Asheville Wildlife Park

Visitor Reception & Welcome Plaza

Asheville, North Carolina

Rendering

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Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

Cover Sheet

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Revision No.
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18 July 2014

Project No.
2152

Date
02.23.2013

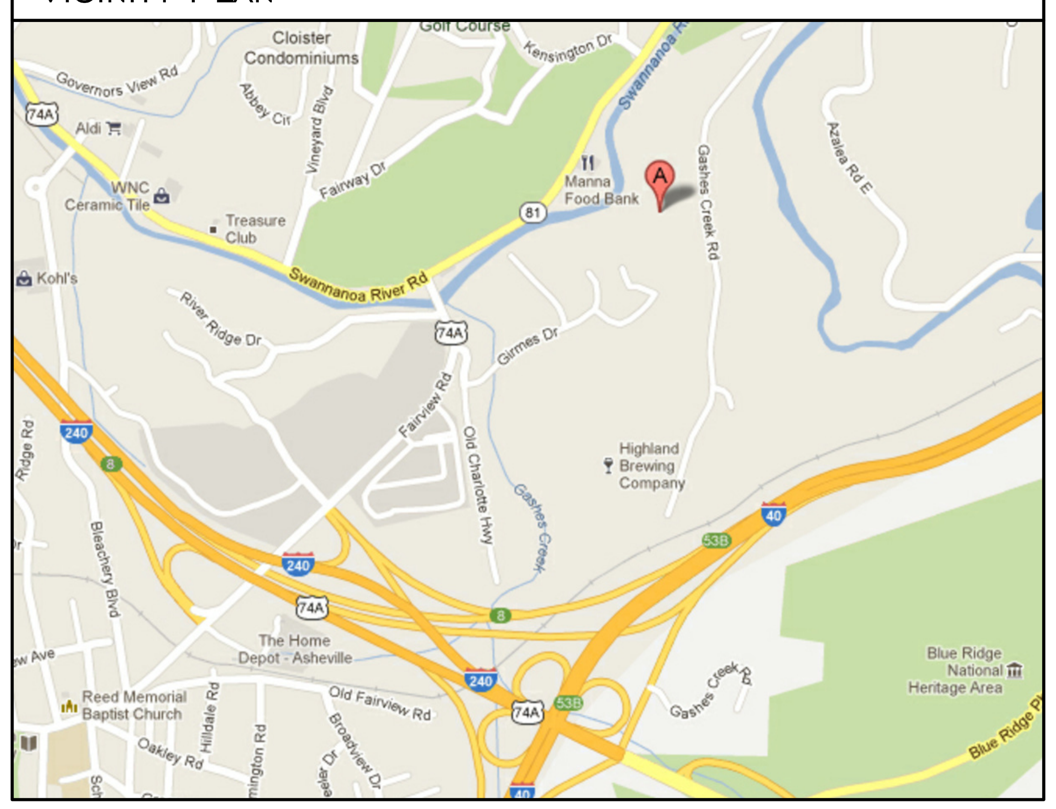
Scale
AS NOTED

Sheet
COVER

KEY LEGEND

Symbol	Description
☆	CRITICAL DIMENSION OR NOTATION
(101)	DOOR NUMBER KEY
(A)	WINDOW LETTER KEY
(1A)	WALL TYPE KEY
(F1)	CAB. MTD. FIRE EXTINGUISHER
(F2)	SURF. MTD. FIRE EXTINGUISHER
	WALL MOUNTED FIRE EXIT SIGN
A1 / A5.0; 1 2 3 4, A1 A9.0	ELEVATION KEYS
A1 / A5.0	BUILDING SECTION KEY
A1 / A7.0	WALL SECTION KEY
A1 / A2.0	ENLARGED PLAN DETAIL KEY
A1/A11.0	DETAIL SECTION KEY
(A)	STRUCTURAL GRID

Vicinity Plan



GENERAL PROJECT NOTES AND CONDITIONS

General Notes

1. THIS DOCUMENT IS PROVIDED FOR BASIC CONSTRUCTION PURPOSES ONLY. THE ARCHITECT DOES NOT WARRANT ANY MATERIAL, EQUIPMENT, HARDWARE, ETC. WHETHER IMPLIED OR EXPLICITLY CALLED OUT ON DRAWINGS.
2. ALL GENERAL NOTES APPLY TO THE SCOPE OF THIS TOTAL PROJECT, REGARDLESS OF WHETHER OR NOT THEY ARE KEYED ON EVERY SHEET TO A SPECIFIC DETAIL.
3. COMPLY WITH ALL APPLICABLE HANDICAP CODES WHEN INSTALLING AND FRAMING OPENINGS FOR DOORS.
4. EACH TRADE SHALL VERIFY ALL REQUIREMENTS PERTAINING TO WORK PERFORMED IN THE PROJECT AND ANY REQUIRED PERMITS. ALL SUBCONTRACTORS SHALL DIRECT QUESTIONS, CHANGES OR REQUESTS THROUGH THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL SUBMIT ALL REQUESTS, CHANGES OR QUESTIONS TO THE ARCHITECT IN WRITING.
5. ANY ARCHITECTURAL WORK REQUIRED TO PROVIDE THE SCOPE OF WORK GRAPHICALLY INDICATED BY THESE DRAWINGS IS A PART OF THE SCOPE OF THE CONSTRUCTION CONTRACT. IN THE EVENT ANY WORK IS INDICATED GRAPHICALLY AND NOT NOTED, THE WORK WILL BE EXPECTED TO BE PERFORMED AT NO ADDITIONAL CHARGE.
6. THE GENERAL CONTRACTOR SHALL MAINTAIN THE RATING OF ALL REQUIRED RATED WALLS AT ALL INTERSECTIONS, CONNECTIONS, AND PENETRATIONS AS REQUIRED PER APPLICABLE BUILDING CODES.
7. THE GENERAL CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PROTECT BUILDING OCCUPANTS, MATERIALS AND EXISTING FINISHES THROUGHOUT ALL PHASES OF CONSTRUCTION. NOISE SECURITY AND DUST BARRIERS BETWEEN CONSTRUCTION AREA AND AREAS WHICH ARE PUBLIC OR OTHERWISE OCCUPIED SHALL BE MAINTAINED BY THE GENERAL CONTRACTOR.
8. FOR THE ENTIRE LENGTH OF CONTRACT WORK, CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES AND ALARMS TO CONFORM TO LOCAL BUILDING CODE REQUIREMENTS.
9. FIRE-RATED PARTITIONS SHALL BE IDENTIFIED AS SUCH IN LARGE RED STENCIL ABOVE FINISHED CEILING.
10. ALL DIMENSIONS ARE TO FACE OF GYPSUM BOARD OF NEW OR EXISTING CONSTRUCTION UNLESS NOTED OTHERWISE.
11. NEW GYPSUM BOARD CONSTRUCTION MEETING EXISTING CONSTRUCTION IN SAME PLANE SHALL BE FLUSH WITH NO VISIBLE JOINT.
12. THE GENERAL CONTRACTOR SHALL COORDINATE ALL KEYING REQUIREMENTS, INCLUDING MASTER AND SUB-MASTER SETS, WITH THE TENANT AND BUILDING MANAGER.
13. PREPARE ALL FLOOR, CEILING AND WALL SURFACES, INCLUDING NECESSARY REPAIR / REPLACEMENT OF SUBSTRATE (SUCH AS GYPSUM BOARD) DAMAGED DURING REMOVAL OF EXISTING FINISHES, AS REQUIRED FOR INSTALLATION OF NEW FINISHES.
14. COORDINATE ALL PHONE AND COMPUTER DATA INSTALLATION AND SCHEDULE REQUIREMENTS WITH OWNER.
15. THE CONTRACTOR SHALL PROMPTLY REMEDY ANY DAMAGE AND/OR LOSS TO PROPERTY (ALL MATERIALS AND EQUIPMENT INCORPORATED IN THE WORK DESCRIBED HEREIN) CAUSED IN WHOLE OR IN PART BY THE CONTRACTOR, A SUBCONTRACTOR, OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM.
16. THE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. SHOULD THERE BE A DISCREPANCY BETWEEN THE ARCHITECTURAL DRAWINGS AND THE ENGINEERING DRAWINGS; SUCH DISCREPANCY IS TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND AT NO EXPENSE TO THE OWNER OR THE ARCHITECT.
17. DO NOT SCALE DRAWING. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD.

Interior Architectural Woodwork

1. EXTENT OF EACH TYPE OF ARCHITECTURAL WOODWORK IS INDICATED ON THE DRAWINGS.
2. PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA FOR EACH PRODUCT AND PROCESS SPECIFIED.
3. SHOP DRAWINGS: SUBMIT SHOP DRAWINGS SHOWING LOCATION OF EACH ITEM, DIMENSIONED PLANS AND ELEVATIONS, LARGE SCALE DETAILS, ATTACHMENT DEVICES AND OTHER COMPONENTS.
4. SUBMIT THE FOLLOWING SAMPLES: WOOD SAMPLES AS SPECIFIED IN THE DRAWINGS, FOR EACH SPECIES AND CUT, SUBMIT A 24" SQUARE OR LARGER) DEPENDING ON VENEER MATCHING) SAMPLE ON EACH SUBSTRATE MATERIAL PROPOSED FOR USE. FABRICATE VENEER SAMPLES USING THE FACE VENEERS SELECTED AND TYPICAL VARIATIONS OF GRAIN, COLOR, TEXTURE AND FINISH EXPECTED IN FINAL INSTALLATION.
5. ALL PLASTIC LAMINATE GRADE MILLWORK TO MEET AWI CUSTOM GRADE CONSTRUCTION METHODS AND STANDARDS.

Finish Notes

1. PAINT MECHANICAL ITEMS LOCATED IN THE CEILING OR WALL TO MATCH ADJACENT SURFACE IN WHICH THEY OCCUR. CONFIRM COLOR & PAINT TYPE WITH ARCHITECT.
2. PROVIDE CONTINUOUS BEAD OF SEALANT AT ALL WOOD TRIM AS NECESSARY TO PREVENT ANY GAPS BETWEEN TRIM AND GYPSUM BOARD. PAINT SEALANT TO MATCH TRIM.

Electrical Notes

1. ALL ELECTRICAL WORK, LABOR AND MATERIAL SHALL COMPLY WITH APPLICABLE CODES.
2. ALL NEW AND RELOCATED THERMOSTATS AND SWITCHES TO BE MOUNTED AT 48" A.F.F. TO CENTER.
3. ALL NEW ELECTRICAL OUTLETS TO BE MOUNTED 15" A.F.F. TO CENTER UNLESS NOTED OTHERWISE.
4. GROUPS OF RECEPTACLES SHALL BE MOUNTED WITH A 1-1/2" MINIMUM DISTANCE BETWEEN THEM.
5. UNLESS OTHERWISE NOTED, ELECTRICAL OUTLET BOXES LOCATED ON OPPOSITE SIDES OF WALLS MUST BE IN SEPARATE STUD SPACES TO MINIMIZE SOUND TRANSMISSION COORDINATE ANY AREAS IN QUESTION WITH THE TENANT AND THE ARCHITECT.
6. CONTRACTOR TO VERIFY AND PROVIDE ALL ELECTRICAL AND PLUMBING REQUIREMENTS FOR ALL NOTED O.F.C.I. OR O.F.O.I. EQUIPMENT AND APPLIANCES, INCLUDING BUT NOT LIMITED TO COFFEE MAKERS, MONITORS, COPIERS, FAX MACHINES, PRINTERS, ETC.

Reflected Ceiling Notes

1. THE INFORMATION ON THE REFLECTED CEILING PLAN IS PROVIDED ONLY AS A LOCATIONAL GUIDE TO THE CONTRACTOR.
2. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING, PRIOR TO CONSTRUCTION, OF ANY CONFLICTS BETWEEN PROPOSED REFLECTED CEILING PLAN AND EXISTING CONDITIONS.
3. LIGHTS IN OFFICES, CONFERENCE ROOMS, STORAGE ROOMS, ETC., SHALL BE SWITCHED FROM INDIVIDUAL SWITCHES IN EACH ROOM AND LOCATED PER THE PLAN.

MEP Notes

1. THE CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL SYSTEMS ARE INSTALLED IN COMPLIANCE WITH ALL LOCAL CODES AND REGULATIONS. THE CONTRACTOR SHALL INVOLVE A LICENSED ENGINEER AS NECESSARY TO ASSURE COMPLIANCE.
2. THE CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANIES FOR AND PROVIDE ALL TEMPORARY AND PERMANENT UTILITIES.
3. THE CONTRACTOR SHALL VERIFY THAT THE H.V.A.C. SYSTEM IS CLEAN, SERVICED, AND IN GOOD WORKING CONDITION WITH A NEW 35% PLEATED AIR FILTER PRIOR TO OPENING, AND ALL UTILITIES ARE TURNED ON.

ABBREVIATIONS LEGEND

ABV.	ABOVE
A.F.F.	ABOVE FINISHED
A.F.F.	FLOOR
ACC.	ACCESS
ACC. FL.	ACCESS FLOOR
ACC. PNL.	ACCESS PANEL
ACOUS.	ACOUSTICAL
A.C.T.	ACOUSTICAL TILE
ADJ.	ADJACENT / ADJUSTABLE
AGG.	AGGREGATE
ALT.	ALTERNATE
ALUM.	ALUMINUM
ANCH.	ANCHOR / ANCHORAGE ANCHOR BOLT
ANOD.	ANODIZED
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
AD	AREA DRAIN
AUTO	AUTOMATIC
BSMT.	BASEMENT
BRG.	BEARING
BRG. PL.	BEARING PLATE
BM	BENCH MARK
BITUM.	BITUMINOUS
BLKG.	BLOCKING
BD	BOARD
BS	BOTH SIDES
BW	BOTH WAYS
B.O.C.	BOTTOM OF CURB
BLDG.	BUILDING
B.U.R.	BUILT UP ROOF
CAB.	CABINET
CSMT.	CASEMENT
CB	CATCH BASIN
CTR.	CENTER
CLG.	CEILING
CLG. HGT.	CEILING HEIGHT
CM	CENTIMETER
CER.	CERAMIC
C.T.	CERAMIC TILE
COL.	COLUMN
CIR.	CIRCLE
CONC.	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONT.	CONTINUOUS
C.J.	CONTROL JOINT
CTR.	COUNTER
C.F.	CUBIC FOOT
CU. FT.	CUBIC FOOT
C.Y.	CUBIC YARD
CU. YD.	CUBIC YARD
DL	DEAD LOAD
DTL.	DETAIL
DIAG.	DIAGONAL
DIAM.	DIAMETER
DIM.	DIMENSION
DEPT.	DEPARTMENT
DISP.	DISPENSER
DBL.	DOUBLE
DH.	DOUBLE HUNG
DS	DOWNSPOUT
DWR.	DRAWER
DWG.	DRAWING
DF	DRINKING FOUNTAIN

EA	EACH
EW	EACH WAY
EDF	ELECTRIC DRINKING FOUNTAIN
EWC	ELECTRIC WATER COOLER
ELEC.	ELECTRIC
E.P.	ELECTRIC PANELBOARD
EMER.	EMERGENCY
ELEV.	ELEVATION
ENCL.	ENCLOSURE
EQ.	EQUAL
EQUIP.	EQUIPMENT
ESC.	ESCALATOR
EXIST.	EXISTING
E.J.	EXPANSION JOINT
EXP.	EXPOSED
EXT.	EXTERIOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
F.F.	FINISH FLOOR
FIN.	FINISH
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHS	FIRE HOSE STATION
FPL	FIREPLACE
FG	FIXED GLASS
FWC	FABRIC WALL COVERING
FLEX.	FLEXIBLE
FLR.	FLOOR
FD.	FLOOR DRAIN
FLR. CO.	FLOOR CLEANOUT
FTG.	FOOTING
FDN.	FOUNDATION
FURR.	FURRING/FURRED
FURR. DN.	FURR DOWN
FR.	FRAME
FS	FULL SIZE
GA	GAUGE
GALV	GALVANIZED
GB	GYPSUM BOARD
G.C.	GENERAL CONTRACTOR
GL	GLASS/GLAZING
GD	GRADE/GRADING
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
HH	HANDHOLE
HD. BD.	HARD BOARD
HDW.	HARDWARE
HDR.	HEADER
HTG.	HEATING
HVAC.	HEATING / VENTILATION / AIR CONDITIONING
HGT.	HEIGHT
HEX	HEXAGONAL
HP	HIGH POINT
HC	HOLLOW CORE
HM	HOLLOW METAL
HB	HOSE BIB
HORIZ.	HORIZONTAL

INCL.	INCLUDE
I.D.	INSIDE DIAMETER
INSUL	INSULATE / INSULATION
INT.	INTERIOR
INV	INVERT
JT	JOINT
JST	JOIST
KPL	KICKPLATE
KIT	KITCHEN
KO	KNOCKOUT
LAM.	LAMINATE
LAV	LAVATORY
LB	LAG BOLT
LH	LEFT HAND
L	LENGTH
LGT.	LIGHT
LGT. WT.	LIGHT WEIGHT
LTL	LINTEL
LL	LIVE LOAD
LVR	LOUVER
MH	MANHOLE
MFRG.	MANUFACTURING
MAS.	MASONRY
MO	MASONRY OPENING
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MED.	MEDIUM
MEMB.	MEMBRANE
MTL.	METAL
MTL.FURR.	METAL FURRING
M	METER
MM	MILLIMETER
MIN.	MINIMUM
MIRR.	MIRROR
MISC.	MISCELLANEOUS
MOD.	MODULAR
MTD.	MOUNTED
MOV.	MOVABLE
MULL.	MULLION
NAT.	NATURAL
NRC.	NOISE REDUCTION COEFFICIENT
N.R.	NOISE REDUCTION
NOM.	NOMINAL
NFHB.	NON FREEZE HOSE BIB
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OPQ.	OPAQUE
OPNG.	OPENING
OPP.	OPPOSITE
OD	OUTSIDE DIAMETER
OPP. HD.	OPPOSITE HAND
OA	OVERALL
OH	OVERHEAD
O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
O.F.O.I.	OWNER FURNISHED OWNER INSTALLED
PTD	PAINTED
PR.	PAIR
PNL.	PANEL
PKG.	PARKING

PART.	PARTITION
PVMT.	PAVEMENT
PED.	PEDESTAL
PERF.	PERFORATE
PLAS.	PLASTIC
PL.	PLATE
PLAST.	PLASTER
P. LAM.	PLASTIC LAMINATE
PG	PLATE GLASS
PLY. WD.	PLYWOOD
PT.	POINT
P.V.C.	POLYVINYL CHLORIDE
PCF.	POUNDS PER CUBIC FOOT
PLF.	POUNDS PER LINEAR FOOT
PSF.	POUNDS PER SQUARE FOOT
PSI.	POUNDS PER SQUARE INCH
PL.	PROPERTY LINE
QT.	QUARRY TILE
RAD.	RADIUS
REF.	REFERENCE
REFR.	REFRIGERATOR
REINF.	REINFORCED
REQD.	REQUIRED
R.C.P.	REINFORCED CONCRETE PIPE
RESIL.	RESILIENT
RET.	RETURN
RA.	RETURN AIR
REV.	REVERSE/REVISION
RH	RIGHT HAND
R.O.W.	RIGHT OF WAY
R	RISER
RVT.	RIVET
RD	ROOF DRAIN
RFG.	ROOFING
RM	ROOM
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
SECT.	SECTION
SHT.	SHEET
SHT. GL.	SHEET GLASS
SHWR.	SHOWER
SIM.	SIMILAR
SPKR.	SPEAKER
SPEC.	SPECIFICATION
SQ.	SQUARE
S.F.	SQUARE FEET
SQ. FT.	SQUARE FEET
SS.	STAINLESS STEEL / SANITARY SEWER
STD.	STANDARD
STA.	STATION
STL.	STEEL
S.D.	STORM DRAIN
STOR.	STORAGE
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
SYN.	SYNTHETIC
SYS.	SYSTEM
S.T.C.	SOUND TRANSMISSION CLASS

TELE.	TELEPHONE
TV	TELEVISION
T.F.C.I.	TENANT FURNISHED CONTRACTOR INSTALLED
T.F.T.I.	TENANT FURNISHED TENANT INSTALLED
THK.	THICK
THR.	THRESHOLD
T.P.D.	TOILET PAPER DISPENSER
TOL.	TOLERANCE
T&G	TONGUE AND GROOVE
T.O.S.	TOP OF SLAB/STEEL
T.O.W.	TOP OF WALL
T.O.C.	TOP OF CURB / CONCRETE
TEMP.	TEMPORARY / TEMPERED / TEMPERATURE
TINT.	TINTED
TYP.	TYPICAL
TB	TOWEL BAR
TR	TREAD
UNFIN.	UNFINISHED
UR	URINAL
V.J.	VEE JOINT
VARN.	VARNISH
VNR.	VENEER
VER.	VERIFY
VEST.	VESTIBULE
VERT.	VERTICAL
V.C.T.	VINYL COMPOSITION TILE
V.W.C.	VINYL WALL COVERING
V.T.	VINYL TILE
V.B.	VINYL BASE
V.F.	VINYL FABRIC
WSCT.	WAINSCOT
WC	WATER CLOSET
WWM	WELDED WIRE MESH
WWF	WELDED WIRE FABRIC
WDW.	WINDOW
W/O	WITHOUT
WH	WATER HEATER
WG	WIRED GLASS
WM	WIRE MESH
WD	WOOD
WT	WEIGHT
WPT	WORKING POINT
∠	ANGLE
@	AT
℄	CENTER LINE
C	CHANNEL
Φ	DIAMETER
d	PENNY
⊥	PERPENDICULAR
PL	PLATE
±	PLUS OR MINUS
#	POUND / NUMBER
PL	PROPERTY LINE
□	SQUARE FEET

KEY LEGEND

COVER RENDERING, SHEET INDEX, ABBREVIATIONS, SYMBOLS, VICINITY MAP
A0.0 GENERAL NOTES AND CODE INFORMATION

Survey

1 OF 8 TOPOGRAPHICAL SURVEY SHEET 1 OF 8
2 OF 8 TOPOGRAPHICAL SURVEY SHEET 2 OF 8
3 OF 8 TOPOGRAPHICAL SURVEY SHEET 3 OF 8
4 OF 8 TOPOGRAPHICAL SURVEY SHEET 4 OF 8
5 OF 8 TOPOGRAPHICAL SURVEY SHEET 5 OF 8
6 OF 8 TOPOGRAPHICAL SURVEY SHEET 6 OF 8
7 OF 8 TOPOGRAPHICAL SURVEY SHEET 7 OF 8
8 OF 8 TOPOGRAPHICAL SURVEY SHEET 8 OF 8

Civil and Landscape

EX-1.0 EXISTING CONDITIONS & DEMO PLAN
C-2.0 EROSION CONTROL PHASE I
C-2.1 EROSION CONTROL PHASE II
C-2.2 SWM PLAN
C-2.3 STORMWATER DRAINAGE AREA PLAN
C-2.4 EROSION CONTROL AND SWM DETAILS
C-3.0 UTILITY PLAN
C-3.1 UTILITY DETAILS
C-3.2 UTILITY DETAILS
L-2.0 SITE LAYOUT PLAN
L-2.1 SITE DETAILS - HARDSCAPE
L-2.2 SITE DETAILS - HARDSCAPE
L-2.3 SITE DETAILS - HARDSCAPE
L-2.3A SITE DETAILS - HARDSCAPE
L-2.4 SITE DETAILS - HARDSCAPE
L-4.0 GRADING ENLARGEMENTS KEY PLAN AND NOTES
L-4.1 GRADING ENLARGEMENT LEVEL C ENTRY
L-4.2 GRADING ENLARGEMENT WELCOME PLAZA
L-4.3 GRADING ENLARGEMENT ENTRY PLAZA
L-5.0 LANDSCAPE PLAN
L-5.1 LANDSCAPE SCHEDULE
L-5.2 LANDSCAPE DETAILS & NOTES
L-5.3 LANDSCAPE DETAILS & NOTES

Architectural

A0.1 ARCHITECTURAL SITE PLAN/DEMOLITION PLAN & NOTES
A1.0 FLOOR PLAN & ROOF PLAN
A4.0 REFLECTED CEILING PLAN & DETAILS
A5.0 EXTERIOR BUILDING ELEVATIONS
A5.1 EXTERIOR BUILDING ELEVATIONS
A6.0 BUILDING SECTIONS & WALL DETAILS
A6.1 DETAIL BUILDING SECTIONS
A9.0 INTERIOR ELEVATIONS & DETAILS
A10.0 WALL TYPES & ENLARGED PLAN DETAILS
A12.0 DOOR & WINDOW SCHEDULE

Structural

S1.0 GENERAL NOTES
S1.1 TYPICAL DETAILS
S2.0 FOUNDATION PLAN
S3.0 ROOF FRAMING PLAN

Mechanical

M101 FLOOR PLANS - HVAC
M201 HVAC SCHEDULES & DETAILS
M301 HVAC SPECIFICATIONS

Plumbing

PE100 SITE PLAN - PLUMBING / ELECTRICAL
P101 FLOOR PLANS - PLUMBING DWV
P102 FLOOR PLANS - PLUMBING SUPPLY
P201 PLUMBING SCHEDULES & DETAILS
P301 PLUMBING SPECIFICATIONS

Fire Alarm/ Electrical

FA101 FLOOR PLANS - FIRE ALARM
E101 FLOOR PLANS - LIGHTING
E102 FLOOR PLANS - POWER
E201 SCHEDULES, LEGENDS & DETAILS
E202 SCHEDULES, LEGENDS & DETAILS
E301 ELECTRICAL SPECIFICATIONS

SET # ______

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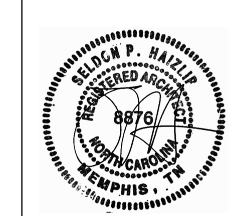
GENERAL PROJECT NOTES & CONDITIONS



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18 July 2014

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NOTES:

1) THE PROPERTY SHOWN HEREON IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY PER D.F.I.R.M.#3700968800J, DATED EFFECTIVE 1/6/2010.

2) BUILDINGS, SURFACE AND SUBSURFACE IMPROVEMENTS ADJACENT TO THE SITE ARE NOT NECESSARILY SHOWN. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT SURVEYED OR CONSIDERED AS PART OF THIS SURVEY. NO EVIDENCE OR STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND CONDITIONS, CONTAINERS, OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS PROPERTY.

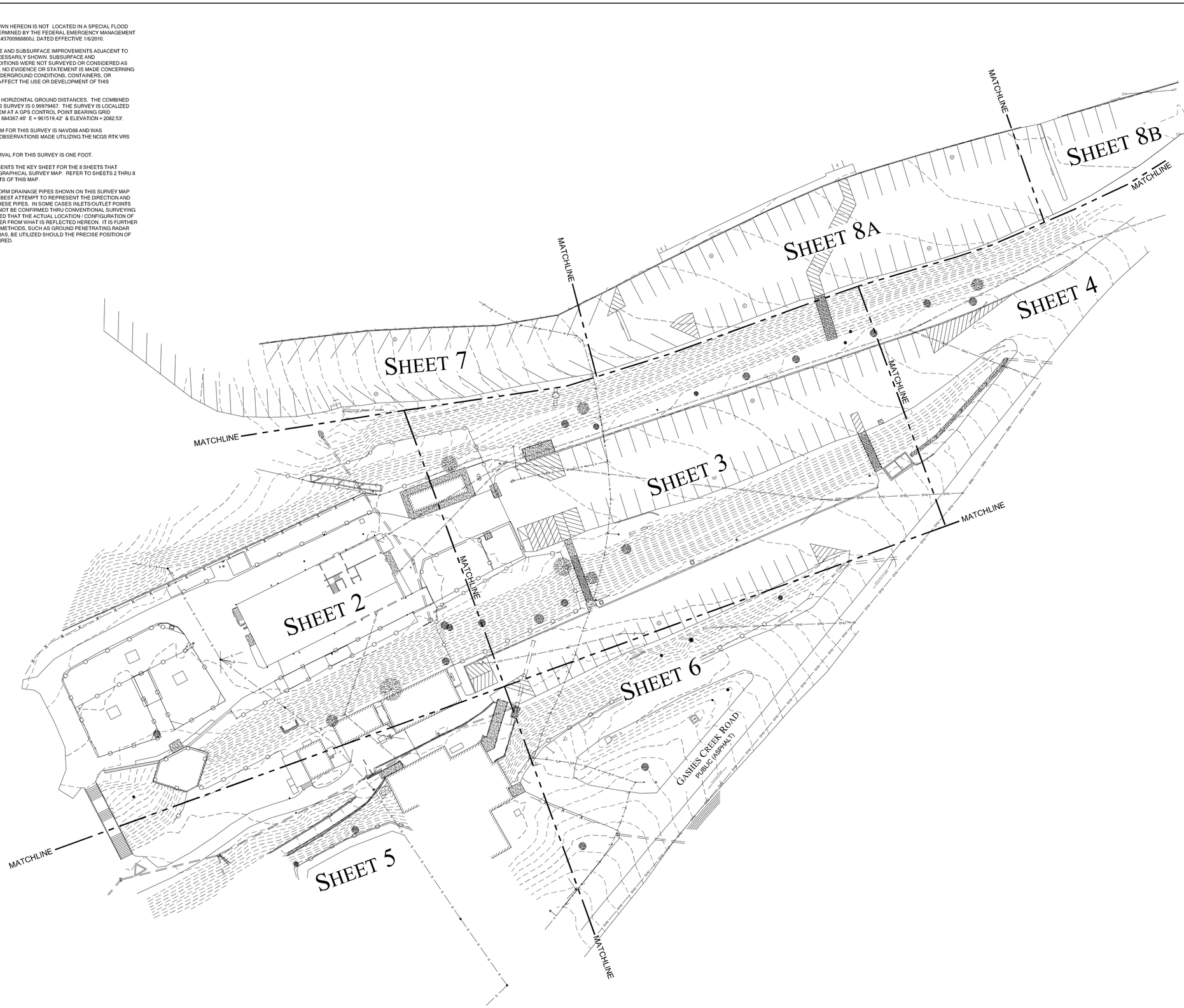
3) ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES. THE COMBINED GRID FACTOR FOR THIS SURVEY IS 0.99979467. THE SURVEY IS LOCALIZED TO THE NC GRID SYSTEM AT A GPS CONTROL POINT BEARING GRID COORDINATES OF : N = 684367.46' E = 961519.42' & ELEVATION = 2082.53'.

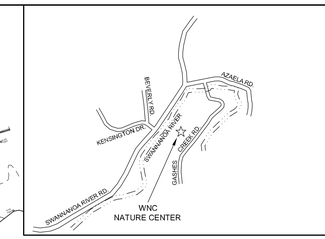
4) THE VERTICAL DATUM FOR THIS SURVEY IS NAVD88 AND WAS ESTABLISHED BY GPS OBSERVATIONS MADE UTILIZING THE NCGS RTK VRS NETWORK.

5) THE CONTOUR INTERVAL FOR THIS SURVEY IS ONE FOOT.

6) THIS SHEET REPRESENTS THE KEY SHEET FOR THE 8 SHEETS THAT COMPRISE THIS TOPOGRAPHICAL SURVEY MAP. REFER TO SHEETS 2 THRU 8 FOR THE DETAIL SHEETS OF THIS MAP.

7) THE SEWER AND STORM DRAINAGE PIPES SHOWN ON THIS SURVEY MAP ARE THE SURVEYOR'S BEST ATTEMPT TO REPRESENT THE DIRECTION AND CONFIGURATION OF THESE PIPES. IN SOME CASES INLETS/OUTLET POINTS ON THE PIPES COULD NOT BE CONFIRMED THRU CONVENTIONAL SURVEYING METHODS. IT IS ADVISED THAT THE ACTUAL LOCATION / CONFIGURATION OF SOME PIPES MAY DIFFER FROM WHAT IS REFLECTED HEREON. IT IS FURTHER ADVISED THAT OTHER METHODS, SUCH AS GROUND PENETRATING RADAR AND/OR SCOPE CAMERAS, BE UTILIZED SHOULD THE PRECISE POSITION OF THESE LINES BE REQUIRED.





VICINITY MAP
NOT TO SCALE

NORTH
NC GRID
(NAD83-2011)

GLOBAL POSITIONING SYSTEM CERTIFICATION

I, J. BARRY WEST, HEREBY CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION; THAT THIS GPS SURVEY WAS PERFORMED TO CLASS 1 FGDC SPECIFICATIONS AND THAT I USED THE NCGS VRS RTK NETWORK. GPS FIELD PROCEDURES AND COORDINATES WERE OBTAINED BY THE RTK NETWORK SOLUTIONS; THAT THIS SURVEY WAS PERFORMED ON 6/21/2012 - 6/23/2012 USING A TRIMBLE 5800 DUAL FREQUENCY RECEIVER AND ALL COORDINATES ARE LOCALIZED GROUND COORDINATES BASED ON NORTH AMERICAN DATUM OF 1983 - 2011 UPGRADED POSITIONS .

I, **J. BARRY WEST** ,CERTIFY THAT THIS PROJECT WAS COMPLETED UNDER MY SUPERVISION FROM AN ACTUAL **TOPOGRAPHICAL GROUND** SURVEY PERFORMED UNDER MY SUPERVISION; THAT THIS **TOPOGRAPHICAL GROUND** SURVEY WAS PERFORMED TO MEET NATIONAL MAP ACCURACY STANDARDS AS APPLICABLE; THAT THE ORIGINAL DATA WAS OBTAINED FROM **6/21/12** THRU **7/12/12**; AND THAT ALL COORDINATES ARE LOCALIZED GROUND COORDINATES ARE LOCALIZED GROUND COORDINATES BASED ON THE NORTH AMERICAN DATUM (NAD83-2011). WITNESS MY ORIGINAL SIGNATURE AND SEAL THIS THE **18th** DAY OF **JULY, 2012.**

L-4693

SCALE 1" = 30'

30' 15' 0 30' 60' 90'

DATE: 7-14-12
PROJECT NO.: 11076
DRAWING NO.: G-12-2971A
DRAWN BY: JBW
SCALE: 1" = 30'

KEY SHEET
(SHEET 1 OF 8)

TOPOGRAPHICAL SURVEY OF A PORTION OF THE :

WESTERN NORTH CAROLINA NATURE CENTER

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG GASHES CREEK ROAD. OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS. AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEETS 7 & 8). ADDED PARKING STRIPING ON ALL PARKING AREAS. ADDED ADDITIONAL TOPOGRAPHIC DATA, ELECTRIC AND TELEPHONE LINES. OBTAINED ADDITIONAL TREES IN REQUESTED AREAS	JBW

NORTH CAROLINA PROFESSIONAL SEAL L-4693 LAND SURVEYOR J. BARRY WEST

McABEE & ASSOCIATES, P.A.
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J. Barry West, PLS Telephone (828) 628-1296
Wallace S. McAbee, Pl.S (Emeritus)
3 McAbee Trail Fairview North Carolina, 28730
www. mcabeesurvey.com Firm License Number: C-694

SCALE 1" = 10'

10' 5' 0 10' 20' 30'

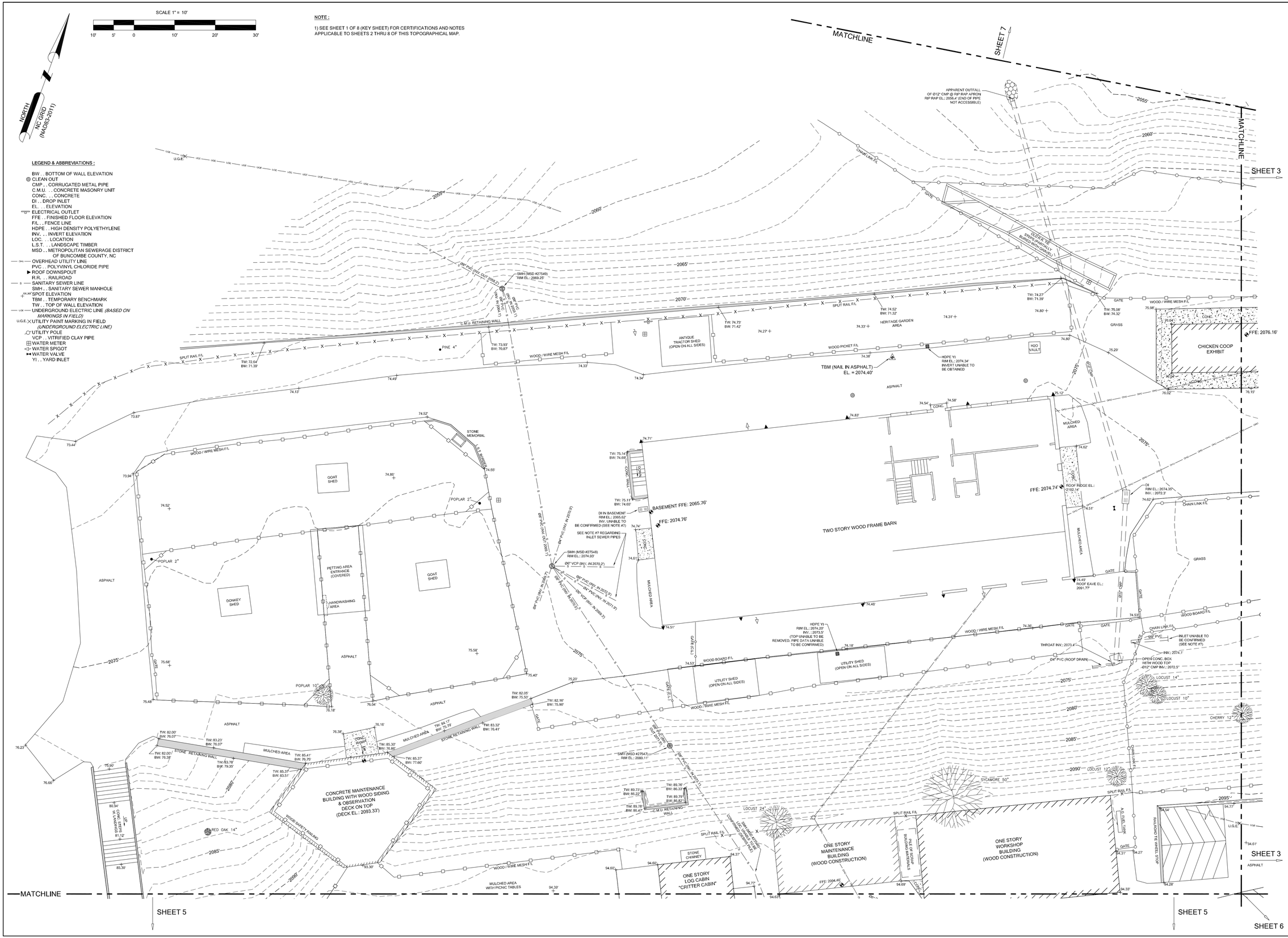
NORTH
NC GRID
(NAD83-2011)

NOTE :

1) SEE SHEET 1 OF 8 (KEY SHEET) FOR CERTIFICATIONS AND NOTES APPLICABLE TO SHEETS 2 THRU 8 OF THIS TOPOGRAPHICAL MAP.

LEGEND & ABBREVIATIONS :

BW . . BOTTOM OF WALL ELEVATION
CLEAN OUT
CMP . . CORRUGATED METAL PIPE
C.M.U. . . CONCRETE MASONRY UNIT
CONC. . . CONCRETE
DI . . DROP INLET
EL. . . ELEVATION
ELECTRICAL OUTLET
FFE . . FINISHED FLOOR ELEVATION
F/L . . FENCE LINE
HDPE . . HIGH DENSITY POLYETHYLENE
INV. . . INVERT ELEVATION
LOC. . . LOCATION
L.S.T. . . LANDSCAPE TIMBER
MSD . . METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY, NC
OHU OVERHEAD UTILITY LINE
PVC . . POLYVINYL CHLORIDE PIPE
ROOF DOWNSPOUT
R.R. . . RAILROAD
S SANITARY SEWER LINE
SMH . . SANITARY SEWER MANHOLE
XX.XX' SPOT ELEVATION
TBM . . TEMPORARY BENCHMARK
TW . . TOP OF WALL ELEVATION
UGE UNDERGROUND ELECTRIC LINE *(BASED ON MARKINGS IN FIELD)*
U.G.E. UTILITY PAINT MARKING IN FIELD *(UNDERGROUND ELECTRIC LINE)*
UTILITY POLE
VCP . . VITRIFIED CLAY PIPE
WATER METER
WATER SPIGOT
WATER VALVE
YI . . YARD INLET



DATE: 7-14-12
PROJECT NO.: 11076
DRAWING NO.: G-12-297IB
DRAWN BY: JBW
SCALE: 1" = 10'
SHEET 2 OF 8

TOPOGRAPHICAL SURVEY OF A PORTION OF THE :

WESTERN NORTH CAROLINA NATURE CENTER

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG CASHES CREEK ROAD, OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS, AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEET 3 & 8), ADDED PARKING STRIPES ON ALL PARKING AREAS, ADDED ADDITIONAL TOPOGRAPHIC DATA, AND TELEPHONE LINES, OBTAINED ADDITIONAL TREES IN REQUESTED AREAS	JBW

NORTH CAROLINA PROFESSIONAL SEAL L-4693 LAND SURVEYOR J. BARRY WEST

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Telephone (828) 628-1295
www. mcabeesurvey.com Firm License Number: C-694

SCALE 1" = 10'

10' 5' 0 10' 20' 30'

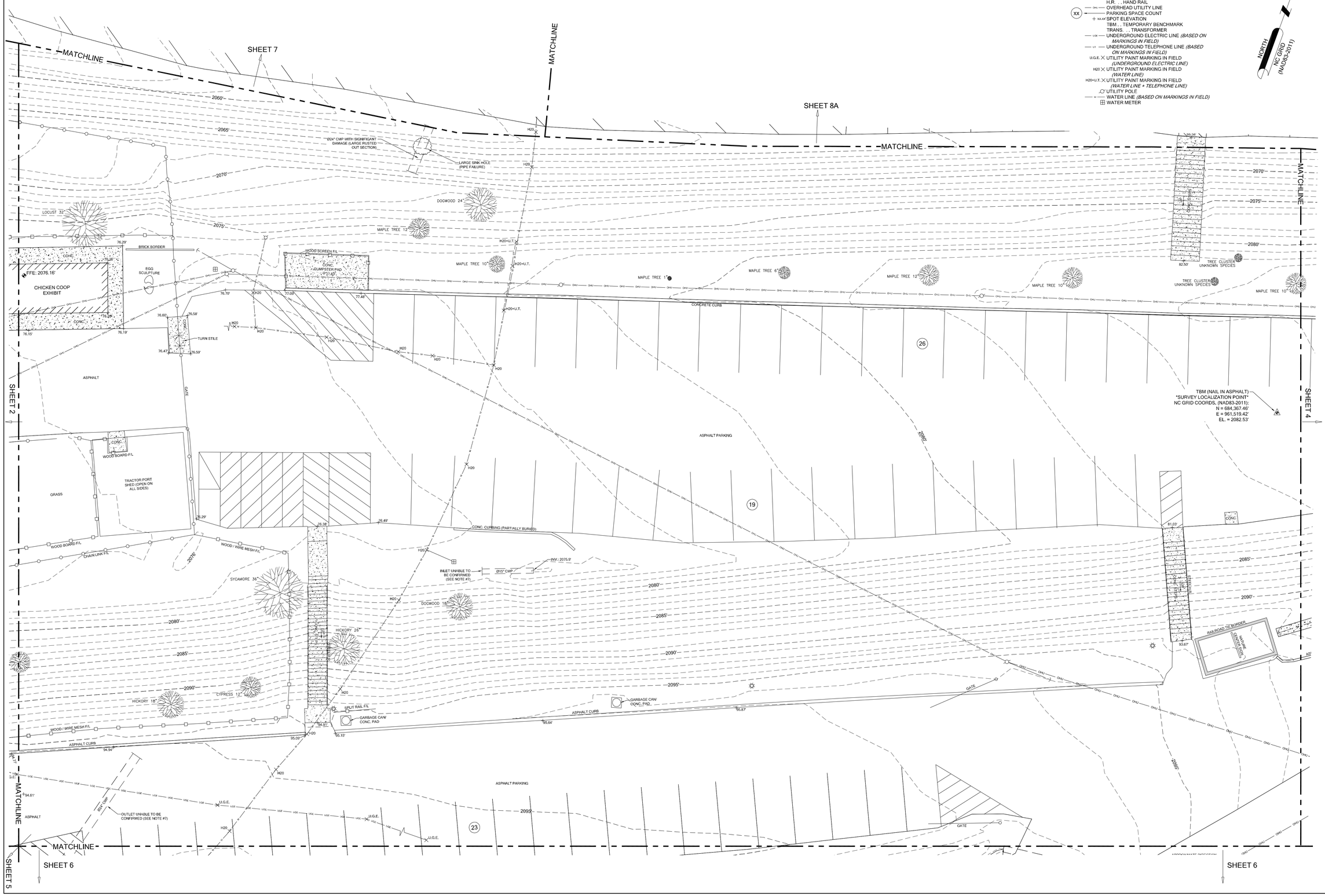
NOTE:

1) SEE SHEET 1 OF 8 (KEY SHEET) FOR CERTIFICATIONS AND NOTES APPLICABLE TO SHEETS 2 THRU 8 OF THIS TOPOGRAPHICAL MAP.

LEGEND & ABBREVIATIONS:

- AREA LIGHT
- CMP . . CORRUGATED METAL PIPE
- CONC. . . CONCRETE
- FIRE HYDRANT
- FFE . . FINISHED FLOOR ELEVATION
- F/L . . FENCE LINE
- GUY WIRE
- H.R. . . HAND RAIL
- OHU — OVERHEAD UTILITY LINE
- (XX) — PARKING SPACE COUNT
- + xx.xx' SPOT ELEVATION
- TBM. . . TEMPORARY BENCHMARK
- TRANS. . . TRANSFORMER
- UGE — UNDERGROUND ELECTRIC LINE *(BASED ON MARKINGS IN FIELD)*
- UT — UNDERGROUND TELEPHONE LINE *(BASED ON MARKINGS IN FIELD)*
- U.G.E. — UTILITY PAINT MARKING IN FIELD *(UNDERGROUND ELECTRIC LINE)*
- H20 — UTILITY PAINT MARKING IN FIELD *(WATER LINE)*
- H20+U.T. — UTILITY PAINT MARKING IN FIELD *(WATER LINE + TELEPHONE LINE)*
- UTILITY POLE
- W — WATER LINE *(BASED ON MARKINGS IN FIELD)*
- WATER METER

NORTH
NC GRID
(NAD83-2011)



DATE:	7-14-12
PROJECT NO.:	11076
DRAWING NO.:	G-12-297IC
DRAWN BY:	JBW
SCALE:	1" = 10'

SHEET 3 OF 8

TOPOGRAPHICAL SURVEY OF A PORTION OF THE:

WESTERN NORTH CAROLINA NATURE CENTER

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG GASHES CREEK ROAD, OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS, AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEETS 7 & 8), ADDED PARKING STRIPING ON ALL PARKING AREAS, ADDED ADDITIONAL BUILDING DETAILS, ADDED UGE AND TELEPHONE LINES, OBTAINED ADDITIONAL TREES IN REDGESTED AREAS	JBW

NORTH CAROLINA PROFESSIONAL SEAL L-4693 LAND SURVEYOR J. BARRY WEST

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J. Barry West, PLS
Wallace S. McAbee, PLS (Emeritus)
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Fax (828) 628-1294
Telephone (828) 628-1295
www. mcabeesurvey.com Firm License Number: C-694

SCALE 1" = 10'

10' 5' 0 10' 20' 30'

NORTH

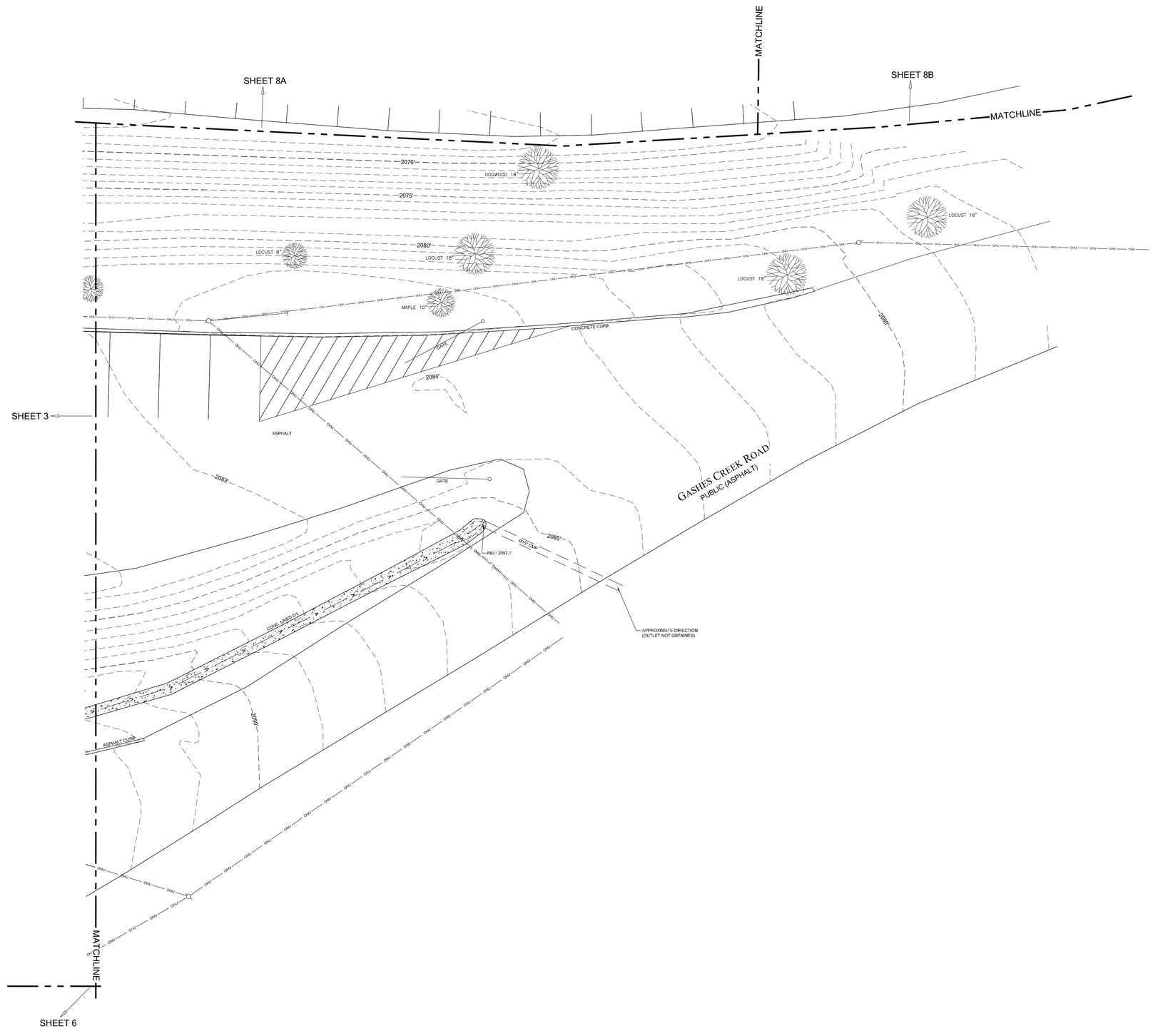
NC GRID (NAD83-2011)

NOTE :

1) SEE SHEET 1 OF 8 (KEY SHEET) FOR CERTIFICATIONS AND NOTES APPLICABLE TO SHEETS 2 THRU 8 OF THIS TOPOGRAPHICAL MAP.

