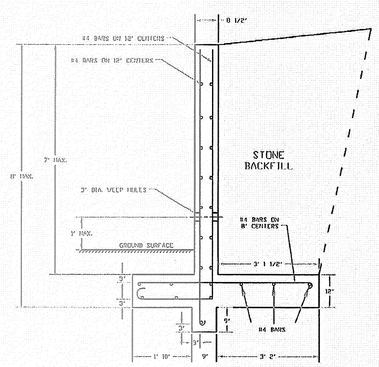
MIRAGRID 5T BY MIRAFI
STRATAGRID 150 BY STRATA SYSTEMS
UX1040 OR UX1400 BY TENSAR CORPORATION
35/20-20 BY HUESKAER INC.

3) ALL GEOGRID LENGTHS SHOWN ARE THE ACTUAL LENGTHS OF GEOGRID REQUIRED AS MEASURED FROM THE CONNECTION PINS TO THE END OF THE GEOGRID.

4) THE DESIGN ASSUMES THAT THE WALLS ARE CONSTRUCTED IN ACCORDANCE WITH KEYSTONE SPECIFICATIONS AND GOOD CONSTRUCTION PRACTICE.

5) THE DESIGN IS BASED ON A KEYSTONE "COMPAC" BLOCK. THE DESIGN IS NOT APPLICABLE FOR DIFFERENT BLOCK TYPES OR MANUFACTURERS.

RETAINING WALL VETERANS DRIVE HUNTSVILLE, ALABAMA FIGURE 1 RETAINING WALL DETAILS	GEO SOLUTIONS, L.L.C. Geotechnical Engineering and Materials Testing Services 4820 Commercial Drive Huntsville, Alabama 35816 PH (256)837-6708 FX (256)837-6702	SCALE: 1" = 3' PROJ: 08-152 DATE: 03/17/2008 #1 OF 1



Notes:

Design based on minimum allowable bearing capacity of 3000 pounds per square foot.

Concrete should have a 28 day unconfined compressive strength of 4000 pounds per square inch.

ALABAMA REGISTERED NO. 19707 PROFESSIONAL ENGINEER WILLIAM T. KENNARD

VETERANS DRIVE EXTENSION HUNTSVILLE, ALABAMA FIGURE 1 8' WALL DETAIL	GEO SOLUTIONS, L.L.C. Geotechnical Engineering and Materials Testing Services 4820 Commercial Drive Huntsville, Alabama 35816 PH (256)837-6708 FX (256)837-6702	SCALE: 1" = 2' PROJ: 08-152 DATE: 04/08/2008 #1 OF 1

NOTE: CAST-IN-PLACE RETAINING WALL IS TO BE USED ONLY AS AN ALTERNATIVE DEPENDING ON EXISTING SITE FIELD CONDITIONS AND THE APPROVAL OF THE CITY ENGINEER AND THE GEOTECHNICAL ENGINEER PRIOR TO COMMENCING CONSTRUCTION OF THE PROPOSED RETAINING WALL. CONTACT CITY ENGINEERING ONCE EXCAVATION FOR WALL HAS COMMENCED.

RETAINING WALL DESIGN

land planning | engineering | surveying | landscape architecture
4-SITE INCORPORATED
608 Stevens Avenue • Huntsville, AL 35801
phone 256.539.1221 • fax 256.539.1220

VETERANS DRIVE EXTENSION
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SHT. NO. 19 OF 19