LEGEND & ABBREVIATIONS :

CMP. . CORRUGATED METAL PIPE
CONC. . . CONCRETE
D/L . . DITCHLINE
GUY WIRE
INV. . . INVERT
OVERHEAD UTILITY LINE
UTILITY POLE



NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG GASHES CREEK ROAD, OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS, AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEETS 7 & 8). ADDED PARKING STRIPING ON ALL PARKING AREAS, REFLECTED LOCATION OF PAINTED WATER, ELECTRIC AND TELEPHONE LINES, OBTAINED ADDITIONAL TREES IN REQUESTED AREAS	JBW

TOPOGRAPHICAL SURVEY OF A PORTION OF THE :

WESTERN NORTH CAROLINA NATURE CENTER

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

DATE: 7-14-12
PROJECT NO.: 11076
DRAWING NO.: G-12-2971D
DRAWN BY: JBW
SCALE: 1" = 10'

SHEET 4 OF 8

NORTH CAROLINA PROFESSIONAL SEAL L-4693 LAND SURVEYOR J. BARRY WEST

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Telephone (828) 628-1295

SCALE 1" = 10'

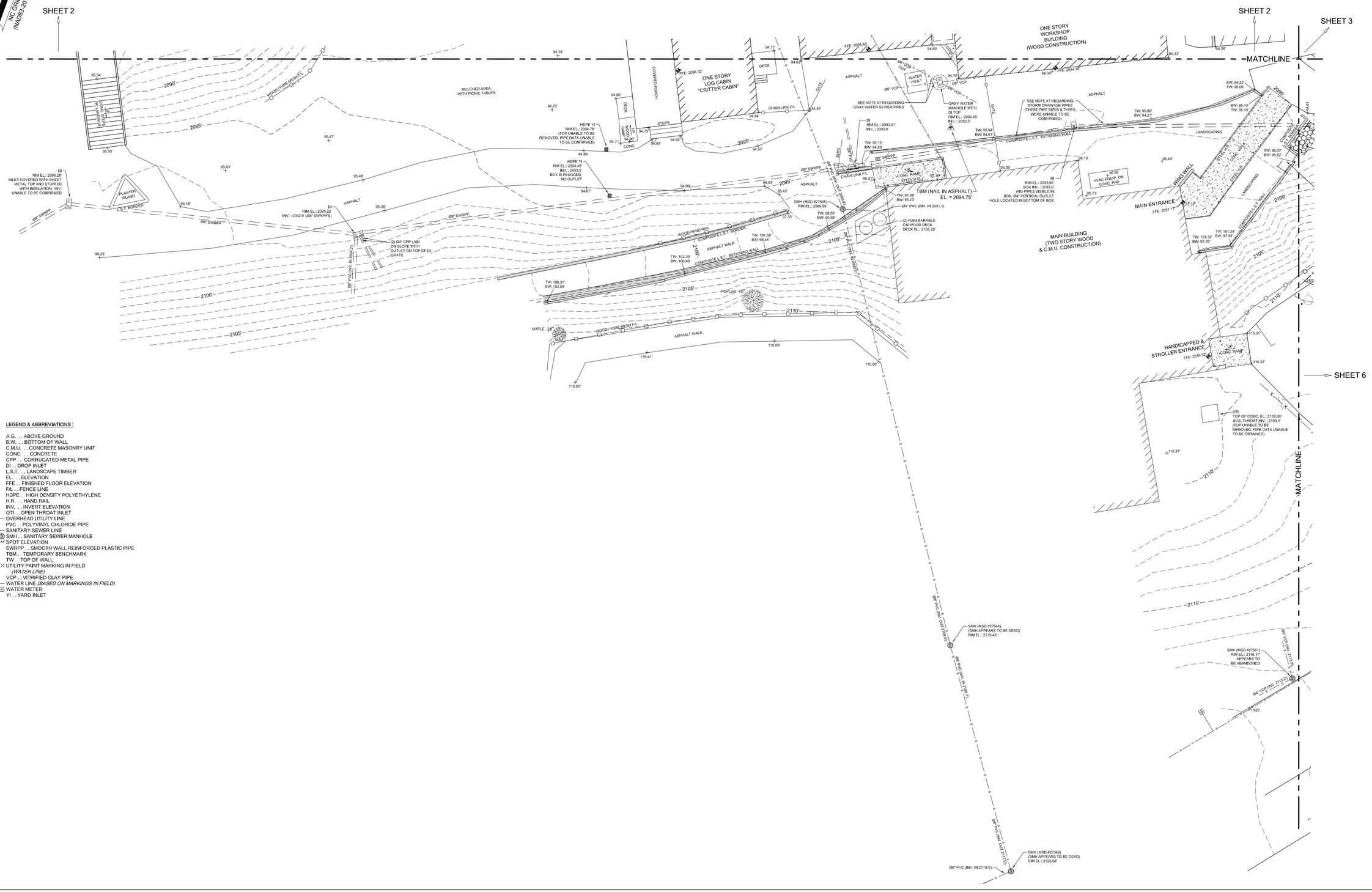
10' 5' 0 10' 20' 30'

NORTH

NC GRID (NAD83-2011)

NOTE :

1) SEE SHEET 1 OF 8 (KEY SHEET) FOR CERTIFICATIONS AND NOTES APPLICABLE TO SHEETS 2 THRU 8 OF THIS TOPOGRAPHICAL MAP.



LEGEND & ABBREVIATIONS :

A.G. . . ABOVE GROUND
B.W. . . BOTTOM OF WALL
C.M.U. . . CONCRETE MASONRY UNIT
CONC. . . CONCRETE
CPP . . CORRUGATED METAL PIPE
DI . . DROP INLET
L.S.T. . . LANDSCAPE TIMBER
EL. . . ELEVATION
FFE . . FINISHED FLOOR ELEVATION
F/L . . FENCE LINE
HDPE . . HIGH DENSITY POLYETHYLENE
H.R. . . HAND RAIL
INV. . . INVERT ELEVATION
OTI . . OPEN THROAT INLET
OHU — OVERHEAD UTILITY LINE
PVC . . POLYVINYL CHLORIDE PIPE
S — SANITARY SEWER LINE
SMH . . SANITARY SEWER MANHOLE
SPOT ELEVATION
SWRPP . . SMOOTH WALL REINFORCED PLASTIC PIPE
TBM . . TEMPORARY BENCHMARK
TW . . TOP OF WALL
H20 UTILITY PAINT MARKING IN FIELD *(WATER LINE)*
VCP . . VITRIFIED CLAY PIPE
W — WATER LINE *(BASED ON MARKINGS IN FIELD)*
WATER METER
YI . . YARD INLET

NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG GASHES CREEK ROAD, OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS, AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEETS 7 & 8), ADDED PARKING STRIPING ON ALL PARKING AREAS, REFLECTED LOCATION OF PAINTED WATER, ELECTRIC AND TELEPHONE LINES, OBTAINED ADDITIONAL TREES IN REQUESTED AREAS	JBW

DATE: 7-14-12
PROJECT NO.: 11076
DRAWING NO.: G-12-2971E
DRAWN BY: JBW
SCALE: 1" = 10'

SHEET 5 OF 8

TOPOGRAPHICAL SURVEY OF A PORTION OF THE :

WESTERN NORTH CAROLINA NATURE CENTER

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

NORTH CAROLINA PROFESSIONAL SEAL L-4693 LAND SURVEYOR J. BARRY WEST

McABEE & ASSOCIATES, P.A.
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Telephone (828) 628-1295

SCALE 1" = 10'

10' 5' 0 10' 20' 30'

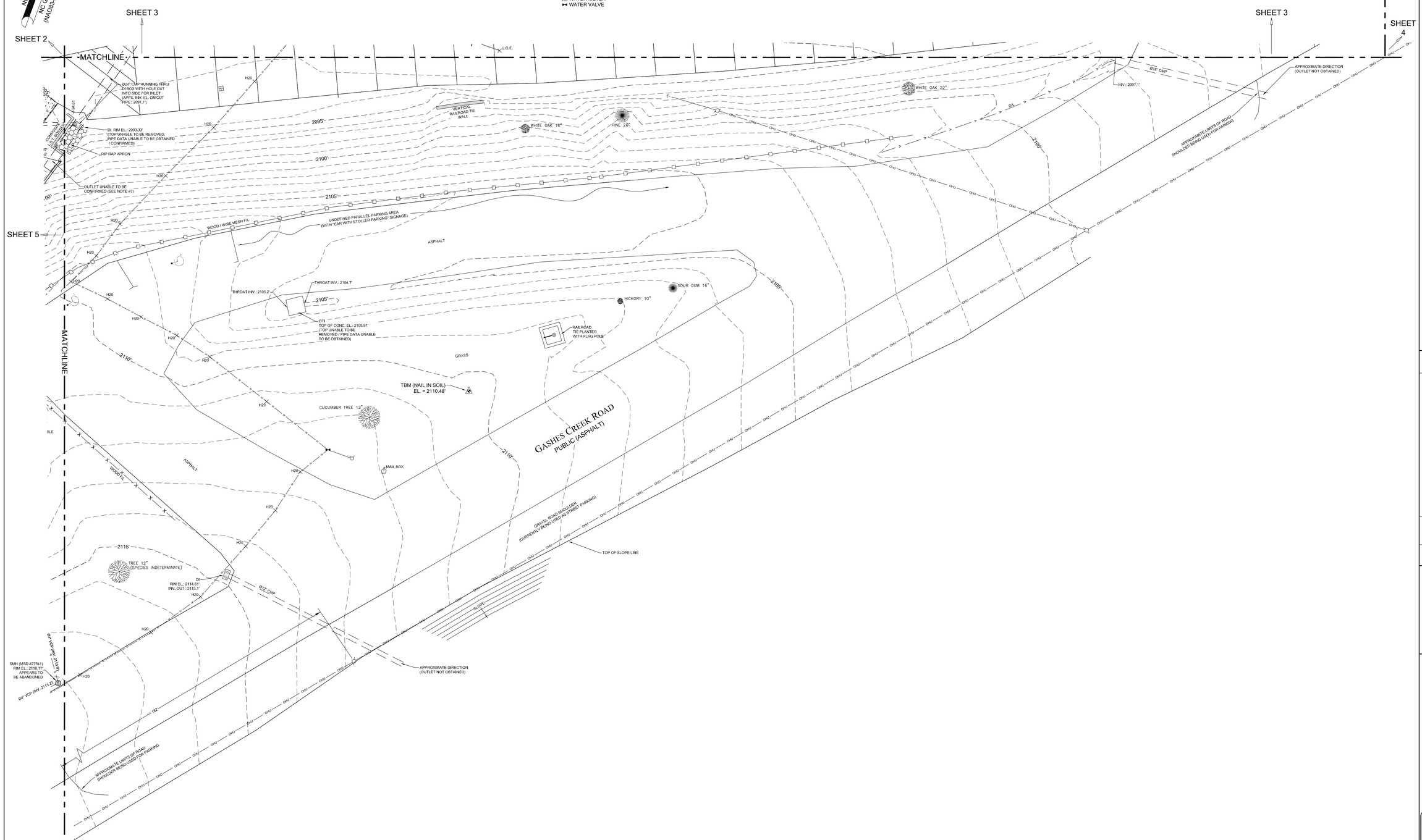
NORTH
NC GRID (NAD83-2011)

NOTE :

1) SEE SHEET 1 OF 8 (KEY SHEET) FOR CERTIFICATIONS AND NOTES APPLICABLE TO SHEETS 2 THRU 8 OF THIS TOPOGRAPHICAL MAP.

LEGEND & ABBREVIATIONS :

CMP . . CORRUGATED METAL PIPE
DI . . DROP INLET
D/L . . DITCHLINE
EL. . . ELEVATION
FIRE HYDRANT
GUY WIRE
INV. . . INVERT
OTI . . OPEN THROAT INLET
OHL — OVERHEAD UTILITY LINE
TBM . . TEMPORARY BENCHMARK
U.G.E. UTILITY PAINT MARKING IN FIELD *(UNDERGROUND ELECTRIC LINE)*
H20 UTILITY PAINT MARKING IN FIELD *(WATER LINE)*
UTILITY POLE
WATER LINE *(BASED ON MARKINGS IN FIELD)*
WATER METER
WATER VALVE



NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG GASHES CREEK ROAD, OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS, AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEETS 7 & 8), ADDED PARKING STRIPING ON ALL PARKING AREAS, REFLECTED LOCATION OF PAINTED WATER, ELECTRIC AND TELEPHONE LINES, OBTAINED ADDITIONAL TREES IN REQUESTED AREAS	JBW

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Telephone (828) 628-1295

TOPOGRAPHICAL SURVEY OF A PORTION OF THE :

Western North Carolina Nature Center

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

DATE:	7-14-12
PROJECT NO.:	11076
DRAWING NO.:	G-12-2971F
DRAWN BY:	JBW
SCALE:	1" = 10'

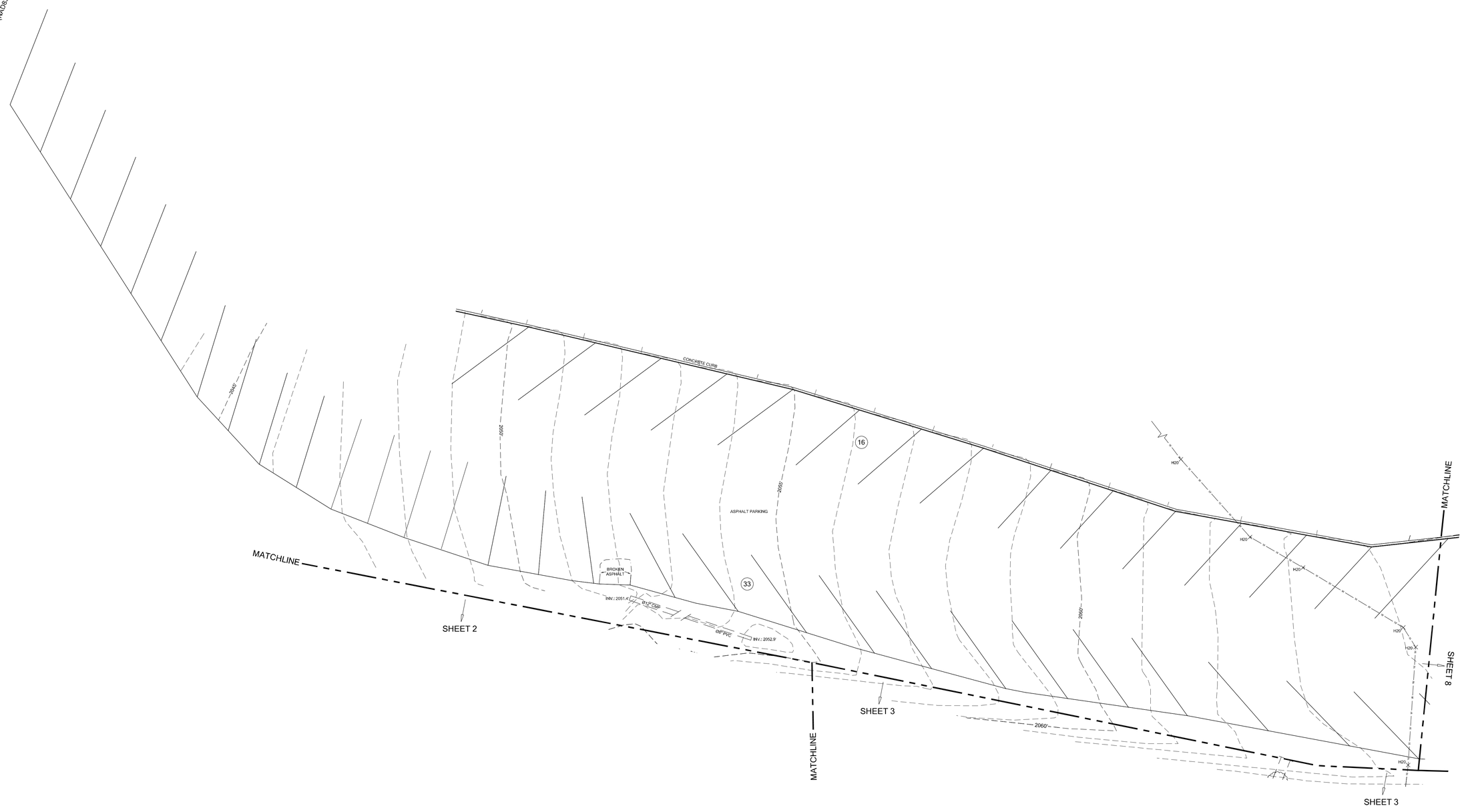
SCALE 1" = 10'

10' 5' 0 10' 20' 30'

NORTH
NC GRID
(NAD83-2011)

NOTE :

1) SEE SHEET 1 OF 8 (KEY SHEET) FOR CERTIFICATIONS AND NOTES APPLICABLE TO SHEETS 2 THRU 8 OF THIS TOPOGRAPHICAL MAP.



LEGEND & ABBREVIATIONS :

CMP . . CORRUGATED METAL PIPE
INV. . . INVERT
(XX) PARKING SPACE COUNT
PVC . . POLYVINYL CHLORIDE PIPE
H20 X UTILITY PAINT MARKING IN FIELD *(WATER LINE)*
WATER LINE *(BASED ON MARKINGS IN FIELD)*

DATE: 7-14-12
PROJECT NO.: 11076
DRAWING NO.: G-12-297IG
DRAWN BY: JBW
SCALE: 1" = 10'

SHEET 7 OF 8

TOPOGRAPHICAL SURVEY OF A PORTION OF THE :

WESTERN NORTH CAROLINA NATURE CENTER

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG GASHES CREEK ROAD, OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS, AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEETS 7 & 8), ADDED PARKING STRIPING ON HILLY PARKING AREA (SHEET 7), ADDED UTILITIES SUCH AS WATER, ELECTRIC AND TELEPHONE LINES, OBTAINED ADDITIONAL TREES IN REQUESTED AREAS	JBW

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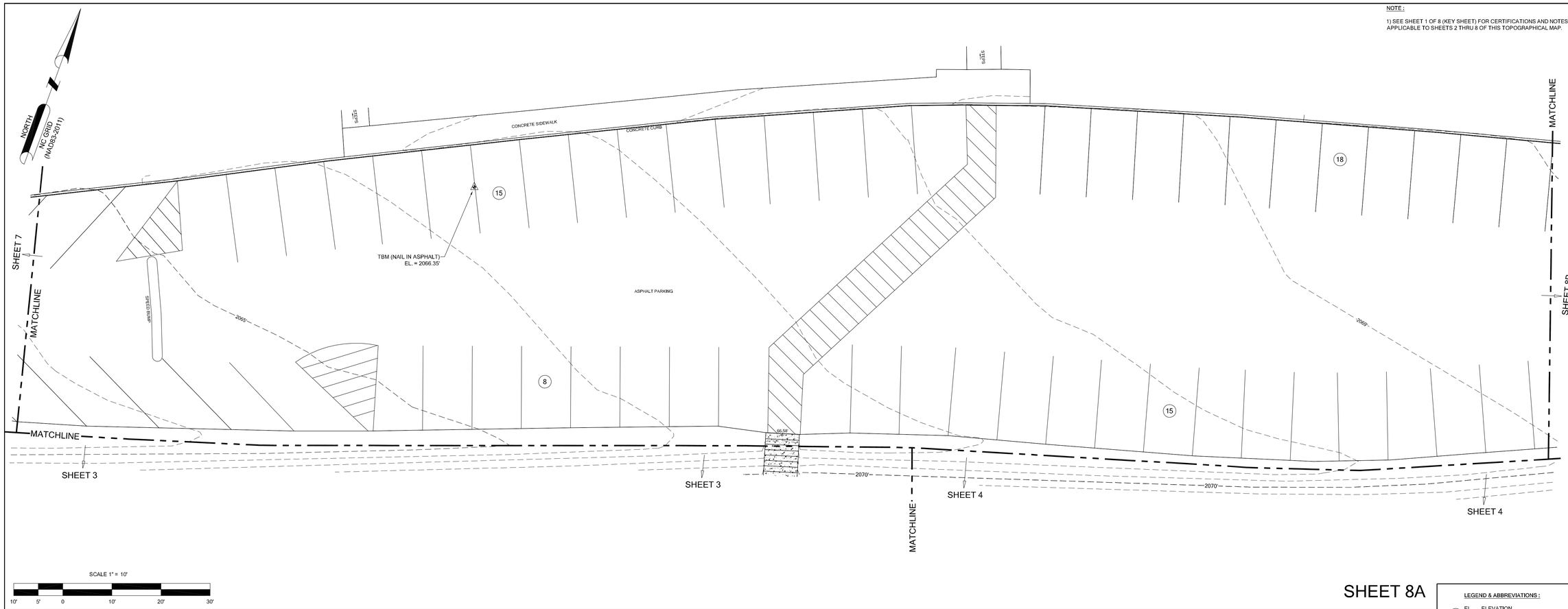
NOTE :

1) SEE SHEET 1 OF 8 (KEY SHEET) FOR CERTIFICATIONS AND NOTES APPLICABLE TO SHEETS 2 THRU 8 OF THIS TOPOGRAPHICAL MAP.



SHEET 8A

LEGEND & ABBREVIATIONS :

EL. . . ELEVATION
(XX) PARKING SPACE COUNT
+XX.XX SPOT ELEVATION
TBM . . TEMPORARY BENCHMARK

SHEET 8B

NO.	DATE	DESCRIPTION	BY
A	10/25/12	ADDED TOPOGRAPHIC DATA ALONG GASHES CREEK ROAD, OBTAINED MAIN BARN ROOF RIDGE AND EAVE ELEVATIONS, AND SURVEY ADDENDUM - PARTIAL BARN INTERIOR SURVEY	JBW
B	5/16/13	ADDED TOPOGRAPHIC DATA ON NORTHERN PARKING AREA (SHEET 7 & 8), ADDED PARKING STRIPES ON ALL PARKING AREAS, BELOW GROUND UTILITIES, ADDED ELECTRIC AND TELEPHONE LINES, OBTAINED ADDITIONAL TREES IN REQUESTED AREAS	JBW

DATE: 7-14-12
PROJECT NO.: 11076
DRAWING NO.: G-12-297TH
DRAWN BY: JBW
SCALE: 1" = 10'

SHEET 8 OF 8

TOPOGRAPHICAL SURVEY OF A PORTION OF THE :

WESTERN NORTH CAROLINA NATURE CENTER

CITY OF ASHEVILLE
BUNCOMBE COUNTY, N.C.

PIN: 9668-03-9619

NORTH CAROLINA PROFESSIONAL SEAL L-4693 LAND SURVEYOR J. BARRY WEST

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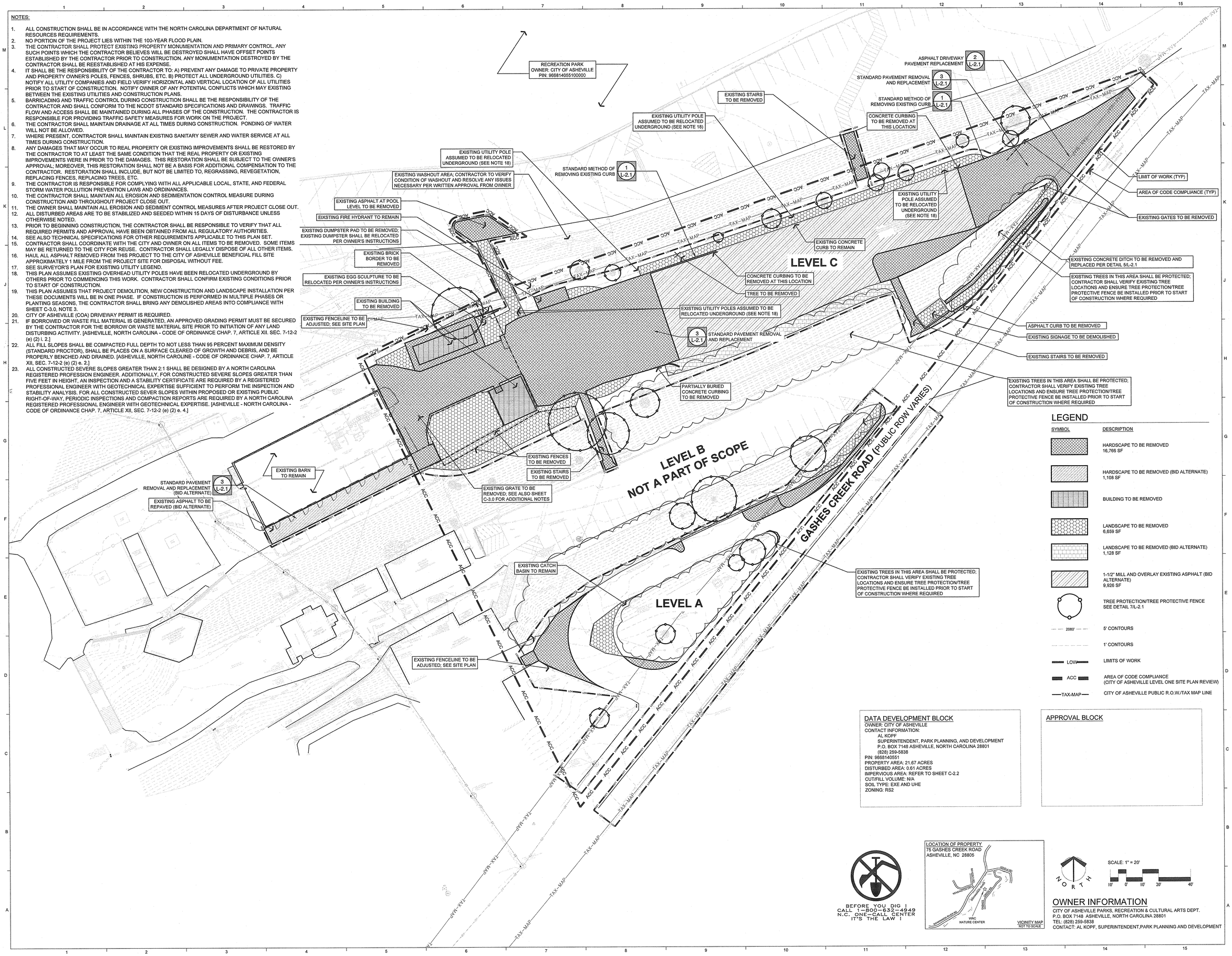
Firm License Number: C-694

NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS.
2. NO PORTION OF THE PROJECT LIES WITHIN THE 100-YEAR FLOOD PLAIN.
3. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY MONUMENTATION AND PRIMARY CONTROL. ANY SUCH POINTS WHICH THE CONTRACTOR BELIEVES WILL BE DESTROYED SHALL HAVE OFFSET POINTS ESTABLISHED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY MONUMENTATION DESTROYED BY THE CONTRACTOR SHALL BE REESTABLISHED AT HIS EXPENSE.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO: A) PREVENT ANY DAMAGE TO PRIVATE PROPERTY AND PROPERTY OWNER'S POLES, FENCES, SHRUBS, ETC. B) PROTECT ALL UNDERGROUND UTILITIES. C) NOTIFY ALL UTILITY COMPANIES AND FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO START OF CONSTRUCTION. NOTIFY OWNER OF ANY POTENTIAL CONFLICTS WHICH MAY EXISTING BETWEEN THE EXISTING UTILITIES AND CONSTRUCTION PLANS.
5. BARRICADING AND TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE NCDOT STANDARD SPECIFICATIONS AND DRAWINGS. TRAFFIC FLOW AND ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF THE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC SAFETY MEASURES FOR WORK ON THE PROJECT.
6. THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION. PONDING OF WATER WILL NOT BE ALLOWED.
7. WHERE PRESENT, CONTRACTOR SHALL MAINTAIN EXISTING SANITARY SEWER AND WATER SERVICE AT ALL TIMES DURING CONSTRUCTION.
8. ANY DAMAGES THAT MAY OCCUR TO REAL PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE REAL PROPERTY OR EXISTING IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL; MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR. RESTORATION SHALL INCLUDE, BUT NOT BE LIMITED TO, REGRASSING, REVEGETATION, REPLACING FENCES, REPLACING TREES, ETC.
9. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL STORM WATER POLLUTION PREVENTION LAWS AND ORDINANCES.
10. THE CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURE DURING CONSTRUCTION AND THROUGHOUT PROJECT CLOSE OUT.
11. THE OWNER SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES AFTER PROJECT CLOSE OUT.
12. ALL DISTURBED AREAS ARE TO BE STABILIZED AND SEEDED WITHIN 15 DAYS OF DISTURBANCE UNLESS OTHERWISE NOTED.
13. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT ALL REQUIRED PERMITS AND APPROVAL HAVE BEEN OBTAINED FROM ALL REGULATORY AUTHORITIES.
14. SEE ALSO TECHNICAL SPECIFICATIONS FOR OTHER REQUIREMENTS APPLICABLE TO THIS PLAN SET.
15. CONTRACTOR SHALL COORDINATE WITH THE CITY AND OWNER ON ALL ITEMS TO BE REMOVED. SOME ITEMS MAY BE RETURNED TO THE CITY FOR REUSE. CONTRACTOR SHALL LEGALLY DISPOSE OF ALL OTHER ITEMS.
16. HAUL ALL ASPHALT REMOVED FROM THIS PROJECT TO THE CITY OF ASHEVILLE BENEFICIAL FILL SITE APPROXIMATELY 1 MILE FROM THE PROJECT SITE FOR DISPOSAL WITHOUT FEE.
17. SEE SURVEYOR'S PLAN FOR EXISTING UTILITY LEGEND.
18. THIS PLAN ASSUMES EXISTING OVERHEAD UTILITY POLES HAVE BEEN RELOCATED UNDERGROUND BY OTHERS PRIOR TO COMMENCING THIS WORK. CONTRACTOR SHALL CONFIRM EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION.
19. THIS PLAN ASSUMES THAT PROJECT DEMOLITION, NEW CONSTRUCTION AND LANDSCAPE INSTALLATION PER THESE DOCUMENTS WILL BE IN ONE PHASE. IF CONSTRUCTION IS PERFORMED IN MULTIPLE PHASES OR PLANTING SEASONS, THE CONTRACTOR SHALL BRING ANY DEMOLISHED AREAS INTO COMPLIANCE WITH SHEET C-3.0, NOTE 3.
20. CITY OF ASHEVILLE (COA) DRIVEWAY PERMIT IS REQUIRED.
21. IF BORROWED OR WASTE FILL MATERIAL IS GENERATED, AN APPROVED GRADING PERMIT MUST BE SECURED BY THE CONTRACTOR FOR THE BORROW OR WASTE MATERIAL SITE PRIOR TO INITIATION OF ANY LAND DISTURBING ACTIVITY. [ASHEVILLE, NORTH CAROLINA - CODE OF ORDINANCE CHAP. 7, ARTICLE XII. SEC. 7-12-2 (e) (2) i. 2.]
22. ALL FILL SLOPES SHALL BE COMPACTED FULL DEPTH TO NOT LESS THAN 95 PERCENT MAXIMUM DENSITY (STANDARD PROCTOR), SHALL BE PLACES ON A SURFACE CLEARED OF GROWTH AND DEBRIS, AND BE PROPERLY BENCHED AND DRAINED. [ASHEVILLE, NORTH CAROLINE - CODE OF ORDINANCE CHAP. 7, ARTICLE XII, SEC. 7-12-2 (e) (2) e. 2.]
23. ALL CONSTRUCTED SEVERE SLOPES GREATER THAN 2:1 SHALL BE DESIGNED BY A NORTH CAROLINA REGISTERED PROFESSION ENGINEER. ADDITIONALLY, FOR CONSTRUCTED SEVERE SLOPES GREATER THAN FIVE FEET IN HEIGHT, AN INSPECTION AND A STABILITY CERTIFICATE ARE REQUIRED BY A REGISTERED PROFESSIONAL ENGINEER WITH GEOTECHNICAL EXPERTISE SUFFICIENT TO PERFORM THE INSPECTION AND STABILITY ANALYSIS. FOR ALL CONSTRUCTED SEVER SLOPES WITHIN PROPOSED OR EXISTING PUBLIC RIGHT-OF-WAY, PERIODIC INSPECTIONS AND COMPACTION REPORTS ARE REQUIRED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER WITH GEOTECHNICAL EXPERTISE. [ASHEVILLE - NORTH CAROLINA - CODE OF ORDINANCE CHAP. 7, ARTICLE XII, SEC. 7-12-2 (e) (2) e. 4.]



LEGEND

SYMBOL	DESCRIPTION
	HARDSCAPE TO BE REMOVED 16,766 SF
	HARDSCAPE TO BE REMOVED (BID ALTERNATE) 1,108 SF
	BUILDING TO BE REMOVED
	LANDSCAPE TO BE REMOVED 6,659 SF
	LANDSCAPE TO BE REMOVED (BID ALTERNATE) 1,128 SF
	1-1/2" MILL AND OVERLAY EXISTING ASPHALT (BID ALTERNATE) 9,926 SF
	TREE PROTECTION/TREE PROTECTIVE FENCE SEE DETAIL 7/L-2.1
2080'	5' CONTOURS
	1' CONTOURS
LOW	LIMITS OF WORK
ACC	AREA OF CODE COMPLIANCE (CITY OF ASHEVILLE LEVEL ONE SITE PLAN REVIEW)
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE

DATA DEVELOPMENT BLOCK

OWNER: CITY OF ASHEVILLE
CONTACT INFORMATION:
AL KOPF
SUPERINTENDENT, PARK PLANNING, AND DEVELOPMENT
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
(828) 259-5838
PIN: 9668140551
PROPERTY AREA: 21.67 ACRES
DISTURBED AREA: 0.61 ACRES
IMPERVIOUS AREA: REFER TO SHEET C-2.2
CUT/FILL VOLUME: N/A
SOIL TYPE: EXE AND UHE
ZONING: RS2

APPROVAL BLOCK

BEFORE YOU DIG !
CALL 1-800-632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW !

LOCATION OF PROPERTY
76 GASHES CREEK ROAD
ASHEVILLE, NC 28805

VICINITY MAP
NOT TO SCALE

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT,PARK PLANNING AND DEVELOPMENT

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA
LandDesign
200 S. Pyron St., Alexandria, VA. 22314
V: 703.549.7784 F: 703.549.4984
www.LandDesign.com
NORTH CAROLINA PROFESSIONAL SEAL 022112 ENGINEER
July 6, 2016

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

EXISTING CONDITIONS & DEMO PLAN

Revision No.
09.09.2013 - ~~Note 20 Owner Sign Information~~
09.09.2013 - DRB CD Owner Rev 1/Permit Submission Ready Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. 16-02300PZ
Project No. 2012019
Date 02.08.2013
Scale 1" = 20'
Sheet EX-1.0

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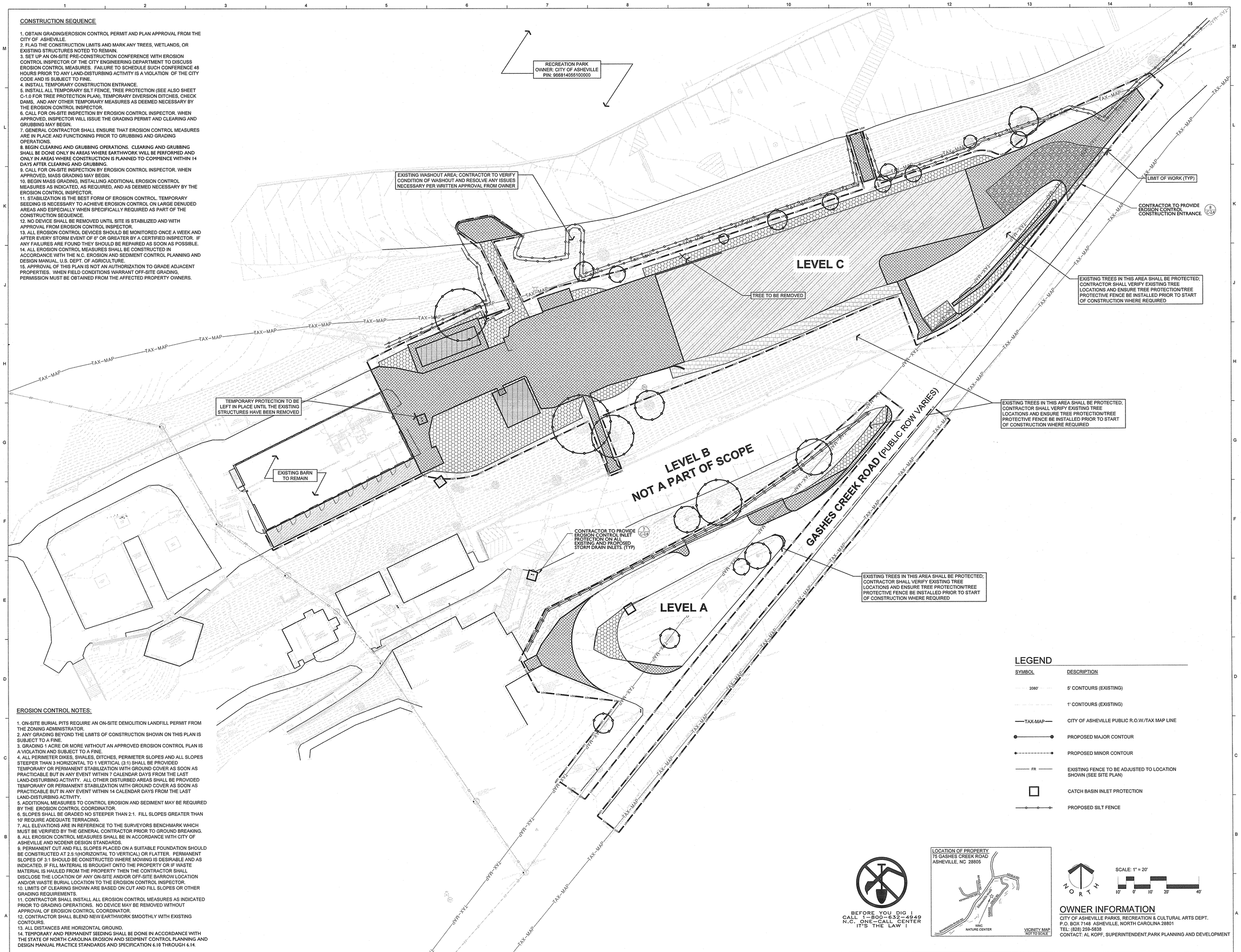
CONSTRUCTION SEQUENCE

1. OBTAIN GRADING/EROSION CONTROL PERMIT AND PLAN APPROVAL FROM THE CITY OF ASHEVILLE.
2. FLAG THE CONSTRUCTION LIMITS AND MARK ANY TREES, WETLANDS, OR EXISTING STRUCTURES NOTED TO REMAIN.
3. SET UP AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH EROSION CONTROL INSPECTOR OF THE CITY ENGINEERING DEPARTMENT TO DISCUSS EROSION CONTROL MEASURES. FAILURE TO SCHEDULE SUCH CONFERENCE 48 HOURS PRIOR TO ANY LAND-DISTURBING ACTIVITY IS A VIOLATION OF THE CITY CODE AND IS SUBJECT TO FINE.
4. INSTALL TEMPORARY CONSTRUCTION ENTRANCE.
5. INSTALL ALL TEMPORARY SILT FENCE, TREE PROTECTION (SEE ALSO SHEET C-1.0 FOR TREE PROTECTION PLAN), TEMPORARY DIVERSION DITCHES, CHECK DAMS, AND ANY OTHER TEMPORARY MEASURES AS DEEMED NECESSARY BY THE EROSION CONTROL INSPECTOR.
6. CALL FOR ON-SITE INSPECTION BY EROSION CONTROL INSPECTOR. WHEN APPROVED, INSPECTOR WILL ISSUE THE GRADING PERMIT AND CLEARING AND GRUBBING MAY BEGIN.
7. GENERAL CONTRACTOR SHALL ENSURE THAT EROSION CONTROL MEASURES ARE IN PLACE AND FUNCTIONING PRIOR TO GRUBBING AND GRADING OPERATIONS.
8. BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE CONSTRUCTION IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING.
9. CALL FOR ON-SITE INSPECTION BY EROSION CONTROL INSPECTOR. WHEN APPROVED, MASS GRADING MAY BEGIN.
10. BEGIN MASS GRADING, INSTALLING ADDITIONAL EROSION CONTROL MEASURES AS INDICATED, AS REQUIRED, AND AS DEEMED NECESSARY BY THE EROSION CONTROL INSPECTOR.
11. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON LARGE DENUDED AREAS AND ESPECIALLY WHEN SPECIFICALLY REQUIRED AS PART OF THE CONSTRUCTION SEQUENCE.
12. NO DEVICE SHALL BE REMOVED UNTIL SITE IS STABILIZED AND WITH APPROVAL FROM EROSION CONTROL INSPECTOR.
13. ALL EROSION CONTROL DEVICES SHOULD BE MONITORED ONCE A WEEK AND AFTER EVERY STORM EVENT OF 6" OR GREATER BY A CERTIFIED INSPECTOR. IF ANY FAILURES ARE FOUND THEY SHOULD BE REPAIRED AS SOON AS POSSIBLE.
14. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE.
15. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.



EROSION CONTROL NOTES:

1. ON-SITE BURIAL PITS REQUIRE AN ON-SITE DEMOLITION LANDFILL PERMIT FROM THE ZONING ADMINISTRATOR.
2. ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION SHOWN ON THIS PLAN IS SUBJECT TO A FINE.
3. GRADING 1 ACRE OR MORE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND SUBJECT TO A FINE.
4. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
5. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE EROSION CONTROL COORDINATOR.
6. SLOPES SHALL BE GRADED NO STEEPER THAN 2:1. FILL SLOPES GREATER THAN 10' REQUIRE ADEQUATE TERRACING.
7. ALL ELEVATIONS ARE IN REFERENCE TO THE SURVEYORS BENCHMARK WHICH MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
8. ALL EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH CITY OF ASHEVILLE AND NCDENR DESIGN STANDARDS.
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13. ALL DISTANCES ARE HORIZONTAL GROUND.
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LEGEND

SYMBOL	DESCRIPTION
2080'	5' CONTOURS (EXISTING)
	1' CONTOURS (EXISTING)
—TAX-MAP—	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
— FR —	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)
	CATCH BASIN INLET PROTECTION
	PROPOSED SILT FENCE

BEFORE YOU DIG !
CALL 1-800-632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW !

LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT,PARK PLANNING AND DEVELOPMENT

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA

LandDesign
200 S. Peyton St., Alexandria, VA 22314
V: 703.549.7784 F: 703.549.6994
www.LandDesign.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027773 TRAVIS J. MCMAHON 7/6/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

EROSION CONTROL PHASE-I

Revision No.
09.09.2013 - ~~Mark Site Plan Review Comments~~
09.09.2013 - SUPA CD Owner Rev 1/Permit Submission Ready Set
02.13.2014 - Updated Architecture
03.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
14-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
1" = 20'

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CONSTRUCTION SEQUENCE

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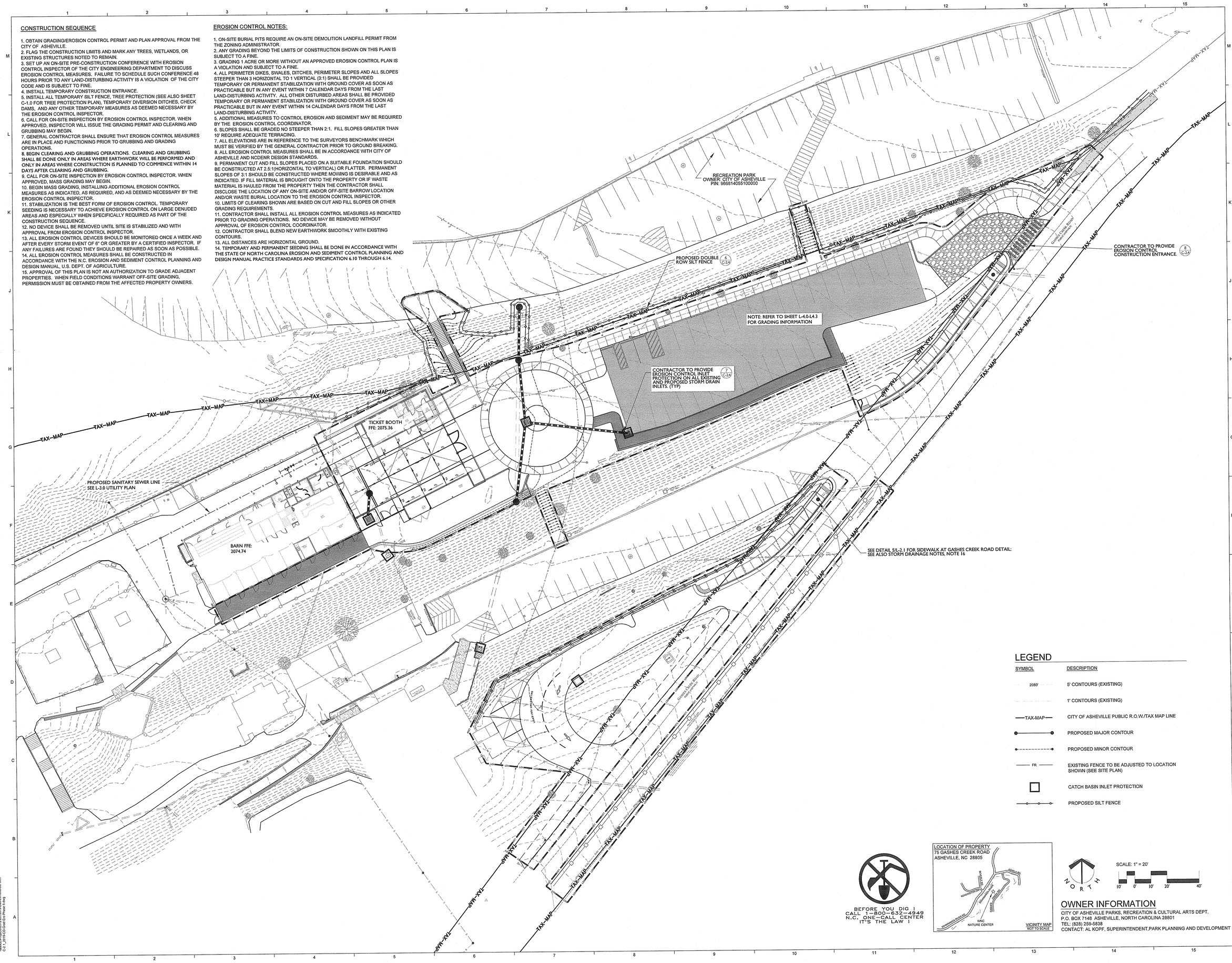

LEGEND

SYMBOL	DESCRIPTION
2080'	5' CONTOURS (EXISTING)
	1' CONTOURS (EXISTING)
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)
	CATCH BASIN INLET PROTECTION
	PROPOSED SILT FENCE

BEFORE YOU DIG !
CALL 1-800-632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW !

LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

VICINITY MAP
NOT TO SCALE

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT, PARK PLANNING AND DEVELOPMENT

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA

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200 S. Peyton St., Alexandria, VA 22314
V: 703.549.7784 F: 703.549.4984
www.LandDesign.com

NORTH CAROLINA PROFESSIONAL SEAL 037773 ENGINEER MICHAEL J. MCMAHAN
7/16/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

EROSION CONTROL PHASE-II

Revision No.
09.09.2013 - ~~NCDENR Permit Set - 1st Submittal~~
09.09.2013 - NCDENR CO Permit Set - 1st Permit Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.	16-02300PZ
Project No.	2012019
Date	02.08.2013
Scale	1" = 20'
Sheet	C-2.1

Jul 05, 2016 - 2:06pm
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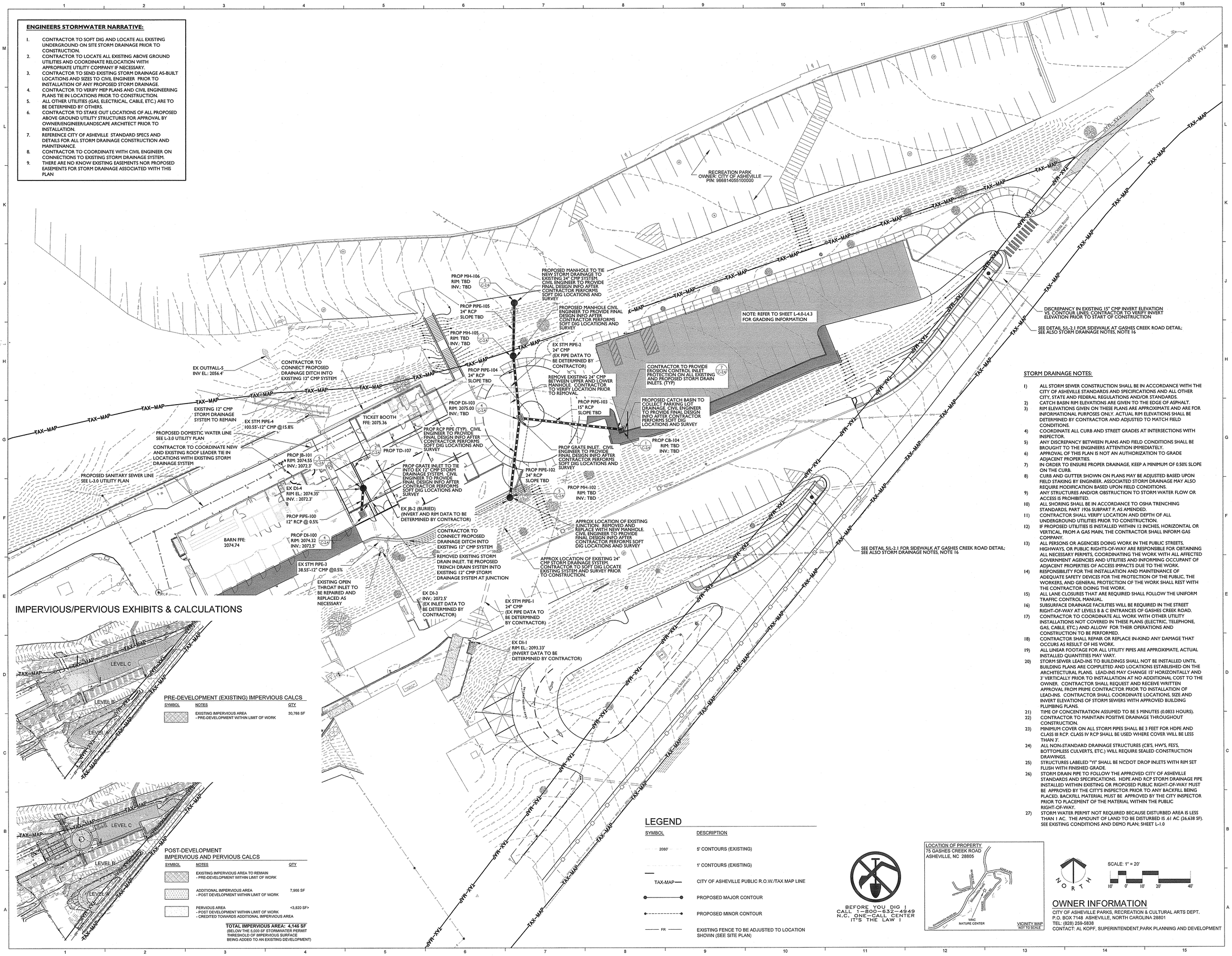
Layout: 20-EROSION CONTROL PHASE-II.dwg

ENGINEERS STORMWATER NARRATIVE:

1. CONTRACTOR TO SOFT DIG AND LOCATE ALL EXISTING UNDERGROUND ON SITE STORM DRAINAGE PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO LOCATE ALL EXISTING ABOVE GROUND UTILITIES AND COORDINATE RELOCATION WITH APPROPRIATE UTILITY COMPANY IF NECESSARY.
3. CONTRACTOR TO SEND EXISTING STORM DRAINAGE AS-BUILT LOCATIONS AND SIZES TO CIVIL ENGINEER PRIOR TO INSTALLATION OF ANY PROPOSED STORM DRAINAGE.
4. CONTRACTOR TO VERIFY MEP PLANS AND CIVIL ENGINEERING PLANS TIE IN LOCATIONS PRIOR TO CONSTRUCTION.
5. ALL OTHER UTILITIES (GAS, ELECTRICAL, CABLE, ETC.) ARE TO BE DETERMINED BY OTHERS.
6. CONTRACTOR TO STAKE OUT LOCATIONS OF ALL PROPOSED ABOVE GROUND UTILITY STRUCTURES FOR APPROVAL BY OWNER/ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
7. REFERENCE CITY OF ASHEVILLE STANDARD SPECS AND DETAILS FOR ALL STORM DRAINAGE CONSTRUCTION AND MAINTENANCE.
8. CONTRACTOR TO COORDINATE WITH CIVIL ENGINEER ON CONNECTIONS TO EXISTING STORM DRAINAGE SYSTEM.
9. THERE ARE NO KNOWN EXISTING EASEMENTS NOR PROPOSED EASEMENTS FOR STORM DRAINAGE ASSOCIATED WITH THIS PLAN



IMPERVIOUS/PERVIOUS EXHIBITS & CALCULATIONS

PRE-DEVELOPMENT (EXISTING) IMPERVIOUS CALCS

SYMBOL	NOTES	QTY
	EXISTING IMPERVIOUS AREA - PRE-DEVELOPMENT WITHIN LIMIT OF WORK	30,766 SF

POST-DEVELOPMENT IMPERVIOUS AND PERVIOUS CALCS

SYMBOL	NOTES	QTY
	EXISTING IMPERVIOUS AREA TO REMAIN - PRE-DEVELOPMENT WITHIN LIMIT OF WORK	
	ADDITIONAL IMPERVIOUS AREA - POST DEVELOPMENT WITHIN LIMIT OF WORK	7,966 SF
	PERVIOUS AREA - POST DEVELOPMENT WITHIN LIMIT OF WORK - CREDITED TOWARDS ADDITIONAL IMPERVIOUS AREA	<3,820 SF>

TOTAL IMPERVIOUS AREA: 4,146 SF
(BELOW THE 5,000 SF STORMWATER PERMIT THRESHOLD OF IMPERVIOUS SURFACE BEING ADDED TO AN EXISTING DEVELOPMENT)

LEGEND

SYMBOL	DESCRIPTION
2080'	5' CONTOURS (EXISTING)
	1' CONTOURS (EXISTING)
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)

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LOCATION OF PROPERTY
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ASHEVILLE, NC 28805

VICINITY MAP
NOT TO SCALE

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

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P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT, PARK PLANNING AND DEVELOPMENT

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA
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NORTH CAROLINA PROFESSIONAL SEAL 037773 ENGINEER JAMES L. HUMPHREY 7/16/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 9668039619000000

SWM PLAN

Revision No.
09.29.2015 - Updated Architecture 09.29.2015 - Updated Grading & Site Plan Submission Resubmit Set 05.13.2014 - Updated Architecture 03.20.2014 - Updated Grading & Site Plan 07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.	16-02300PZ
Project No.	2012019
Date	02.08.2013
Scale	1" = 20'
Sheet	C-2.2

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RECREATION PARK
OWNER: CITY OF ASHEVILLE
PIN: 9668140551000000

NOTE: REFER TO SHEET L-4.0-L4.3
FOR GRADING INFORMATION

PROP MH-106
PROP MH-105
PROP MH-102
PROP DI-103
PROP CB-104
PROP DI-100
PROP TD-107
PROP JB-101
EX OUTFALL-5
EX DI-3
EX DI-1
TICKET BOOTH
FFE: 2075.36
BARN FFE:
2074.74

DA-104
0.43 AC.

DA-107
0.11 AC.

DA-103
0.19 AC.

DA-100
0.003 AC.
(117 SF)

DA-1
0.38 AC.

DA-3
0.30 AC.

LEGEND

SYMBOL	DESCRIPTION
2080'	5' CONTOURS (EXISTING)
	1' CONTOURS (EXISTING)
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)
	DRAINAGE AREA

BEFORE YOU DIG !
CALL 1-800-632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW !

LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

VICINITY MAP
NOT TO SCALE

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT,PARK PLANNING AND DEVELOPMENT

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32773 J. MICHAEL MCMINNI 7/6/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

STROMWATER DRAINAGE AREA PLAN

Revision No.
01.09.2013 - Initial Submittal
09.04.2013 - 100% CD Review Per Liturgical Submission Result Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
16-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
1" = 20'

Sheet
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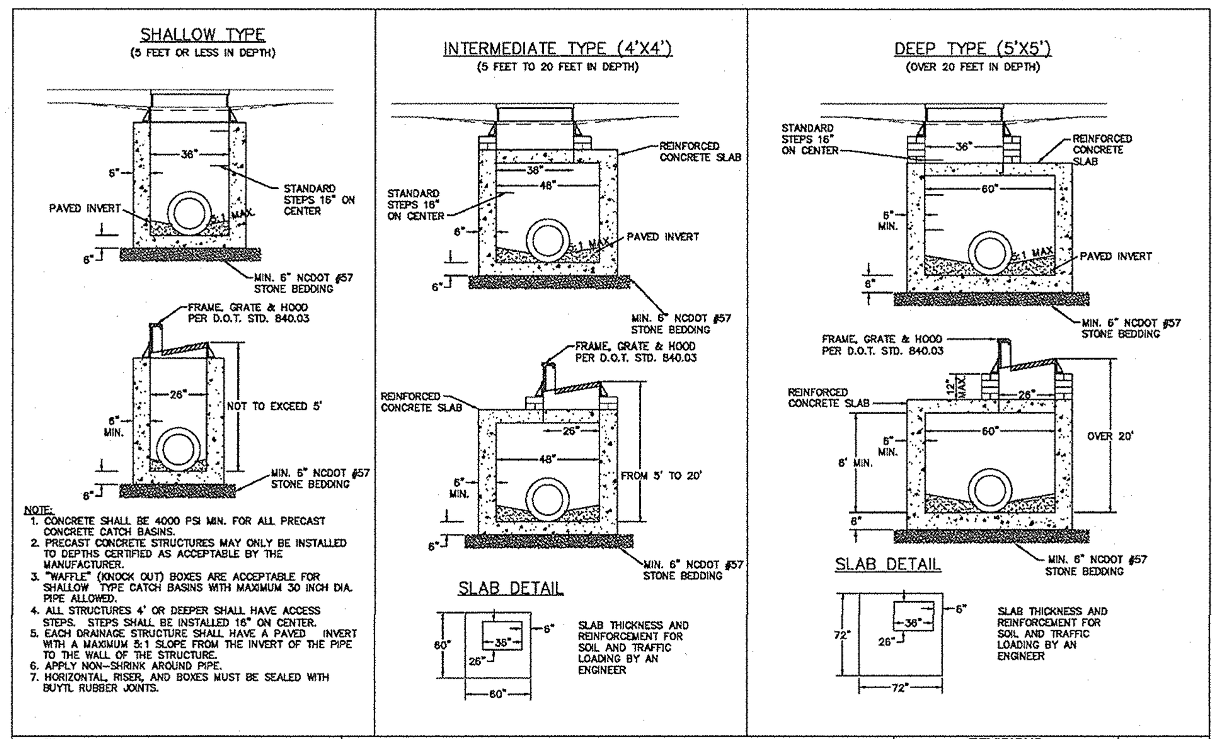
C-2.3_2016 Drainage Area Plan.dwg



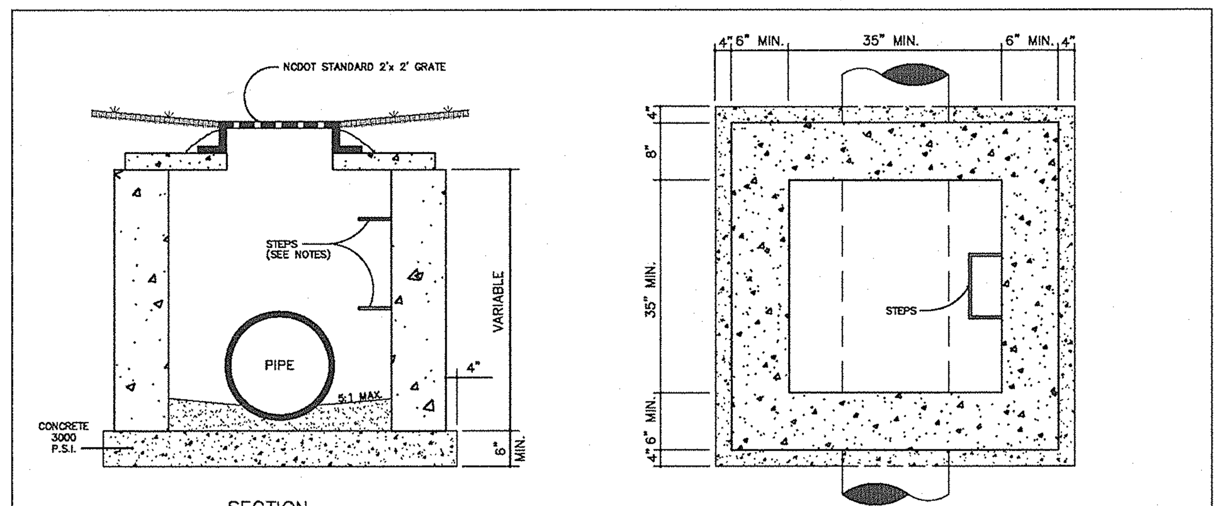
NOTE:
1. CONCRETE SHALL BE 4000 PSI MIN. FOR ALL PRECAST CONCRETE CATCH BASINS.
2. PRECAST CONCRETE STRUCTURES MAY ONLY BE INSTALLED TO DEPTHS CERTIFIED AS ACCEPTABLE BY THE MANUFACTURER.
3. "WAFFLE" (KNOCK OUT) BOXES ARE ACCEPTABLE FOR SHALLOW TYPE CATCH BASINS WITH MAXIMUM 30 INCH DIA. PIPE ALLOWED.
4. ALL STRUCTURES 4' OR DEEPER SHALL HAVE ACCESS STEPS. STEPS SHALL BE INSTALLED 16" ON CENTER.
5. EACH DRAINAGE STRUCTURE SHALL HAVE A PAVED INVERT WITH A MAXIMUM 5:1 SLOPE FROM THE INVERT OF THE PIPE TO THE WALL OF THE STRUCTURE.
6. APPLY NON-SHRINK AROUND PIPE.
7. HORIZONTAL, RISER, AND BOXES MUST BE SEALED WITH BUYTL RUBBER JOINTS.

City of Asheville, NC
Standard Specifications and Details Manual

PRECAST CONCRETE CATCH BASIN

REVISIONS DATE	DESCRIPTION	STD. NO.
6/9/15	REV. 12" O.C. TO 16" IN DETAIL	8.03

1 / C-2.4



NOTES:
FOR 24" R.C.P. AND LARGER USE PIPE DIA. PLUS 12" FOR MINIMUM INSIDE DIMENSION.
GRATED INLETS SHALL NOT BE USED WITHIN TRAVEL AREAS.
STANDARD STEPS REQUIRED @ 16" O.C. WHERE DEPTH EXCEEDS 4'.
ALL JUNCTION BOXES SHALL HAVE A PAVED INVERT WITH A MAXIMUM 5:1 SLOPE EXTENDING FROM THE PIPE INVERT TO THE STRUCTURE WALL.
USE MIN. 4000 P.S.I. CONC. MIX.
ALL STRUCTURES 4' OR DEEPER SHALL HAVE ACCESS STEPS. STEPS SHALL BE INSTALLED 16" ON CENTER.

City of Asheville, NC
Standard Specifications and Details Manual

STANDARD YARD INLET WITH GRATE AND FRAME

REVISIONS DATE	DESCRIPTION	STD. NO.
6/9/15	REV. DIMENSION	8.02
6/9/15	REV. 12" O.C. TO 16" IN NOTES	

4 / C-2.4

SEEDING SPECIFICATIONS

GENERAL
SEEDING CAN BE USED FOR TEMPORARY OR PERMANENT STABILIZATION. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVTY HAS CEASED FOR MORE THAN 14 DAYS (OR MORE FREQUENT IF REQUIRED BY THE STATE NPDES PERMIT) SHALL BE TEMPORARILY SEEDED AND WATERED. AREAS WHERE FINAL GRADING HAS BEEN COMPLETED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY OR PERMANENTLY SEEDED. ALL DISTURBED AREAS ON SLOPES GREATER THAN 3:1 MUST BE TEMPORARILY SEEDED AFTER 7 DAYS. ALL PERIMETER DIKES, SWALES, DITCHES AND SLOPES MUST BE TEMPORARILY SEEDED AFTER 7 DAYS. TEMPORARY SEED MIXTURES ARE SPECIFIED BELOW. PERMANENT SEED MIXTURES SHALL BE SEEDED DURING SEASON SPECIFIED.

PERMANENT SEEDING SPECIFICATIONS - (PS)

LOW MAINTENANCE AREAS

STEEP SLOPES OR STONY, SHALLOW OR DRY SOILS

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	TALL FESCUE	100 LB/ACRE
FEB. 15 - MAR. 21	SERICEA LESPEDEZA	30 LB/ACRE
	KOBE LESPEDEZA	10 LB/ACRE

GENTLE SLOPES, AVERAGE SOILS

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	TALL FESCUE	80 LB/ACRE
FEB. 15 - MAR. 21	SERICEA LESPEDEZA	20 LB/ACRE
	KOBE LESPEDEZA	10 LB/ACRE

HIGH MAINTENANCE AREAS

GENTLE SLOPES, SOILS WITH AVERAGE OR BETTER MOISTURE, COOL SITES

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	BLEND OF TWO TURF-TYPE TALL FESCUES (90%) AND TWO OR MORE KENTUCKY BLUEGRASS VARIETIES (10%)	200 - 250 LB/ACRE

GENTLE SLOPES, DRIER SOILS, PHYSICAL LIMITATIONS

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	BLEND OF 50% KY-31 TALL FESCUE AND 50% MIXTURE OF TWO OR MORE TURF TYPE TALL FESCUES	200 - 250 LB/ACRE

GRASS-LINED CHANNELS, AVERAGE SOILS

DATES	TYPE	RATE
AUG. 25 - OCT.	TALL FESCUE	200 LB/ACRE OR 4 - 5 LB/1000 SF

GRASS-LINED CHANNELS, DRY SOILS

DATES	TYPE	RATE
APRIL 15 - JUNE 30	ANNUAL RYE PLANTED WITH PERMANANT SEEDING OF FESCUES IN FALL	40 - 80 LB/ACRE OR 1 - 2 LB/1000 SF

AMENDMENTS SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE OF GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE OF 10-10-10 FERTILIZER. DRY SOIL, GRASS-LINED CHANNELS SHALL USE 3000 LB/ACRE OF GROUND AGRICULTURAL LIMESTONE AND 500 LB/ACRE OF 10-10-10 FERTILIZER. MULCH SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE OF STRAW. STRAW SHALL BE ANCHORED BY TACKING WITH MULCH ANCHORING TOOL. JUTE OR EXCELSIOR MATTING SHALL BE USED IN GRASS LINED CHANNELS TO CALCULATED HIGH WATER DEPTH.

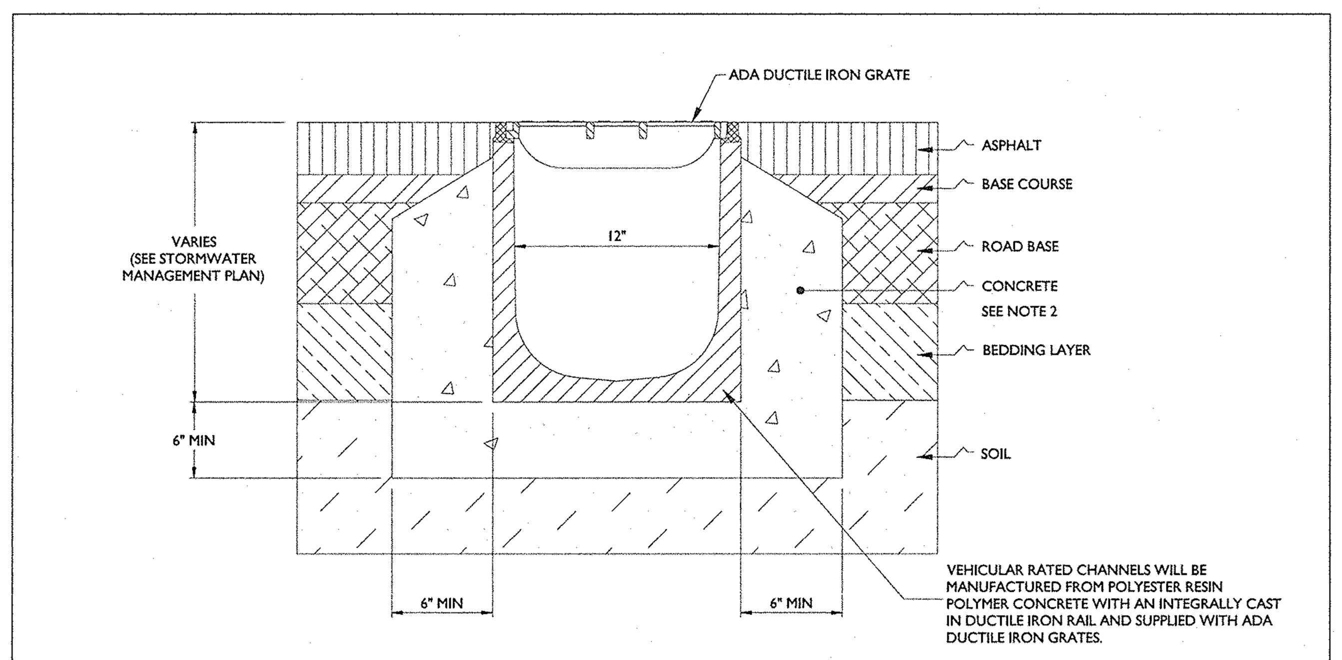
TEMPORARY SEEDING SPECIFICATIONS - (TS)

DATES	TYPE	RATE	AMENDMENTS
JAN. 1 - MAY 1	RYE (GRAIN)	120 LB/ACRE	2000 LB/ACRE GROUND AGRICULTURAL LIME- STONE AND 750 LB/ ACRE OF 10-10-10 FERTILIZER
FEB. 15 - MAR. 21	ANNUAL LESPEDEZA OR LOBE	50 LB/ACRE	

DATES	TYPE	RATE	AMENDMENTS
MAY 1 - AUG. 15	GERMAN MILLET	40 LB/ACRE	2000 LB/ACRE GROUND AGRICULTURAL LIME- STONE AND 750 LB/ ACRE OF 10-10-10 FERTILIZER

DATES	TYPE	RATE	AMENDMENTS
AUG. 15 - DEC. 30	RYE (GRAIN)	120 LB/ACRE	2000 LB/ACRE GROUND AGRICULTURAL LIME- STONE AND 1000 LB/ ACRE OF 10-10-10 FERTILIZER

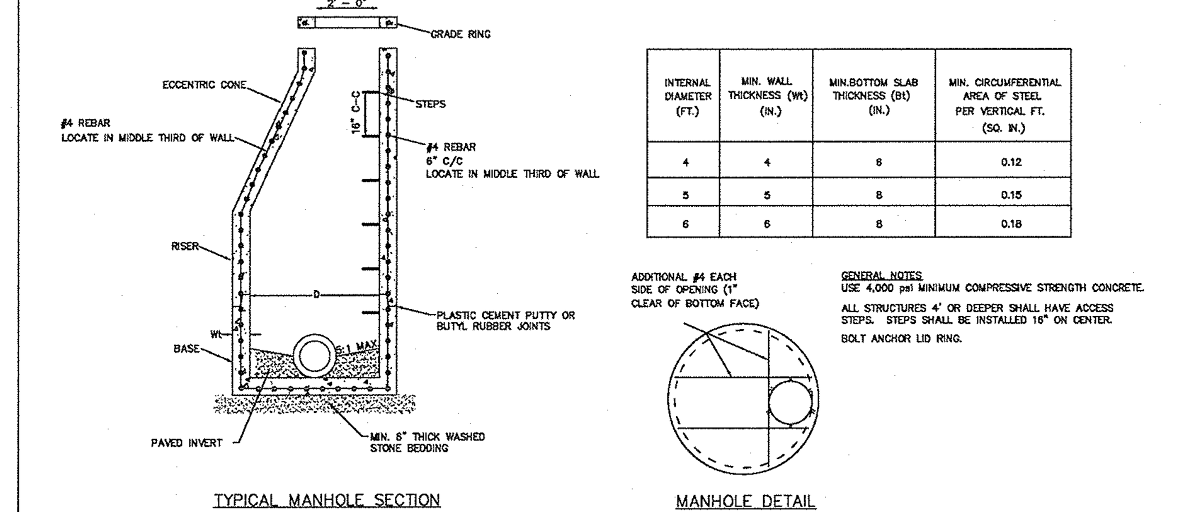
MULCH SEEDED AREA WITH 2 TONS PER ACRE (ONE TON PER ACRE IF LOCAL ANNUAL RAINFALL IS LESS THAN 10") CLEAN GRAIN STRAW. ANCHOR STRAW WITH HYDRAULIC WOOD FIBER MULCH AT THE RATE OF 1000 LBS PER ACRE, OR 150-200 POUNDS OF ORGANIC MULCH TACKIFIER PER ACRE, OR USE NETTING.



NOTES:
1. IT IS NECESSARY TO ENSURE THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS.
2. A MINIMUM CONCRETE STRENGTH OF 3000 PSI IS RECOMMENDED. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" ABOVE THE TOP OF THE CHANNEL EDGE.

TRENCH DRAIN
N.T.S

2 / C-2.4



INTERNAL DIAMETER (FT.)	MIN. WALL THICKNESS (Wt) (IN.)	MIN.BOTTOM SLAB THICKNESS (Bt) (IN.)	MIN. CIRCUMFERENTIAL AREA OF STEEL PER VERTICAL FT. (SQ. IN.)
4	4	8	0.12
5	5	8	0.15
6	6	8	0.18

GENERAL NOTES
USE 4,000 psi MINIMUM COMPRESSIVE STRENGTH CONCRETE.
ALL STRUCTURES 4' OR DEEPER SHALL HAVE ACCESS STEPS. STEPS SHALL BE INSTALLED 16" ON CENTER.
BOLT ANCHOR LID RING.

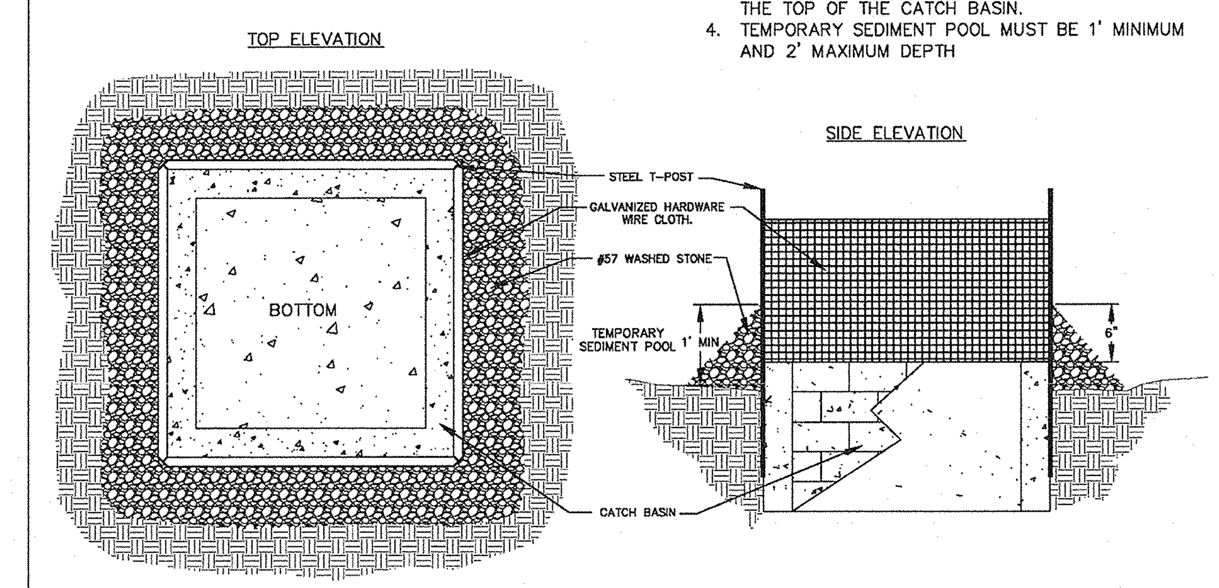
City of Asheville, NC
Standard Specifications and Details Manual

PRECAST CONCRETE MANHOLE JUNCTION BOX

REVISIONS DATE	DESCRIPTION	STD. NO.
6/9/15	REV. 12" O.C. TO 16" IN DETAIL	8.04

5 / C-2.4

NOTES:
1. SILT FENCE IS NOT ACCEPTABLE IN PLACE OF HARDWARE CLOTH.
2. ONLY STEEL T-POST ARE ACCEPTABLE.
3. #57 WASHED STONE MUST BE A MIN 6" ABOVE THE TOP OF THE CATCH BASIN.
4. TEMPORARY SEDIMENT POOL MUST BE 1' MINIMUM AND 2' MAXIMUM DEPTH

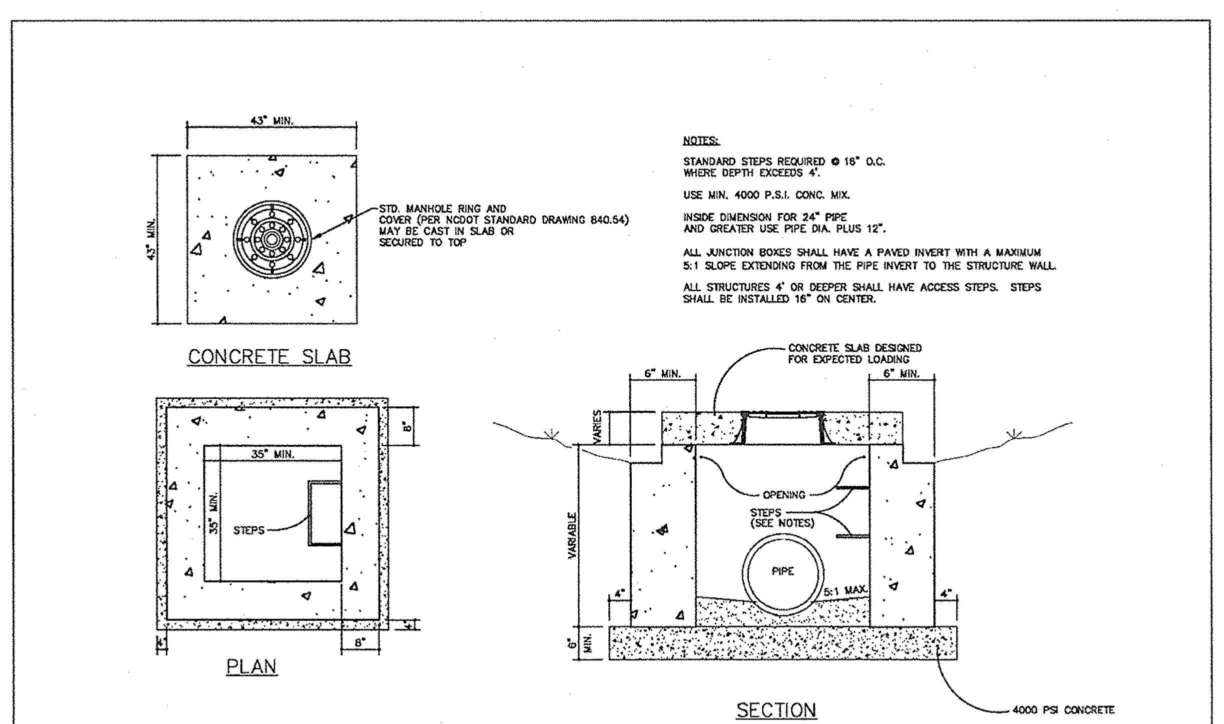


City of Asheville, NC
Standard Specifications and Details Manual

STANDARD CATCH BASIN INLET PROTECTION

REVISIONS DATE	DESCRIPTION	STD. NO.
		7.11

7 / C-2.4



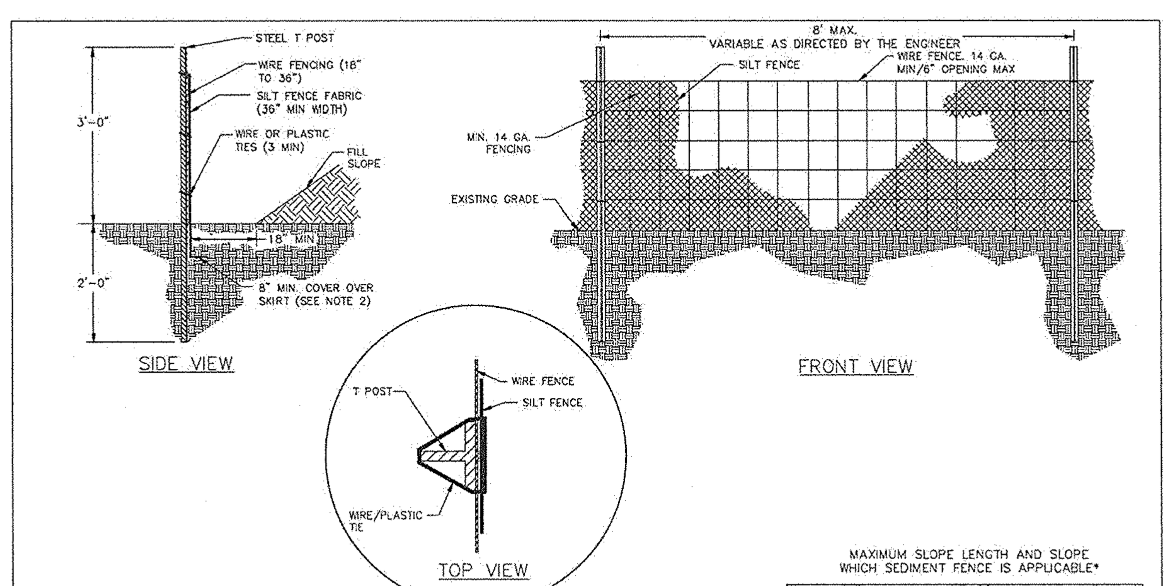
NOTES:
STANDARD STEPS REQUIRED @ 16" O.C. WHERE DEPTH EXCEEDS 4'.
USE MIN. 4000 P.S.I. CONC. MIX.
INSIDE DIMENSION FOR 24" PIPE AND GREATER USE PIPE DIA. PLUS 12".
ALL JUNCTION BOXES SHALL HAVE A PAVED INVERT WITH A MAXIMUM 5:1 SLOPE EXTENDING FROM THE PIPE INVERT TO THE STRUCTURE WALL.
ALL STRUCTURES 4' OR DEEPER SHALL HAVE ACCESS STEPS. STEPS SHALL BE INSTALLED 16" ON CENTER.

City of Asheville, NC
Standard Specifications and Details Manual

STANDARD YARD INLET WITH CONCRETE SLAB

REVISIONS DATE	DESCRIPTION	STD. NO.
6/9/15	REV. DIMENSION	8.01
6/9/15	REV. 12" O.C. TO 16" IN NOTES	

3 / C-2.4



NOTES:
1. SILT FENCE MUST BE PLACED 18" (MIN) FROM TOE OF SLOPE. IT CAN NOT BE USED TO HOLD BACK FILL MATERIALS
2. BOTTOM 12 INCHES OF SILT FENCE MUST BE BURIED. PLACE IT IN A TRENCH 8" DEEP AND 4" WIDE
3. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW OR IN A STREAM BED.

MAXIMUM SLOPE LENGTH AND SLOPE WHICH SEDIMENT FENCE IS APPLICABLE*

SLOPE	SLOPE LENGTH (FT)	MAXIMUM AREA (SQ FT)
<2%	100	10,000
2 TO 5%	75	7,500
5 TO 10%	50	5,000
10 TO 20%	25	2,500
>20%	15	1,500

* TABLE INFORMATION TAKEN FROM THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, DETAIL 6.62A.

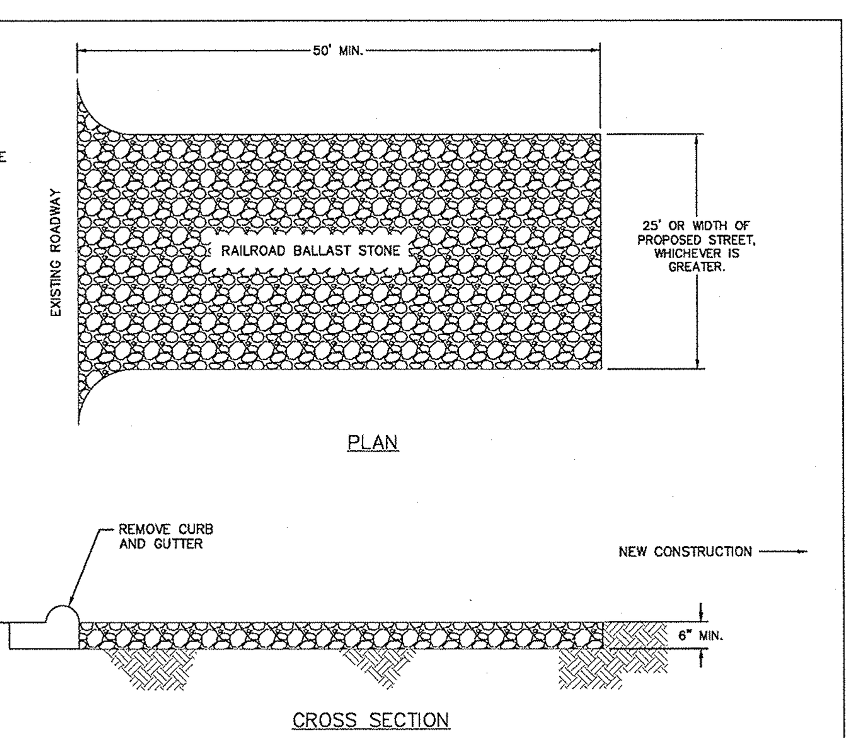
City of Asheville, NC
Standard Specifications and Details Manual

STANDARD TEMPORARY SILT FENCE

REVISIONS DATE	DESCRIPTION	STD. NO.
6/6/15	MINOR GRAPHIC REP. REVISIONS	7.01

6 / C-2.4

NOTES:
1. THIS ENTRANCE APPLIES ONLY TO ENTRANCES FOR COMMERCIAL SITES.
2. FIRST 5' MUST DRAIN AWAY FROM THE STREET (MIN ¼" PER 1' FALL)
3. FLOW FROM PROJECT SHALL NOT ENTER THE PUBLIC STREET.
4. FABRIC MAY BE ADDED UNDER THE STONE WHICH WOULD ADD TOTAL LIFE TO THE CONSTRUCTION ENTRANCE.



City of Asheville, NC
Standard Specifications and Details Manual

COMMERCIAL CONSTRUCTION ENTRANCE

REVISIONS DATE	DESCRIPTION	STD. NO.
		7.03

8 / C-2.4

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www.LandDesign.com

North Carolina Professional Engineer Seal 037773 Frank J. McMahan 7/6/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

EROSION CONTROL AND SWM DETAILS

Revision No.
09.09.2013 - ~~100% CD/Permit Submission Set~~
09.09.2013 - 100% CD Owner Rev 1/Permit Submission Ready Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
16-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
As Noted

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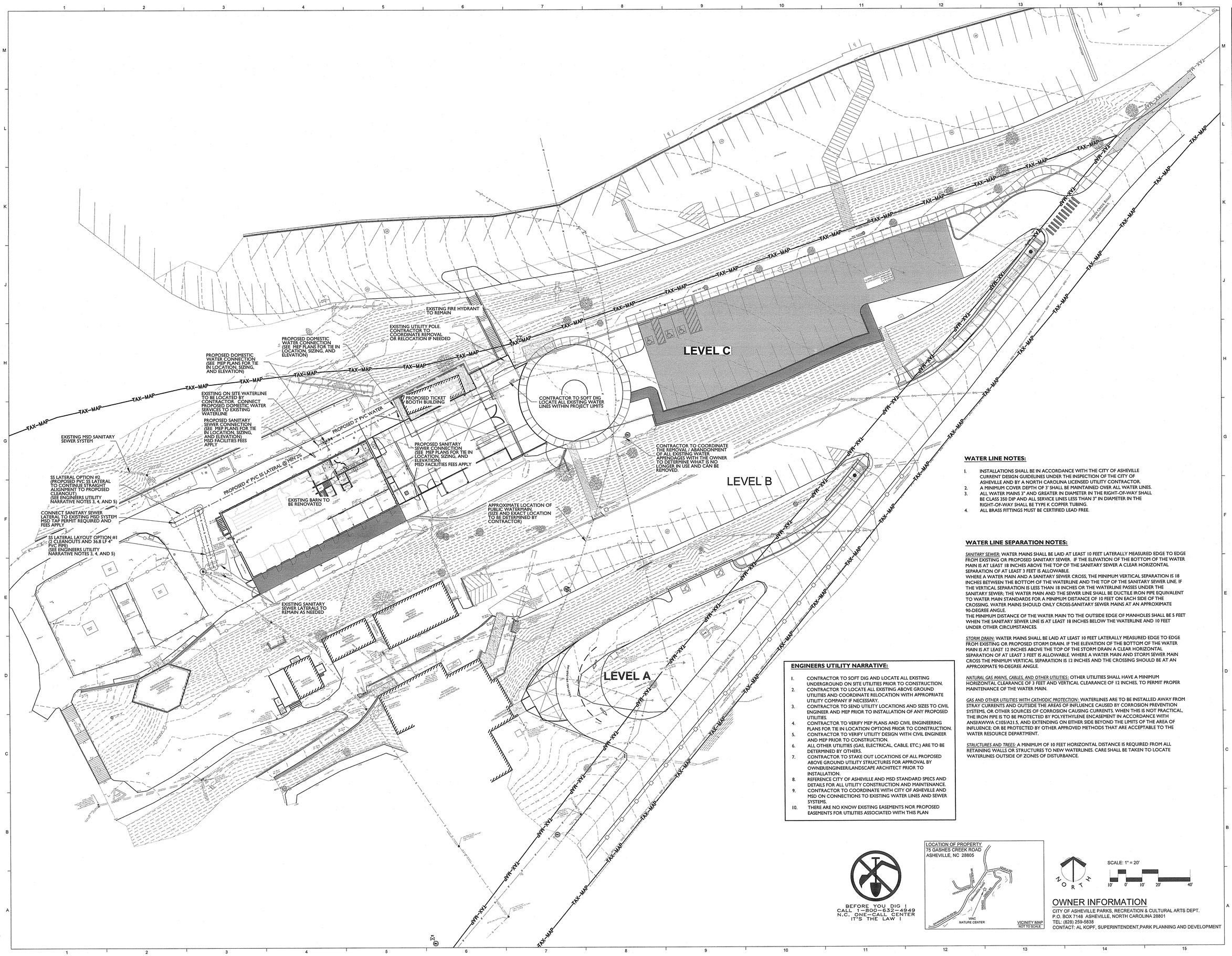

WATER LINE NOTES:

1. INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY OF ASHEVILLE CURRENT DESIGN GUIDELINES UNDER THE INSPECTION OF THE CITY OF ASHEVILLE AND BY A NORTH CAROLINA LICENSED UTILITY CONTRACTOR.
2. A MINIMUM COVER DEPTH OF 3' SHALL BE MAINTAINED OVER ALL WATER LINES.
3. ALL WATER MAINS 3" AND GREATER IN DIAMETER IN THE RIGHT-OF-WAY SHALL BE CLASS 350 DIP AND ALL SERVICE LINES LESS THAN 3" IN DIAMETER IN THE RIGHT-OF-WAY SHALL BE TYPE K COPPER TUBING.
4. ALL BRASS FITTINGS MUST BE CERTIFIED LEAD FREE.

WATER LINE SEPARATION NOTES:

SANITARY SEWER: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY MEASURED EDGE TO EDGE FROM EXISTING OR PROPOSED SANITARY SEWER. IF THE ELEVATION OF THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SANITARY SEWER A CLEAR HORIZONTAL SEPARATION OF AT LEAST 3 FEET IS ALLOWABLE.
WHERE A WATER MAIN AND A SANITARY SEWER CROSS, THE MINIMUM VERTICAL SEPARATION IS 18 INCHES BETWEEN THE BOTTOM OF THE WATERLINE AND THE TOP OF THE SANITARY SEWER LINE. IF THE VERTICAL SEPARATION IS LESS THAN 18 INCHES OR THE WATERLINE PASSES UNDER THE SANITARY SEWER; THE WATER MAIN AND THE SEWER LINE SHALL BE DUCTILE IRON PIPE EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING. WATER MAINS SHOULD ONLY CROSS-SANITARY SEWER MAINS AT AN APPROXIMATE 90-DEGREE ANGLE.
THE MINIMUM DISTANCE OF THE WATER MAIN TO THE OUTSIDE EDGE OF MANHOLES SHALL BE 5 FEET WHEN THE SANITARY SEWER LINE IS AT LEAST 18 INCHES BELOW THE WATERLINE AND 10 FEET UNDER OTHER CIRCUMSTANCES.

STORM DRAIN: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY MEASURED EDGE TO EDGE FROM EXISTING OR PROPOSED STORM DRAIN. IF THE ELEVATION OF THE BOTTOM OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE TOP OF THE STORM DRAIN A CLEAR HORIZONTAL SEPARATION OF AT LEAST 3 FEET IS ALLOWABLE. WHERE A WATER MAIN AND STORM SEWER MAIN CROSS THE MINIMUM VERTICAL SEPARATION IS 12 INCHES AND THE CROSSING SHOULD BE AT AN APPROXIMATE 90-DEGREE ANGLE.

NATURAL GAS MAINS, CABLES, AND OTHER UTILITIES: OTHER UTILITIES SHALL HAVE A MINIMUM HORIZONTAL CLEARANCE OF 3 FEET AND VERTICAL CLEARANCE OF 12 INCHES, TO PERMIT PROPER MAINTENANCE OF THE WATER MAIN.

GAS AND OTHER UTILITIES WITH CATHODIC PROTECTION: WATERLINES ARE TO BE INSTALLED AWAY FROM STRAY CURRENTS AND OUTSIDE THE AREAS OF INFLUENCE CAUSED BY CORROSION PREVENTION SYSTEMS, OR OTHER SOURCES OF CORROSION CAUSING CURRENTS. WHEN THIS IS NOT PRACTICAL, THE IRON PIPE IS TO BE PROTECTED BY POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH ANSI/AWWA C105/A21.5, AND EXTENDING ON EITHER SIDE BEYOND THE LIMITS OF THE AREA OF INFLUENCE; OR BE PROTECTED BY OTHER APPROVED METHODS THAT ARE ACCEPTABLE TO THE WATER RESOURCE DEPARTMENT.

STRUCTURES AND TREES: A MINIMUM OF 10 FEET HORIZONTAL DISTANCE IS REQUIRED FROM ALL RETAINING WALLS OR STRUCTURES TO NEW WATERLINES. CARE SHALL BE TAKEN TO LOCATE WATERLINES OUTSIDE OF ZONES OF DISTURBANCE.

ENGINEERS UTILITY NARRATIVE:

1. CONTRACTOR TO SOFT DIG AND LOCATE ALL EXISTING UNDERGROUND ON SITE UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO LOCATE ALL EXISTING ABOVE GROUND UTILITIES AND COORDINATE RELOCATION WITH APPROPRIATE UTILITY COMPANY IF NECESSARY.
3. CONTRACTOR TO SEND UTILITY LOCATIONS AND SIZES TO CIVIL ENGINEER AND MEP PRIOR TO INSTALLATION OF ANY PROPOSED UTILITIES.
4. CONTRACTOR TO VERIFY MEP PLANS AND CIVIL ENGINEERING PLANS FOR TIE IN LOCATION OPTIONS PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO VERIFY UTILITY DESIGN WITH CIVIL ENGINEER AND MEP PRIOR TO CONSTRUCTION.
6. ALL OTHER UTILITIES (GAS, ELECTRICAL, CABLE, ETC.) ARE TO BE DETERMINED BY OTHERS.
7. CONTRACTOR TO STAKE OUT LOCATIONS OF ALL PROPOSED ABOVE GROUND UTILITY STRUCTURES FOR APPROVAL BY OWNER/ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
8. REFERENCE CITY OF ASHEVILLE AND MSD STANDARD SPECS AND DETAILS FOR ALL UTILITY CONSTRUCTION AND MAINTENANCE.
9. CONTRACTOR TO COORDINATE WITH CITY OF ASHEVILLE AND MSD ON CONNECTIONS TO EXISTING WATER LINES AND SEWER SYSTEMS.
10. THERE ARE NO KNOW EXISTING EASEMENTS NOR PROPOSED EASEMENTS FOR UTILITIES ASSOCIATED WITH THIS PLAN

BEFORE YOU DIG !
CALL 1-800-632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW !

LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT,PARK PLANNING AND DEVELOPMENT

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NORTH CAROLINA PROFESSIONAL SEAL 037773 ENGINEER MICHAEL J. MCMANIAN 7/6/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

UTILITY PLAN

Revision No.
04.26.2013 - ~~100% CD Owner Rev 1 (Permit Set)~~
04.29.2013 - 100% CD Owner Rev 1 (Permit Submission Ready Set
05.30.2014 - Updated Architecture
05.30.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

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Project Application No.	16-02300PZ
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Date	02.08.2013
Scale	1" = 20'
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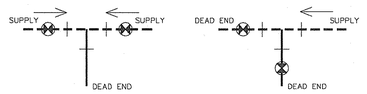
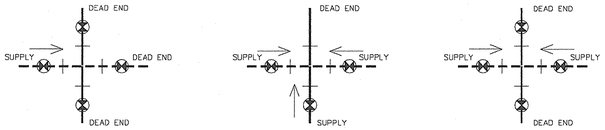


NOTES:
1. WHEN THERE IS ONLY ONE SUPPLY LEG FEEDING TWO DEAD END LEGS, PLACE VALVES ON DEAD END LEGS.
2. WHEN THERE ARE TWO SUPPLY LEGS FEEDING ONE DEAD END LEG, PLACE VALVES ON SUPPLY LEGS.
3. WHEN ALL THREE LEGS ARE SUPPLY,ENGINEER'S CHOICE.
4. CITY MAY DESIGNATE A CURRENT DEAD END LEG AND A FUTURE SUPPLY LEG ACCORDING TO WATER PLANNING AND REQUIRE VALVE PLACEMENT ACCORDINGLY.
5. ON HYDRANT TEE, ONE VALVE IS ALWAYS ON HYDRANT LEG.

TWO VALVES AT A TEE

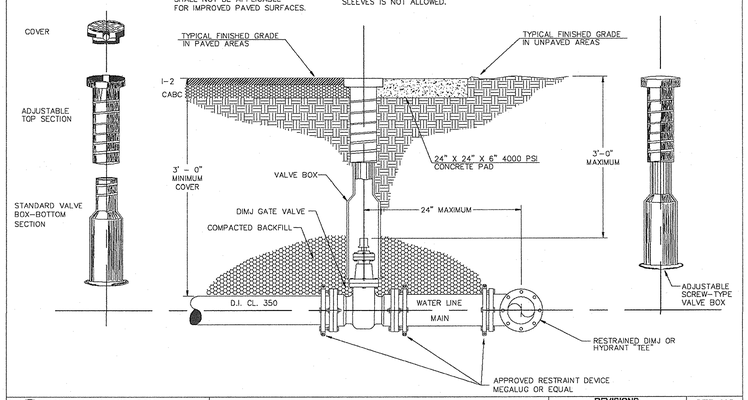


NOTES:
1. WHEN THERE IS ONLY ONE SUPPLY AND THREE DEAD END LEGS, PLACE VALVES ON DEAD END LEGS.
2. WHEN THERE ARE THREE SUPPLY LEGS AND ONE DEAD END LEG, PLACE VALVES ON SUPPLY LEGS.
3. WHEN THERE ARE TWO SUPPLY LEGS AND TWO DEAD END LEGS, PLACE VALVES ON ALL FOUR LEGS.
4. CITY MAY REQUIRE VALVE PLACEMENT BASED ON CURRENT OR FUTURE NEEDS.
5. WHEN ONE LEG AT A INTERSECTION IS A HYDRANT LEG,VALVE MUST BE PLACED ON A HYDRANT LEG. VALVING ON REMAINING LEGS TO BE PLACED AS THOUGH THEY MADE UP A TEE.
6. A "SUPPLY LEG" IS ANY LEG CONNECTED TO THE TREATED WATER SOURCE BY PIPING EQUAL AND OR GREATER THAN ITS SIZE AND SEPARATE FROM THE TEE OR CROSS BEING CONSIDERED.

THREE AND FOUR VALVES AT A INTERSECTION

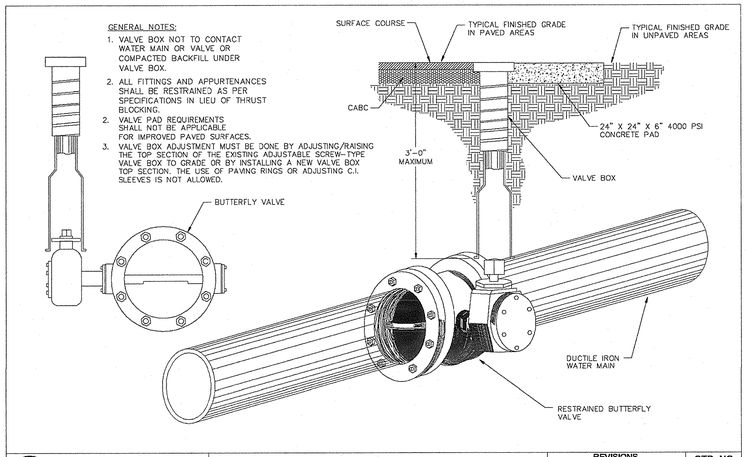
City of Asheville, NC WATER ENGINEERING DIVISION	TYPICAL VALVING CONFIGURATION	REVISIONS DATE / DESCRIPTION 6/2009 REVISED DETAIL FROM 6.17	STD. NO. W.17

GENERAL NOTES:
1. VALVE BOX SHALL NOT CONTACT WATER MAIN OR VALVE.
2. VALVE PAD REQUIREMENTS SHALL NOT BE APPLICABLE FOR IMPROVED PAVED SURFACES.
3. VALVE BOX ADJUSTMENT MUST BE DONE BY ADJUSTING/RAISING THE TOP SECTION OF THE EXISTING ADJUSTABLE SCREW-TYPE VALVE BOX TO GRADE OR BY INSTALLING A NEW VALVE BOX TOP SECTION. THE USE OF PAVING RINGS OR ADJUSTING C.I. SLEEVES IS NOT ALLOWED.

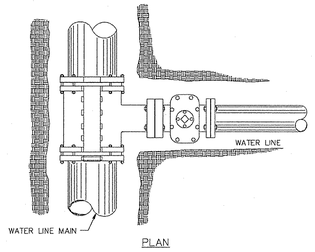


City of Asheville, NC WATER ENGINEERING DIVISION	TYPICAL VALVE & VALVE BOX INSTALLATION / ADJUSTMENT	REVISIONS DATE / DESCRIPTION 6/2009 REVISED DETAIL FROM 6.06	STD. NO. W.18

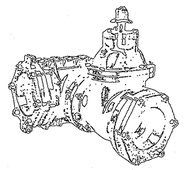
GENERAL NOTES:
1. VALVE BOX NOT TO CONTACT WATER MAIN OR VALVE OR COMPACTED BACKFILL UNDER VALVE BOX.
2. ALL FITTINGS AND APPURTENANCES SHALL BE RESTRAINED AS PER SPECIFICATIONS IN LIEU OF THRUST BLOCKING.
2. VALVE PAD REQUIREMENTS SHALL NOT BE APPLICABLE FOR IMPROVED PAVED SURFACES.
3. VALVE BOX ADJUSTMENT MUST BE DONE BY ADJUSTING/RAISING THE TOP SECTION OF THE EXISTING ADJUSTABLE SCREW-TYPE VALVE BOX TO GRADE OR BY INSTALLING A NEW VALVE BOX TOP SECTION. THE USE OF PAVING RINGS OR ADJUSTING C.I. SLEEVES IS NOT ALLOWED.



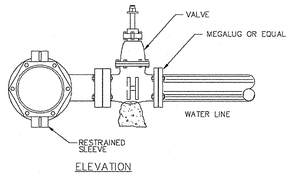
City of Asheville, NC WATER ENGINEERING DIVISION	TYPICAL BUTTERFLY VALVE INSTALLATION	REVISIONS DATE / DESCRIPTION 6/2009 REVISED DETAIL FROM 6.20	STD. NO. W.19



PLAN



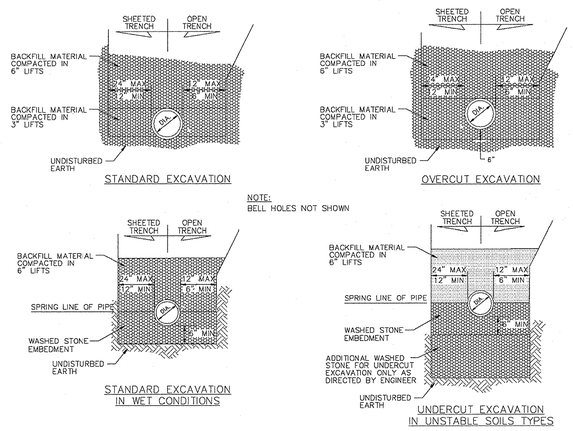
TAPPING SLEEVE



ELEVATION

NOTES:
1. TAPPING SLEEVE WILL BE MUELLER #H-615 OR APPROVED EQUAL.
2. APPROVED RESILIENT SEAT TAPPING VALVE.
3. SOLID CONCRETE OR BRICK BLOCKING WILL BE USED AS FOOTING FOR DUCTILE IRON PIPE.
4. ALL FITTINGS AND APPURTENANCES SHALL BE RESTRAINED AS PER IN LIEU OF THRUST BLOCKING SPECIFICATIONS

City of Asheville, NC WATER ENGINEERING DIVISION	TAPPING SLEEVE AND VALVE ASSEMBLY	REVISIONS DATE / DESCRIPTION 6/2009 REVISED DETAIL FROM 6.22	STD. NO. W.20



GENERAL NOTES:
1. CONSTRUCTION OF TRENCHES SHALL BE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS. CONTRACTOR SHALL BE RESPOSIBLE FOR COMPLIANCE WITH ALL APPLICABLE REGULATIONS.
2. NO BOULDERS OR STONES IN EXCESS OF 4" IN SIZE SHALL BE USED AS PART OF THE INITIAL BACKFILL.
3. PIPE BEDDING MATERIAL SHALL BE # 57 WASHED STONE.
4. SELECT BACKFILL MATERIAL SHALL BE CLASS I OR II AS PER NCDOT STANDARD SPECIFICATIONS.

City of Asheville, NC WATER ENGINEERING DIVISION	TYPICAL TRENCH DETAIL	REVISIONS DATE / DESCRIPTION 6/2009 REVISED DETAIL FROM 6.19	STD. NO. W.21

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA

LandDesign
205 S. Payne St., Alexandria, VA 22314
V: 703.549.7194 F: 703.549.4991
www.LandDesign.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037773 ENGINEER J. MCMAHON 7/6/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

UTILITY DETAILS

Revision No.
09.09.2013 - ~~Notes/Clarifications/Updates~~
09.09.2013 - 100% CD Owner Rev. Lifeand Submission Ready Set
02.13.2014 - Updated Architecture
04.04.2014 - Updated Site Plan & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
16-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
AS NOTED

Sheet
C-3.1

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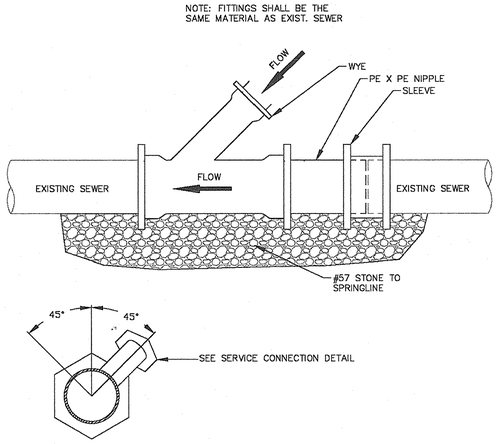
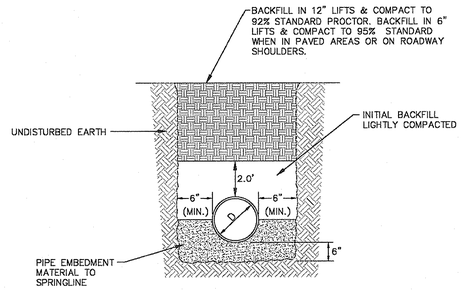


NOT FOR USE ON NEW CONSTRUCTION.

STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
SERVICE CONNECTION TO EXISTING SEWER
APPROVED: FEBRUARY 25, 2010 | 2.07–01



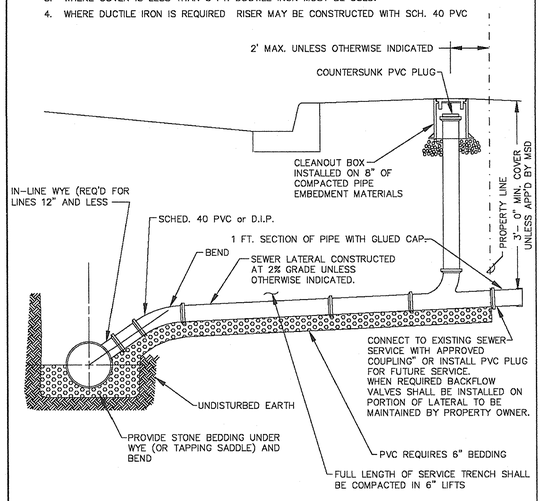
TRENCH FOR PVC PIPE (15" DIA. AND LESS)

NOT TO SCALE

NOTES:
1) WALL THICKNESS SHALL BE SDR 35.
2) PVC PIPES REQUIRE #57 WASHED STONE PIPE EMBEDMENT MATERIALS.
3) THIS DETAIL IS VALID FOR PVC SEWER PIPE INSTALLED AT DEPTHS OF UP TO 20 FEET.
4) PVC PIPE NOT ALLOWED WITH LESS THAN 3'–0" COVER.
5) NO BOULDERS OR STONES WILL BE USED IN INITIAL BACKFILL.
6) WHEN TRENCH IS SUBJECT TO INUNDATION, EMBEDMENT MATERIALS MUST EXTEND TO TOP OF PIPE.

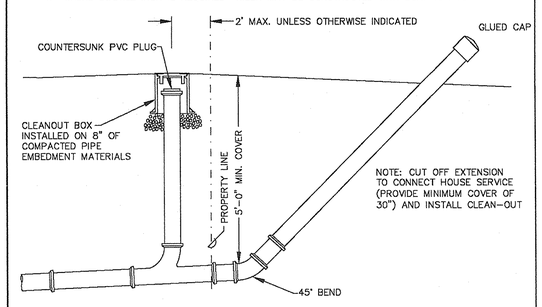
STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
TRENCH FOR PVC PIPE
APPROVED: FEBRUARY 25, 2010 | 2.04–01

NOTES:
1. WYE CONNECTIONS ARE STANDARD FOR NEW SEWER MAIN CONSTRUCTION.
2. FORCE MAINS CARRYING DOMESTIC WASTEWATER FROM SANITARY CONVENIENCES WITHIN A SINGLE BUILDING, MAY BE CONNECTED TO A 4" MSD GRAVITY SERVICE LINE PROVIDED THAT GRAVITY FLOW WILL BE MAINTAINED DURING PROPOSED MAXIMUM DISCHARGE RATE FOR THE GRINDER OR EFFLUENT PUMP(S).
3. WHERE COVER IS LESS THAN 3 FT. DUCTILE IRON MUST BE USED.
4. WHERE DUCTILE IRON IS REQUIRED RISER MAY BE CONSTRUCTED WITH SCH. 40 PVC



STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
SANITARY SEWER SERVICE LESS THAN 5' DEEP
APPROVED: FEBRUARY 25, 2010 | 2.07–03

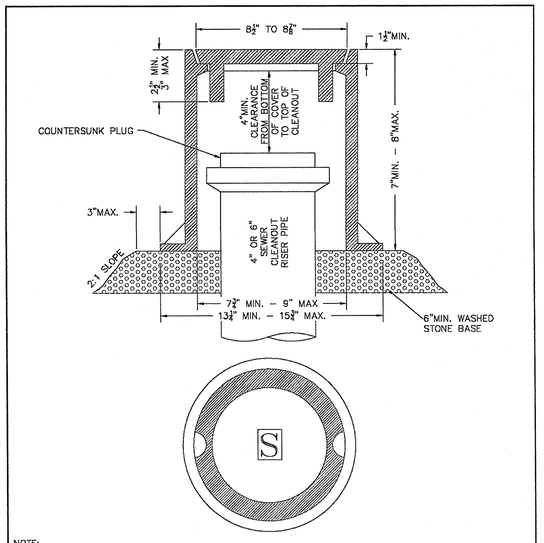
NOTES:
1. WYE CONNECTIONS ARE STANDARD FOR NEW SEWER MAIN CONSTRUCTION.
2. FORCE MAINS CARRYING DOMESTIC WASTEWATER FROM SANITARY CONVENIENCES WITHIN A SINGLE BUILDING, MAY BE CONNECTED TO A 4" MSD GRAVITY SERVICE LINE PROVIDED THAT GRAVITY FLOW WILL BE MAINTAINED DURING PROPOSED MAXIMUM DISCHARGE RATE FOR THE GRINDER OR EFFLUENT PUMP(S).
3. WHERE COVER IS LESS THAN 3 FT. DUCTILE IRON MUST BE USED.
4. WHERE DUCTILE IRON IS REQUIRED RISER MAY BE CONSTRUCTED WITH SCH. 40 PVC



CONNECT TO EXISTING SEWER SERVICE WITH APPROVED COUPLING" OR INSTALL PVC PLUG FOR FUTURE SERVICE. WHEN REQUIRED BACKFLOW VALVES SHALL BE INSTALLED ON PORTION OF LATERAL TO BE MAINTAINED BY PROPERTY OWNER.

SEE DETAIL 2.07–03 FOR ADDITIONAL NOTES

STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
SANITARY SEWER SERVICE MORE THAN 5' DEEP
APPROVED: FEBRUARY 25, 2010 | 2.07–04



NOTE:
1. ALL SANITARY SEWER CLEAN OUT BOXES AND COVERS SHALL BE MANUFACTURED FROM GRAY IRON (CAST IRON) MEETING THE REQUIREMENTS OF AWWA C110 AND ASTM A536.
2. SANITARY SEWER CLEAN OUT BOXES AND COVERS MANUFACTURED BY U.S FOUNDRY (HAND HOLE RING & FC COVER, MODEL #7610), EAST JORDAN IRON WORKS (HEAVY DUTY MONUMENT BOX, MODEL #1574) OR APPROVED EQUAL.

MINIMUM WEIGHT CHART	
	MIN. WEIGHT–LBS.
COVER	25
BASE	40
TOTAL UNIT	65

STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
CLEANOUT BOX
APPROVED: FEBRUARY 25, 2010 | 2.07–05

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA
LandDesign.
200 S. Pegram St. Alexandria, VA 22314
V: 703.549.7784 F: 703.549.6994
www.LandDesign.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027773 J. MCMAHON 7/6/16

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

UTILITY DETAILS

Revision No.
01.09.2013 - Initial Submittal
09.09.2013 - MSD-CO Owner Rev Lifsmith Submission Redlines
03.13.2014 - Updated Architecture
06.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. 16-02300PZ
Project No. 2012019
Date 02.06.2013
Scale AS NOTED
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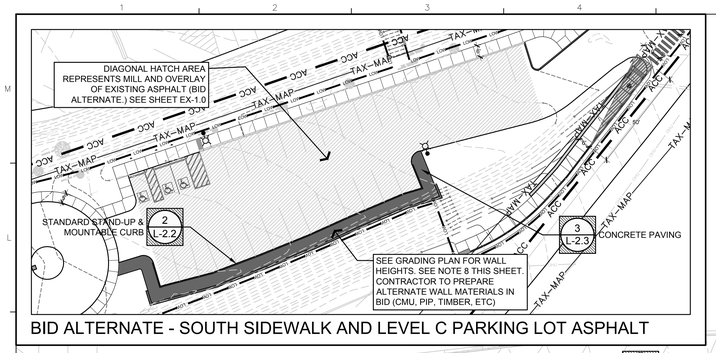
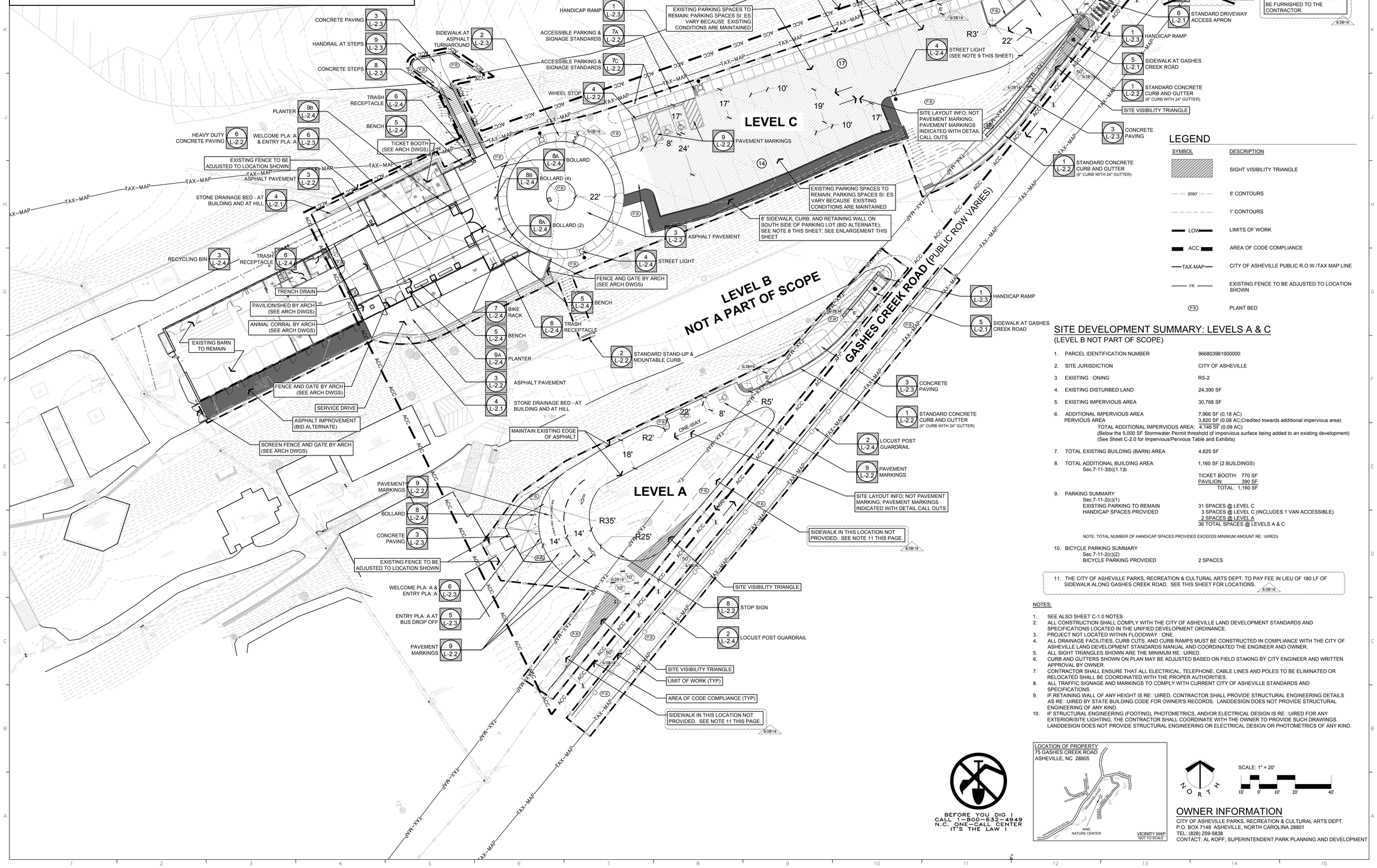


BID ALTERNATE - SOUTH SIDEWALK AND LEVEL C PARKING LOT ASPHALT



LEGEND

SYMBOL	DESCRIPTION
	SIGHT VISIBILITY TRIANGLE
208'	5' CONTOURS
	1' CONTOURS
LOW	LIMITS OF WORK
ACC	AREA OF CODE COMPLIANCE
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN
P.B.	PLANT BED

SITE DEVELOPMENT SUMMARY: LEVELS A & C

(LEVEL B NOT PART OF SCOPE)

1. PARCEL IDENTIFICATION NUMBER — 966803961900000
2. SITE JURISDICTION — CITY OF ASHEVILLE
3. EXISTING ONING — RS-2
4. EXISTING DISTURBED LAND — 24,390 SF
5. EXISTING IMPERVIOUS AREA — 30,768 SF
6. ADDITIONAL IMPERVIOUS AREA — 7,966 SF (0.18 AC)
   PERVIOUS AREA — 3,820 SF (0.08 AC;Credited towards additional impervious area)
   TOTAL ADDITIONAL IMPERVIOUS AREA: 4,146 SF (0.09 AC)
   (Below the 5,000 SF Stormwater Permit threshold of impervious surface being added to an existing development)
   (See Sheet C-2.0 for Impervious/Pervious Table and Exhibits)
7. TOTAL EXISTING BUILDING (BARN) AREA — 4,625 SF
8. TOTAL ADDITIONAL BUILDING AREA — 1,160 SF (2 BUILDINGS)
   Sec.7-11-3(b)(1.1)b
   TICKET BOOTH: 770 SF
   PAVILION: 390 SF
   TOTAL: 1,160 SF
9. PARKING SUMMARY
   Sec.7-11-2(c)(1)
   EXISTING PARKING TO REMAIN — 31 SPACES @ LEVEL C
   HANDICAP SPACES PROVIDED — 3 SPACES @ LEVEL C (INCLUDES 1 VAN ACCESSIBLE)
   2 SPACES @ LEVEL A
   36 TOTAL SPACES @ LEVELS A & C
   NOTE: TOTAL NUMBER OF HANDICAP SPACES PROVIDED EXCEEDS MINIMUM AMOUNT RE UIRED)
10. BICYCLE PARKING SUMMARY
    Sec.7-11-2(c)(2)
    BICYCLE PARKING PROVIDED — 2 SPACES
11. THE CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT. TO PAY FEE IN LIEU OF 180 LF OF SIDEWALK ALONG GASHES CREEK ROAD. SEE THIS SHEET FOR LOCATIONS. 6/28/16

NOTES:

1. SEE ALSO SHEET C-1.0 NOTES
2. ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF ASHEVILLE LAND DEVELOPMENT STANDARDS AND SPECIFICATIONS LOCATED IN THE UNIFIED DEVELOPMENT ORDINANCE.
3. PROJECT NOT LOCATED WITHIN FLOODWAY ONE.
4. ALL DRAINAGE FACILITIES, CURB CUTS, AND CURB RAMPS MUST BE CONSTRUCTED IN COMPLIANCE WITH THE CITY OF ASHEVILLE LAND DEVELOPMENT STANDARDS MANUAL AND COORDINATED THE ENGINEER AND OWNER.
5. ALL SIGHT TRIANGLES SHOWN ARE THE MINIMUM RE UIRED.
6. CURB AND GUTTERS SHOWN ON PLAN MAY BE ADJUSTED BASED ON FIELD STAKING BY CITY ENGINEER AND WRITTEN APPROVAL BY OWNER.
7. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL, TELEPHONE, CABLE LINES AND POLES TO BE ELIMINATED OR RELOCATED SHALL BE COORDINATED WITH THE PROPER AUTHORITIES.
8. ALL TRAFFIC SIGNAGE AND MARKINGS TO COMPLY WITH CURRENT CITY OF ASHEVILLE STANDARDS AND SPECIFICATIONS.
9. IF RETAINING WALL OF ANY HEIGHT IS RE UIRED, CONTRACTOR SHALL PROVIDE STRUCTURAL ENGINEERING DETAILS AS RE UIRED BY STATE BUILDING CODE FOR OWNER'S RECORDS. LANDDESIGN DOES NOT PROVIDE STRUCTURAL ENGINEERING OF ANY KIND.
10. IF STRUCTURAL ENGINEERING (FOOTING), PHOTOMETRICS, AND/OR ELECTRICAL DESIGN IS RE UIRED FOR ANY EXTERIOR/SITE LIGHTING, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO PROVIDE SUCH DRAWINGS. LANDDESIGN DOES NOT PROVIDE STRUCTURAL ENGINEERING OR ELECTRICAL DESIGN OR PHOTOMETRICS OF ANY KIND.

BEFORE YOU DIG ! CALL 1-800-632-4949 N.C. ONE-CALL CENTER IT'S THE LAW !

LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

SCALE: 1" = 20'

10' 0' 10' 20' 40'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT,PARK PLANNING AND DEVELOPMENT

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA

LandDesign.
200 S. Pyron St., Alexandria, VA 22314
V: 703.549.7784 F: 703.549.4984
www.LandDesign.com

NORTH CAROLINA LICENSED LANDSCAPE ARCHITECT 1484 July 6, 2016 STEPHANIE A. PANKOWSKI

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

SITE LAYOUT PLAN

Revision No.
09.09.2013 - 100% CD Owner Rev 1 (Permit Submission Ready Set)
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. 16-02300PZ

Project No. 2012019

Date 02.08.2013

Scale 1" = 20'

Sheet L-2.0

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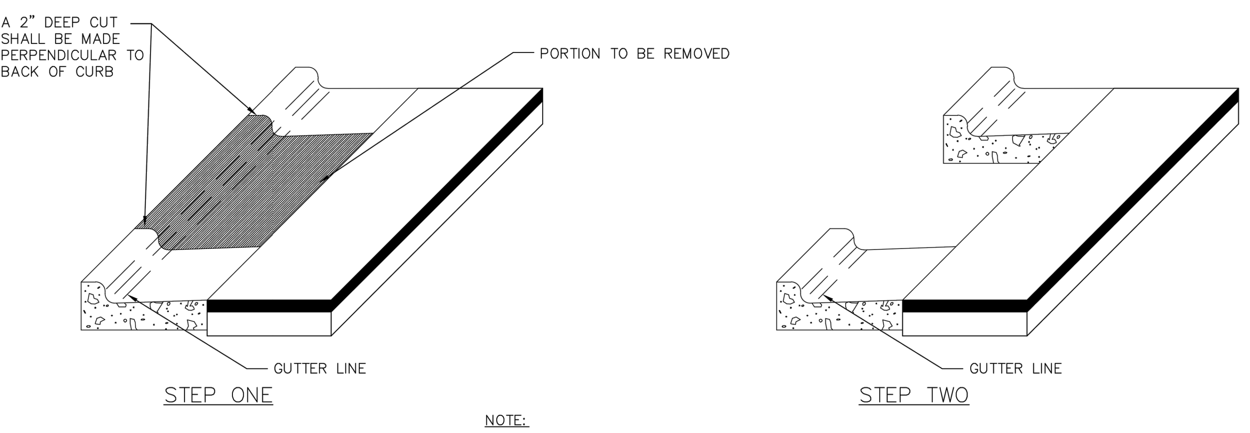


NOTE:

CURB AND GUTTER SECTION SHALL BE REMOVED IN ACCORDANCE WITH DRIVEWAY WIDTH APPROVED BY THE CITY OF ASHEVILLE.

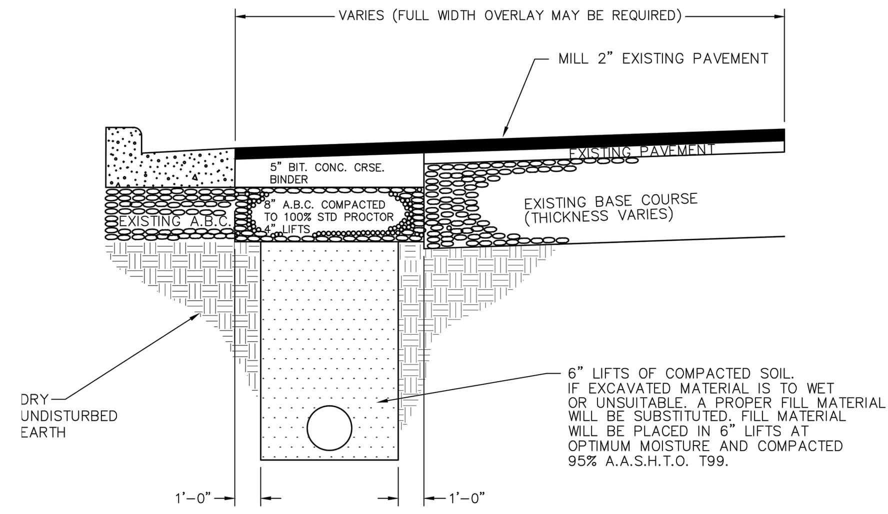
IF PERPENDICULAR CUT IS WITHIN 12" FROM A JOINT, THEN THE PARALLEL CUT SHALL BE MADE TO THAT JOINT.

City of Asheville, NC
Standard Specifications and Details Manual

STANDARD METHOD OF REMOVING EXISTING CURB FOR A DRIVEWAY APRON INSTALLATION

REVISIONS		STD. NO.
DATE	DESCRIPTION	3.12

1 STANDARD METHOD OF REMOVING EXISTING CURB
L-2.1



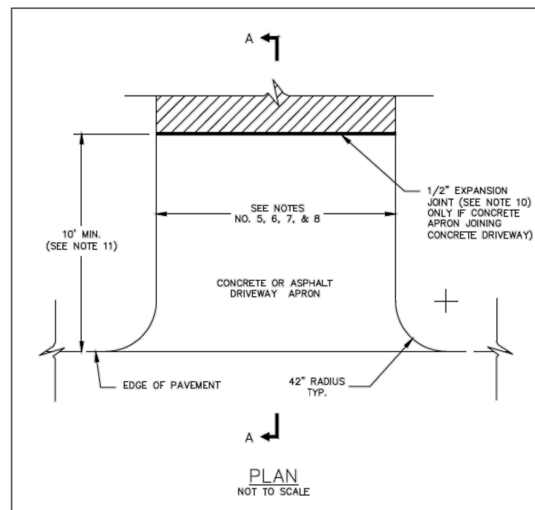
NOTE:
1. EDGES TO BE SAWED WITH A CONCRETE SAW TO A NEAT SQUARED EDGE BROOMED CLEAN OF DUST AND DRY BEFORE TACK COAT IS APPLIED.
2. EDGES AND OVERLAY AREAS TO BE TACKED WITH CRS-1OR CRD-2.
3. 6" LIFTS OR SUITABLE SOIL OR ABC AT OPTIMUM MOISTURE COMPACTED 100% A.A.S.H.T.O. T99, ALL WET OR UNSUITABLE MATERIAL TO BE REMOVED FROM SITE PRIOR TO BACKFILL.
4. N.C.D.O.T. APPROVED PATCH DETAIL.
5. ALL O.S.H.A. REQUIREMENTS SHALL BE ADHERED TO FOR TRENCHING OPERATIONS.

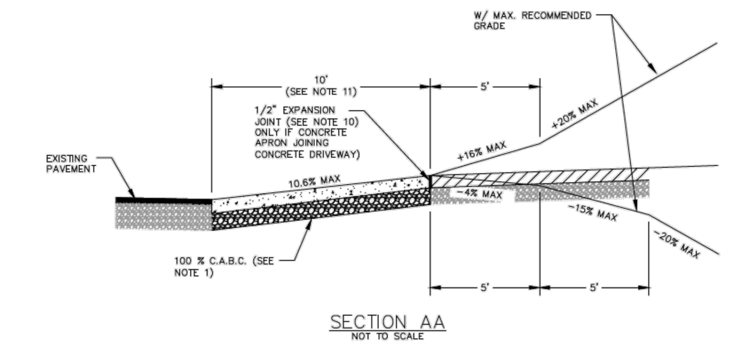
City of Asheville, NC
Standard Specifications and Details Manual

PAVEMENT REMOVAL AND REPLACEMENT

REVISIONS		STD. NO.
DATE	DESCRIPTION	5.01

3 STANDARD PAVEMENT REMOVAL AND REPLACEMENT
L-2.1





NOTES:
1. RESIDENTIAL AND COMMERCIAL DRIVEWAYS – 6" OF 100% CABC WITH 6" CONCRETE FOR FULL LENGTH & DEPTH OF DRIVEWAY APRON.
2. MAXIMUM DRIVEWAY APRON SLOPE BEGINING AT EDGE OF PAVEMENT TO BE 10.6% UNLESS OTHERWISE APPROVED BY INSPECTOR.
3. RADII SHALL NOT ENCROACH ONTO ADJACENT PROPERTIES.
4. SIDEWALK SECTION SHALL NOT BE REQUIRED ALONG STREETS WHICH ARE NOT PLANNED FOR SIDEWALK.
5. DRIVEWAY APRON MUST EXTEND A MINIMUM OF 10 FT FROM EDGE OF PAVEMENT.
6. RESIDENTIAL DRIVEWAYS TO BE 12 FT TO 18 FT IN WIDTH.
7. COMMERCIAL ACCESS APRON (ONE-WAY) DRIVEWAYS TO BE 14 FT TO 20 FT IN WIDTH.
8. COMMERCIAL ACCESS APRON (TWO-WAY) DRIVEWAYS TO BE 24 FT TO 36 FT IN WIDTH.
9. ALL CONCRETE SHALL BE A MINIMUM OF 4000 P.S.I.
10. INCH EXPANSION JOINTS TO BE FILLED WITH JOINT FILLER AND SEALER PLACED BETWEEN ALL RIGID OBJECTS AS SHOWN EXTENDING TO THE FULL DEPTH OF THE CONCRETE WITH THE TOP OF THE FILLER ½ INCH BELOW THE FINISHED SURFACE. JOINT FILLER MATERIALS SHALL BE IN ACCORDANCE WITH THE "JOINT MATERIALS" SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.
11. IF CITY OR CONTRACTED STAFF IS CONSTRUCTING THE DRIVEWAY ACCESS APRON, CONSTRUCTION WILL NOT EXTEND OUTSIDE THE LIMITS OF THE EXISTING ROAD RIGHT-OF-WAY, UNLESS APPROPRIATE EASEMENT OR RIGHT OF ENTRY IS GIVEN TO THE CITY BY PROPERTY OWNER.

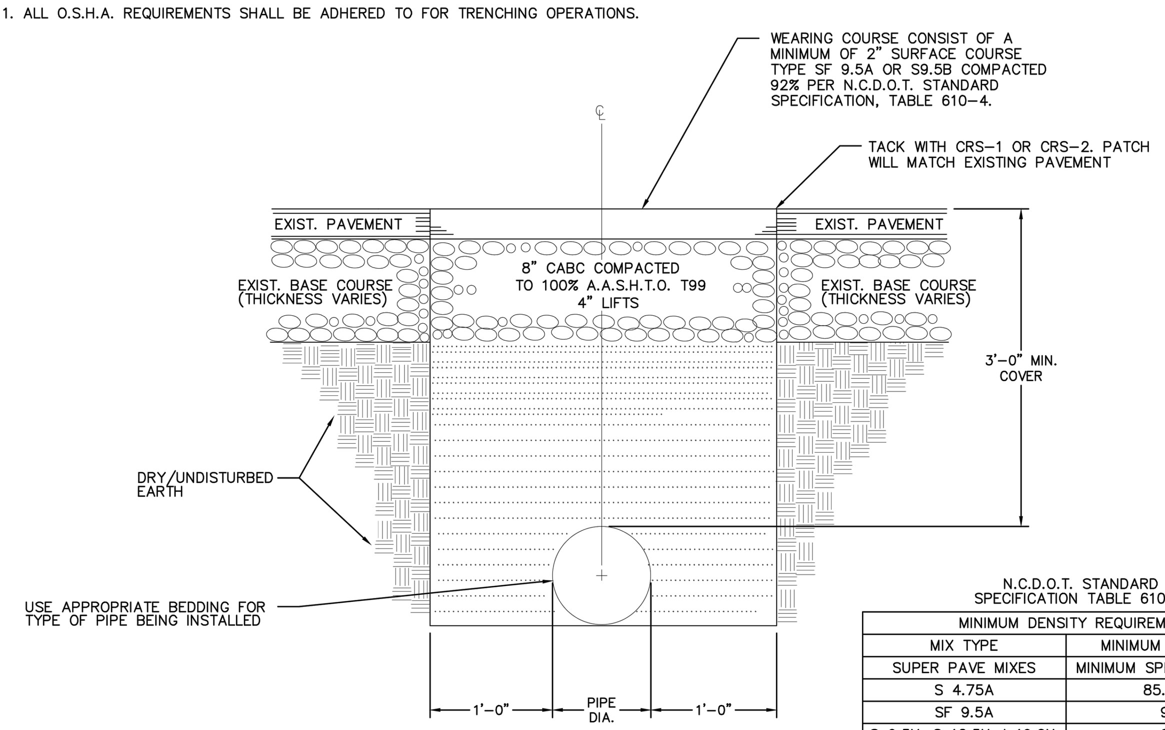
City of Asheville, NC
Standard Specifications and Details Manual

STANDARD DRIVEWAY ACCESS APRON WITHOUT CURB & WITHOUT SIDEWALK

REVISIONS		STD. NO.
DATE	DESCRIPTION	3.15C
6/9/15	ADDED NOTE 11	

6 STANDARD DRIVEWAY ACCESS APRON
L-2.1

NOTE:
1. ALL O.S.H.A. REQUIREMENTS SHALL BE ADHERED TO FOR TRENCHING OPERATIONS.



N.C.D.O.T. STANDARD SPECIFICATION TABLE 610-4

MINIMUM DENSITY REQUIREMENTS	
MIX TYPE	MINIMUM % OF Gmm
SUPER PAVE MIXES	MINIMUM SPECIFIC GRAVITY
S 4.75A	85.0(a,b)
SF 9.5A	90.0
S 9.5X, S 12.5X, I 19.0X, B 25.0X, B 37.5X	92.0

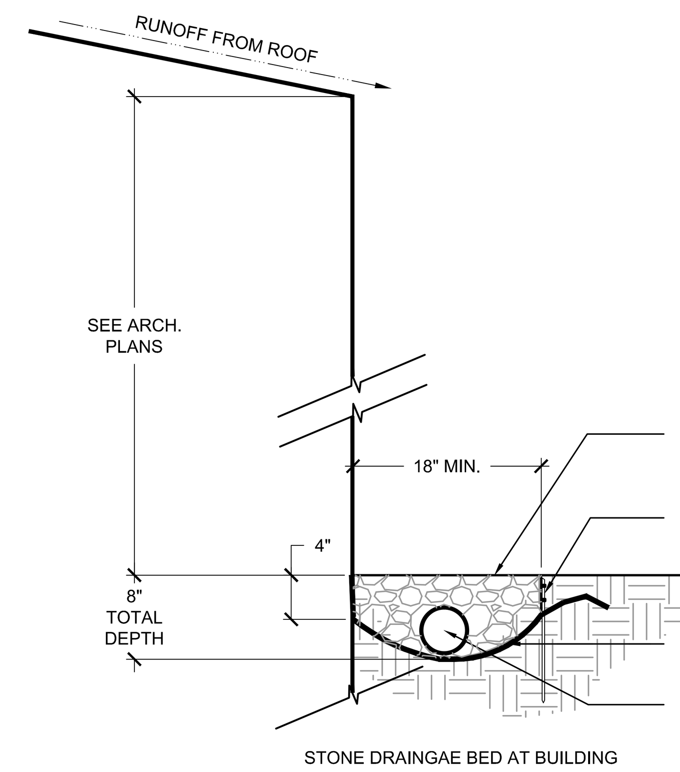
City of Asheville, NC
Standard Specifications and Details Manual

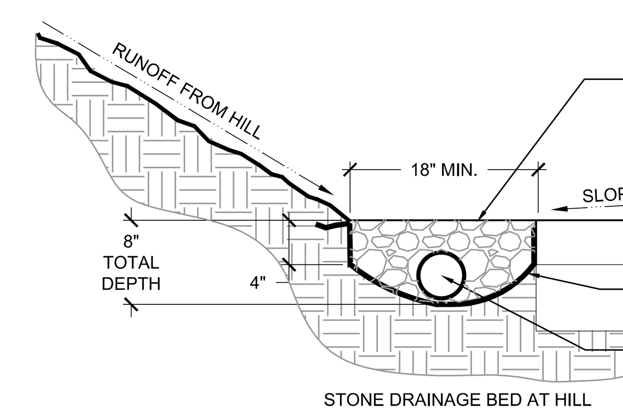
ASPHALT DRIVEWAY PAVEMENT REPLACEMENT

REVISIONS		STD. NO.
DATE	DESCRIPTION	5.05

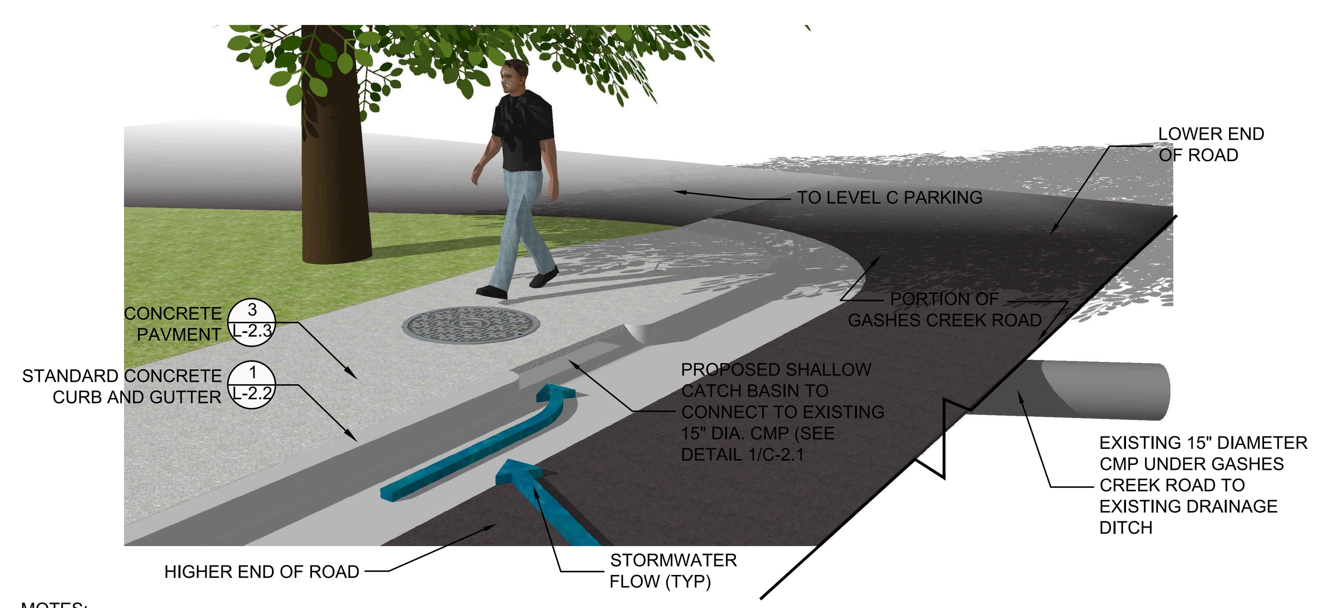
2 ASPHALT DRIVEWAY PAVEMENT REPLACEMENT
L-2.1

NOTES:
1. SEE CIVIL ENGINEER'S PLAN FOR ALL CONDUIT CONNECTIONS TO STORM DRAIN SYSTEM AND PIPE .



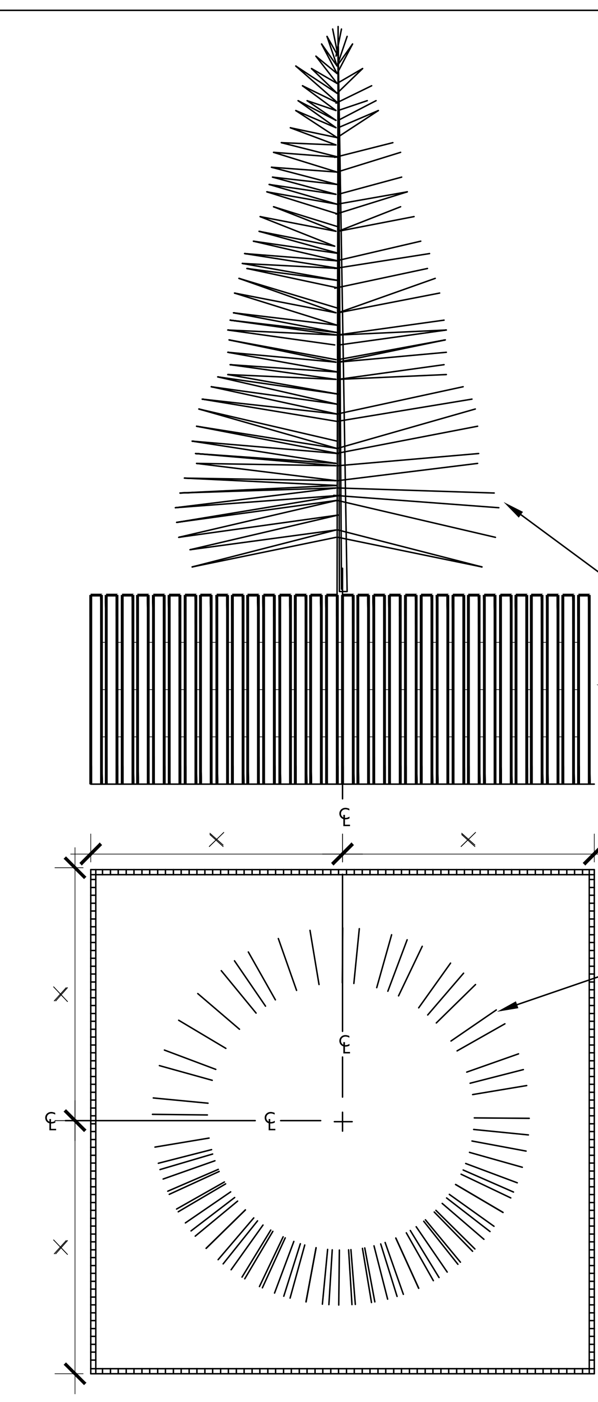


4 STONE DRAINAGE BED - AT BUILDING AND AT HILL
L-2.1 SECTIONS 1"=1'-0"



MOTES:
1. PRIOR TO CONSTRUCTION, ALL STRUCTURAL CROSS SECTIONS SHALL BE REVIEWED BY A UALIFIED STRUCTURAL AND/OR GEOTECHNICAL ENGINEER, AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT
2. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS RE UIRED AND REPORT ANY MAJOR DISCREPANCIES BETWEEN CONTRACT DRAWINGS AND FIELD DIMENSIONS TO THE OWNER PRIOR TO COMMENCING WORK
3. CONTRACTOR SHALL DETERMINE THE LOCATION OF ABOVE GRADE AND UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID DAMAGE TO UTILITIES
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
4. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE OWNER

5 SIDEWALK AT GASHES CREEK ROAD
L-2.1 PICTORIAL NTS



7 TREE PROTECTION FENCE
L-2.1 PLAN AND SECTION NTS

NOTE:
1. "DRAFT" LABEL APPLIED TO CITY OF ASHEVILLE (COA) STANDARD DETAILS DENOTES THOSE DETAILS STILL AVAILABLE FOR PUBLIC REVIEW AND COMMENT ON THE CITY'S WEBSITE AS OF PLAN DATE 9-9-2013. HOWEVER FOR PURPOSES OF THIS PLAN SET, OWNER AND COA PUBLIC WORKS HAVE AGREED TO USE THE "DRAFT" DETAILS AND SPECS AS THE MIN. STANDARD FOR CONSTRUCTION.

Jul 05, 2016 - 1:18pm
\\alexdc\projects\2012\2012019\Cad\Exhibits\CD Set\L-2.1_2019-CD-Site Details.dwg

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA
LandDesign
200 S. Peyton St., Alexandria, VA 22314
V: 703.549.7784 F: 703.549.4984
www.LandDesign.com
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1424 July 6, 2016 STEPHANIE A. PANKIEWICZ

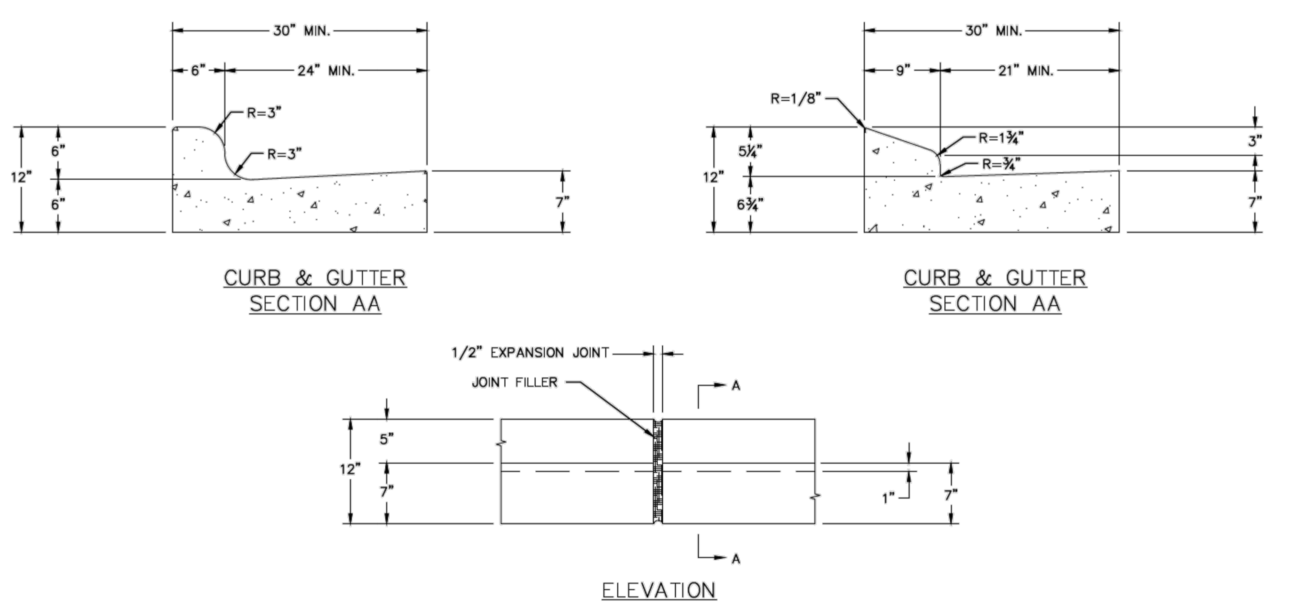
Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 9668039619000000

SITE DETAILS - HARDSCAPE

Revision No.
09.09.2013 - ~~100% CD/Permit Submission Set~~
09.09.2013 - 100% CD Owner Rev 1/Permit Submission Ready Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. 16-02300PZ
Project No. 2012019
Date 02.08.2013
Scale 1" = 20'
Sheet L-2.1

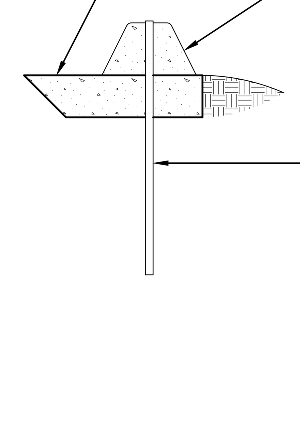


NOTES:
1. CONCRETE SHALL BE 4,000 P.S.I.
2. A 1/2 INCH EXPANSION JOINT FILLED WITH JOINT FILLER SHALL BE PLACED NO FARTHER THAN 50 FEET APART OR AT ALL RIGID OBJECTS.
3. JOINT MATERIALS SHALL BE ACCORDANCE WITH THE JOINT MATERIALS SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.
4. A NON SEALED 3/4 INCH DEEP TOOL JOINT SHALL BE PLACED EVERY 10 FEET UNLESS CONSTRUCTED WITH SIDEWALK THAT ABUTS BACK OF CURB, THEN TOOL JOINT SHALL BE PLACED AS SPACED AND INLINE WITH SIDEWALK TOOL JOINT.

City of Asheville, NC Standard Specifications and Details Maunual	STANDARD CONCRETE CURB AND GUTTER	REVISIONS DATE	DESCRIPTION	STD. NO.
		6/9/15	REVISED NOTE 4	3.11

1 L-2.2 STANDARD CONCRETE CURB AND GUTTER

6/28/16

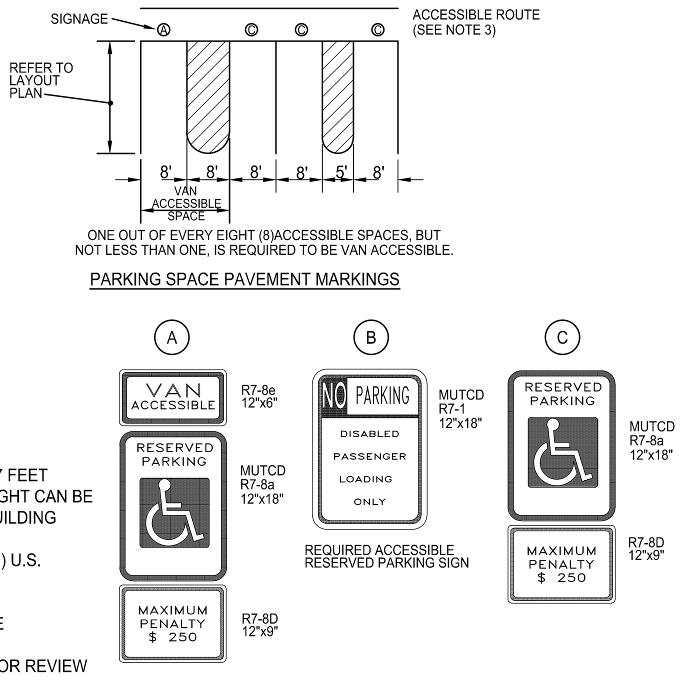


4 L-2.2 WHEEL STOP

SECTION NTS

ACCESSIBLE PARKING REQUIREMENTS

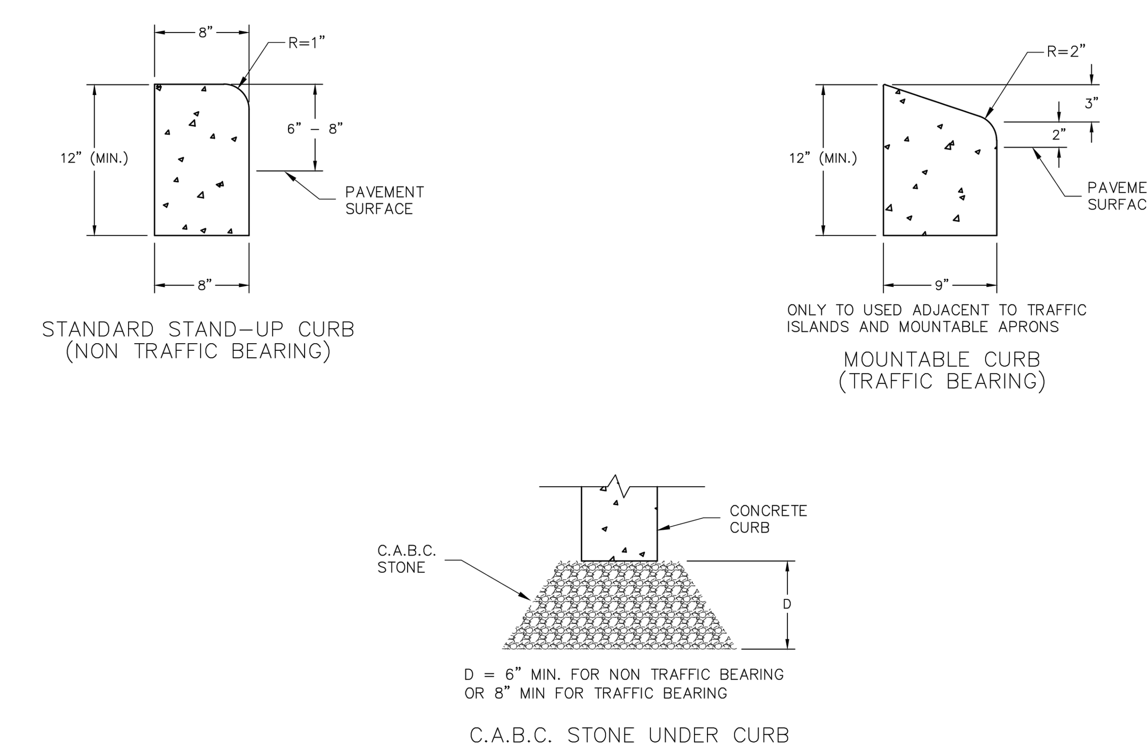
TOTAL PARKING SPACES PROVIDED	MINIMUM NUMBER OF ACCESSIBLE SPACES SPACES REQUIRED	MINIMUM NUMBER OF ACCESSIBLE SPACES REQUIRED TO BE VAN ACCESSIBLE
1 TO 25	1	1
26 TO 50	2	1
51 TO 75	3	1
76 TO 100	4	1
101 TO 150	5	1
151 TO 200	6	1
201 TO 300	7	1
301 TO 400	8	1
401 TO 500	9	2
501 TO 1000	2% OF TOTAL	1 IN EVERY 6 ACCESSIBLE SPACES
1001 AND OVER	20 PLUS 1 FOR EACH 100 OVER 1000	1 IN EVERY 6 ACCESSIBLE SPACES
SECTION 4.1.2 (5) OF THE AMERICANS WITH DISABILITIES ACT (ADA). SEE 4.1,2,(5) (d) FOR MEDICAL CARE FACILITIES		



NOTES:
1. ALL 12"x18" ACCESSIBLE SIGNS (R7-8a & R7-1) SHALL BE MOUNTED AT 7 FEET FROM GRADE TO BOTTOM EDGE OF SIGN FACE (MUTCD). MOUNTING HEIGHT CAN BE REDUCED TO 5 FEET IF PLACED IN AN AREA BETWEEN SIDEWALK AND BUILDING FACE IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT.
3. IF ACCESSIBLE ROUTE IS A RAISED SIDEWALK AREA, THEN RAMPS ARE REQUIRED AT LOADING ZONE AREA.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF SIGNS AND POST FOR REVIEW AND WRITTEN APPROVAL BY OWNER. WOOD POST SHALL BE 4X4 CEDAR POST.

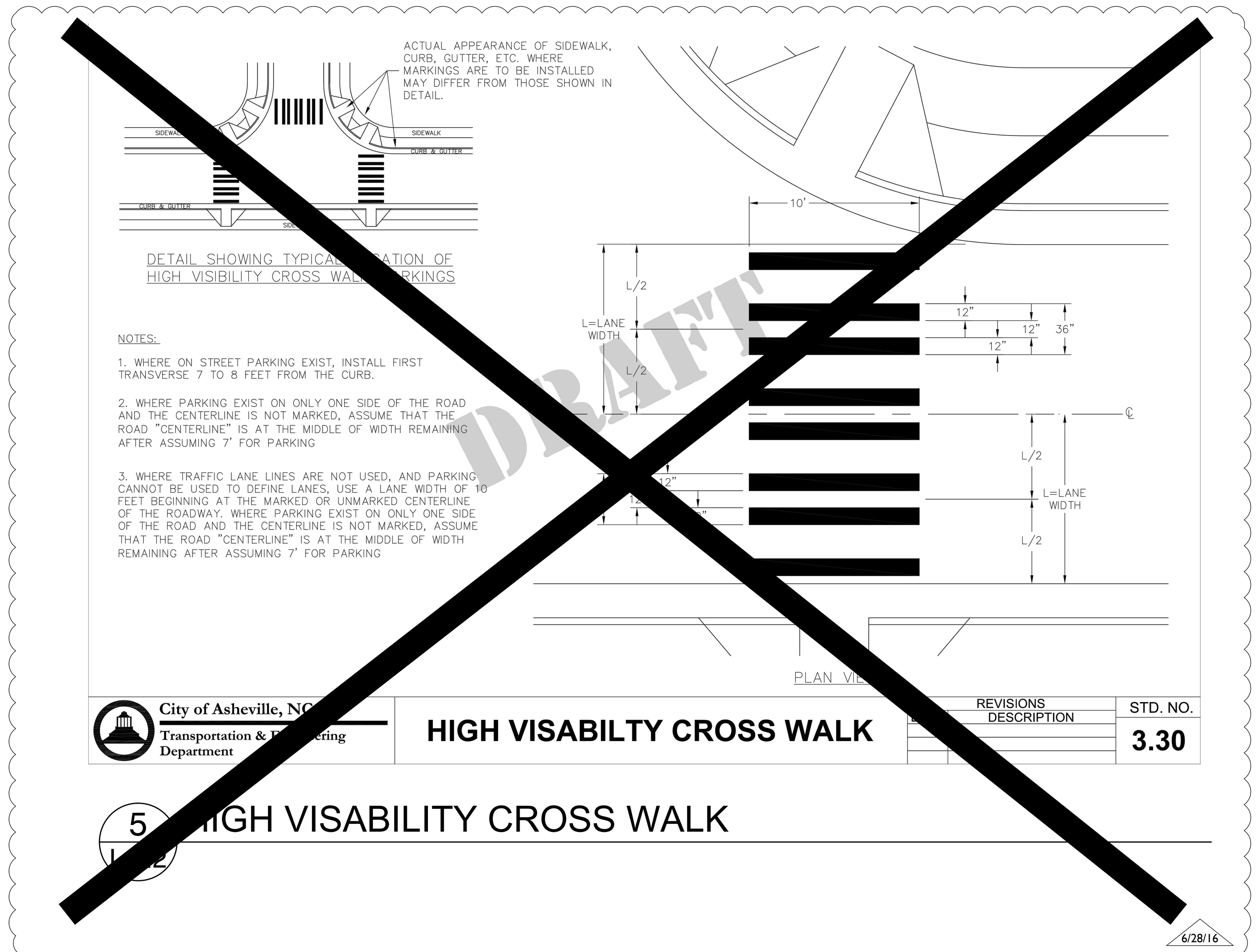
7 L-2.2 ACCESSIBLE PARKING & SIGNAGE STANDARDS

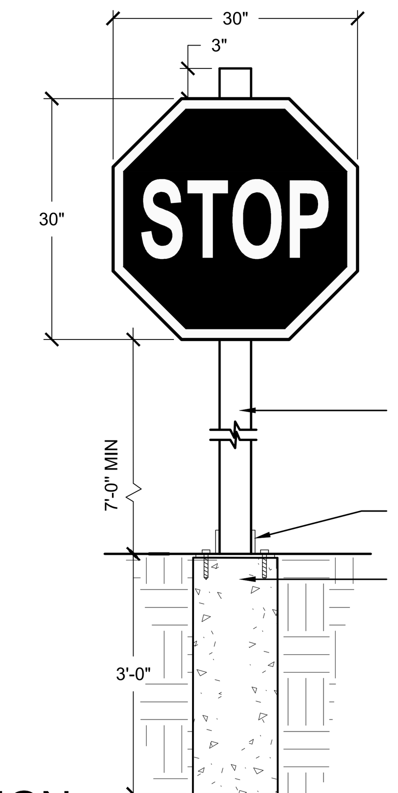
PLAN & ELEVATION NTS



City of Asheville, NC Standard Specifications and Details Manual	STANDARD STAND-UP & MOUNTABLE CURB	REVISIONS DATE	DESCRIPTION	STD. NO.
				3.11A

2 L-2.2 STANDARD STAND-UP & MOUNTABLE CURB





4" X 4" CEDAR POST

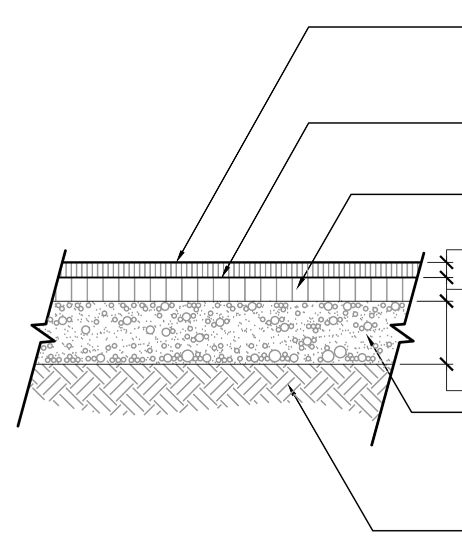
BRACKET TO MOUNT POST TO FOOTER

CONCRETE FOOTER

NOTES:
1. CONTRACTOR TO INSTALL 30" X 30" R1-1 "STOP" SIGN AT ALL DRIVEWAY LOCATIONS LEAVING THE SITE.
2. CONTRACTOR SHALL INSTALL R1-1 "STOP" SIGNS PER CURRENT MUTCD STANDARDS AND SPECIFICATIONS.
3. CONTRACTOR SUBMIT SHOP DRAWINGS OF SIGN AND POST FOR REVIEW AND WRITTEN APPROVAL BY OWNER.
4. CONTRACTOR SHALL INSTALL STOP SIGNS PER CITY OF ASHEVILLE STANDARDS AND SPECIFICATIONS.

8 L-2.2 STOP SIGN

ELEVATION NTS



SURFACE COURSE
2" SF9.5A (OR TYPE I-2 BCSC CITY ONLY)

TACK COAT
(SEE SECTION 1.E.4)

INTERMEDIATE COURSE
3" S9.5A, SF9.5A (OR TYPE I-2 BCSC CITY ONLY)

SEE TABLE BELOW

SEE TABLE BELOW

SEE TABLE BELOW

BASE COURSE
6" COMPACTED AGGREGATE BASE COURSE, OR 4" BCBC TYPE B25.0B (OR 4" BCBC TYPE HB, CITY ONLY). SHOULD ENTIRE DEVELOPMENT HAVE A CBR OF 6 OR GREATER, THEN AN ALTERNATIVE BASE COURSE PAVEMENT DESIGN MAY BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.

SUBGRADE
COMPACTED SUBGRADE (SEE SECTION 1.A.18)

ASPHALT PAVING	
NOTE	
1. SURFACE COURSE 1-2 SURFACE COURSE	1 1/2"
2. INTERMEDIATE COURSE HB BINDING COURSE	2"
2. BASE COURSE C.A.B.C.	6"

NOTES:
1. GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ASPHALT PAVEMENT DESIGN PER ACTUAL SOIL CONDITIONS AND OWNERS LOADING REQUIREMENTS.
2. SEE ALSO CITY OF ASHEVILLE STANDARD DETAILS.

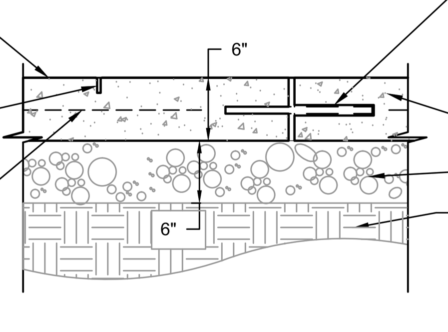
3 L-2.2 ASPHALT PAVEMENT

SECTION SCALE: 3/4" = 1' - 0"

BROOM FINISH TO MATCH 3/L-2.3 CONCRETE PAVING

CONTROL JOINT-TOOLED JOINTS-SEE LAYOUT PLANS FOR PATTERN, JOINTS TO BE 1/4" X 1/2" DEEP W/WATERPROOF SEALANT.

6"X6" 10/10 WWM W/3" MIN. COVER. STOP WWM 2" FROM CONSTRUCTION JOINTS



AT CONSTRUCTION JOINTS INSTALL 1/2" DIAMETER SMOOTH STEEL DOWELS 18" LONG @ 12" O.C. PROVIDE PLASTIC CAP ONE END

3,200 PSI CONCRETE @ 28 DAYS

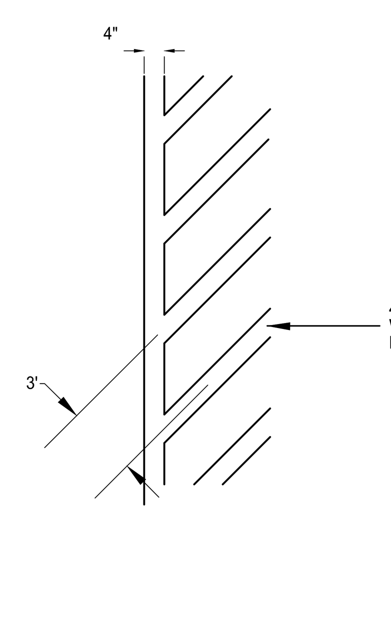
COMPACTED AGGREGATE BASE

98% COMPACTED SUBGRADE AND/OR SAFE BEARING PRESSURE AS APPROPRIATE FOR TRAFFIC LOADING AS DETERMINED BY GEOTECHNICAL ENGINEER.

NOTES:
1. SEE LAYOUT PLANS FOR LOCATIONS OF HEAVY DUTY CONCRETE PAVING.
2. ALL STRUCTURAL ITEMS TO CONFORM TO THE 2009 INTERNATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL, STATE, FEDERAL AND INTERNATIONAL CODES.
3. CONTRACTOR SHALL ENSURE THAT ALL PAVEMENT DESIGN AND CROSS SECTIONS INCLUDING PARKING AREAS, SIDEWALKS, EMERGENCY ACCESS LANES, DECKS, ETC. BE REVIEWED BY A UALIFIED ENGINEER AND MODIFIED AS NECESSARY BASED ON THE GEOTECHNICAL REPORT WHICH IDENTIFIES THE SPECIFIC SITE CHARACTERISTICS.

6 L-2.2 HEAVY DUTY CONCRETE PAVING

SECTION 1"=1'-0"



NOTES:
1. ALL HANDICAP SYMBOLS, TEXT, ARROWS, AND STRIPING SHALL BE PAINTED WITH WHITE PAINT ON DARK SURFACES AND BLACK PAINT ON LIGHT SURFACES.
2. SEE LAYOUT PLAN FOR LOCATION OF SYMBOLS AND STRIPING.
3. ALL PAVEMENT MARKINGS SHALL BE FABRICATED PER CITY OF ASHEVILLE STANDARDS AND SPECIFICATIONS.

9 L-2.2 PAVEMENT MARKINGS

PLAN NTS

NOTE:
"DRAFT" LABEL APPLIED TO CITY OF ASHEVILLE (COA) STANDARD DETAILS DENOTES THOSE DETAILS STILL AVAILABLE FOR PUBLIC REVIEW AND COMMENT ON THE CITY'S WEBSITE AS OF PLAN DATE 9-9-2013. HOWEVER FOR PURPOSES OF THIS PLAN SET, OWNER AND COA PUBLIC WORKS HAVE AGREED TO USE THE "DRAFT" DETAILS AND SPECS AS THE MIN. STANDARD FOR CONSTRUCTION.

Jul 05, 2016 – 1:18pm
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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1424 July 6, 2016 STEPHANIE A. PANKIEWICZ

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 9668039619000000

SITE DETAILS - HARDSCAPE

Revision No.
09.09.2013 - ~~100% CD/Permit Submission Set~~
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05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. **16-02300PZ**

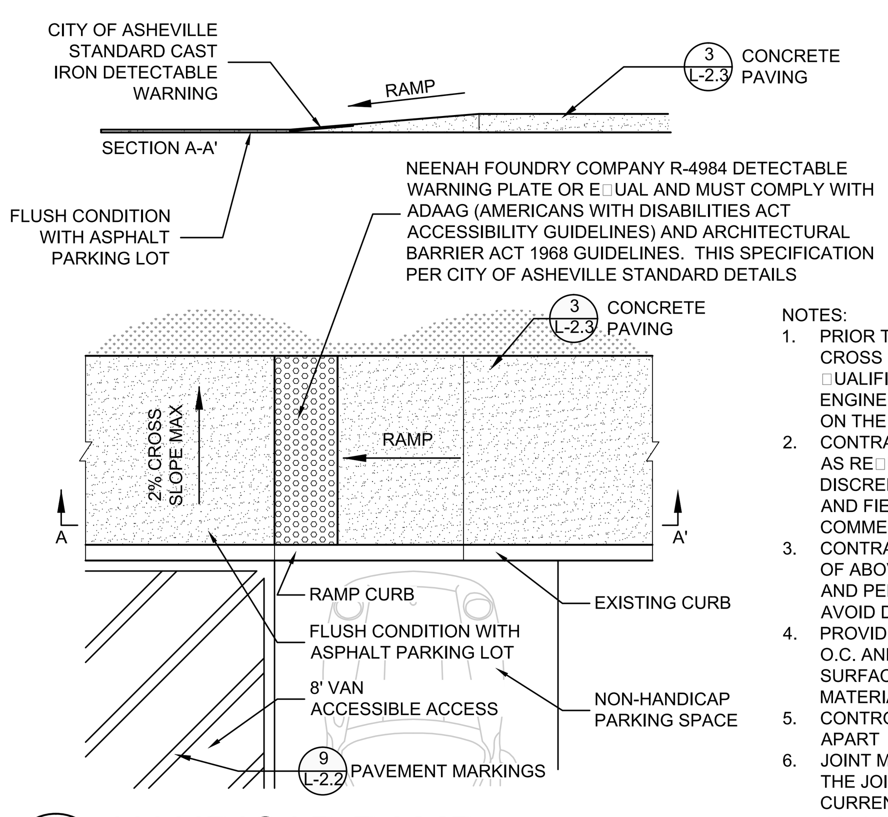
Project No. **2012019**

Date 02.08.2013

Scale **AS NOTED**

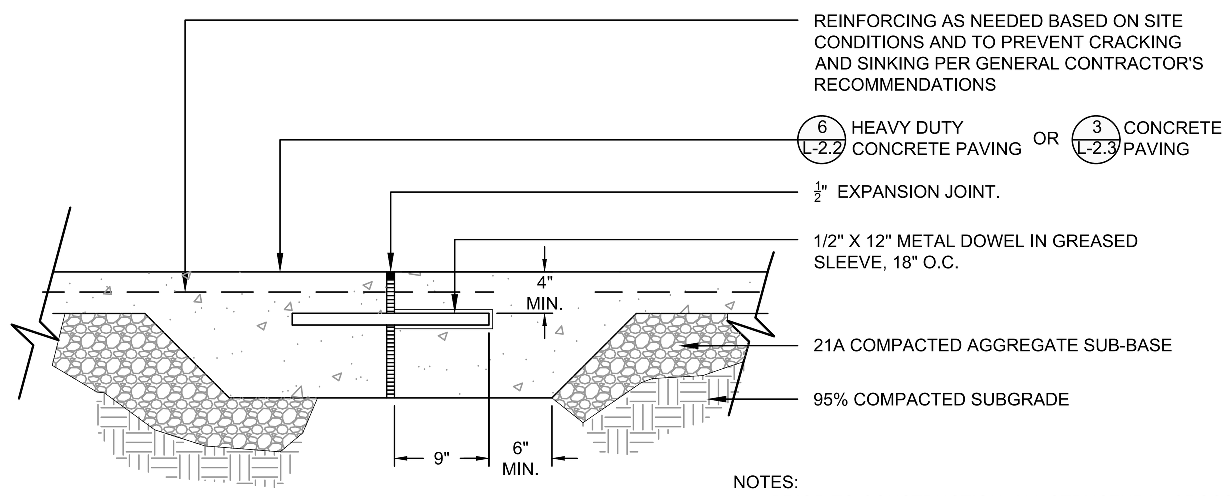
Sheet **L-2.2**

1 HANDICAP RAMP
L-2.3 PLAN & SECTION — 1/4"=1'-0"



NOTES:
1. PRIOR TO CONSTRUCTION, ALL STRUCTURAL CROSS SECTIONS SHALL BE REVIEWED BY A □UALIFIED STRUCTURAL AND/OR GEOTECHNICAL ENGINEER, AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT
2. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS RE□UIRED AND REPORT ANY MAJOR DISCREPANCIES BETWEEN CONTRACT DRAWINGS AND FIELD DIMENSIONS TO THE OWNER PRIOR TO COMMENCING WORK
3. CONTRACTOR SHALL DETERMINE THE LOCATION OF ABOVE GRADE AND UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID DAMAGE TO UTILITIES
4. PROVIDE 1/2" BIT. EXPANSION JOINTS @ MAX 50' O.C. AND WHEN CONCRETE ABUTS A RIGID SURFACE (I.E. WALLS, CURBS, OR A CHANGE OF MATERIALS)
5. CONTROL JOINTS SHALL BE NO MORE THAN 6' APART
6. JOINT MATERIALS SHALL BE IN ACCORDANCE TO THE JOINT MATERIALS SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL

4 EXPANSION JOINT
L-2.3 SECTION — 1"=1'-0"



NOTES:
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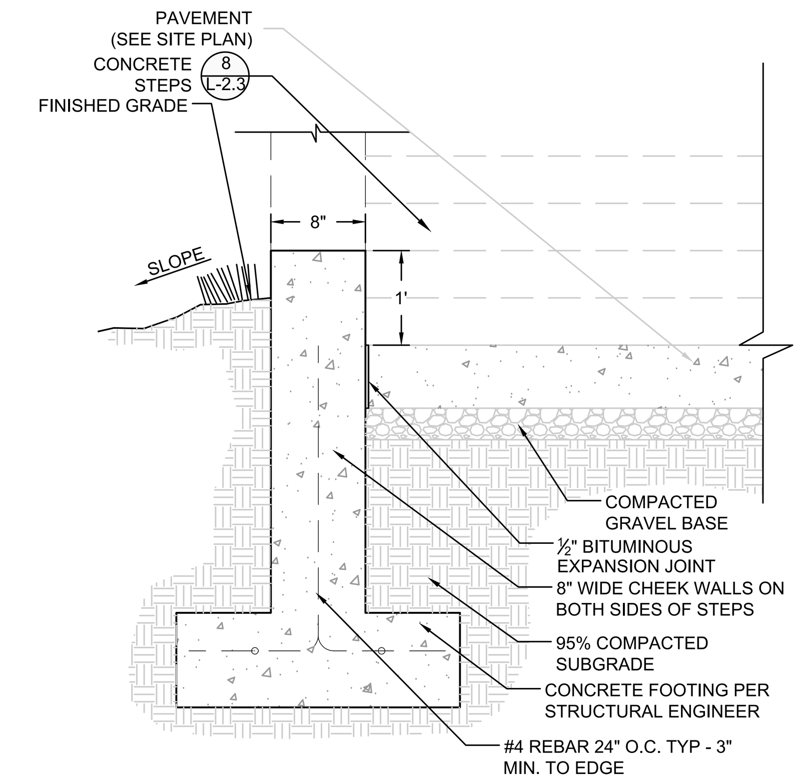
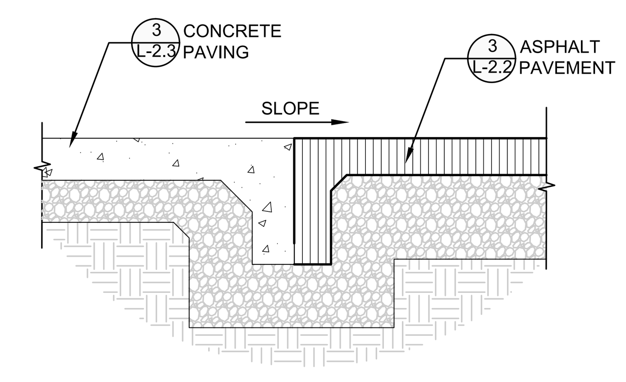
7 CHEEK WALL AT CONCRETE STEPS
L-2.3 SECTION — NTS



NOTES:
1. FOR DRAINAGE, REINFORCEMENT AND SUBGRADE, REFER TO STRUCTURAL DRAWINGS AND CONCRETE SPECIFICATION. ALL FOOTINGS AND REINFORCEMENT SHALL BE DESIGNED AND VERIFIED BY A □UALIFIED STRUCTURAL ENGINEER
2. CHEEK WALL CROSS SECTION IS SCHEMATIC AND SHALL BE REVIEWED AND REVISED AS NECESSARY BY A CERTIFIED STRUCTURAL ENGINEER BASED ON SITE SPECIFIC GEOTECHNICAL REPORTS
3. CONTRACTOR TO PROVIDE SAMPLE OF WALL FINISH TO OWNER FOR WRITTEN APPROVAL PRIOR TO INSTALLATION
4. ALL STRUCTURAL ITEMS SHALL CONFORM TO THE 2009 INTERNATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL, STATE, FEDERAL AND INTERNATIONAL CODES
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO OWNER FOR WRITTEN APPROVAL BY OWNER PRIOR TO CONSTRUCTION



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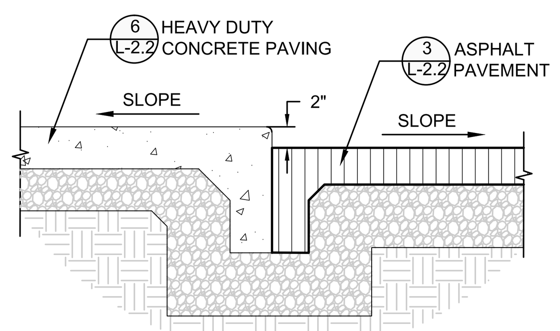
3. CONTRACTOR SHALL DETERMINE THE LOCATION OF ABOVE GRADE AND UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID DAMAGE TO UTILITIES

5 ENTRY PLA□A AT BUS DROP OFF
L-2.3 SECTION — 1"=1'-0"



NOTES:
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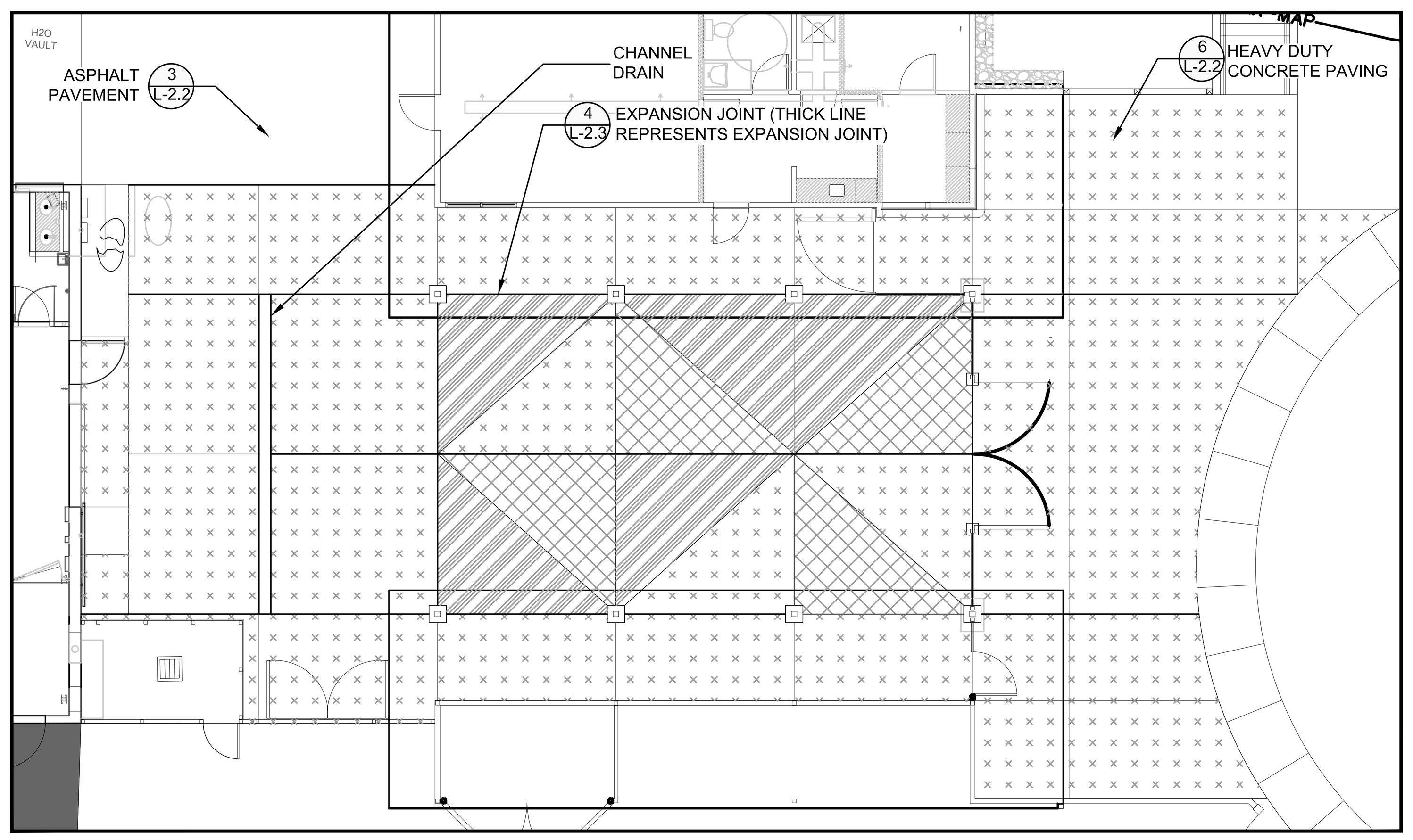
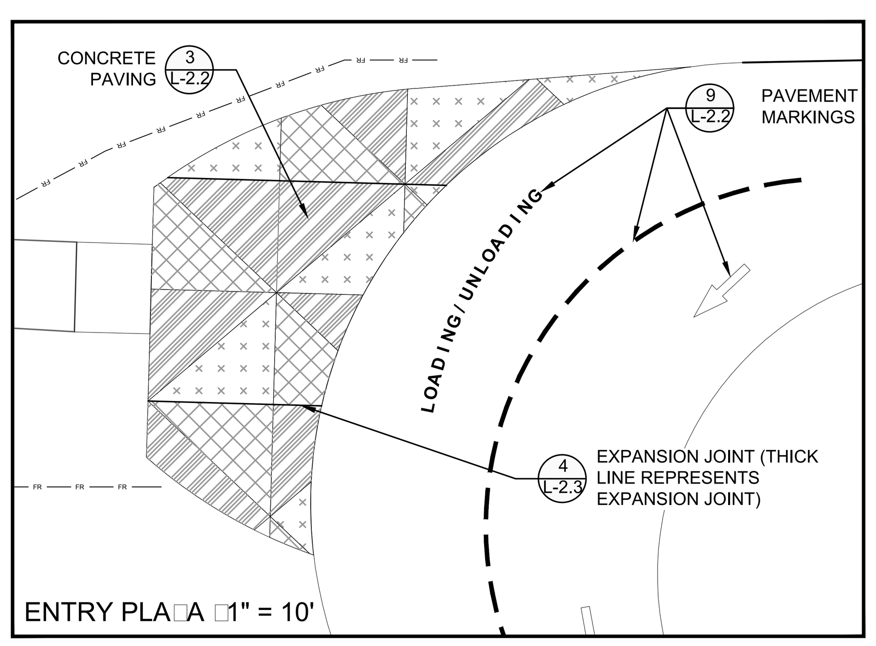
2. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS RE□UIRED AND REPORT ANY MAJOR DISCREPANCIES BETWEEN CONTRACT DRAWINGS AND FIELD DIMENSIONS TO THE OWNER PRIOR TO COMMENCING WORK
3. CONTRACTOR SHALL DETERMINE THE LOCATION OF ABOVE GRADE AND UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID DAMAGE TO UTILITIES

2 SIDEWALK AT ASPHALT TURNAROUND
L-2.3 SECTION — 1"=1'-0"



WELCOME PLA□A □1" = 10'



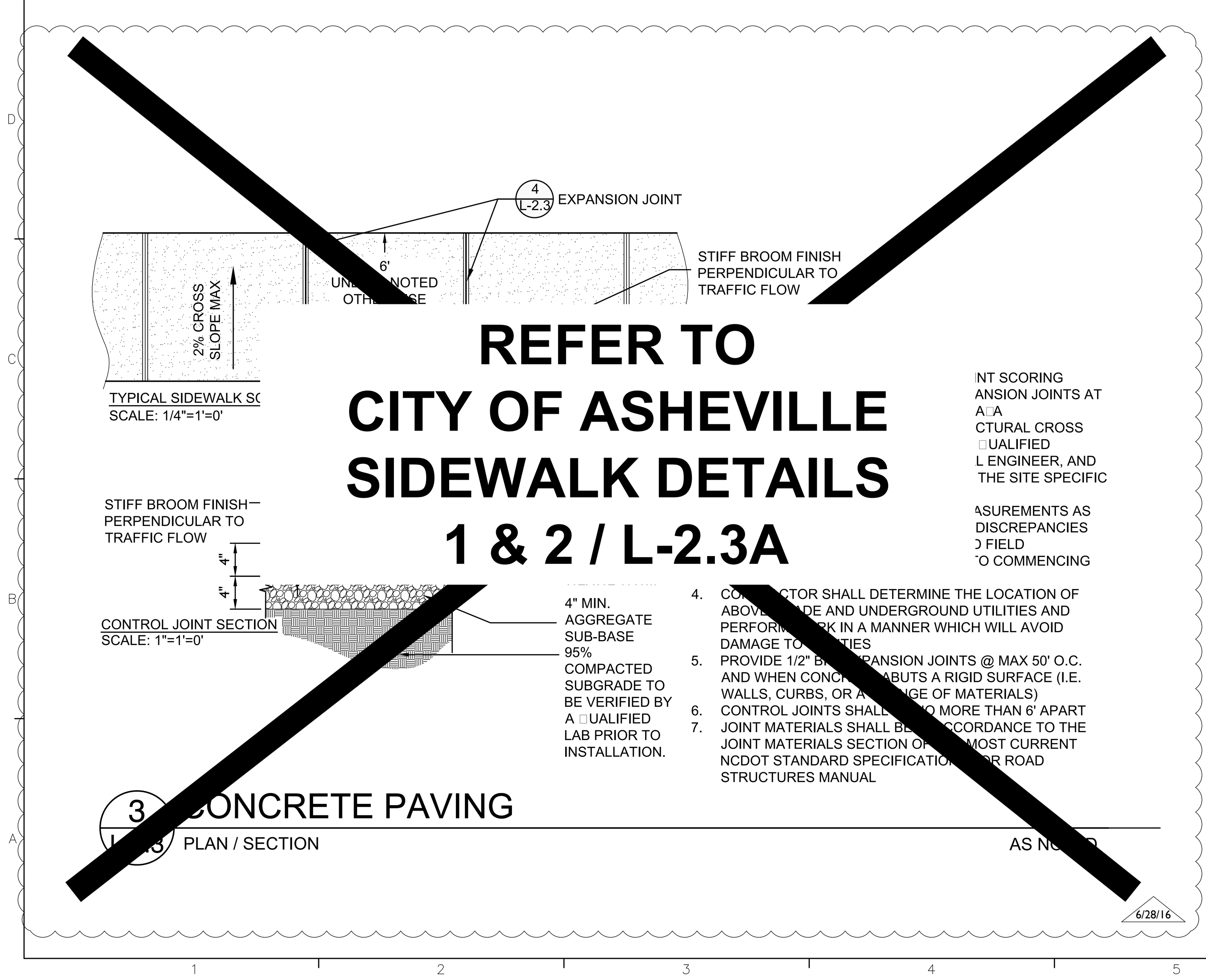
ENTRY PLA□A □1" = 10'

SCOFIELD INTEGRAL COLOR SG:
- COLOR 1: SUNRISE RED (SG160-2)
- COLOR 2: RED BRICK (SG160-4)
- COLOR 3: NATURAL CONCRETE

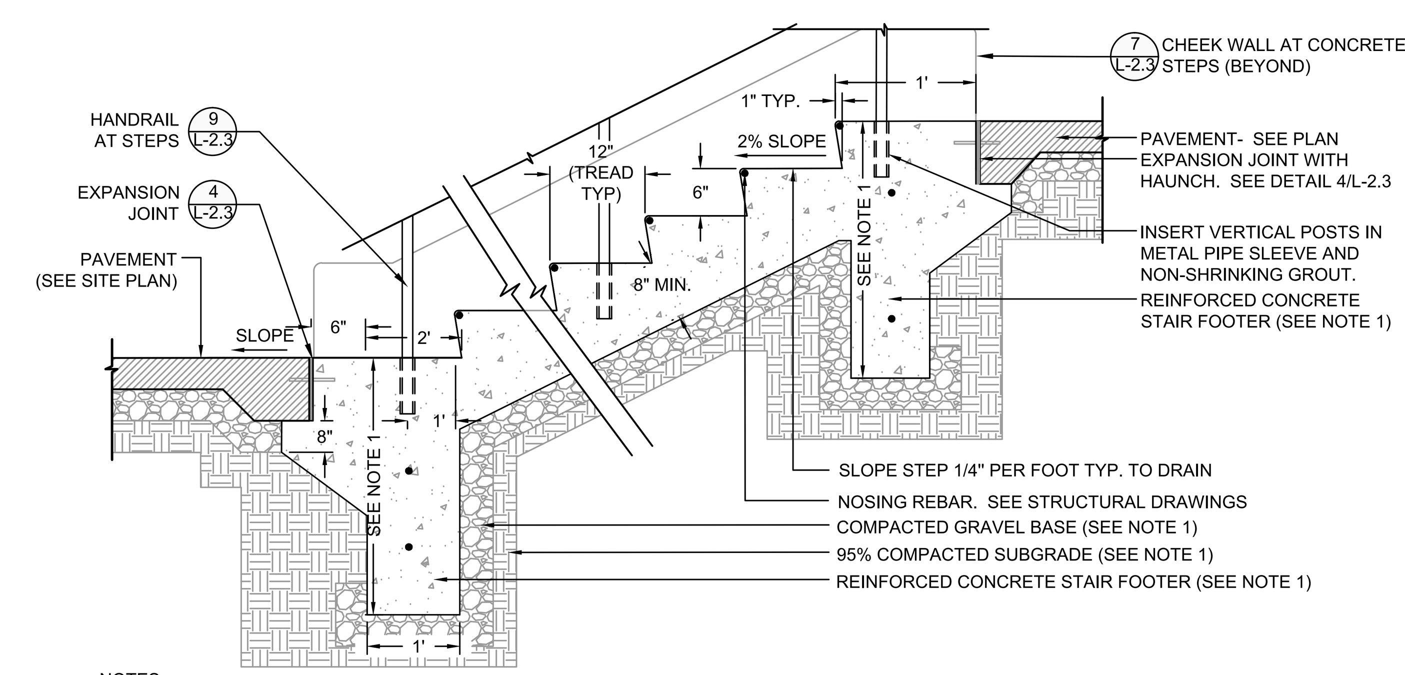
MANUFACTURER:
SCOFIELD - EASTERN USA
4155 SCOFIELD RD.
DOUGLASVILLE, GA 30134
PHONE: 1.800.800.9900
WWW.SCOFIELD.COM

NOTES:
1. APPLY COLOR PER MANUFACTURER'S INSTRUCTIONS
2. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS RE□UIRED AND REPORT ANY MAJOR DISCREPANCIES BETWEEN CONTRACT DRAWINGS AND FIELD DIMENSIONS TO THE OWNER PRIOR TO COMMENCING WORK
3. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER.
4. CONTRACTOR SHALL PROVIDE A 12"x12" COLOR MOCK UP FOR OWNER REVIEW.
5. CONTRACTOR SHALL FIELD STAKE OUT PAVING PATTERN FOR OWNER REVIEW.

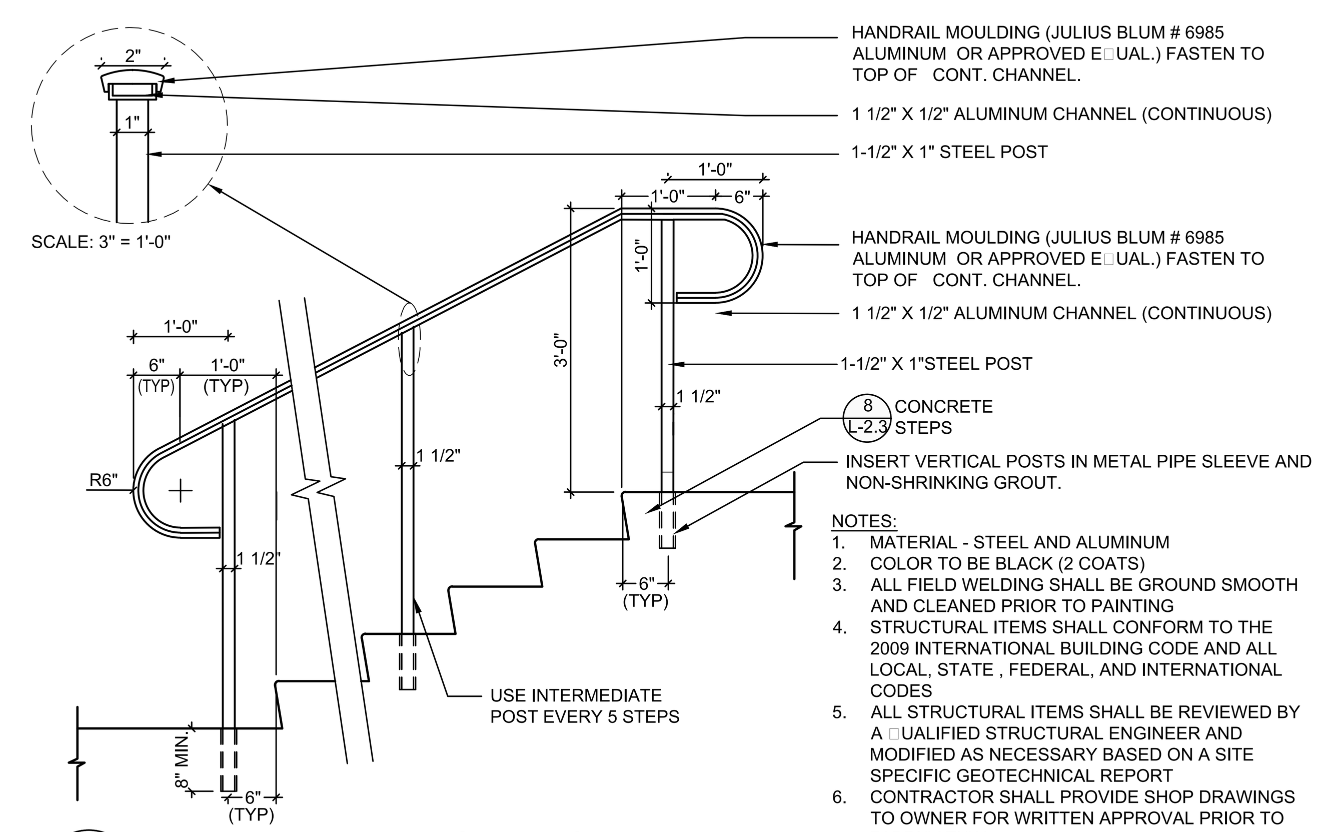
6 WELCOME PLA□A & ENTRY PLA□A
L-2.3 — AS NOTED



8 CONCRETE STEPS
L-2.3 SECTION — NTS

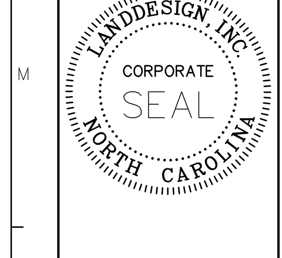


NOTES:
1. FOR DRAINAGE, REINFORCEMENT AND SUBGRADE, REFER TO STRUCTURAL DRAWINGS AND CONCRETE SPECIFICATION.
2. ALL STRUCTURAL ITEMS SHALL CONFORM TO THE 2009 INTERNATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL, STATE, FEDERAL AND INTERNATIONAL CODES.
4. SEE GRADING ENLARGEMENT PLANS FOR TOP AND BOTTOM OF STAIR ELEVATIONS.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO OWNER FOR WRITTEN APPROVAL PRIOR TO CONSTRUCTION.
6. PROVIDE BRUSHED BROOM FINISH AND STEEL TOWELED EDGES ON OUTSIDE EDGE OF STEPS.



NOTES:
1. MATERIAL - STEEL AND ALUMINUM
2. COLOR TO BE BLACK (2 COATS)
3. ALL FIELD WELDING SHALL BE GROUND SMOOTH AND CLEANED PRIOR TO PAINTING
4. STRUCTURAL ITEMS SHALL CONFORM TO THE 2009 INTERNATIONAL BUILDING CODE AND ALL LOCAL, STATE , FEDERAL, AND INTERNATIONAL CODES
5. ALL STRUCTURAL ITEMS SHALL BE REVIEWED BY A □UALIFIED STRUCTURAL ENGINEER AND MODIFIED AS NECESSARY BASED ON A SITE SPECIFIC GEOTECHNICAL REPORT
6. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO OWNER FOR WRITTEN APPROVAL PRIOR TO FABRICATION

9 HANDRAIL AT STEPS
L-2.3 SECTION — NTS



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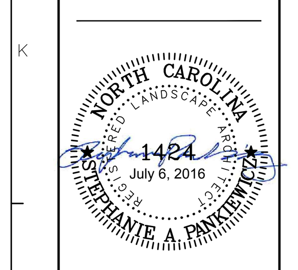

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 9668039619000000

SITE DETAILS - HARDSCAPE

Revision No.
09.09.2013 - 100% CD/Permit Submission Set
09.09.2013 - 100% CD Owner Rev 1/Permit Submission Ready Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. 16-02300PZ
Project No. 2012019
Date 02.08.2013
Scale AS NOTED
Sheet **L-2.3**

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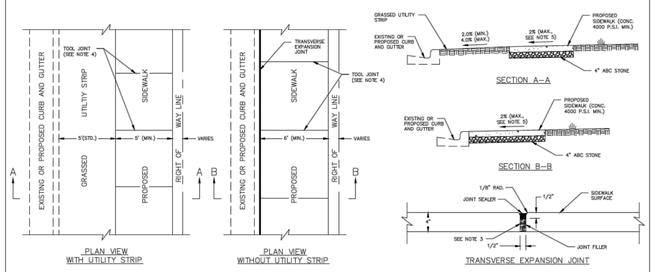
NOTES:

1. TRANSVERSE EXPANSION JOINTS TO BE SPACED AT A MAXIMUM OF 50 FEET. WHEN SIDEWALK ABUTS CURB (WITHOUT UTILITY STRIP), EXPANSION JOINT SHALL BE PLACE BETWEEN BACK OF CURB AND SIDEWALK FOR THE LENGTH OF THE SIDEWALK.
2. ALL CONCRETE TO BE FINISHED WITH CURING COMPOUND.
3. TRANSVERSE EXPANSION JOINT MATERIALS SHALL BE IN ACCORDANCE WITH THE "JOINT MATERIALS" SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.
4. TOOL JOINTS SHALL BE SPACED TO MATCH THE WIDTH OF THE SIDEWALK BUT BE NO LESS THAN FIVE (5) FEET APART OR NO LESS THAN SIX (6) FEET FOR SIDEWALK WITHOUT UTILITY STRIP. TOOL JOINTS SHALL BE 3/4 INCH DEEP AND MUST NOT BE SEALED. FOR NEW CURB AND GUTTER CONSTRUCTED WITH THE SIDEWALK, CURB AND GUTTER TOOL JOINT SHALL BE PLACED AS SPACED AND INLINE WITH SIDEWALK TOOL JOINT.
5. THE DOWN DIRECTION OF THE 2% (MAX.) CROSS SLOPE OF THE PROPOSED SIDEWALK IS TYPICAL AS SHOWN FOR DRAINAGE TOWARD ROADWAY. ACTUAL DOWN DIRECTION TO BE DETERMINED BY PROJECT'S EXISTING AND/OR PROPOSED TOPOGRAPHY.



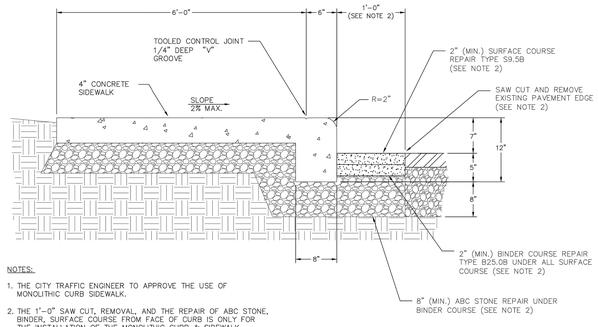
PLAN VIEW WITH UTILITY STRIP

PLAN VIEW WITHOUT UTILITY STRIP

City of Asheville, NC Standard Specifications and Details Manual	STANDARD CONCRETE SIDEWALK	REVISIONS DATE	DESCRIPTION	STD. NO.
		09/15	ADD. PLAN V EW W/O UTILITY STRIP	3.16
		09/15	ADD. SECT. V EW W/O UTILITY STRIP	
		09/15	REVISED NOTES 1 AND 4	

6/28/16

1 STANDARD CONCRETE SIDEWALK
L2.3A



NOTES:

1. THE CITY TRAFFIC ENGINEER TO APPROVE THE USE OF MONOLITHIC CURB SIDEWALK.
2. THE 1'-0" SAW CUT, REMOVAL, AND THE REPAIR OF ABC STONE, BINDER, SURFACE COURSE FROM FACE OF CURB IS ONLY FOR THE INSTALLATION OF THE MONOLITHIC CURB & SIDEWALK ADJACENT TO AN EXISTING STREET.

City of Asheville, NC Standard Specifications and Details Manual	MONOLITHIC CURB & SIDEWALK	REVISIONS DATE	DESCRIPTION	STD. NO.
				3.16A

6/28/16

2 MONOLITHIC CURB AND SIDEWALK
L2.3A

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NORTH CAROLINA PROFESSIONAL LANDSCAPE ARCHITECT SEAL 1424 July 6, 2016 JAMIE A. PANTEMENTO

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

SITE DETAILS - HARDSCAPE

Revision No.
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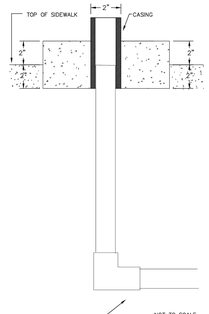


City of Asheville, NC Standard Specifications and Details Manual	LAMP POST BASE	REVISIONS DATE / DESCRIPTION	STD. NO. 3.24

1 L-2.4 LAMP POST BASE

LOCUST POST GUARDRAIL TO BE SIMILAR TO THOSE INSTALLED ALONG THE BLUE RIDGE PARKWAY PER THE NATIONAL PARKS SERVICE

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. GUARDRAILS ARE INTENDED FOR AESTHETIC PURPOSES ONLY TO PREVENT ON SHOULDER PARKING. GUARDRAILS FOR ANY OTHER PURPOSE SHOULD BE DESIGNED BY A ROADWAY/TRAFFIC ENGINEER AND INSTALLED PER COA OR NCDOT STANDARDS.

2 L-2.4 LOCUST POST GUARDRAIL

PICTORIAL NTS

RECYCLING BIN TO BE:
MANUFACTURER: GLOBAL INDUSTRIAL
MODEL: WG240963GN
CAPACITY: 38 GALLON
COLOR: GREEN OR AS APPROVED BY OWNER
MATERIAL: STEEL

MANUFACTURER:
GLOBAL INDUSTRIAL
PHONE: 1.888.978.7759

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. SEE MATERIALS PLAN FOR LOCATION AND □UANTITIES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. CONTRACTOR SHALL ENSURE THAT TRASH RECEPTACLE IS PLUMB AND LEVEL
5. SEE ALSO NOTES BELOW ON THIS SHEET

3 L-2.4 RECYCLING BIN

PICTORIAL NTS

LIGHT TO BE:
FIXTURE: TEARDROP WITH DAVIT ARM BRACKET
POLE: STYLE C
COLOR: BLACK

LOCAL PROVIDER FOR LIGHT FIXTURE AND POLE:
DUKE ENERGY
172 DUKE STREET
FOREST CITY, NC 28043
PHONE: 828.245.4143
WWW.DUKE-ENERGY.COM

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. LOCATIONS FOR LIGHT FIXTURES ON SITE LAYOUT PLAN ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR SHALL FINALI E LIGHT LOCATIONS, MOUNTING HEIGHTS, FIXTURE SPECIFICATIONS, ETC BASED ON A SITE LIGHTING DESIGN PRODUCED BY A CERTIFIED ELECTRICAL ENGINEER. LANDDESIGN DOES NOT PROVIDE ELECTRICAL DESIGN OR PHOTOMETRICS OF ANY KIND. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE OWNER FOR FINAL LIGHTING PLANS.
3. INSTALL PER MANUFACTURER'S SPECIFICATIONS
4. PROVIDE TRANSFORMER(S) IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND IN COORDINATION WITH MEP DRAWINGS.
4. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE OWNER

4 L-2.4 STREET LIGHT

PICTORIAL NTS

BENCH TO BE:
MANUFACTURER: VICTOR STANLEY
MODEL: HOMESTEAD SERIES MODEL 4 BACKLESS BENCH
DIMENSIONS: 8 FT. LENGTH
COLOR: METAL TO BE POWDER COATED BLACK
MATERIAL: IPE WOOD
MOUNTING: STANDARD IN-GROUND

MANUFACTURER:
VICTOR STANLEY, INC.
P.O. DRAWER 330
DUNKIRK, MD 20754
PHONE: 1.800.368.2573
EMAIL: SALES@VICTORSTANLEY.COM

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. SEE MATERIALS PLAN FOR LOCATION AND □UANTITIES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. CONTRACTOR SHALL ENSURE THAT BENCH IS PLUMB AND LEVEL
5. SEE ALSO NOTES BELOW ON THIS SHEET

5 L-2.4 BENCH

PICTORIAL NTS

TRASH RECEPTACLE TO BE:
MANUFACTURER: VICTOR STANLEY
MODEL: STREETSITE SERIES TH-36
CAPACITY: 36 GALLON (LINER INCLUDED)
COLOR: METAL TO BE POWDER COATED BLACK OR AS APPROVED BY OWNER
MATERIAL: IPE WOOD

MANUFACTURER:
VICTOR STANLEY, INC.
P.O. DRAWER 330
DUNKIRK, MD 20754
PHONE: 1.800.368.2573
EMAIL: SALES@VICTORSTANLEY.COM

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. SEE MATERIALS PLAN FOR LOCATION AND □UANTITIES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. CONTRACTOR SHALL ENSURE THAT TRASH RECEPTACLE IS PLUMB AND LEVEL
5. SEE ALSO NOTES BELOW ON THIS SHEET

6 L-2.4 TRASH RECEPTACLE

PICTORIAL NTS

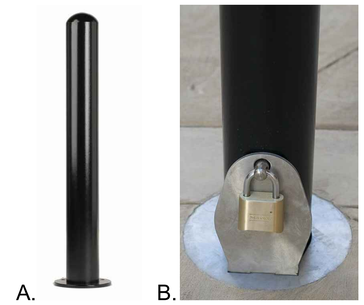
BIKE RACK TO BE:
MANUFACTURER: RELIANCE FOUNDRY
MODEL: R-7906 STEEL BIKE BOLLARD
DIMENSIONS: 36 IN. HT; 4.3 IN. DIAMETER
COLOR: BLACK TEXTURED
MOUNTING OPTION: EMBEDDED

MANUFACTURER:
VICTOR STANLEY, INC.
P.O. DRAWER 330
DUNKIRK, MD 20754
PHONE: 1.800.368.2573
EMAIL: SALES@VICTORSTANLEY.COM

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. SEE MATERIALS PLAN FOR LOCATION AND □UANTITIES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. SEE ALSO NOTES BELOW ON THIS SHEET

7 L-2.4 BIKE RACK

PICTORIAL NTS



A. FIXED BOLLARD TO BE:
MANUFACTURER: RELIANCE FOUNDRY
MODEL: R-7902 STEEL BOLLARD
DIMENSIONS: 36 IN. HT; 4.3 IN. DIAMETER
COLOR: BLACK TEXTURED
MOUNTING OPTION: EMBEDDED

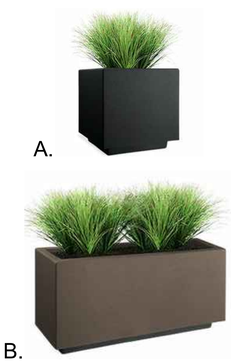
B. REMOVABLE BOLLARD TO BE:
MANUFACTURER: RELIANCE FOUNDRY
MODEL: R-7902 REMOVABLE STEEL BOLLARD
DIMENSIONS: 36 IN. HT; 4.3 IN. DIAMETER
COLOR: BLACK TEXTURED
REMOVABLE OPTION: REMOVEABLE MOUNTING RECEIVER WITH HINGED LID-STEEL WITH PADLOCK

MANUFACTURER:
VICTOR STANLEY, INC.
P.O. DRAWER 330
DUNKIRK, MD 20754
PHONE: 1.800.368.2573
EMAIL: SALES@VICTORSTANLEY.COM

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. SEE MATERIALS PLAN FOR BOLLARD TYPE, LOCATION, AND □UANTITIES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. REMOVABLE BOLLARDS ALLOW VEHICLES TO ACCESS THE WELCOME PLA□A FOR EMERGENCIES AND REGULAR MAINTENANCE.
5. SEE ALSO NOTES BELOW ON THIS SHEET

8 L-2.4 BOLLARD

PICTORIAL NTS



A. S□UARE PLANTER TO BE:
MANUFACTURER: VICTOR STANLEY
MODEL: FIBERGLASS SERIES URBAN S□UARE
DIMENSIONS: 3 FT. X 3 FT. S□UARE; 24 IN. HT
COLOR: POWDER COATED MATTE BLACK
RECOMMENDED OPTIONS: CONCEALED CASTERS; INCLUDE DRAIN HOLES

B. RETANGULAR PLANTER TO BE:
MANUFACTURER: VICTOR STANLEY
MODEL: FIBERGLASS SERIES URBAN LONG
DIMENSIONS: 4 FT. X 6 FT. RECTANGLE; 36 IN. HT
COLOR: POWDER COATED MATTE BLACK
RECOMMENDED OPTIONS: CONCEALED CASTERS; INCLUDE DRAIN HOLES

MANUFACTURER:
VICTOR STANLEY, INC.
P.O. DRAWER 330
DUNKIRK, MD 20754
PHONE: 1.800.368.2573
EMAIL: SALES@VICTORSTANLEY.COM

NOTES:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, AND SPECIFICATIONS FOR WRITTEN APPROVAL FROM THE OWNER PRIOR TO INSTALLATION
2. SEE MATERIALS PLAN FOR LOCATION AND □UANTITIES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. SEE ALSO NOTES BELOW ON THIS SHEET

9 L-2.4 PLANTER

PICTORIAL NTS

NOTE:
1. ALL MATERIALS AND WORK SHALL BE IN ACCORDANCE WITH STATE CODES AND SPECIFICATIONS AND OTHER CRITERIA HEREIN SPECIFIED.
2. SINGLE-SOURCE RESPONSIBILITY: OBTAIN FURNISHING UNITS FROM EACH RESPECTIVE SINGLE SOURCE AND RESOURCES TO PROVIDE PRODUCTS AND MATERIALS OF CONSISTENT □UALITY IN APPEARANCE AND PHYSICAL PROPERTIES WITHOUT DELAYING WORK.
3. SUBSTITUTIONS: UNIT(S) TO BE CONSIDERED E□UAL TO THOSE SPECIFIED HERE IN THIS SECTION SHALL BE REVIEWED AND APPROVED BY THE OWNER, IN WRITING, PRIOR TO THE BID DATE. NO SUBSTITUTIONS SHALL BE ALLOWED AFTER THE BID DATE.
4. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL FURNISHINGS IN THIS SECTION WITH ALL OTHER RELATED WORK OF THIS CONTRACT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE DIMENSION AND RE□UIRED HARDWARE OF THE FURNISHINGS PRIOR TO COMMENCING INSTALLATION WORK.
6. COORDINATING FURNISHING FOOTINGS WITH UTILITY LOCATIONS. NOTE POTENTIAL CONFLICTS TO THE OWNER.
7. FURNISHINGS SHALL BE STORED AS NECESSARY TO PREVENT DAMAGE AND SHALL BE IN NEW CONDITION WHEN READY FOR INSTALLATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL "FACTORY CONDITION" FURNISHINGS.

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NORTH CAROLINA LANDSCAPE ARCHITECTURAL LICENSE 1424 July 6, 2016 STEPHANIE A. PANTEMENTO

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

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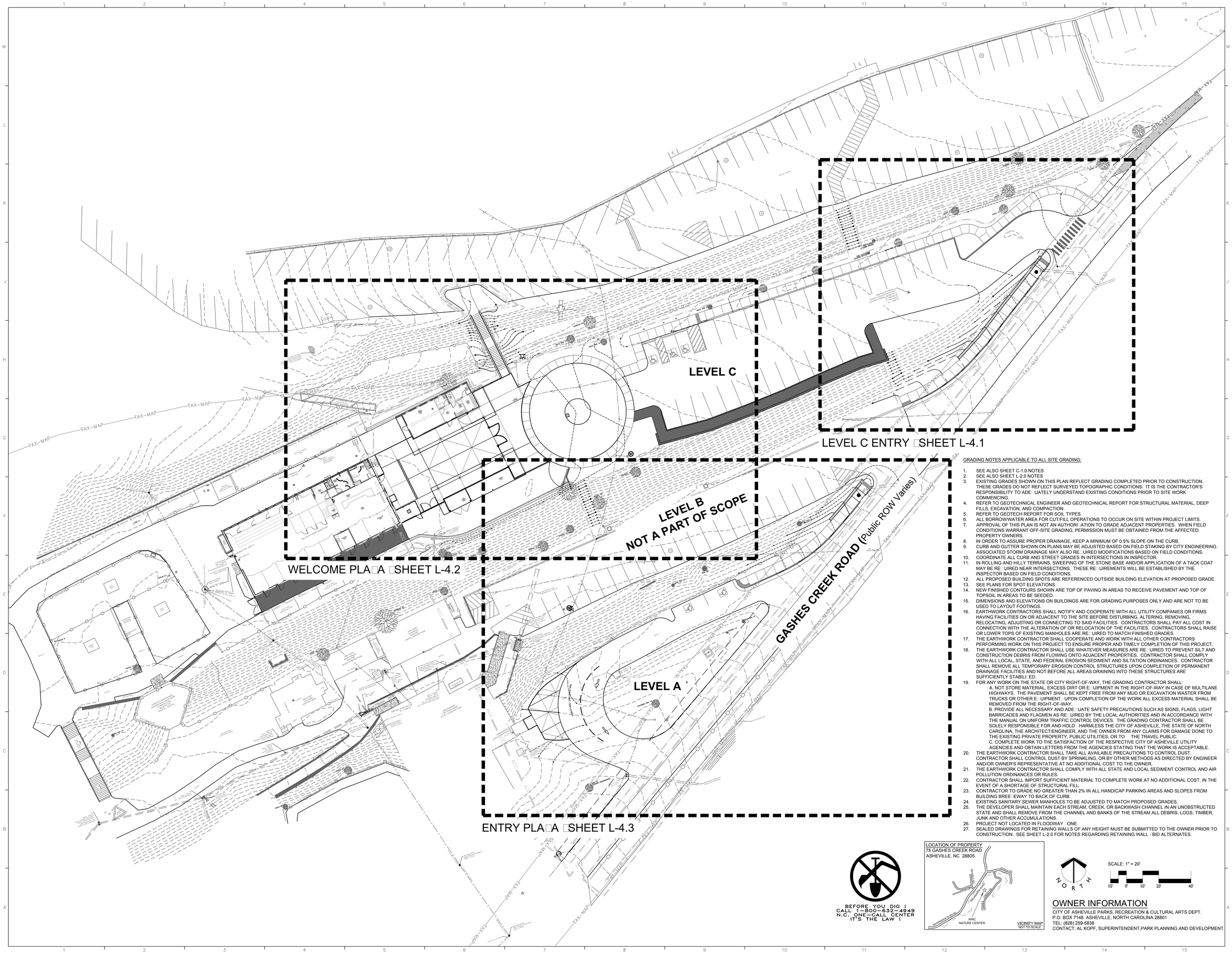

GRADING NOTES APPLICABLE TO ALL SITE GRADING:

1. SEE ALSO SHEET C-1.0 NOTES
2. SEE ALSO SHEET L-2.0 NOTES
3. EXISTING GRADES SHOWN ON THIS PLAN REFLECT GRADING COMPLETED PRIOR TO CONSTRUCTION. THESE GRADES DO NOT REFLECT SURVEYED TOPOGRAPHIC CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADE□UATELY UNDERSTAND EXISTING CONDITIONS PRIOR TO SITE WORK COMMENCING.
4. REFER TO GEOTECHNICAL ENGINEER AND GEOTECHNICAL REPORT FOR STRUCTURAL MATERIAL, DEEP FILLS, EXCAVATION, AND COMPACTION.
5. REFER TO GEOTECH REPORT FOR SOIL TYPES.
6. ALL BORROW/WATER AREA FOR CUT/FILL OPERATIONS TO OCCUR ON SITE WITHIN PROJECT LIMITS.
7. APPROVAL OF THIS PLAN IS NOT AN AUTHORI□ATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
8. IN ORDER TO ASSURE PROPER DRAINAGE, KEEP A MINIMUM OF 0.5% SLOPE ON THE CURB.
9. CURB AND GUTTER SHOWN ON PLANS MAY BE ADJUSTED BASED ON FIELD STAKING BY CITY ENGINEERING. ASSOCIATED STORM DRAINAGE MAY ALSO RE□UIRED MODIFICATIONS BASED ON FIELD CONDITIONS.
10. COORDINATE ALL CURB AND STREET GRADES IN INTERSECTIONS IN INSPECTOR.
11. IN ROLLING AND HILLY TERRAINS, SWEEPING OF THE STONE BASE AND/OR APPLICATION OF A TACK COAT MAY BE RE□UIRED NEAR INTERSECTIONS. THESE RE□UIREMENTS WILL BE ESTABLISHED BY THE INSPECTOR BASED ON FIELD CONDITIONS.
12. ALL PROPOSED BUILDING SPOTS ARE REFERENCED OUTSIDE BUILDING ELEVATION AT PROPOSED GRADE.
13. SEE PLANS FOR SPOT ELEVATIONS.
14. NEW FINISHED CONTOURS SHOWN ARE TOP OF PAVING IN AREAS TO RECEIVE PAVEMENT AND TOP OF TOPSOIL IN AREAS TO BE SEEDED.
15. DIMENSIONS AND ELEVATIONS ON BUILDINGS ARE FOR GRADING PURPOSES ONLY AND ARE NOT TO BE USED TO LAYOUT FOOTINGS.
16. EARTHWORK CONTRACTORS SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OR FIRMS HAVING FACILITIES ON OR ADJACENT TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING, ADJUSTING OR CONNECTING TO SAID FACILITIES. CONTRACTORS SHALL PAY ALL COST IN CONNECTION WITH THE ALTERATION OF OR RELOCATION OF THE FACILITIES. CONTRACTORS SHALL RAISE OR LOWER TOPS OF EXISTING MANHOLES ARE RE□UIRED TO MATCH FINISHED GRADES.
17. THE EARTHWORK CONTRACTOR SHALL COOPERATE AND WORK WITH ALL OTHER CONTRACTORS PERFORMING WORK ON THIS PROJECT TO ENSURE PROPER AND TIMELY COMPLETION OF THIS PROJECT.
18. THE EARTHWORK CONTRACTOR SHALL USE WHATEVER MEASURES ARE RE□UIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION SEDIMENT AND SILTATION ORDINANCES. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL STRUCTURES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND NOT BEFORE ALL AREAS DRAINING INTO THESE STRUCTURES ARE SUFFICIENTLY STABILI□ED.
19. FOR ANY WORK ON THE STATE OR CITY RIGHT-OF-WAY, THE GRADING CONTRACTOR SHALL:
    A. NOT STORE MATERIAL, EXCESS DIRT OR E□UIPMENT IN THE RIGHT-OF-WAY IN CASE OF MULTILANE HIGHWAYS. THE PAVEMENT SHALL BE KEPT FREE FROM ANY MUD OR EXCAVATION WASTER FROM TRUCKS OR OTHER E□UIPMENT. UPON COMPLETION OF THE WORK ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE RIGHT-OF-WAY.
    B. PROVIDE ALL NECESSARY AND ADE□UATE SAFETY PRECAUTIONS SUCH AS SIGNS, FLAGS, LIGHT BARRICADES AND FLAGMEN AS RE□UIRED BY THE LOCAL AUTHORITIES AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE GRADING CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HOLD HARMLESS THE CITY OF ASHEVILLE, THE STATE OF NORTH CAROLINA, THE ARCHITECT/ENGINEER, AND THE OWNER FROM ANY CLAIMS FOR DAMAGE DONE TO THE EXISTING PRIVATE PROPERTY, PUBLIC UTILITIES, OR TO THE TRAVEL PUBLIC.
    C. COMPLETE WORK TO THE SATISFACTION OF THE RESPECTIVE CITY OF ASHEVILLE UTILITY AGENCIES AND OBTAIN LETTERS FROM THE AGENCIES STATING THAT THE WORK IS ACCEPTABLE.
20. THE EARTHWORK CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING, OR BY OTHER METHODS AS DIRECTED BY ENGINEER AND/OR OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
21. THE EARTHWORK CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL SEDIMENT CONTROL AND AIR POLLUTION ORDINANCES OR RULES.
22. CONTRACTOR SHALL IMPORT SUFFICIENT MATERIAL TO COMPLETE WORK AT NO ADDITIONAL COST, IN THE EVENT OF A SHORTAGE OF STRUCTURAL FILL.
23. CONTRACTOR TO GRADE NO GREATER THAN 2% IN ALL HANDICAP PARKING AREAS AND SLOPES FROM BUILDING BREE□EWAY TO BACK OF CURB.
24. EXISTING SANITARY SEWER MANHOLES TO BE ADJUSTED TO MATCH PROPOSED GRADES.
25. THE DEVELOPER SHALL MAINTAIN EACH STREAM, CREEK, OR BACKWASH CHANNEL IN AN UNOBSTRUCTED STATE AND SHALL REMOVE FROM THE CHANNEL AND BANKS OF THE STREAM ALL DEBRIS, LOGS, TIMBER, JUNK AND OTHER ACCUMULATIONS.
26. PROJECT NOT LOCATED IN FLOODWAY □ONE.
27. SEALED DRAWINGS FOR RETAINING WALLS OF ANY HEIGHT MUST BE SUBMITTED TO THE OWNER PRIOR TO CONSTRUCTION. SEE SHEET L-2.0 FOR NOTES REGARDING RETAINING WALL - BID ALTERNATES.

BEFORE YOU DIG !
CALL 1-800-632-4949
N.C. □ONE-CALL CENTER
IT'S THE LAW !

LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

VICINITY MAP
NOT TO SCALE

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT,PARK PLANNING AND DEVELOPMENT

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA

LandDesign.
200 S. Peyton St., Alexandria, VA 22314
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NORTH CAROLINA LANDSCAPE ARCHITECT 1484 July 8, 2016 STEPHANIE A. TANNENBAUM

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 9668039619000000

GRADING ENLARGEMENTS
KEY PLAN AND NOTES

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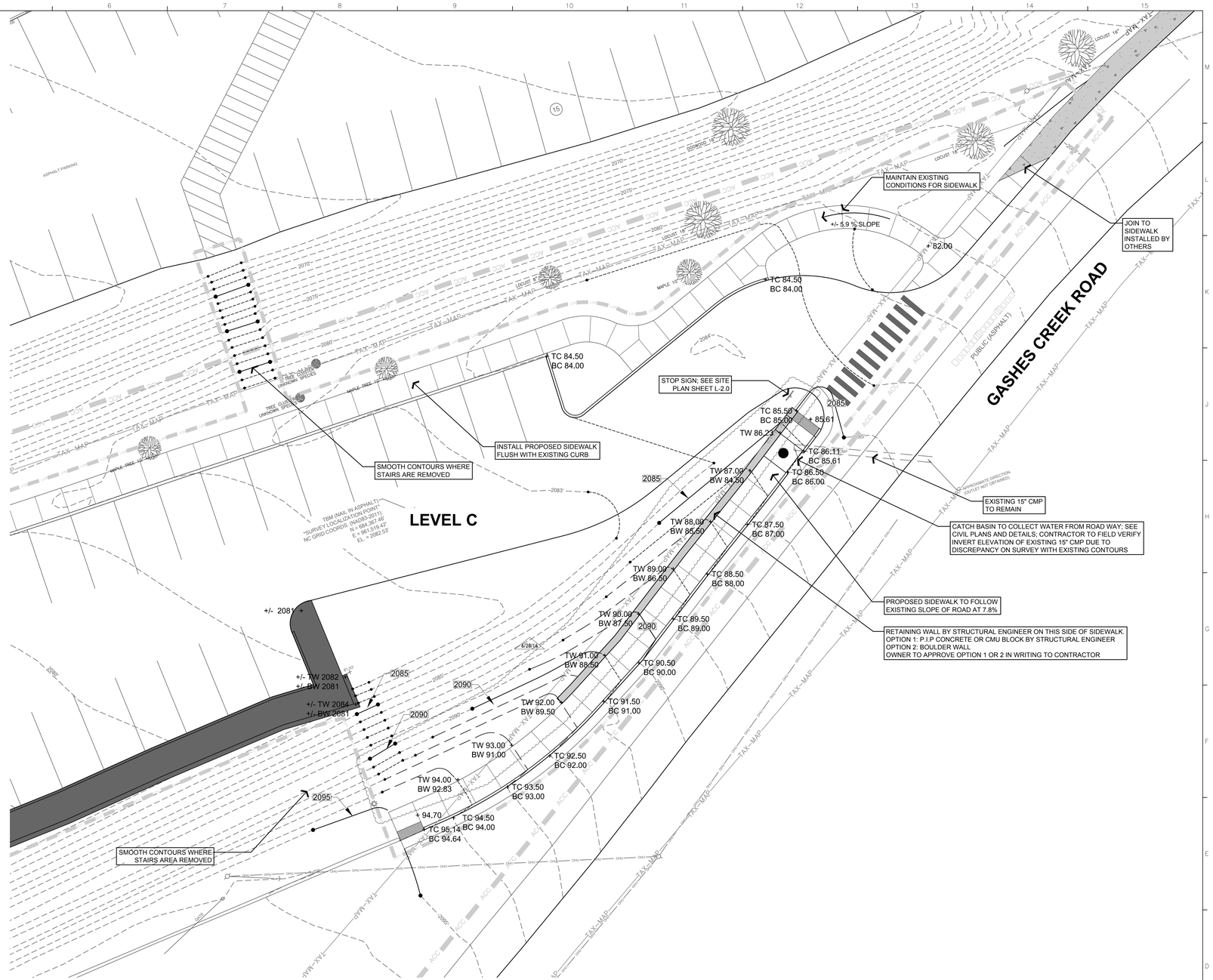
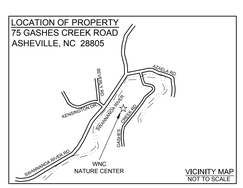


LEGEND

SYMBOL	DESCRIPTION
2080'	5' CONTOURS (EXISTING)
	1' CONTOURS (EXISTING)
LOW	LIMITS OF WORK
ACC	AREA OF CODE COMPLIANCE
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)

BEFORE YOU DIG !
CALL 1-800-632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW !

LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805



VICINITY MAP
NOT TO SCALE

NOTES:

1. SEE ALSO SHEET C-1.0 NOTES
2. SEE ALSO SHEET L-2.0 NOTES
3. SEE ALSO SHEET L-4.0 NOTES

NORTH

SCALE: 1" =10'

5' 0' 5' 10' 20'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
TEL: (828) 259-5838
CONTACT: AL KOPF, SUPERINTENDENT,PARK PLANNING AND DEVELOPMENT

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA
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200 S. Pyron St., Alexandria, VA 22314
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NORTH CAROLINA LANDSCAPE ARCHITECT 1424 July 8, 2016 STEPHANIE A. PANTEMENTO

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

GRADING ENLARGEMENT LEVEL C ENTRY

Revision No.

09.09.2013 - 100% CD Owner Rev. 1/Permit Submission Ready Set
09.09.2013 - 100% CD Owner Rev. 1/Permit Submission Ready Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. 16-02300PZ

Project No. 2012019

Date 02.08.2013

Scale 1" = 10'

Sheet L-4.1

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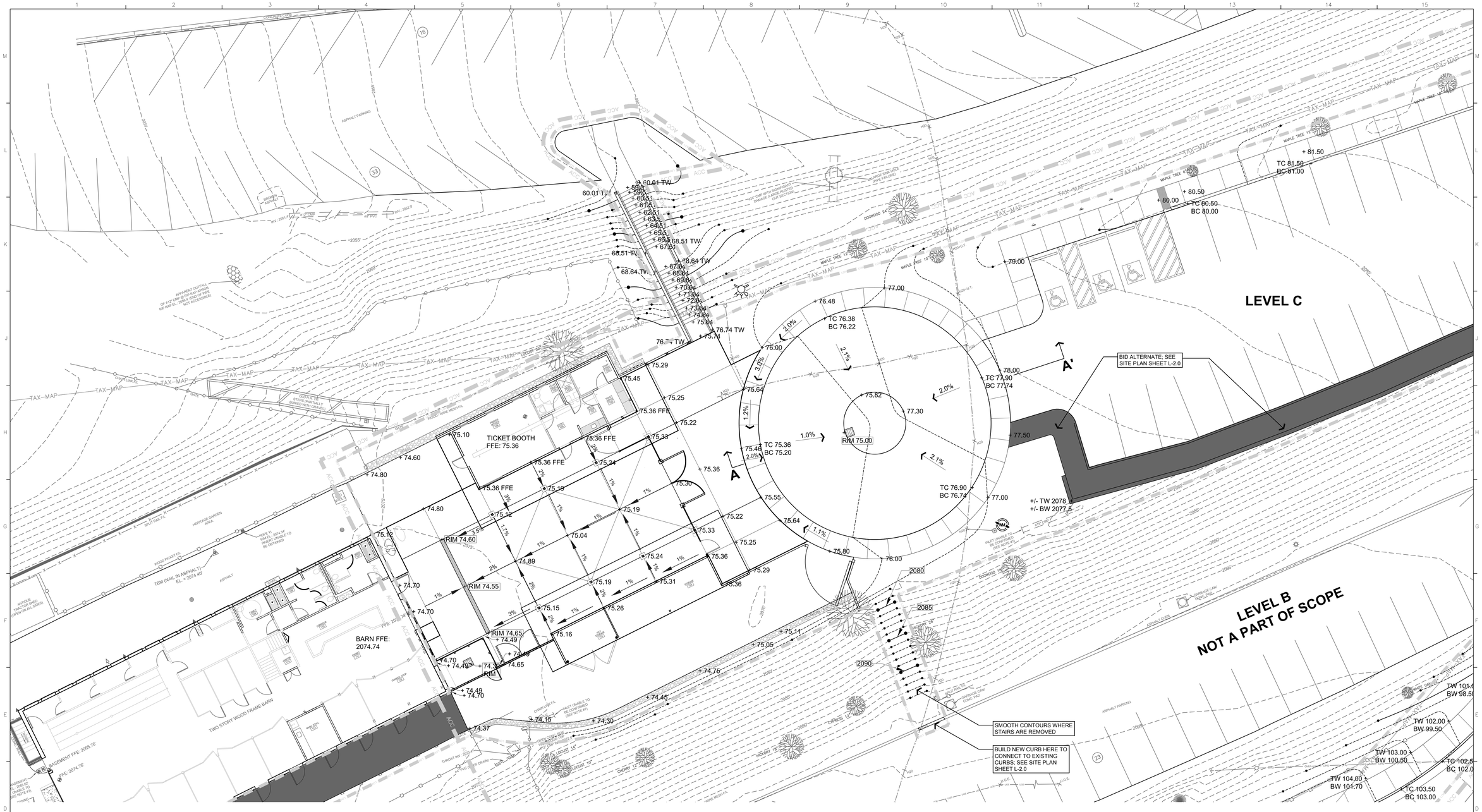

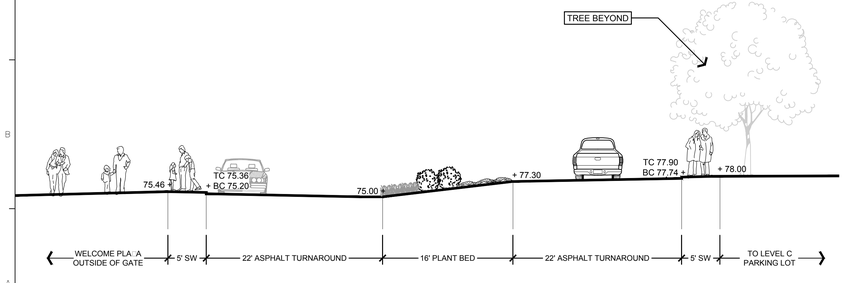

SECTION A-A' SCALE: 1/8" = 1'-0"

LEGEND

SYMBOL	DESCRIPTION
2080'	5' CONTOURS (EXISTING)
	1' CONTOURS (EXISTING)
LOW	LIMITS OF WORK
ACC	AREA OF CODE COMPLIANCE
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)

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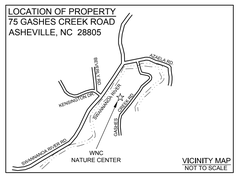
LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805



VICINITY MAP
NOT TO SCALE

NOTES:

1. SEE ALSO SHEET C-1.0 NOTES
2. SEE ALSO SHEET L-2.0 NOTES
3. SEE ALSO SHEET L-4.0 NOTES

NORTH

SCALE: 1" = 10'
5' 0' 5' 10' 20'

OWNER INFORMATION

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P.O. BOX 7148 ASHEVILLE, NORTH CAROLINA 28801
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NORTH CAROLINA
LANDSCAPE ARCHITECT
1424
July 6, 2016
STEPHANIE A. FANKIEWICZ

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

GRADING ENLARGEMENT WELCOME PLAZA

Revision No.
09.09.2013 - 100% CD Owner Rev. Lifemark Submission Reads Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
16-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
1" = 10'

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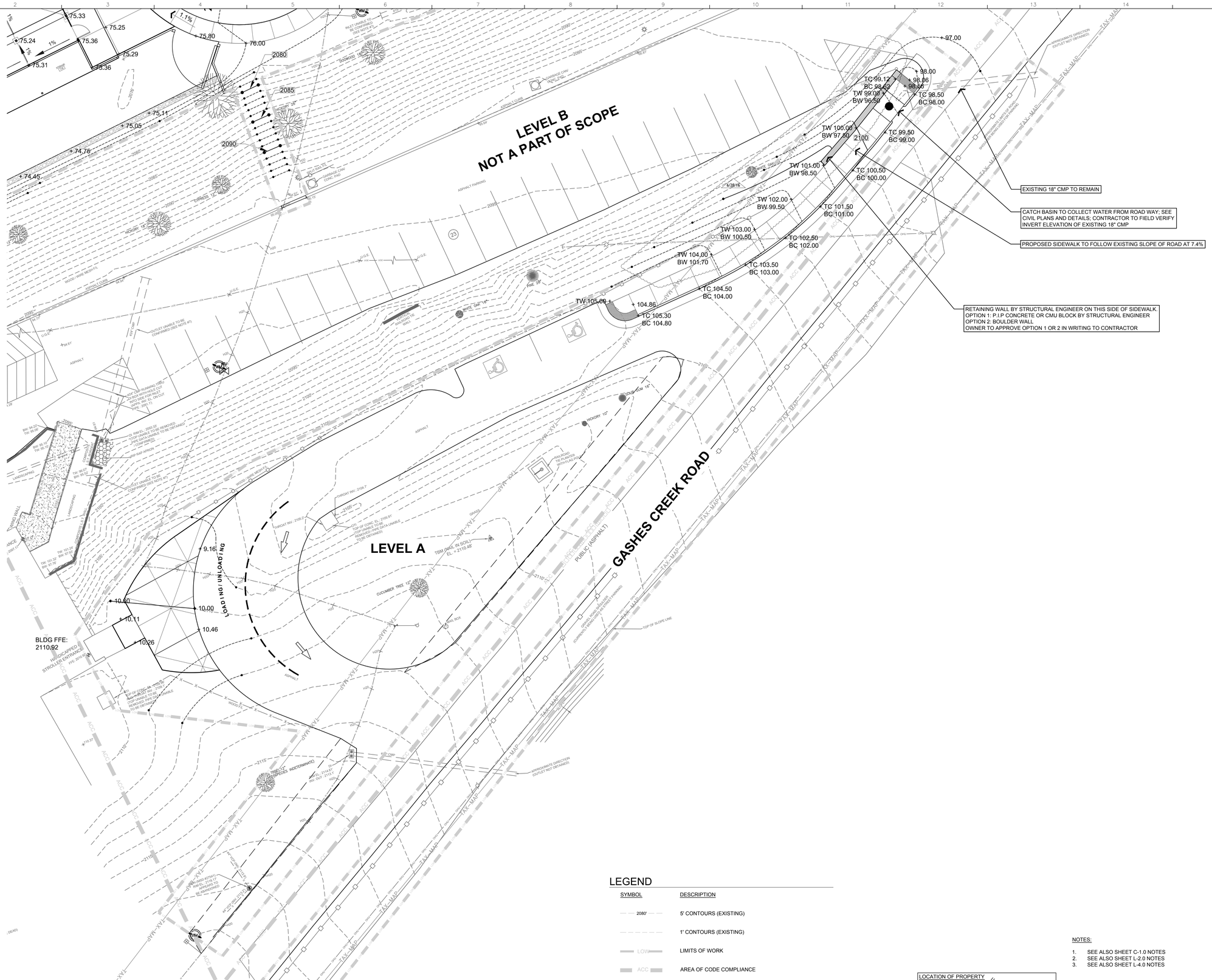

LEGEND

SYMBOL	DESCRIPTION
2080'	5' CONTOURS (EXISTING)
	1' CONTOURS (EXISTING)
LOW	LIMITS OF WORK
ACC	AREA OF CODE COMPLIANCE
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)

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LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

VICINITY MAP
NOT TO SCALE

NOTES:

1. SEE ALSO SHEET C-1.0 NOTES
2. SEE ALSO SHEET L-2.0 NOTES
3. SEE ALSO SHEET L-4.0 NOTES

NORTH

SCALE: 1" = 10'

5' 0' 5' 10' 20'

OWNER INFORMATION

CITY OF ASHEVILLE PARKS, RECREATION & CULTURAL ARTS DEPT.
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NORTH CAROLINA LANDSCAPE ARCHITECT
1424
July 8, 2016
STEPHANIE A. PANTAMBOLIS

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

GRADING ENLARGEMENT ENTRY PLAZA

Revision No.
09.09.2013 - 100% CD Set
09.09.2013 - 100% CD Owner Rev. Updated Submission Ready Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
16-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
1" = 10'

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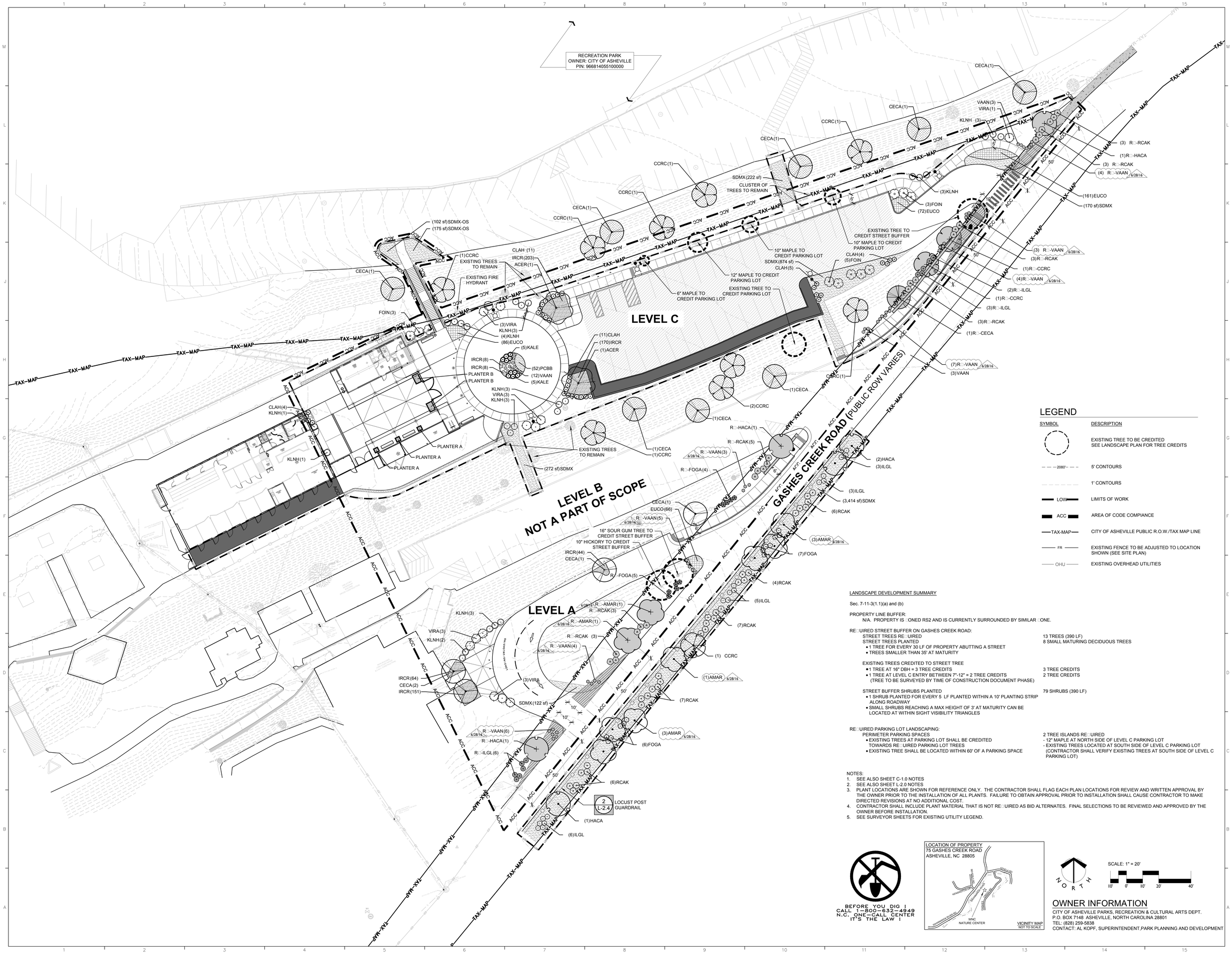

LEGEND

SYMBOL	DESCRIPTION
	EXISTING TREE TO BE CREDITED SEE LANDSCAPE PLAN FOR TREE CREDITS
2080'	5' CONTOURS
	1' CONTOURS
LOW	LIMITS OF WORK
ACC	AREA OF CODE COMPIANCE
TAX-MAP	CITY OF ASHEVILLE PUBLIC R.O.W./TAX MAP LINE
FR	EXISTING FENCE TO BE ADJUSTED TO LOCATION SHOWN (SEE SITE PLAN)
OHU	EXISTING OVERHEAD UTILITIES

LANDSCAPE DEVELOPMENT SUMMARY

Sec. 7-11-3(1.1)(a) and (b)

PROPERTY LINE BUFFER:
N/A. PROPERTY IS ZONED RS2 AND IS CURRENTLY SURROUNDED BY SIMILAR ZONE.

REQUIRED STREET BUFFER ON GASHES CREEK ROAD:

STREET TREES REQUIRED	13 TREES (390 LF)
STREET TREES PLANTED	8 SMALL MATURING DECIDUOUS TREES
• 1 TREE FOR EVERY 30 LF OF PROPERTY ABUTTING A STREET	
• TREES SMALLER THAN 35' AT MATURITY	
EXISTING TREES CREDITED TO STREET TREE	
• 1 TREE AT 16" DBH = 3 TREE CREDITS	3 TREE CREDITS
• 1 TREE AT LEVEL C ENTRY BETWEEN 7"-12" = 2 TREE CREDITS (TREE TO BE SURVEYED BY TIME OF CONSTRUCTION DOCUMENT PHASE)	2 TREE CREDITS
STREET BUFFER SHRUBS PLANTED	79 SHRUBS (390 LF)
• 1 SHRUB PLANTED FOR EVERY 5 LF PLANTED WITHIN A 10' PLANTING STRIP ALONG ROADWAY	
• SMALL SHRUBS REACHING A MAX HEIGHT OF 3' AT MATURITY CAN BE LOCATED AT WITHIN SIGHT VISIBILITY TRIANGLES	

REQUIRED PARKING LOT LANDSCAPING:

PERIMETER PARKING SPACES	2 TREE ISLANDS REQUIRED
• EXISTING TREES AT PARKING LOT SHALL BE CREDITED TOWARDS REQUIRED PARKING LOT TREES	- 12" MAPLE AT NORTH SIDE OF LEVEL C PARKING LOT
• EXISTING TREE SHALL BE LOCATED WITHIN 60' OF A PARKING SPACE	- EXISTING TREES LOCATED AT SOUTH SIDE OF LEVEL C PARKING LOT (CONTRACTOR SHALL VERIFY EXISTING TREES AT SOUTH SIDE OF LEVEL C PARKING LOT)

NOTES:
1. SEE ALSO SHEET C-1.0 NOTES
2. SEE ALSO SHEET L-2.0 NOTES
3. PLANT LOCATIONS ARE SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL FLAG EACH PLAN LOCATIONS FOR REVIEW AND WRITTEN APPROVAL BY THE OWNER PRIOR TO THE INSTALLATION OF ALL PLANTS. FAILURE TO OBTAIN APPROVAL PRIOR TO INSTALLATION SHALL CAUSE CONTRACTOR TO MAKE DIRECTED REVISIONS AT NO ADDITIONAL COST.
4. CONTRACTOR SHALL INCLUDE PLANT MATERIAL THAT IS NOT REQUIRED AS BID ALTERNATES. FINAL SELECTIONS TO BE REVIEWED AND APPROVED BY THE OWNER BEFORE INSTALLATION.
5. SEE SURVEYOR SHEETS FOR EXISTING UTILITY LEGEND.

BEFORE YOU DIG !
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LOCATION OF PROPERTY
75 GASHES CREEK ROAD
ASHEVILLE, NC 28805

NORTH

SCALE: 1" = 20'
10' 0' 10' 20' 40'

OWNER INFORMATION

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NORTH CAROLINA LANDSCAPE ARCHITECT
1484
July 8, 2016
STEPHANIE A. TANNENBAUM

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

LANDSCAPE PLAN

Revision No.
09.09.2013 - NSPE-CD Owner-Rev 1 (Permit Submission Ready Set)
09.13.2013 - Updated Architecture
03.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
16-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
1" = 20'

Sheet
L-5.0

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PLANT SCHEDULE - RE□UIRED PLANTS

RE□UIRED TREES	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	CAL	HEIGHT	REMARKS
	R□-AMAR	2	Amelanchier aborea	Downy Serviceberry	15 gal	1.5"-2"	8□-10□	Up to 35□at maturity
	R□-CECA	1	Cercis canadensis	Eastern Redbud	15 gal	1.5"-2"	8□-10□	Less than 35□at maturity
	R□-CCRC	4	Cornus x rutgersensis □Constellation□	White Stellar Series Dogwood	B & B	1.5"-2"	8□- 10□	Less than 35□at maturity; white showy flowers from April to May
	R□-HACA	3	Halesia carolina	Carolina Silverbell	B & B	1.5"-2"	8□-10□	Less than 35□at maturity; white showy flowers from April to May

6/28/16

RE□UIRED SHRUBS	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	HEIGHT	SPREAD	REMARKS
	R□-FOGA	9	Fothergilla gardenii	Dwarf Fothergilla	3 gal	12" - 18"	18" - 24"	White blooms from April to May; Red leaf fall color
	R□-ILGL	11	Ilex glabra	Inkberry Holly	3 gal	18" - 24"	18" - 24"	Full, Branches to ground
	R□-RCAK	23	Rhododendron catawbiense □Anah Kruschke□	Catawba Rhododendron	3 gal	24" - 30"	24" - 30"	Evergreen; Purple blooms
	R□-VAAN	36	Vaccinium angustifolium	Lowbush Blueberry	3 gal	12" - 18"	8" - 12"	White showy flowers in Spring; Blueberries in Summer

6/28/16

SOD/SEED	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	REMARKS
	SDMX	5,077 sf	--	Rebel II	--	--

PLANT SCHEDULE - OUTSIDE OF LIMIT OF WORK LINE (PLANTING ON EXISTING SLOPES)

NOTE: TREES LOCATED OUTSIDE OF LIMIT OF WORK SHALL BE FIELD LOCATED BY THE CONTRACTOR WITH THE OWNER.

ORNAMENTAL TREES	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	CAL	HEIGHT	REMARKS
	CECA	8	Cercis canadensis	Eastern Redbud	B & B	1.5"-2"	8□- 10□	Less that 35□at maturity; Located on slope between Level C and Recreation Park and on slope between Level B and Level C
	CCRC	9	Cornus x rutgersensis □Constellation□	White Stellar Series Dogwood	B & B	1.5"-2"	8□- 10□	Less than 35□at maturity; white showy flowers from April to May; Located on slope between Level C and Recreation Park and on slope between Level B and Level C

PLANT SCHEDULE - BID ALTERNATE

DECIDUOUS TREES	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	CAL	HEIGHT	REMARKS
	ACER	2	Acer rubrum	Red Maple	B & B	2"Cal	12□- 14□	

ORNAMENTAL TREES	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	CAL	HEIGHT	REMARKS
	AMAR	7	Amelanchier arborea	Downy Serviceberry	B & B	1.5"-2"	8□- 10□	Up to 35□at maturity
	CECA	10	Cercis canadensis	Eastern Redbud	B & B	1.5"-2"	8□- 10□	Less than 35□at maturity
	CCRC	2	Cornus x rutgersensis □Constellation□	White Stellar Series Dogwood	B & B	1.5"-2"	8□- 10□	Less than 35□at maturity; white showy flowers from April to May
	HACA	3	Halesia carolina	Carolina Silverbell	B & B	1.5"-2"	8□-10□	Less than 35□at maturity; white showy flowers from April to May

6/28/16

DECIDUOUS SHRUBS	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	HEIGHT	SPREAD	REMARKS
	CLAH	35	Clethra alnifolia □Hummingbird□	Summersweet	3 gal	18" - 24"	18" - 24"	
	FOIN	11	Forsythia x intermedia	Border Forsythia	3 gal	24" - 30"	24" - 30"	
	FOGA	13	Fothergilla gardenii	Dwarf Fothergilla	3 gal	15" - 18"	18" - 24"	White blooms from April to May; Red leaf fall color
	VAAN	18	Vaccinium angustifolium	Lowbush Blueberry	3 gal	12" - 18"	8" - 12"	White showy flowers in Spring; Blueberries in Summer

6/28/16

EVERGREEN SHRUBS	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	HEIGHT	SPREAD	REMARKS
	ILGL	17	Ilex glabra	Inkberry Holly	3 gal	18" - 24"	18" - 24"	Leaves to ground
	KALE	10	Kalmia latifolia □Elf□	Dwarf Mountain Laurel	3 gal	18" - 24"	18" - 24"	
	KLNH	28	Kalmia latifolia □Nathan Hale□	Pink Mountain Laurel	5 gal	24" - 36"	24" - 36"	Dense and full growth habit; Pink bloom from May to June
	RCAK	30	Rhododendron catawbiense □Anah Kruschke□	Catawba Rhododendron	5 gal	24" - 36"	24" - 36"	Purple blooms
	VIRA	13	Viburnum rhytidophyllum □Alleghany□	Leatherleaf Viburnum	5 gal	24" - 36"	24" - 36"	White flowers in April and May; Bright red berries in early Fall

GROUND COVERS	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	COLOR	BLOOMS	SPACING	REMARKS
	IRCR	648	Iris cristata	Crested Iris	1 quart	Purple	Early Spring-Early Summer	12" o.c.	

PERENNIALS	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	COLOR	BLOOMS	SPACING	REMARKS
	EUCO	385	Eupatorium coelestinum	Hardy Ageratum	1 quart	Blue	Late summer to frost	12" o.c.	
	PCBB	52	Phlox carolina □Bill Baker□	Thickleaf Phlox	1 quart	Pink	Early Spring-Early Summer	12" o.c.	

PLANTER A	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	COLOR	SPACING	REMARKS
	PLANTER A 3							See Planter Plant Detail 2/Sheet L-5.2
	FALL & SUMMER (PLANTER A) Note: Plant quantities are per planter.							
		1	Helleborus odorus 'Double □ueen'	Double □ueen Lenten Rose	1 gal.	Pink & White		Grows to 3' height; Blooms in freezing temperatures; Evergreen; Shade and frost tolerant

PLANTER B	CODE	□TY	BOTANICAL NAME	COMMON NAME	CONT	COLOR	SPACING	REMARKS
	PLANTER B 2							See Planter Plant Detail 2/Sheet L-5.2
	FALL (PLANTER B) Note: Plant quantities are per planter.							
		1	Cornus sericea 'Kelseyi'	Kelsey's Dwarf Red-Osier Dogwood	3 gal.			24-30" max. height; bright red twigs in winter for burst of seasonal color
		25	Viola x wittrockiana 'Maximum'	Maximum Pansy	4" pot	White-Rose	6" o.c.	2" flowers; Grows to 8" height; First to bloom in winter season; evenly disperse between pansy colors
		25	Viola x wittrockiana 'Maximum'	Maximum Pansy	4" pot	Blue	6" o.c.	2" flowers; Grows to 8" height; First to bloom in winter season; evenly disperse between pansy colors
	SUMMER (PLANTER B) Note: Plant quantities are per planter.							
		1	Cornus sericea 'Kelseyi'	Kelsey's Dwarf Red-Osier Dogwood	3 gal.			To remain from Fall planting; 24-36" max. height; bright red twigs in winter
		4	Coreopsis grandiflora □Domino□	Tickseed	1 gal	Yellow with Maroon Eye	18" o.c.	Blooms June to August; Grows to 18" height
		20	Lysimachia nummularia 'Aurea'	Golden Creeping Jenny	container	Golden yellow-green	12" o.c.	Less than 6" height

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NORTH CAROLINA LICENSED LANDSCAPE ARCHITECT 1424 July 8, 2016 JEFFREY A. PANKEMIER

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

LANDSCAPE SCHEDULE

Revision No.
09.09.2013 - Addendum
09.09.2013 - 100% CD Owner Rev 1/Permit
Set - 09.09.2013
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.
16-02300PZ

Project No.
2012019

Date
02.08.2013

Scale
N/A

Sheet
L-5.1

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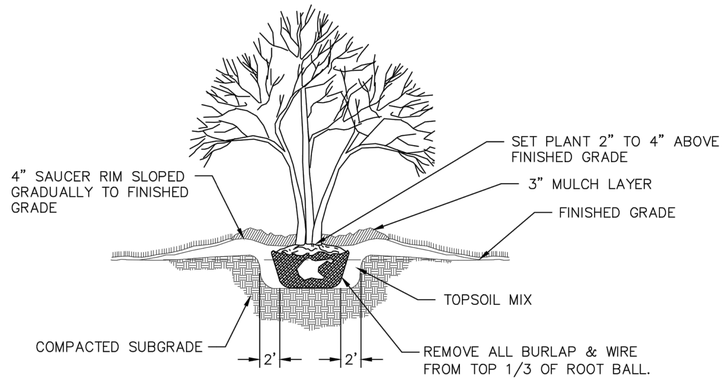
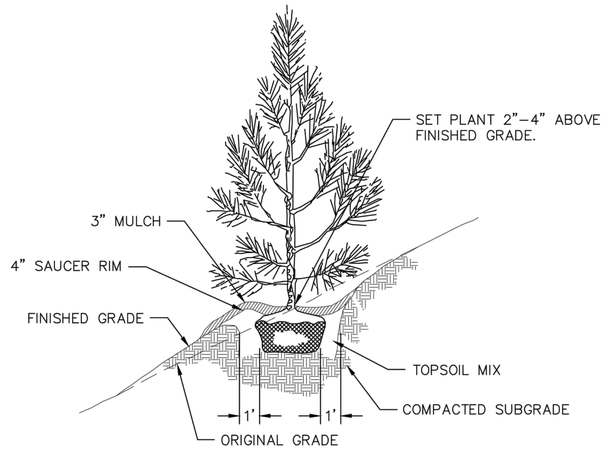
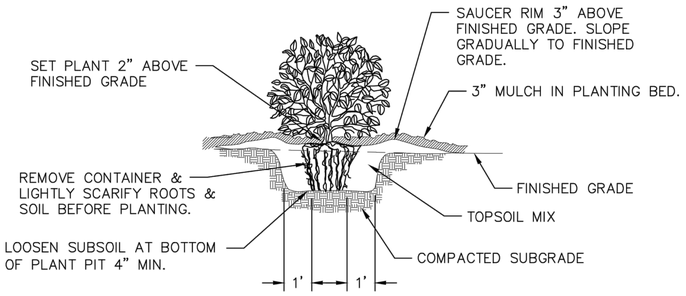


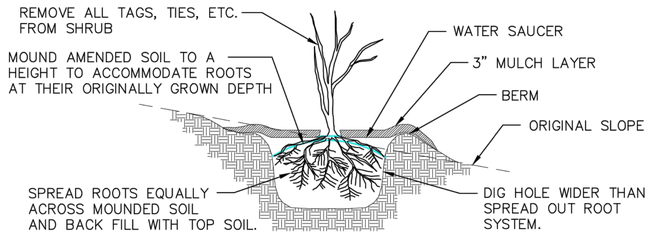
TREE PLANTING



TREE PLANTING ON SLOPE



SHRUB PLANTING



NOTE: STORE BARE ROOT MATERIAL IN A COOL STORAGE AREA WITH THEIR ROOTS KEPT MOIST AND EITHER TARPED OR WET DOWN DAILY. BARE ROOT MATERIAL SHOULD NEVER BE ALLOWED TO DRY OUT. ROOT SYSTEMS SHOULD BE DIPPED IN A SLURRY OF HYDROGEL FOR 30 MIN. BEFORE PLANTING.

TREE/SHRUB BARE ROOT PLANTING DETAIL

City of Asheville, NC
Standard Specifications and Details Manual

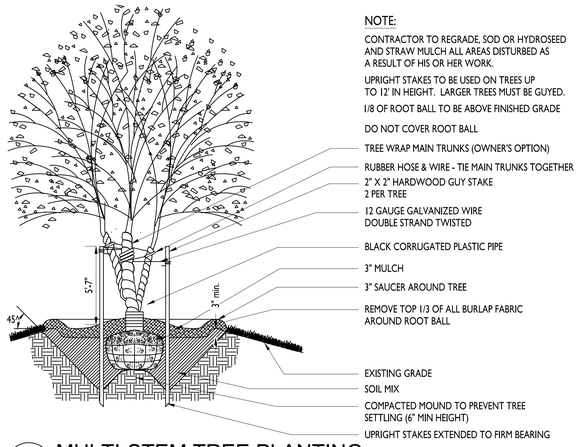
TREE & SHRUB PLANTING DETAIL

REVISIONS		STD. NO.
DATE	DESCRIPTION	3.22F

1 L-5.1 TREE & SHRUB PLANTING DETAIL

NOTE: CITY OF ASHEVILLE DETAIL (COA) IS THE MIN. INSTALLATION FOR THE "RE□UIRED" TREES AND SHRUBS. ALL PLANTING DETAILS AND ACCESSORIES EXCEEDING COA MIN. SHOULD BE INCLUDED AS BID ALTERNATE.

SCALE: NOT TO SCALE



NOTE:

CONTRACTOR TO REGRADE, SOD OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF HIS OR HER WORK.

UPRIGHT STAKES TO BE USED ON TREES UP TO 12' IN HEIGHT. LARGER TREES MUST BE GUYED.

1/8 OF ROOT BALL TO BE ABOVE FINISHED GRADE

DO NOT COVER ROOT BALL

TREE WRAP MAIN TRUNKS (OWNER'S OPTION)

RUBBER HOSE & WIRE - TIE MAIN TRUNKS TOGETHER

2" X 2" HARDWOOD GUY STAKE 2 PER TREE

12 GAUGE GALVANIZED WIRE DOUBLE STRAND TWISTED

BLACK CORRUGATED PLASTIC PIPE

3" MULCH

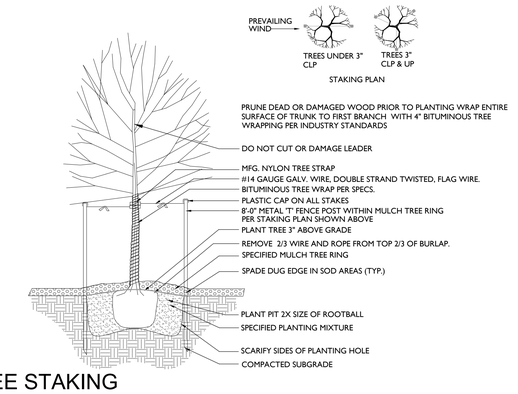
3" SAUCER AROUND TREE

REMOVE TOP 1/3 OF ALL BURLAP FABRIC AROUND ROOT BALL

4 L-5.1 MULTI-STEM TREE PLANTING

SECTION

SCALE: NOT TO SCALE

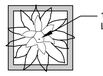


5 L-5.1 TREE STAKING

PLAN AND SECTION

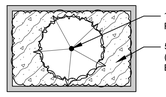
SCALE: NOT TO SCALE

PLANTER A: FALL



1 - DOUBLE □UEEN LENTEN ROSE

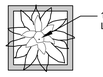
PLANTER B: FALL



1- KELSEY'S DWARF RED-OSIER DOGWOOD

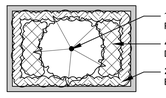
50 - MAXIMUM PANSY (WHITE-ROSE & BLUE EVENLY MIXED)

PLANTER A: SUMMER



1 - DOUBLE □UEEN LENTEN ROSE

PLANTER B: SUMMER



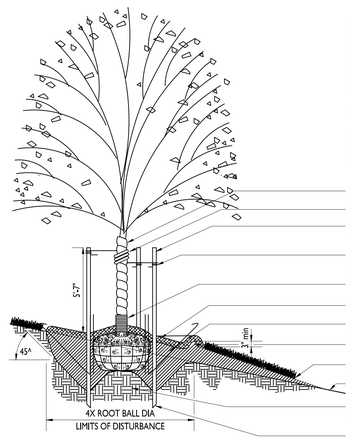
1- KELSEY'S DWARF RED-OSIER DOGWOOD

4 - TICKSEED (2 EACH SIDE OF DOGWOOD)

20 - GOLDEN CREEPING JENNY EVENLY DISPERSED

2 L-5.1 PLANTER PLANT DETAIL

SCALE: NOT TO SCALE



NOTE:

CONTRACTOR TO REGRADE, SOD OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF HIS OR HER WORK.

UPRIGHT STAKES TO BE USED ON TREES UP TO 12' IN HEIGHT. LARGER TREES MUST BE GUYED.

1/8 OF ROOT BALL TO BE ABOVE FINISHED GRADE

DO NOT COVER ROOT CROWN

REMOVE TOP 1/3 OF ALL BURLAP FABRIC AROUND ROOT BALL

TREE WRAP MAIN TRUNK (OWNER'S OPTION)

RUBBER HOSE

2" X 2" HARDWOOD GUY STAKE 3 PER TREE

12 GAUGE GALVANIZED WIRE DOUBLE STRAND TWISTED

BLACK CORRUGATED PLASTIC PIPE

3" MULCH

SOIL MIX

3" SAUCER AROUND TREE

3:1 MAXIMUM GRASSED SLOPE

EXISTING GRADE

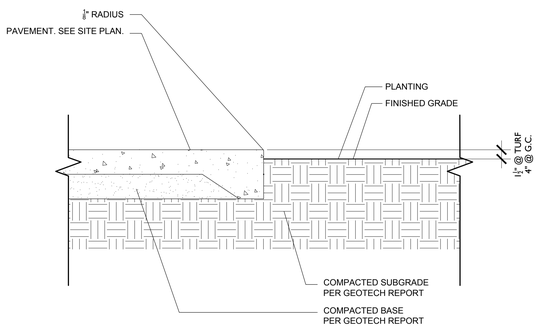
COMPACTED MOUND TO PREVENT TREE SETTLING (6" MIN HEIGHT)

UPRIGHT STAKES EXTENDED TO FIRM BEARING

3 L-5.1 TREE PLANTING ON A SLOPE

SECTION

SCALE: NOT TO SCALE



6 L-5.1 LANDSCAPE TO HARDSCAPE

SECTION

SCALE: NOT TO SCALE

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA

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200 S. Peyton St., Alexandria, VA 22314
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NORTH CAROLINA LANDSCAPE ARCHITECT 1424 July 6, 2016 STEPHANIE A. TANNENBAUM

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

LANDSCAPE DETAILS AND NOTES

Revision No.
09.09.2013 - 100% CD
09.09.2013 - 100% CD Owner Rev - 1 Permit Submission Ready Set
05.13.2014 - Updated Grading & Site Plan
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No.	16-02300PZ
Project No.	2012019
Date	02.08.2013
Scale	N/A
Sheet	L-5.2

Jul 05, 2016 - 1:21pm
J:\Projects\2012\2012019\Cad\Details\LD Set\
L-Landscape-Details-LD01.dwg
Layout: Details and Notes

1.0 GENERAL NOTES:

1.1 THIS PLAN IS FOR PLANTING ONLY.

1.2 UTILITIES: THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, AND NOTIFY MISS UTILITY OR E□UIVALENT UTILITY LOCATION COMPANY OF THE PROPOSED CONSTRUCTION. IN ADDITION, THE CONTRACTOR IS TO BE NOTIFIED WHICH UTILITIES, INCLUDING STORM AND SANITARY SEWERS ARE LOCATED IN THE VICINITY OF THE PROPOSED WORK. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND STAKING THE LOCATION OF ALL EXISTING UTILITIES AND PROTECTING THEM DURING THE WORK AND SHALL BEAR ANY COSTS TO REPAIR UTILITIES DAMAGED AS A CONSE□UENCE OF HIS WORK.

1.3 RE□UIREMENTS: ALL WORK SHALL MEET OR EXCEED THE RE□UIREMENTS OF ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, ORDINANCES AND RE□UIREMENTS.

1.4 PROTECTION OF EXISTING WORK: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL WORK IN A MANNER THAT PROTECTS COMPLETED WORK BY OTHERS, SUCH AS CURBS, UTILITIES, STORM DRAINAGE, FENCES, DRIVEWAY APRONS, DRIVES, VEGETATION, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF SATISFACTORY REPAIR OF ALL DAMAGE IN KIND RESULTING FROM HIS FAILURE TO COMPLY.

1.5 APPLICABLE STANDARDS: ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT. THE OWNER SHALL RECEIVE TAGS FROM EACH PLANT SPECIES AND A LIST OF PLANT SUPPLIERS. WHERE ANY RE□UIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL MEET THE NORMAL RE□UIREMENTS FOR THE VARIETY OR CULTIVAR PER THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN). PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.

1.6 SUBSTITUTIONS: NO SUBSTITUTIONS OF PRODUCTS, PLANT TYPES OR SI□ES SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE OWNER, LANDSCAPE ARCHITECT AND COUNTY REVIEW AGENCY. RE□UESTS FOR SUBSTITUTION SHALL BE IN WRITING, AND SHALL STATE THE REASONS FOR THE SUBSTITUTION RE□UEST, THE SUGGESTED ALTERNATIVE, AND THE CHANGES IN COST. RE□UESTS FOR SUBSTITUTION IN PLANT MATERIALS SHALL STATE THE NAMES OF NURSERIES WHO HAVE BEEN UNABLE TO SUPPLY THE ORIGINALLY SPECIFIED MATERIAL.

1.7 □UANTITIES: □UANTITIES OF PLANTS AS SHOWN BY PLANT SYMBOLS ON THE PLAN SHALL GOVERN OVER THE □UANTITIES SHOWN IN THE PLANT LIST. THE CONTRACTOR IS TO VERIFY PLANT LIST TOTALS WITH □UANTITIES SHOWN ON PLAN. THE LANDSCAPE ARCHITECT SHALL BE ALERTED BY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO FINAL BID NEGOTIATION.

1.8 PLANTING SEASON: PLANTING SHALL ONLY OCCUR DURING SPECIFIED PLANTING SEASONS. SPRING SEASON SHALL BE FROM MARCH 1 TO JUNE 15. FALL PLANTING SEASON SHALL BE FROM SEPTEMBER 15 THROUGH NOVEMBER 15. NO PLANTING SHALL OCCUR WHEN THE GROUND IS FRO□EN.

1.9 GUARANTEE: THE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE IMPROVEMENTS, INCLUDING SEEDING, FOR ONE FULL YEAR AS RE□UIRED BY THE SPECIFICATIONS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL PLANT MAINTENANCE DURING THE GUARANTEE PERIOD.

1.10 DEAD PLANTS: DEAD PLANTS ARE TO BE REMOVED FROM THE SITE IMMEDIATELY, REGARDLESS OF SEASON, WEEKLY FROM THE JOB BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN AN UPDATED, COMPREHENSIVE LIST OF ALL DEAD MATERIALS REMOVED AND PRESENT A COPY OF THE LIST TO THE OWNER AT THE END OF EVERY MONTH DURING THE CONTRACT PERIOD.

1.11 PLANT MATERIAL REMOVAL: NO EXISTING TREES SHALL BE REMOVED WITHOUT WRITTEN AUTHORI□ATION FROM THE OWNER EXCEPT WHERE NOTED ON PLANS. NO GRUBBING SHALL OCCUR WITHIN EXISTING TREE AREAS UNLESS SPECIFICALLY NOTED ON PLANS.

1.12 PLANT COSTS: INSTALLED UNIT PRICES FOR ALL PLANT MATERIALS SHALL BE SUPPLIED TO THE OWNER AND LANDSCAPE ARCHITECT AT THE BIDDING TIME.

2.0 MATERIALS:

2.1 SOIL AMENDMENTS SHALL BE APPLIED ANNUALLY ACCORDING TO THE FOLLOWING CHART:

TREES:

SOIL AMENDMENTS ------- RATE---------------- SI□E OR S□.FT.
10-6-4 FERTILI□ER ---- 10 LBS -------------- 1,000 S□.FT.

SHRUBS:

SOIL AMENDMENTS ------- RATE---------------- SI□E OR S□.FT.
10-6-4 FERTILI□ER ---- 5 LBS ----------------- 100 S□.FT.

PERENNIALS & GROUNDCOVERS:

SOIL AMENDMENTS ------- RATE---------------- SI□E OR S□.FT.
14-14-14 FERTILI□ER -- 3 LBS ----------------- 100 S□.FT.
COMPOST -------------- 3 YARDS ------------- 1,000 S□.FT.

SEASONAL COLOR: SUMMER ANNUAL BED PREPARATION

SOIL AMENDMENTS ------- RATE---------------- SI□E OR S□.FT.
14-14-14 FERTILI□ER -- 3 LBS ----------------- 100 S□.FT.
COMPOST -------------- 1.5 YARDS ------------- 1,000 S□.FT.

SEASONAL COLOR: FALL PANSY BED PREPARATION

SOIL AMENDMENTS ------- RATE---------------- SI□E OR S□.FT.
14-14-14 FERTILI□ER -- 3 LBS ----------------- 100 S□.FT.
COMPOST -------------- 1.5 YARDS ------------- 1,000 S□.FT.

CONTAINERS / POTS:

SOIL AMENDMENTS ------- RATE---------------- SI□E OR S□.FT.
14-14-14 FERTILI□ER -- 3 LBS ----------------- 100 S□.FT.

2.2 PLANTS: ALL PLANTS WILL BE NURSERY GROWN. THEY SHALL BE TYPICAL OF THEIR SPECIES, CULTIVAR OR VARIETY. THEY SHALL BE SOUND, HEALTHY, AND VIGOROUS, AND SHALL BE FREE OF DISEASE AND ANY EVIDENCE OF INSECTS. IF IN LEAF, THEY SHALL BE DENSELY FOLIATED, WITHOUT LEAF SPOTS, DISCOLORATION, CURL, WILTING, CHLOROSIS OR DAMAGE. THEY SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS. UNLESS SPECIFIED ON THE PLANT LIST, TREES WITH BROKEN, CROOKED OR MULTIPLE LEADERS WILL NOT BE ACCEPTED. TREES WILL BE REJECTED IF THEY HAVE BARK ABRASIONS, SUN SCALD DAMAGE, DISFIGURING KNOTS OR PRUNING CUTS MORE THAN 1-1/4 INCHES IN DIAMETER WHICH HAVE NOT COMPLETELY GROWN OVER.

2.3 BALLED AND BURLAPPED (B&B) MATERIAL: BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH FIRM NATURAL BALLS OF EARTH, OF DIAMETER AND DEPTH TO INCLUDE MOST OF THE FIBROUS ROOTS, AND MEET THE MINIMUM AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, LATEST EDITION. ROOT BALLS OF PLANTS SHALL BE ADE□UATELY PROTECTED AT ALL TIMES FROM SUN AND DRYING WINDS OR FROST.

2.4 CONTAINER GROWN MATERIAL: ROOTBALL MASS WHICH IS LOOSE WITHIN CONTAINER, OR WHICH IS SMALLER THAN THE CONTAINER WHEN REMOVED, SHALL BE REJECTED. PEAT OR FIBER POTTED PLANTS SHALL BE ROOTED THROUGH ALL SIDES AND BOTTOM OF THE POTS.

2.5 DORMANT PROPAGULES: (RHI□OMES, TUBERS, CORMS AND BULBS): SHOOTS AND RHI□OMES SHALL EXHIBIT TURGOR AND SHOOTS SHALL BE LIGHTLY COLORED. BODIES OF TUBERS AND BULBS SHALL BE RIGID TO THE TOUCH. PROPAGULES WHOSE SHOOTS AND BODIES ARE SOFT OR MUSHY TO THE TOUCH, OR WHOSE SHOOTS LACK TURGOR OR ARE DARK COLORED SHALL BE REJECTED.

2.6 SHADE TREES: CALIPER SHALL BE MEASURED AT SIX (6") INCHES ABOVE THE ROOTBALL. HEIGHT SHALL BE MEASURED FROM THE CROWN OF THE ROOT BALL TO THE TOP OF MATURE GROWTH. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING E□UALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF "V" CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURE OR DISEASE INFESTATION. WHERE TREES ARE PLANTED IN ROWS, THEY SHALL BE UNIFORM IN SI□E AND SHAPE.

2.7 SHRUBS: HEIGHT SHALL BE MEASURED FROM THE GROUND TO THE AVERAGE HEIGHT OF THE TOP OF THE PLANT. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING E□UALLY AROUND THE SHRUB MASS. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH.

2.8 MINIMUM SI□ES: SI□ES SPECIFIED IN THE PLANT LIST ARE MINIMUM SI□ES TO WHICH THE PLANTS ARE TO BE JUDGED.

2.9 PLANT HARDINESS: THE SUPPLIER OF ALL PLANTS SHALL CERTIFY THAT THE ORIGIN OF THE PLANTS IS FROM HARDINESS □ONES 6 OR 7, FROM THE EASTERN OR CENTRAL PORTIONS OF THE U.S., PRIOR TO PLANTING UNLESS AGREED TO OTHERWISE WITH THE LANDSCAPE ARCHITECT.

2.10 MULCH: IS TO BE DOUBLE SHREDDED HARDWOOD BARK FOR TREES AND SHRUBS. FINE GROUND BARK MULCH SUCH AS NATURE'S HELPER OR APPROVED E□UAL IS TO BE USED FOR PERENNIAL BEDS. PINE BARK FINES SHALL BE GROUND PINE BARK WITH NO PARTICLES WITH A DIMENSION GREATER THAN 3/4". DOUBLE SHREDDED HARDWOOD BARK IS TO BE USED AT "EXISTING TREES TO REMAIN". MULCH SHALL EXTEND INWARD INTO TREE PRESERVATION AREAS A MINIMUM OF 10 FEET OR 3.3 METERS FROM EDGE OF TREES TO BE SAVED.

2.11 GEO-TEXTILE EROSION CONTROL BLANKET: SHALL BE A NATURAL FIBER WOVEN MESH OR A PHOTO DEGRADABLE NETTING WITH 1" x 3" OR 2" x 2" S□UARE OPENINGS, SUCH AS: COCONUT COIR MESH, WOOD EXCELSIOR OR APPROVED E□UAL WITH FABRIC TENSILE STRENGTH 432 LB/FT. X 138 LB/FT. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

2.12 SOIL TESTING: PRIOR TO PLANTING, ANY TOPSOIL TO BE SPREAD SHALL BE TESTED BY AN APPROVED SOIL TESTING LABORATORY OR AGRICULTURAL EXTENSION SERVICE LABORATORY. TESTS SHALL INCLUDE MECHANICAL AND CHEMICAL ANALYSIS. A SOILS REPORT SHALL INCLUDE RECOMMENDATIONS FOR THE ADDITION OF FERTILI□ER AND ADJUSTMENTS TO PH, OR OTHER AMENDMENTS AND INDICATE THE AMOUNT OF ORGANIC MATTER. A WRITTEN REVIEW OF SAID ANALYSIS AND RECOMMENDATIONS IS RE□UIRED TO BE SUBMITTED TO THE LANDSCAPE ARCHITECT AND OWNER 15 DAYS PRIOR TO INSTALLATION.

2.13 TOPSOIL: ACCEPTABLE TOPSOIL SHALL BE A FERTILE, FRIABLE NATURAL LOAM, UNIFORM IN COMPOSITION, FREE OF STONES, LIMBS, PLANTS AND THEIR ROOTS, DEBRIS AND OTHER EXTRANEOUS MATTER OVER 1 INCH IN DIAMETER. THE SOIL SHALL BE CAPABLE OF SUSTAINED PLANT GROWTH AND HAVE A 5% MINIMUM ORGANIC CONTENT. IN SITUATIONS WHICH RE□UIRE A CUSTOM TOPSOIL OR STRUCTURAL SOIL, THE SOIL MIXTURE SPECIFICATION WILL BE PROVIDED BY THE LANDSCAPE ARCHITECT.

2.14 ORGANIC AMENDMENTS: IF ADDITIONAL ORGANIC MATERIAL IS RE□UIRED, COMPOST, LEAF MOLD, ECOLOGY - A LOW PH COMPOSED SEWAGE SLUDGE PRODUCT, OR OTHER APPROVED ORGANIC MATERIAL SHALL BE THOROUGHLY DISCED INTO THE TOPSOIL AREA.

3.0 INSTALLATION:

3.1 VERIFY GRADES: PRIOR TO PLANTING, THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTED GRADES ARE AS INDICATED ON PLANS. THE CONTRACTOR SHALL NOTIFY THE OWNER AND LANDSCAPE ARCHITECT IF ADJUSTMENTS TO PLANT PLACEMENT MAY BE RE□UIRED DUE TO FIELD CONDITIONS AND FINAL GRADING.

3.2 STAKE PLANT LOCATIONS: PRIOR TO PLANTING, THE CONTRACTOR SHALL LAY OUT THE EXTENT OF PLANT BEDS, AND THE PROPOSED LOCATIONS FOR B&B PLANTS FOR REVIEW BY OWNER AND LANDSCAPE ARCHITECT.

3.3 PLANTING FIELD ADJUSTMENTS: THE CONTRACTOR IS TO SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDE DRAINAGE AWAY FROM BUILDINGS.

3.4 TOPSOIL INSTALLATION: TOPSOIL SHALL BE SPREAD TO FINISH GRADE OVER THE ENTIRE ROUGH GRADED AREA TO BE LANDSCAPED. TOPSOIL SHALL BE SPREAD TO A MINIMUM DEPTH OF 6" AND WORKED INTO THE TOP 12" OF SOIL. AFTER TOPSOIL IS APPLIED, THE SOIL SHALL BE SCARIFIED AS NEEDED TO BREAK UP ANY REMAINING COMPACTION.

3.5 PLANTING HOLES FOR CONTAINER GROWN PLANTS: SHALL BE ONE FOOT (1') DEEP PLUS THE CONTAINER DEPTH IN WHICH THE PLANT HAS BEEN GROWN AND TWO TIMES (2X) WIDER THAN THE CONTAINER.

3.6 PLANTING HOLES FOR B&B PLANTS: THE CROWN OF THE ROOTBALL SHALL BE HIGHER AFTER SETTLING THAN THE ADJACENT SOIL. THE PLANTING HOLE SHALL BE EXCAVATED ONE FOOT (1') DEEP PLUS THE ROOTBALL DEPTH AND TWO FEET (2') WIDER THAN THE ROOTBALL.

3.7 PLANTING: BACKFILL THE PLANTING HOLES WITH IN-SITU SOIL MATERIALS REMOVED FOR PLANTING AFTER REMOVING ALL STONES, ROOTS AND OTHER DEBRIS GREATER THAN 1-1/2" IN DIAMETER. A MYCORRHI□AL INNOCULANT SHALL BE ADD TO THE BACKFILL PER THE MANUFACTURER'S INSTRUCTIONS. FOLLOWING THE BACKFILLING, WATER TO THE POINT OF SOIL SATURATION AND TAMP TO COMPACT THE BACKFILL MIXTURE. ADD EXISTING SOIL TO BRING THE FINAL GRADE IN THE PLANTING HOLE TO THE SURROUNDING SOIL SURFACE. RAKE THE UNUSED EXISTING SOIL OUTSIDE THE PLANTING HOLES, TAKING CARE NOT TO MOUND THE SOIL OR TO SIGNIFICANTLY ALTER THE EXISTING GRADES AND THEN PLACE MULCH ATOP ENTIRE PLANTING HOLE. (SEE APPLICABLE PLANTING DETAILS FOR THICKNESS.) THE PLANTING HOLE AREAS MUST NOT BE DEPRESSED BELOW THE SURROUNDING SOIL SURFACE ELEVATIONS. REMOVE ALL TAGS, LABELS AND FLAGGING FROM PLANTS ONCE INSTALLED.

3.8 WATERING: ALL PLANTS SHALL BE WATERED IMMEDIATELY AFTER PLANTING UNTIL THE SOIL IS SATURATED. PLANTS SHALL BE WATERED A MINIMUM OF EVERY TWO WEEKS, SHOULD THE SOILS DRY, UNTIL ACCEPTANCE BY THE OWNER. DURING DRY CONDITIONS WATER AS RE□UIRED TO MAINTAIN PLANTS IN A WILT FREE CONDITION.

3.9 SITE WORK CONDITIONS: ALL CONTRACTORS SHALL BE RE□UIRED TO COMPLETELY REMOVE ALL TRASH, DEBRIS AND EXCESS MATERIALS FROM THE WORK AREA AND THE PROPERTY (ESPECIALLY AT ALL CURB, GUTTERS AND SIDEWALKS) DAILY DURING INSTALLATION.

3.10 EROSION CONTROL: ALL DISTURBED, NON-VEGETATED SLOPES SHALL BE PLANTED WITH AN ANNUAL RYE GRASS OR AN APPROVED E□UAL BEFORE INSTALLATION AT THE RECOMMENDED RATE TO STABILI□E AREA, OR OTHER E□UIVALENT EROSION CONTROL PRATICE.

3.11 FIELD ADJUSTMENTS: LARGE GROWING PLANTS ARE NOT TO BE PLANTED IN FRONT OF WINDOWS, UNDER BUILDING OVERHANGS, OR IN DRAINAGE SWALES. SHRUBS PLANTED NEAR H.V.A.C. UNITS TO BE LOCATED SO THAT SHRUBS AT MATURITY WILL MAINTAIN (1 FOOT OR .3 METERS) AIRSPACE BETWEEN UNIT AND PLANT. ANY PLANTING WHICH IS SHOWN ADJACENT TO CONDENSOR UNITS SHALL BE PLANTED AS RE□UIRED TO SCREEN THE UNITS. SHOULD THE CONDENSOR UNITS BE INSTALLED IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE PLAN IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE LANDSCAPE ARCHITECT AND INSTALL THE MATERIALS AROUND THE CONDENSORS AND TO ADJUST OTHER ADJACENT PLANTING ACCORDINGLY.

3.12 TREE STAKING AND GUYING: SHALL BE DONE PER DETAILS IN THIS SET OF LANDSCAPE PLANS. THE CONTRACTOR SHALL ENSURE THAT TREES REMAIN VERTICAL AND UPRIGHT FOR THE DURATION OF THE GUARANTEE PERIOD.

3.13 BURLAP, TAGS AND TWINE: ARE TO BE REMOVED AND BURLAP IS TO BE ROLLED BACK ONE-THIRD ON ALL B&B PLANT MATERIAL. ANY SYNTHETIC BURLAP SHALL BE COMPLETELY REMOVED FROM ANY PLANT MATERIAL

3.14 PLANT SPACING: SHRUBS, BULBS AND GROUNDCOVERS SHALL BE TRIANGULARLY SPACED AT SPACING SHOWN ON PLANTING PLANS AND IN APPLICABLE PLANTING DETAILS.

3.15 A.D.A.: THE AMERICANS WITH DISABILITIES ACT (A.D.A.) STANDARDS RE□UIRE THAT A (7 FOOT OR 2.13 METER) VERTICAL CLEARANCE BE MAINTAINED FROM TREE BRANCHES TO FINISHED GRADE WHERE PEDESTRIAN SIDEWALKS AND/OR TRAILS ARE LOCATED. THE CONTRACTOR IS TO ADJUST TREE PLANTINGS IN FIELD SLIGHTLY TO MINIMI□E BRANCH OVERHANG. THE HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE TO MAINTAIN CLEAR ACCESS OF PEDESTRIAN WAYS IN ACCORDANCE WITH THE ADA RE□UIREMENTS.

3.16 SLOPES: SHRUBS, GROUNDCOVERS AND PERENNIALS PLANTED ON SLOPES GREATER THAN 3:1 SHALL HAVE A NATURAL FIBER GEO-TEXTILE WOVEN MESH MATERIAL PINNED TO GROUND PER MANUFACTURER'S SPECIFICATIONS. GROUNDCOVER BEDS SHALL HAVE 2 INCHES OF GROUND LEAF COMPOST SPREAD ONTO SLOPE PRIOR TO PLACING MESH. EXCAVATE PLANT PITS THROUGH MESH.

3.17 SOIL EXCAVATION: ALL TREE PITS, SHRUB BEDS AND PREPARED PLANTING BEDS ARE TO BE COMPLETELY EXCAVATED IN ACCORDANCE WITH THE PLANTING DETAILS IN THIS SET OF LANDSCAPE PLANS.

3.18 INSPECTIONS: THE CONTRACTOR MUST CONTACT THE OWNER AT LEAST 10 WORKING DAYS IN ADVANCE TO SCHEDULE ACCEPTANCE INSPECTION(S). THE CONTRACTOR MUST REPLACE ALL DEAD OR UNACCEPTABLE PLANTS AND PLANT ANY MISSING PLANTS DURING THE FOLLOWING RECOMMENDED PLANTING SEASONS.

3.19 PLANT BED EDGES/LINES: GROUPS OF SHRUBS, PERENNIALS AND GROUNDCOVERS SHALL BE PLACED IN A CONTINUOUS MULCH BED WITH SMOOTH CONTINUOUS LINES. ALL MULCHED BED EDGES SHALL BE CURVILINEAR IN SHAPE FOLLOWING THE CONTOUR OF THE PLANT MASS. TREES LOCATED WITHIN 4 FEET OR 1.22 METERS OF PLANT BEDS SHALL SHARE THE SAME MULCH BED.

3.20 TREE SPACING MINIMUMS: TREES SHALL BE LOCATED A MINIMUM OF (3 FEET OR.91 METERS OR 4 FEET OR 1.20 METERS) FROM WALLS AND WALKS WITHIN THE PROJECT. IF CONFLICTS ARISE BETWEEN ACTUAL SI□E OF AREA AND PLANS, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO THE OWNER OR LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE MATERIALS.

4.0 PROJECT SPECIFIC:

4.1 PREVENTATIVE MAINTENANCE PLAN: THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING A PREVENTATIVE PLAN FOR PROTECTION AGAINST ANIMAL GRA□ING SUCH AS NETTING, STRING LINES OR AN APPROVED METHOD, AS PLANT MATERIAL IS INSTALLED ON A DAILY BASIS.

4.2 TOPSOIL: TOPSOIL RE□UIRED FOR SOIL MIXES AND SPECIAL SEEDING AREAS SHALL BE PROVIDED BY CONTRACTOR. THE CONTRACTOR MUST LOAD, HAUL, MIX, TEST AND SPREAD ALL TOPSOIL AND OTHER SOIL ADDITIVES AS SPECIFIED OR RE□UIRED.

4.3 LAWNS: THE CONTRACTOR SHALL BE RESPONSIBLE TO REGRADE, HYDROSEED, STRAW MULCH, AND TACK ALL EXISTING LAWN AREAS DISTURBED AS THE RESULT OF HIS WORK.

4.4 RE□UIRED PLANTS: SHADED PLANTS ON PLANTING PLANS REPRESENT CITY RE□UIRED PLANT LOCATIONS. NO SUBSTITUTIONS OR RELOCATIONS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE CITY. THE OWNER SHALL BE NOTIFIED SHOULD THE RELOCATION OR SUBSTITUTION OF ANY RE□UIRED PLANTS BE NECESSARY.

4.5 GUIDELINES: ALL PLANTING SHALL CONFORM TO THE RE□UIREMENTS OF THE CITY OF ASHEVILLE DEPARTMENT OF TRANSPORTATION'S GUIDELINES.

4.6 PLANTERS: IN FREE-STANDING PLANTERS INCORPORATE INTO POTTING SOIL GRANULAR TERRASORB CRYSTALS OR APPROVED E□UAL FOR MOISTURE RETENTION PER MANUFACTURER'S SPECIFICATION. PLANTERS ARE TO BE LINED WITH MIRAFI-FILTER FABRIC OR APPROVED E□UAL AND TO HAVE HOLES IN BOTTOM. MATCHING SAUCERS ARE TO BE PROVIDED.

4.7 PERCOLATION TESTING: CONTRACTOR SHALL INCLUDE IN SCOPE OF WORK THE EXCAVATION, PREPARATION AND TESTING OF ALL AREAS THAT RE□UIRE A PERCOLATION TEST PIT. ALL TESTING SHALL COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS. CONTRACTOR SHALL RECORD ALL DATA AND SUBMIT RESULTS TO LANDSCAPE ARCHITECT.

4.8 REPAIRS TO SURFACES: CONTRACTOR UPON COMPLETION SHALL REPAIR ALL SCARS, RUTS OR OTHER MARKS IN THE GROUND CAUSED BY THE CONTRACTORS WORK.

MATERIALS
A. TOPSOIL

1. TOPSOIL SHALL HAVE A PH VALUE FROM 5.6 - 7.6 AND SHALL BE NATURAL FERTILE, (AGRICULTURAL SOIL, BROWN IN COLOR) UNIFORM FRIABLE LOAM WITHOUT ADMIXTURE OF SUBSOIL CONTAINING ORGANIC MATTER OF 5 PERCENT OR GREATER AND SHALL BE CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH.

2. ALL TOPSOIL SHALL PASS A 1 INCH SCREEN AND 40 PERCENT SHALL PASS THE 100 MESH SCREEN. IT SHALL BE FREE OF ANY ADD-MIXTURE OF SUBSOIL, AND CONTAIN NO STONES, LUMPS, CLODS OF HARD EARTH, SLAG, CIDERS, STICKS, PLANTS OR THEIR ROOTS, TRASH OR OTHER EXTRANEOUS MATERIALS.

3. TOPSOIL MUST ALSO BE FREE OF PLANT PARTS OF BERMUDA GRASS, □UACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, CANADA THISTLE, OR ANY NOXIOUS WEEDS AND SHALL NOT BE CONTAMINATED WITH ANY SUBSTANCE KNOWN HARMFUL TO THE GROWTH OF PLANTS OR HUMANS.

4. TOPSOIL SHALL NOT BE USED FOR PLANTING OPERATIONS WHILE IN A FRO□EN OR MUDDY CONDITION.

5. TOPSOIL SOURCES SHALL BE TESTED BY A RECOGNI□ED LABORATORY AT THE EXPENSE OF THE CONTRACTOR FOR PH, SOIL TEXTURE AND SOLUBLE SALTS. SALINITY SHALL NOT EXCEED 3 MILS PER CENTIMETER AT 25 DEGREES C AS DETERMINED BY SATURATED SOIL PASTE METHOD AS DESCRIBED IN USDA CIRCULAR #982. TEST RESULTS MUST BE PRESENTED IN WRITING TO THE LANDSCAPE ARCHITECT OR OWNER PRIOR TO PLACEMENT OF TOPSOIL ON SITE.

6. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR CONTROL OF NOXIOUS OR INVASIVE SPECIES INTRODUCED BY CONTAMINATED TOPSOIL.

7. TOPSOIL THAT HAS BEEN STOCKPILED FOR A LONG PERIODS SHALL BE INOCULATED TO REESTABLISH ITS MICROBIAL ACTIVITY.

B. MULCH
1. SHALL BE TWICE SHREDDED HARDWOOD, AGED 1 YEAR.

C. DOLOMITE LIME
1. SHALL BE AGRICULTURE GRADE GROUND LIMESTONE MEETING ASTM C51 AND CONTAINING NOT LESS THAN 85 PERCENT TOTAL OF CALCIUM 1. MAGNESIUM CARBONATE, FREE OF IMPURITIES, WITH 95 PERCENT PASSING A NUMBER 8 SIEVE AND 40 PERCENT PASSING A NUMBER 100 SIEVE.

D. SAND
1. SHALL BE CLEAN, WASHED, COARSE, MASONRY SAND, RIVER SAND ,OR NUMBER 2 BUILDERS SAND MEETING ASTM C 33.

E. TRACE ELEMENTS
1. SHALL BE ADDED AS RE□UIRED BY SOILS TEST .

F. SEWAGE SLUDGE
1. WHEN DESIGNATED IN WRITING, COMPOSTED SEWAGE SLUDGE MAY BE USED AND SHALL BE COMMERCIALLY AVAILABLE, HIGH □UALITY, ENVIRONMENTALLY SAFE, STERILE, EPA APPROVED SOIL PRODUCT FOR AGRONOMIC USE. IT SHALL CONSIST OF SEWAGE SLUDGE WHICH HAS BEEN COMBINED WITH WOOD CHIPS OR OTHER BULKING AGENT, AERATED AND COMPOSTED FOR 21 DAYS INCLUDING 3 DAYS AT 131 DEGREE F. THE SEWAGE SLUDGE SHALL BE AGED, SHREDDED AND SCREENED AND EXHIBIT THE FOLLOWING CHARACTERISTICS:

PH:	5.6 - 7.7	
	TOTAL NITROGEN (N)	1.2 PERCENT AVAILABLE
	PHOSPHORIC ACID (P205)	1 PERCENT SOLUBLE
	POTASH (K20)	.25 PERCENT
	MICRO-NUTRIENT CONTENT	(FE, MN, S, □N, NI, CU, B)
	LOW CADMIUM CONTENT	
	EPA APPROVAL PATHOGEN DESTRUCTION	

G. LEAF MOLD
1. SHALL BE COMPOSTED LEAF MATERIAL, FREE OF NOXIOUS WEEDS AND DETRIMENTAL INSECTS.

H. COMMERCIAL FERTILI□ER
1. TO MEET FED. SPECIFICATION O-F-241 TYPE 1 GRADE NOTED, LEVEL B. THE FERTILI□ER SHALL BE GRANULAR UNLESS PACKETS, TABLETS, OR STAKES TO BE USED WITH MINIMUM OF 50 PERCENT OF TOTAL NITROGEN IN ORGANIC FORM WITH NO CYANAMID COMPOUNDS OR HYDRATED LIME MIXES TO BE ADDED OR FOUND IN THE FERTILI□ER.

I. OTHER ACCEPTABLE FERTILI□ER FORMS:
1. FOR TREES
   ANUTRI-PAK
   JRP INTN=L. INC.
   17 FOREST AVENUE
   FOND DU LAC, WISCONSIN 54935
2. JOBES, PLANT SPIKES - FOR TREES AND SHRUBS.
3. LAWN PRO OR SIMILAR APPROVED SLOW RELEASE FERTILI□ER FOR LAWNS WITH THE FOLLOWING RATIO:
   3 NITROGEN
   1 PHOSPHORIC ACID
   2 POTASH
4. HOLLY-TONE OR SIMILAR APPROVED WITH CHELATED IRON FOR EVERGREEN PLANTS.

J. PEAT
1. SHALL CONFORM TO FEDERAL SPECIFICATION □-P-166C, PEATMOSS; PEAT HUMUS; AND PEAT, REED-SEDGE.
2. SHALL BE LOW IN WOODY MATERIAL AND FREE OF MINERAL OR OTHER MATERIAL HARMFUL TO PLANT LIFE.
3. THE MINIMUM ORGANIC CONTENT TO BE APPROXIMATELY 90 PERCENT WITH ACID REACTION FROM 4-5 PH, AND MOISTURE ABSORPTIVE CAPACITY NOT LESS THAN 450 PERCENT.
4. HUMUS TO BE SHREDDED, DRIED AND STERILI□ED TO PASS 1/4 INCH SCREEN.
5. MOSS SHALL BE PULVERI□ED AND HORTICULTURAL GRADE SPHAGNUM MOSS FREE OF EXTRANEOUS OR HARMFUL MATERIAL.
6. TO BE FINELY MILLED BLACK MICHIGAN PEAT OR OTHER SIMILAR APPROVED.

K. MANURE
1. SHALL BE WELL-ROTTED HORSE OR COW (OR COMBINATION THEREOF) MANURE. NOT TO CONTAIN OVER 25 PERCENT STRAW OR LITTER. IT SHALL BE FREE OF FRESH MANURE, SAWDUST, WOOD CHIPS, LEATHER CHIPS, TAN BARK, LONG STRAW, SOFT HAY, STONES, FOREIGN INJURIOUS SUBSTANCES OR CHEMICALS USED TO HASTEN DECOMPOSITION.
2. TO BE TWO YEARS OLD MAXIMUM, NINE MONTHS MINIMUM WITH MINUMUM OF THREE TURNINGS WITHIN THIS TIME PERIOD.
3. NO BURNED OR FIRE-FANGED MANURE WILL BE ACCEPTABLE.

L. SOIL AMENDMENTS
DIATOMACEOUS EARTH SOIL AMENDMENT CONSISTING OF SILICA, ALUMINA, IRON OXIDE AND SHALL HAVE 0.1 TO 1 MICRON PORE SI□E, WITH A MINIMUM OF 113 PERCENT WATER ABSORPTION, MAXIMUM 19 PERCENT LOSS SULPHATE SOUNDNESS, 80 PERCENT TOTAL POROSITY. A TOTAL OF 54 PERCENT TO PASS 10 MESH SCREEN, 98 PERCENT TO PASS 80 MESH SCREEN.

SOIL AMENDMENTS

LANDDESIGN, INC. CORPORATE SEAL NORTH CAROLINA

LandDesign
200 S. Peyton St., Alexandria, VA 22314
V: 703.549.7784 F: 703.549.4984
www.LandDesign.com

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1424 STEPHANIE A. PANKIEWICZ July 6, 2016

Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 9668039619000000

LANDSCAPE DETAILS AND NOTES

Revision No.
09.09.2013 - ~~100% CD/Permit Submission Set~~
09.09.2013 - 100% CD Owner Rev 1/Permit Submission Ready Set
05.13.2014 - Updated Architecture
05.20.2014 - Updated Grading & Site Plan
07.18.2014 - Updated Architecture

Permit Set - 07.18.2014

Project Application No. 16-02300PZ
Project No. 2012019
Date 02.08.2013
Scale N/A
Sheet L-5.3

Jul 05, 2016 – 1:21pm
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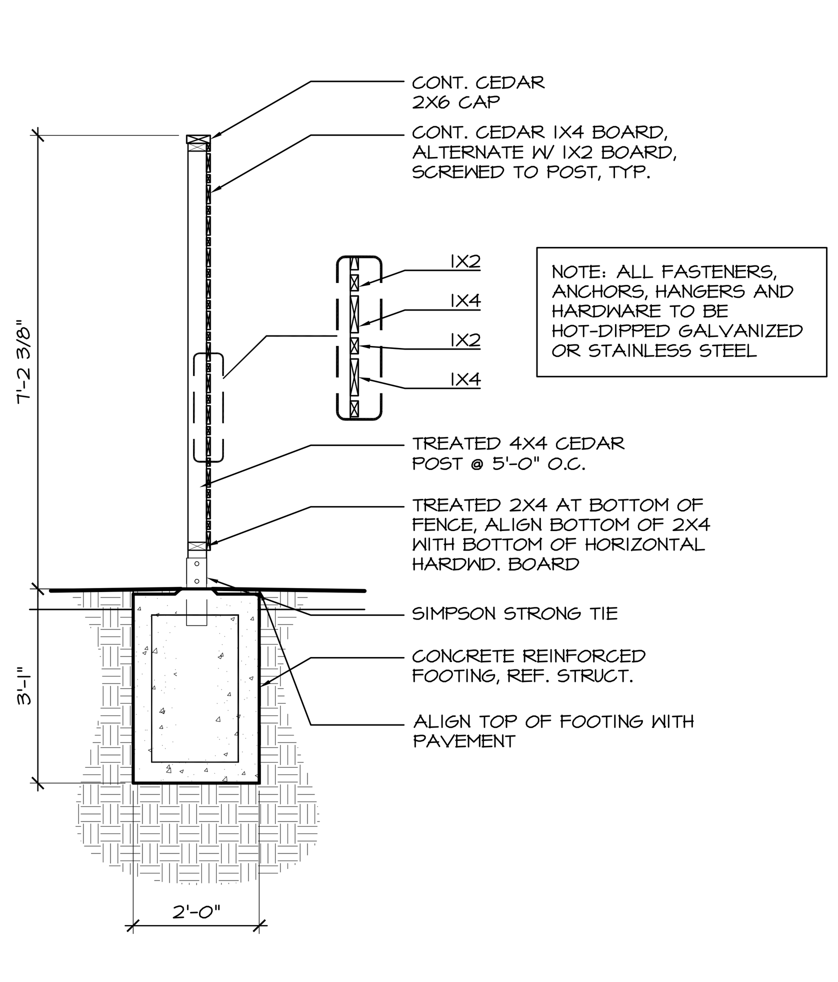
L-5.2_2019-CD-Plant Details and Notes.dwg



J1 **Site Fence Typical Section**
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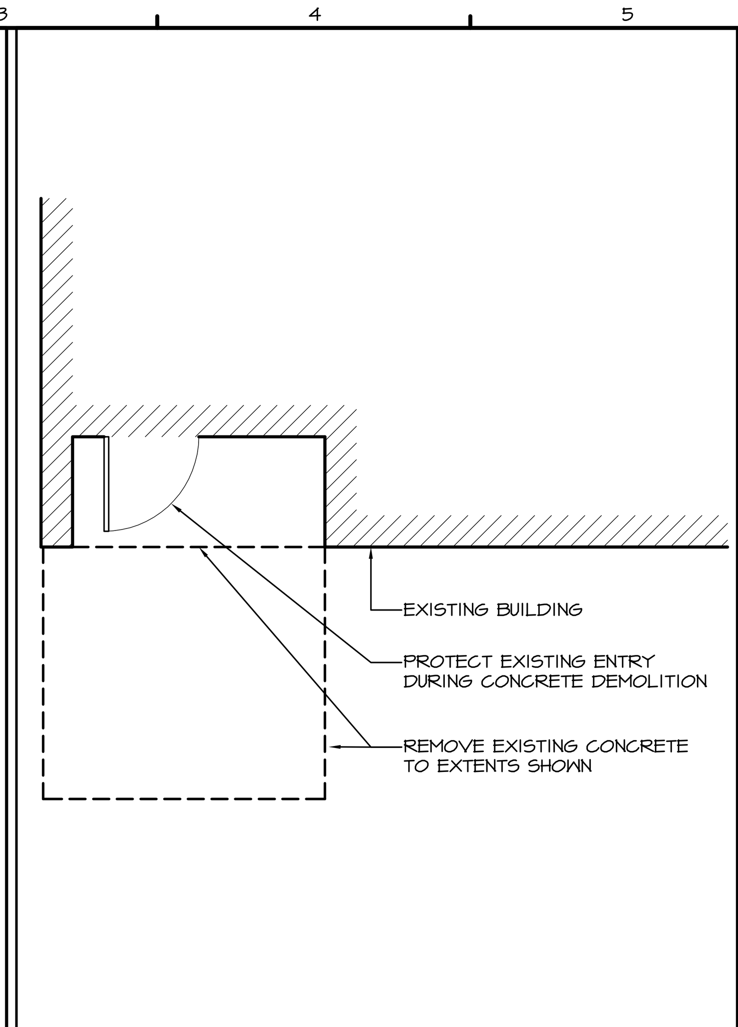
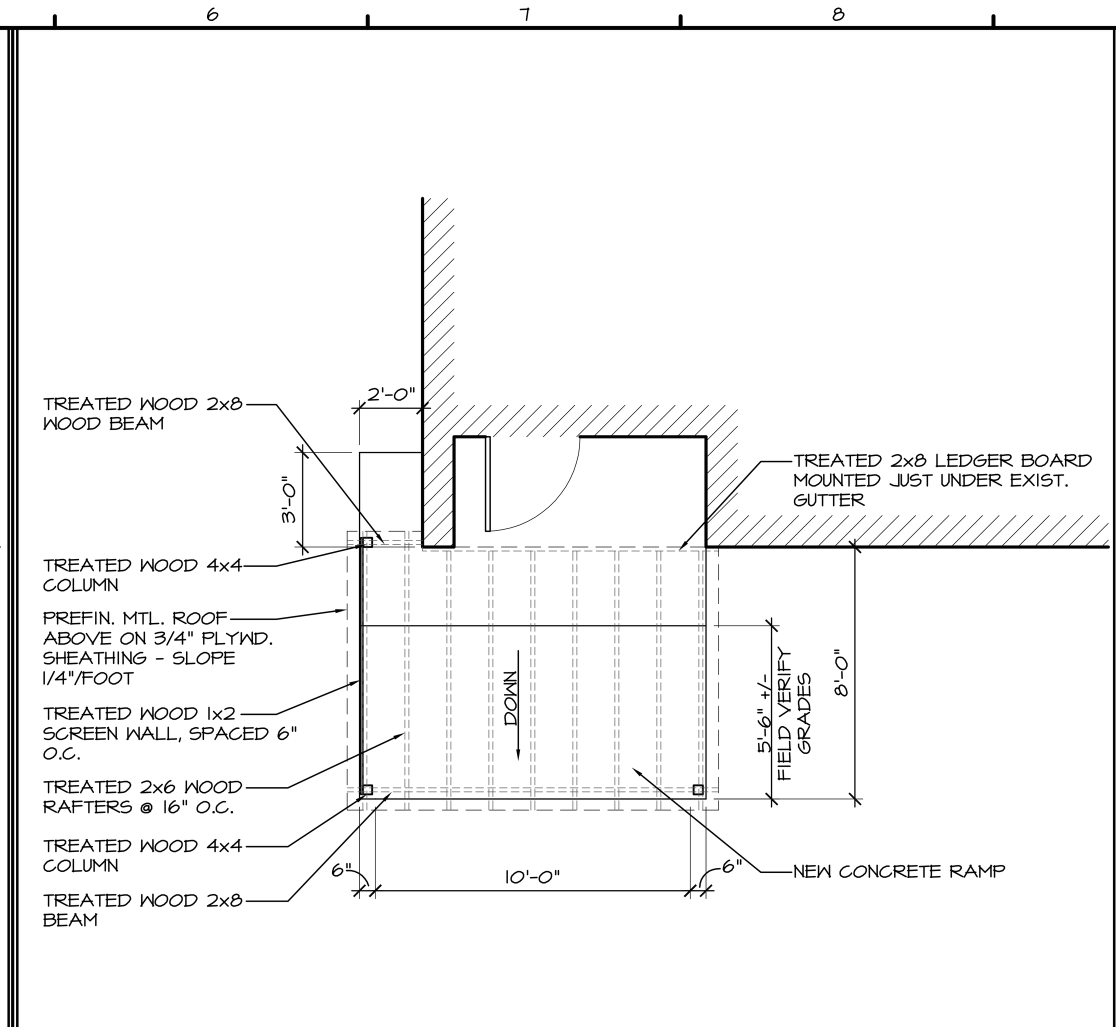
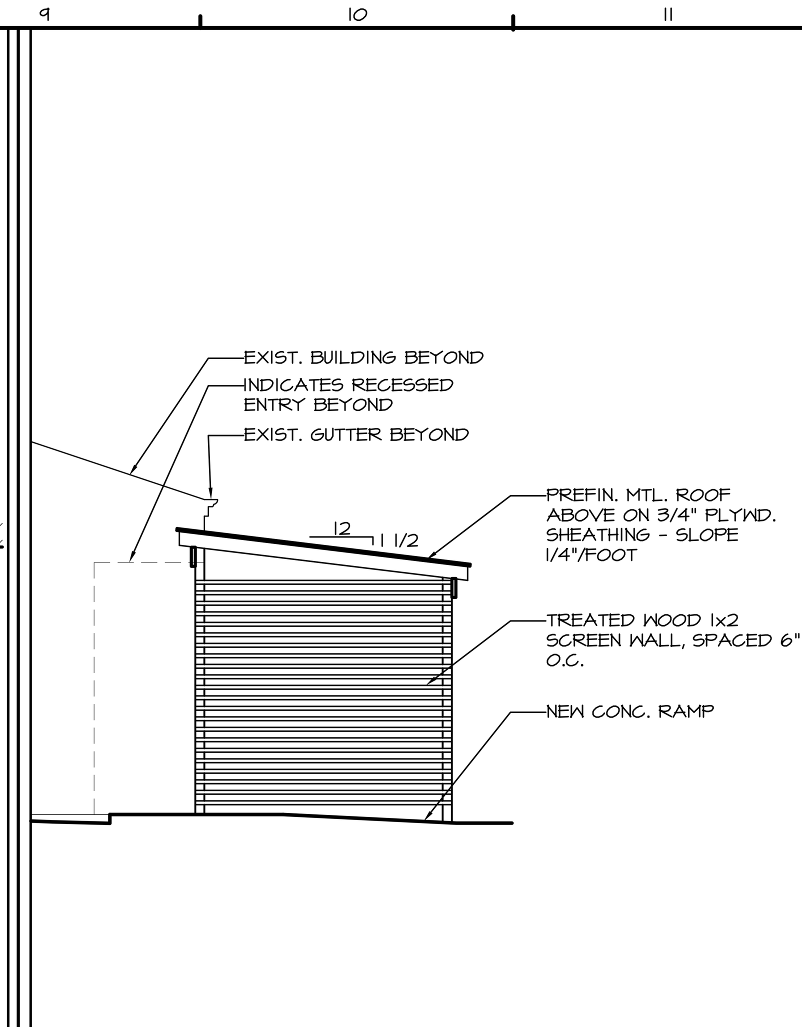


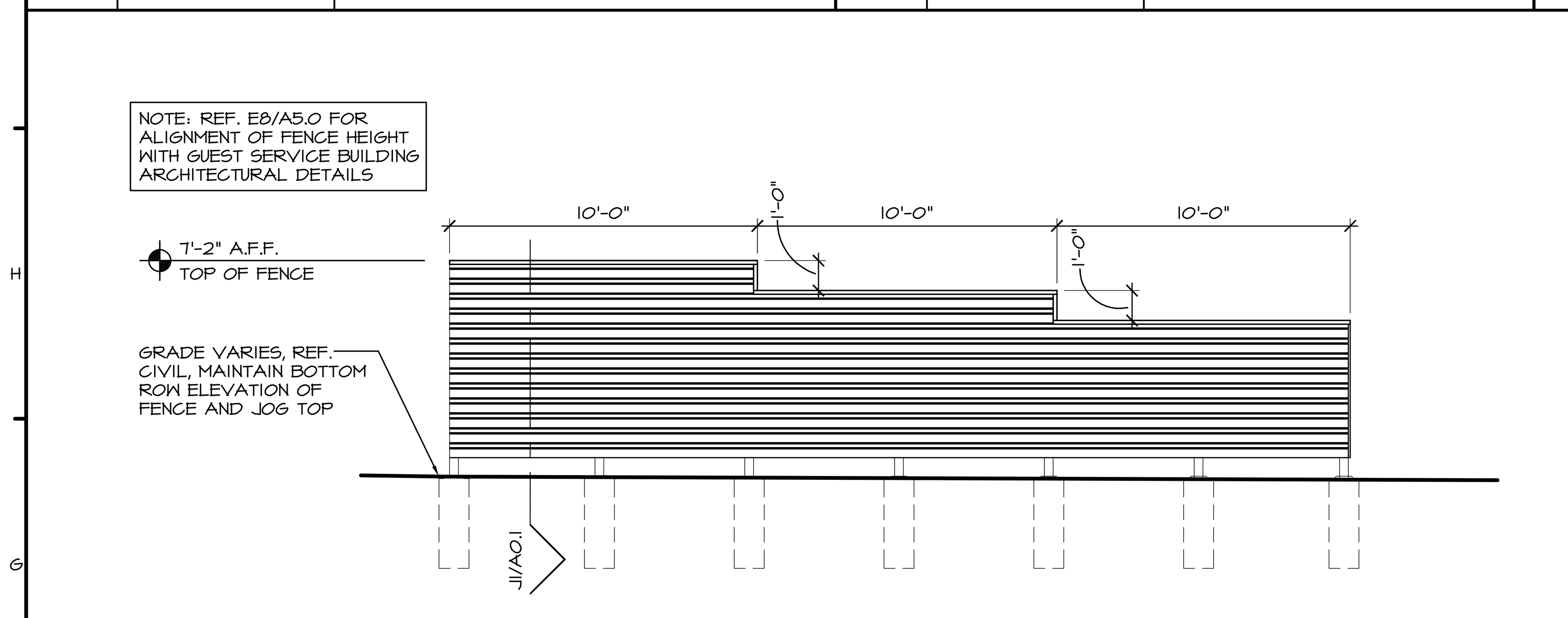
J4 **Upper Entrance Demo Plan**
1/4"=1'-0" 2152dt04.dwg



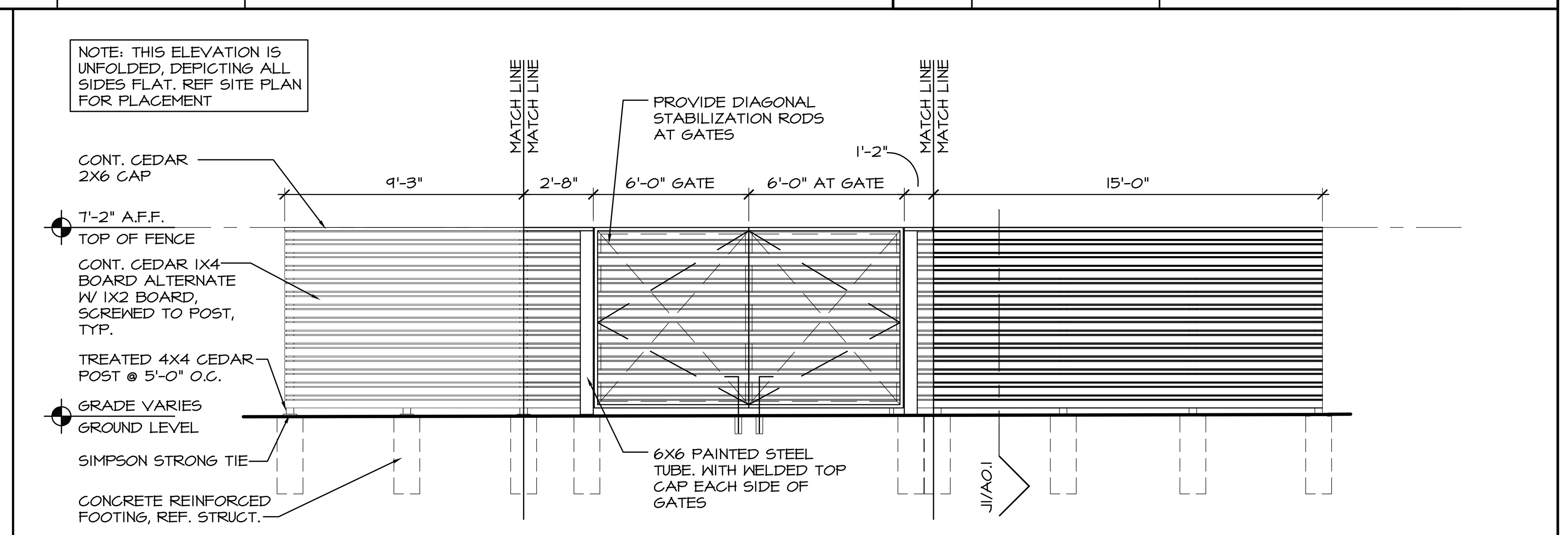
J7 **Upper Entrance New Plan**
1/4"=1'-0" 2152dt04.dwg



J9 **Upper Entrance Elevation**
1/4"=1'-0" 2152dt04.dwg



G1 **Site Fence Elevation - North**
1/4"=1'-0" 2152dt03.dwg



G6 **Site Fence Elevation - South**
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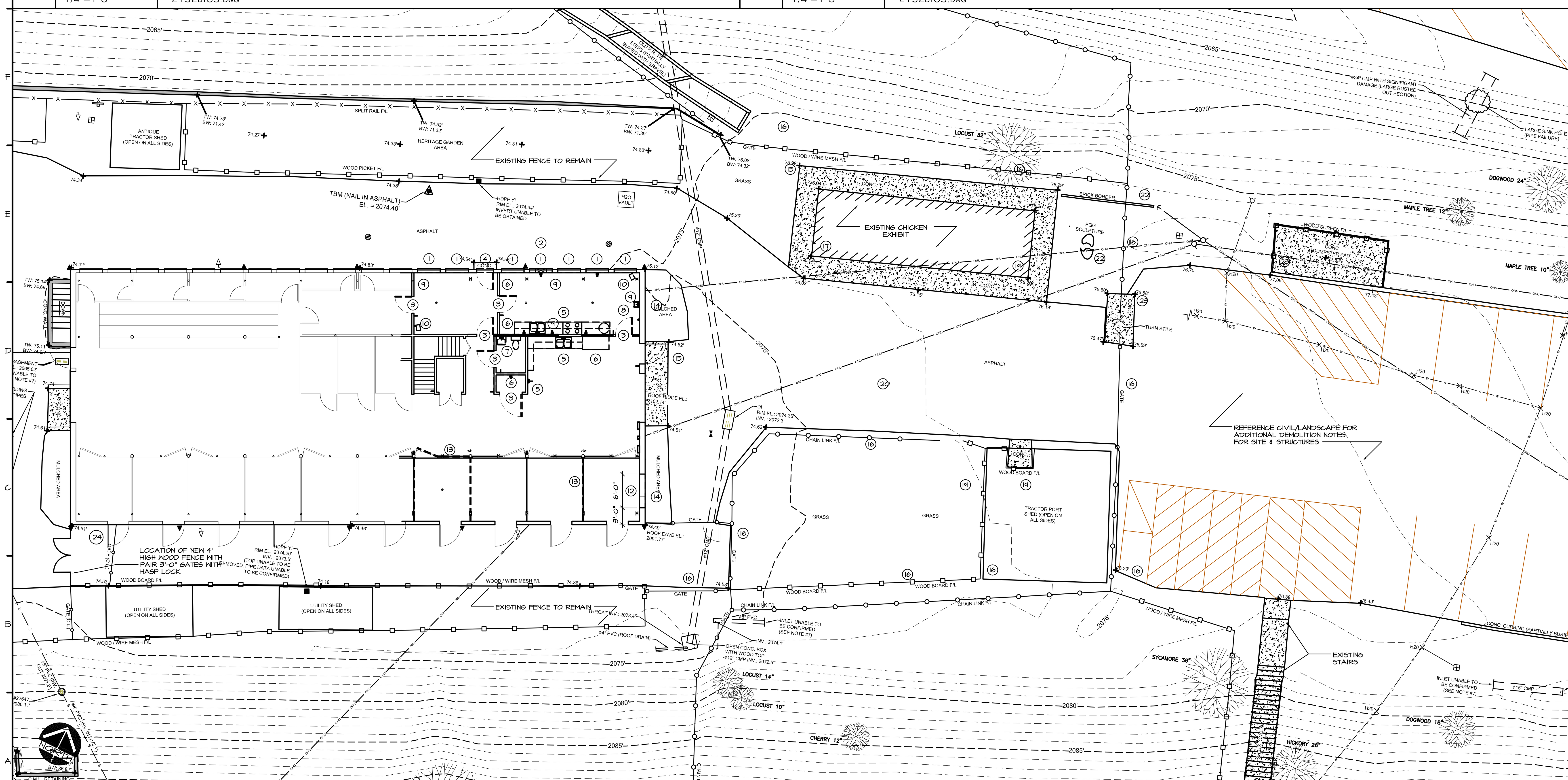

A1 **Demolition Site Plan**
1"=10'-0" 2152_fp01.dwg

DEMOLITION GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONDUCT DEMOLITION OPERATIONS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES AND OTHER FACILITIES AND INJURY TO PERSONS. THE CONTRACTOR IS TO PROVIDE SUFFICIENT PROTECTION WITHIN AND BEYOND DEMOLITION AREAS TO ELIMINATE ANY RISK TO CONSTRUCTION PERSONNEL, AND/OR OTHER THIRD PARTY INDIVIDUALS.
2. CONTRACTOR TO REMOVE ALL EXISTING CONSTRUCTION INDICATED TO BE REMOVED. REMOVE ALL INDICATED DOORS, DOOR FRAMES, CEILINGS, ELECTRICAL AND TELEPHONE WIRING AS REQUIRED BY CODE (SLAB MUST BE CLEAN AND CLEAR OF ALL DEVICES) MILLWORK, AND FINISHES, INCLUDING BUT NOT LIMITED TO CARPET, CARPET PAD, WALL BASE, AND WALLCOVERING.
3. DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. USE METHODS REQUIRED TO COMPLETE WORK WITHIN LIMITATION OF GOVERNING REGULATIONS AND AS FOLLOWS:
4. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION.
5. CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.
6. DO NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS.
7. MAINTAIN ADEQUATE VENTILATION WHEN USING CUTTING TORCHES. PROTECT ALL STRUCTURAL STEEL.
8. REMOVE DECAYED, VERMIN-INFESTED OR OTHERWISE DANGEROUS OR UNSUITABLE MATERIALS AND PROMPTLY DISPOSE OF OFF-SITE AT AN APPROVED DUMP.
9. LOCATE DEMOLITION EQUIPMENT THROUGHOUT THE STRUCTURE AND REMOVE DEBRIS AND MATERIALS SO AS NOT TO IMPOSE EXCESSIVE LOADS ON SUPPORTING WALLS, FLOORS OR FRAMING.
10. RETURN ELEMENTS OF CONSTRUCTION AND SURFACES TO CONDITION EXISTING BEFORE START OF DEMOLITION.
11. SALVAGE, CLEAN AND STORE (WRAP AS NECESSARY FOR ADEQUATE PROTECTION) ALL LIGHT FIXTURES, DOORS, DOOR FRAMES, USABLE DOOR HARDWARE, SWITCHES, THERMOSTATS, RECEPTACLE COVERS, EXIT SIGNS, FIRE EXTINGUISHERS, SMOKE DETECTORS, CEILING TILES, SPRINKLER HEADS AND HVAC SUPPLY DIFFUSERS FOR REINSTALLATION. PROVIDE COMPLETE LIST OF SALVAGED ITEMS TO THE ARCHITECT AND COORDINATE STORAGE OF THESE ITEMS WITH OWNER.
12. ALL REUSED ITEMS TO BE REPAIRED, CLEANED AND FINISHED TO A LIKE-NEW CONDITION.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE OWNER'S REQUIREMENTS PRIOR TO BEGINNING WORK. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS AND STANDARD OPERATING PROCEDURES FOR DEMOLITION ACTIVITIES.
14. THE CONTRACTOR SHALL COORDINATE WITH LOCAL CODE OFFICIALS TO ENSURE THAT DEMOLITION OPERATIONS ARE CONDUCTED IN COMPLIANCE WITH ALL APPLICABLE CODES.
15. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES, AND ALARMS TO CONFORM TO LOCAL BUILDING CODE REQUIREMENTS.
16. MAINTAIN STRUCTURAL INTEGRITY OF BUILDING.
17. DEBRIS RESULTING FROM DEMOLITION AND CONSTRUCTION SHALL BE REMOVED DAILY FROM THE CONSTRUCTION SITE TO A WASTE AREA PROVIDED BY THE CONTRACTOR IN COORDINATION WITH OWNER. REMOVE DEBRIS FROM BUILDING BY CHUTE, HOIST OR OTHER DEVICE AS APPROVED BY PROPERTY MANAGER.
18. LIMIT USE OF THE PREMISES TO CONSTRUCTION ACTIVITIES IN AREAS INDICATED AS SCOPE OF PROJECT; ALLOW OWNER OCCUPANCY AND USE BY BUILDING'S DRIVERS, MAINTENANCE AND SERVICE PERSONNEL AT ALL TIMES.
19. ALL DRIVEWAYS AND CIRCULATION PATHS SHALL REMAIN OPEN AND AVAILABLE TO OWNER.
20. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL OR STRUCTURAL ELEMENTS THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, INVESTIGATE AND MEASURE THE NATURE AND EXTENT OF THE CONFLICT. PROMPTLY SUBMIT A WRITTEN REPORT TO THE ARCHITECT BEFORE PROCEEDING WITH DEMOLITION ACTIVITIES.
21. IT IS NOT EXPECTED THAT ASBESTOS WILL BE ENCOUNTERED IN THE WORK. IF ANY MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE ENCOUNTERED, DO NOT DISTURB THE MATERIALS. IMMEDIATELY NOTIFY THE ARCHITECT AND OWNER.
22. PERFORM SURVEYS AS THE WORK PROGRESSES TO DETECT HAZARDS RESULTING FROM THE SELECTIVE DEMOLITION.
23. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING DEMOLITION.
24. WHERE UTILITY SERVICES ARE REQUIRED TO BE REMOVED, RELOCATED OR ABANDONED, PROVIDE BYPASS CONNECTIONS TO MAINTAIN CONTINUITY OF SERVICE TO OTHER PARTS OF BUILDING BEFORE PROCEEDING.
25. CONDUCT DEMOLITION OPERATIONS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT FACILITIES TO REMAIN. ENSURE SAFE PASSAGE OF PEOPLE AROUND DEMOLITION AREA.
26. PROTECT WALLS, CEILING, FLOORS AND OTHER EXISTING FINISH WORK THAT ARE TO REMAIN AND ARE EXPOSED DURING DEMOLITION.
27. ERECT AND MAINTAIN DUSTPROOF PARTITIONS AND TEMPORARY ENCLOSURES TO LIMIT DUST AND DIRT MIGRATION AND TO SEPARATE AREAS FROM FUMES AND NOISE.
28. PROTECT AIR HANDLING EQUIPMENT.
29. PROVIDE AND MAINTAIN SHORING, BRACING OR STRUCTURAL SUPPORT TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF ITEMS TO BE SELECTIVELY DEMOLISHED AND ITEMS WHICH ARE IMMEDIATELY ADJACENT TO THOSE BEING REMOVED.
30. PROMPTLY PATCH AND REPAIR HOLES AND DAMAGED SURFACES CAUSED TO ADJACENT CONSTRUCTION BY DEMOLITION. RESTORE EXPOSED FINISHES OF PATCHED AREAS AND EXTEND FINISH RESTORATION INTO ADJOINING CONSTRUCTION TO REMAIN IN A MANNER THAT ELIMINATES EVIDENCE OF PATCHING AND REFINISHING.
31. SWEEP THE PROJECT SITE BROOM CLEAN AND CHANGE FILTERS ON AIR-HANDLING EQUIPMENT UPON COMPLETION OF DEMOLITION.
32. PROVIDE RECORD DRAWINGS AT PROJECT CLOSEOUT WHICH IDENTIFY AND ACCURATELY LOCATE CAPPED UTILITIES AND OTHER STRUCTURAL, ELECTRICAL OR MECHANICAL CONDITIONS.
33. COVER AND PROTECT EQUIPMENT AND FIXTURES TO REMAIN FROM SOILING OR DAMAGE WHEN DEMOLITION WORK IS PERFORMED IN AREAS WHERE SUCH ITEMS HAVE NOT BEEN OR CANNOT BE REMOVED.
34. CUT OFF PIPE OR CONDUIT IN WALLS OR PARTITIONS TO BE REMOVED. CAP, VALVE, OR PLUG AND SEAL THE REMAINING PORTION OF PIPE OR CONDUIT AFTER BYPASSING.
35. CONDUCT DEMOLITION OPERATIONS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT FACILITIES TO REMAIN. ENSURE SAFE PASSAGE OF PEOPLE AROUND DEMOLITION AREA.
36. PROTECT WALLS, CEILING, FLOORS AND OTHER EXISTING FINISH WORK THAT ARE TO REMAIN AND ARE EXPOSED DURING DEMOLITION.
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43. COVER AND PROTECT EQUIPMENT AND FIXTURES TO REMAIN FROM SOILING OR DAMAGE WHEN DEMOLITION WORK IS PERFORMED IN AREAS WHERE SUCH ITEMS HAVE NOT BEEN OR CANNOT BE REMOVED.

DEMOLITION KEY NOTES

(1) REMOVE EXISTING WINDOW & TREATMENTS. EXTERIOR TRIM TO REMAIN. PREPARE FOR WALL INFILL.
(2) REMOVE EXISTING THRU WALL AIR CONDITIONING UNIT & SUPPORT/ASSOCIATED UTILITIES. ABANDON AND CAP EXISTING UTILITIES IN WALL & PREPARE FOR INFILL.
(3) REMOVE EXISTING DOOR & FRAME.
(4) REMOVE EXISTING DOOR & FRAME, EXTERIOR TRIM TO REMAIN. PREPARE WALL FOR INFILL.
(5) REMOVE EXISTING MILLWORK, APPLIANCES, AND PLUMBING. ABANDON & CAP EXISTING UTITLIES IN THE WALL. COORDINATE W/ NEW UTILITY LOCATIONS.
(6) REMOVE EXISTING PARTITIONS & NON LOAD BEARING WALLS TO EXTENT SHOWN. PATCH EXISTING SLAB AS REQ'D.
(7) REMOVING EXISTING TOILET, SINK, & ACCESSORIES AND PLUMBING. CAP AND ABANDON UTILITIES AS REQ'D. PATCH EXISTING SLAB AS REQ'D.
(8) REMOVE EXISTING SINK, ACCESSORIES AND PLUMBING. COORDINATE SIZE AND LOCATION OF EXISTING SUPPLY AND WASTE PIPE W/ REQUIREMENTS FOR NEW TOILET FIXTURES.
(9) COORDINATE SIZE & LOCATION OF EXISTING SUPPLY AND WASTE PIPING WITH REQUIREMENTS OF NEW PLUMBING FIXTURES.
(10) REMOVE EXISTING HEATING UNIT & STRUCTURE. CAP & ABANDON ALL UTILITIES IN WALL OR CEILING SPACE.
(11) REMOVE WALL FINISHES TO EXTENT SHOWN FOR NEW WALL FINISHES. CAP & ABANDON ALL UTILITIES U.N.O.
(12) REMOVE EXISTING WALL TO EXTENT SHOWN.
(13) PROVIDE NECESSARY PERMANENT STRUCTURE TO MAINTAIN OPENING. PATCH CONCRETE BASE TO REMAIN.
(14) COORDINATE FINAL LOCATION IN FIELD. OPENING SHALL BE BETWEEN STUDS. DO NOT CUT STUDS.
(15) REMOVE EXISTING STALL WALL & GATE. COORDINATE WITH OWNER FOR AVAILABILITY TO WORK IN ADJACENT STALLS. STL. SUPPORT STRUCTURE TO REMAIN.
(16) REMOVE EXISTING MULCH AREA. FILL & COMPACT SOIL TO RECEIVE NEW PAVING.
(17) REMOVE EXISTING CONCRETE PAD. TAKE NECESSARY PRECAUTIONS TO MAINTAIN INTEGRITY OF ADJACENT FOUNDATIONS.
(18) REMOVE EXISTING FENCE & GATE.
(19) REMOVE EXISTING CHICKEN COOP AS INDICATED. REMOVE EXISTING FOUNDATIONS, FILL AND COMPACT SOIL FOR NEW BUILDING. CAP & ABANDON UTILITIES UNDERGROUND. REMOVE AS NECESSARY FOR NEW BUILDING.
(20) REMOVE EXISTING PAVING & GRASS AREA AS REQUIRED FOR NEW ENTRY PLAZA. FILL & COMPACT SOIL AS REQ'D.
(21) REMOVE EXISTING STRUCTURE & FOUNDATION. CAP & ABANDON UTILITIES UNDERGROUND.
(22) RELOCATE EXISTING EGG SCULPTURE. COORDINATE LOCATION WITH OWNER, AND PROVIDE NEW FASTENING OR FOOTING PAD.
(23) REMOVE EXISTING TURNSTILE & CONCRETE FOUNDATION.
(24) REMOVE EXISTING FENCE AND POSTS. INSTALL NEW WOOD FENCE. SEE DETAIL A1/A1.0.

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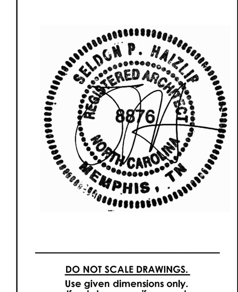
Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 9668039619000000

Architectural Site Plan
Demolition Plan & Notes



DO NOT SCALE DRAWINGS.
Use given dimensions only. If not shown, verify correct dimensions with Architect. Contractor shall check and verify all dimensions and conditions at job site.
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Revision No.
Permit Set
18 July 2014

Project No.
2152
Date
02.23.2013
Scale
AS NOTED
Sheet
A0.1

TYPICAL NOTES EXISTING BARN:

1. CONNECT PLUMBING VENT PIPES TO EXISTING VENTS. G.C. TO VERIFY LOCATION & SIZE.

2. ALL WALLS AT TOILET ROOMS TO BE CONTINUOUS TO BOTTOM OF CEILING DECK. INFILL AT TOP OF THE EXISTING WALL AS REQUIRED. SEAL JOINT AT THE TOP OF THE WALL.

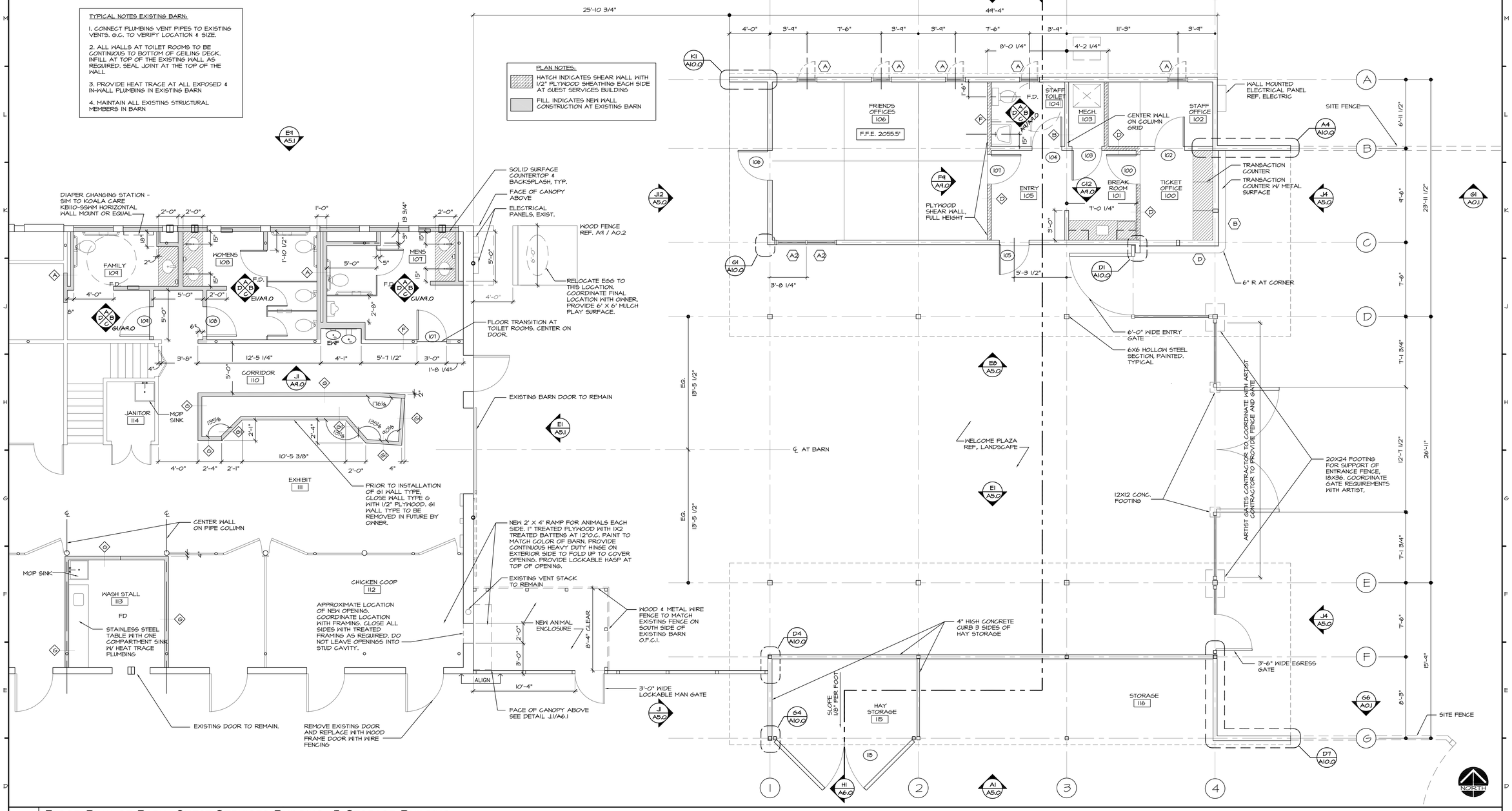
3. PROVIDE HEAT TRACE AT ALL EXPOSED & IN-WALL PLUMBING IN EXISTING BARN

4. MAINTAIN ALL EXISTING STRUCTURAL MEMBERS IN BARN

PLAN NOTES:

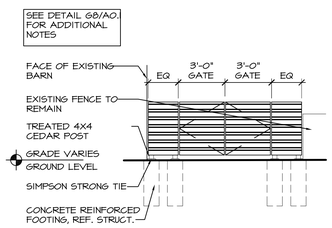
HATCH INDICATES SHEAR WALL WITH 1/2" PLYWOOD SHEATHING EACH SIDE AT GUEST SERVICES BUILDING

FILL INDICATES NEW WALL CONSTRUCTION AT EXISTING BARN



D1 FLOOR PLAN OF BARN, GUEST SERVICES BUILDING, & STORAGE BUILDING

1/4" = 1'-0" | 2152FP01.DWG

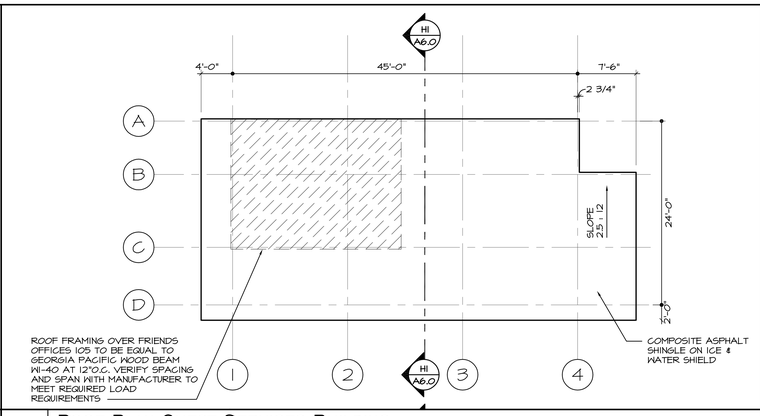


A1 WEST FENCE ELEVATION

1/4"= 1'-0"

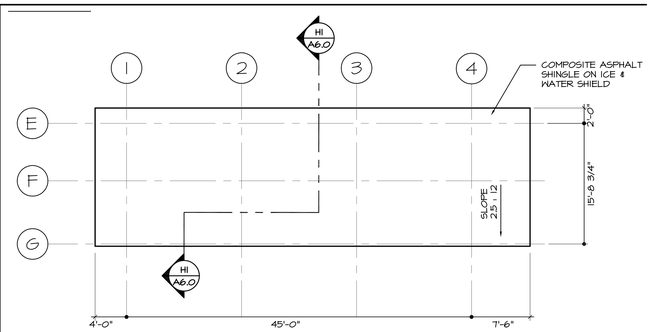
A4

1/4"= 1'-0"



A6 ROOF PLAN GUEST SERVICES BUILDING

1/8"= 1'-0" | 2152RP01.DWG



A11 ROOF PLAN STORAGE BUILDING

1/8"= 1'-0" | 2152RP01.DWG

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FLOOR PLAN & ROOF PLAN

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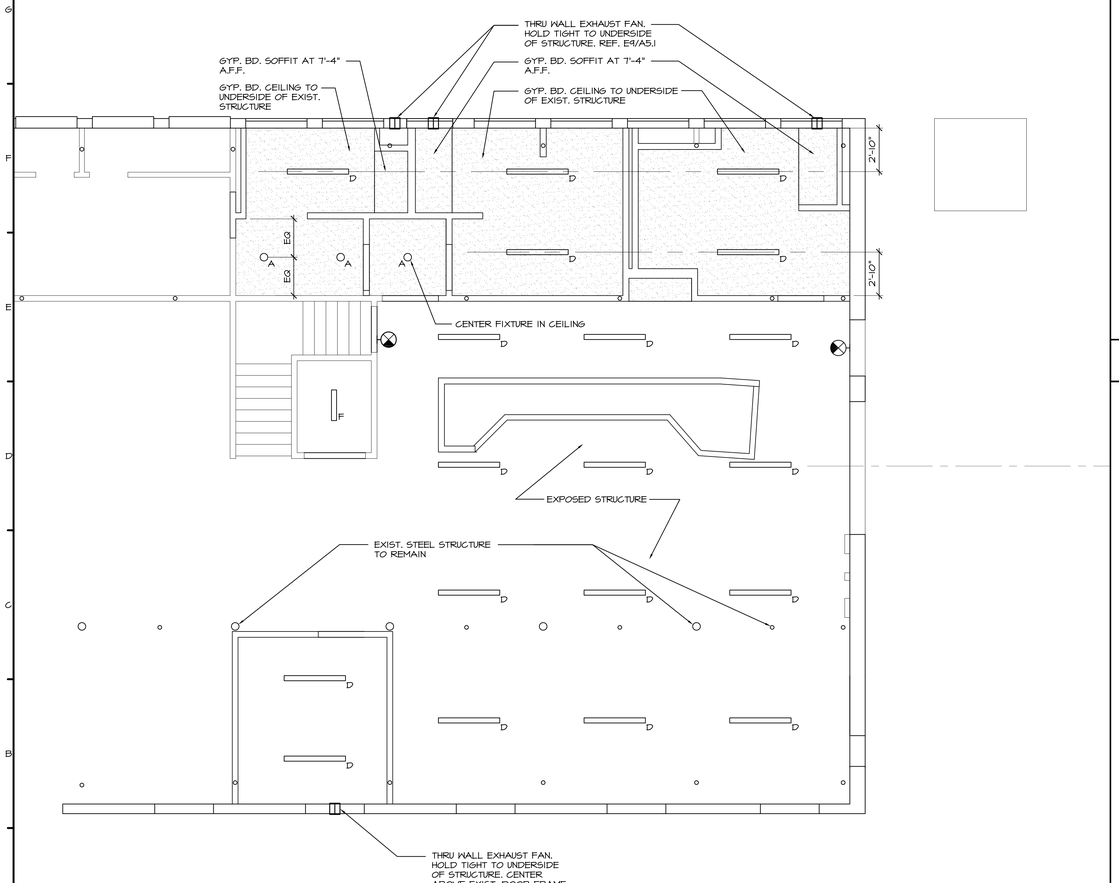
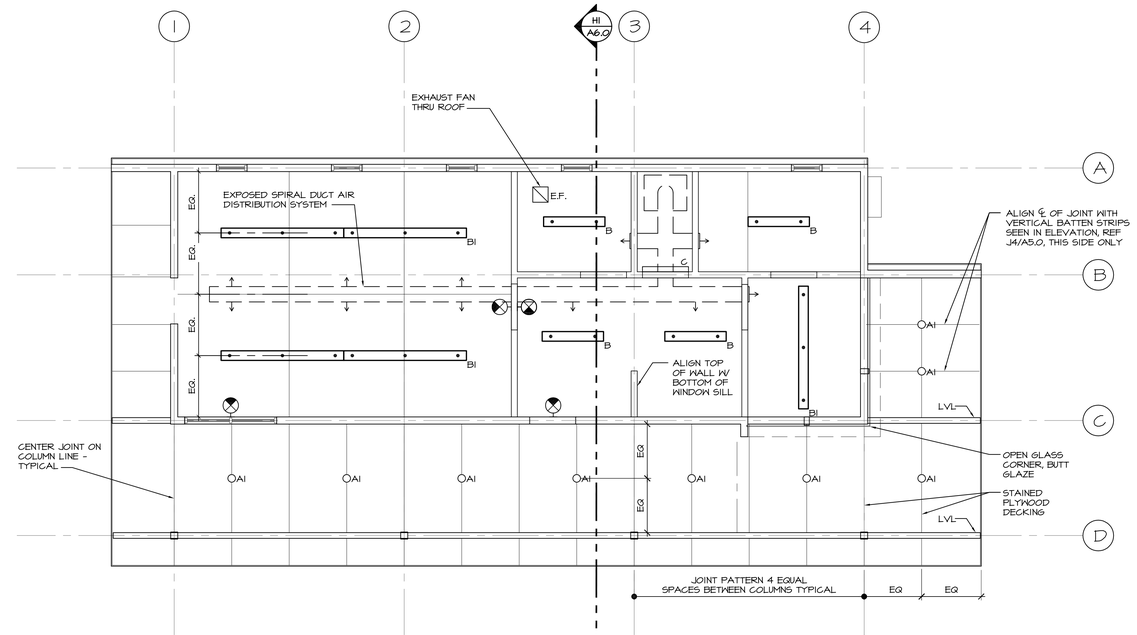
J1

REFLECTED CEILING PLAN LEGEND

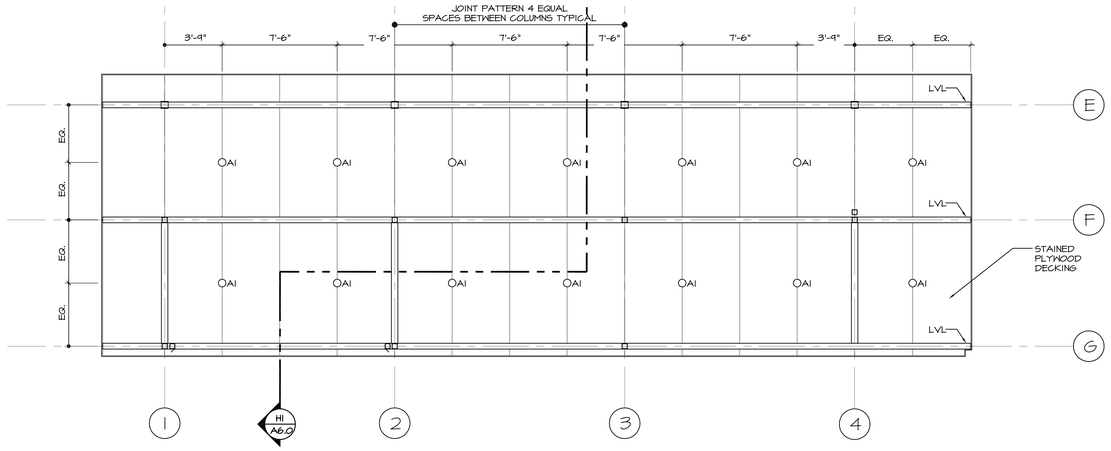
A	INDOOR 6" RECESSED CAN LIGHT LITHONIA REALP6CD6 CLEAR DIFFUSE ENERGY STAR LISTED
A1	OUTDOOR 6" RECESSED CAN LIGHT LITHONIA REALP6CD6 CLEAR DIFFUSE ENERGY STAR LISTED
B	4' UP/DOWN LIGHT FOCAL POINT - LOUVER VERVE III FV35PL DR2
B1	8' UP/DOWN LIGHT FOCAL POINT - LOUVER VERVE III FV35PL DR2
C	2' WALL MOUNTED LED STRIP LITHONIA WL2
D	8' OUTDOOR SURFACE MOUNTED LED STRIP LIGHT



A1 REFLECTED CEILING PLAN @ EXISTING BARN
1/4" = 1'-0" | 2152FP01.DWG



E8 REFLECTED CEILING PLAN @ GUEST SERVICES BUILDING
1/4" = 1'-0" | 2152FP01.DWG



A8 REFLECTED CEILING PLAN @ STORAGE BUILDING
1/4" = 1'-0" | 2152FP01.DWG

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REFLECTED CEILING PLAN & DETAILS

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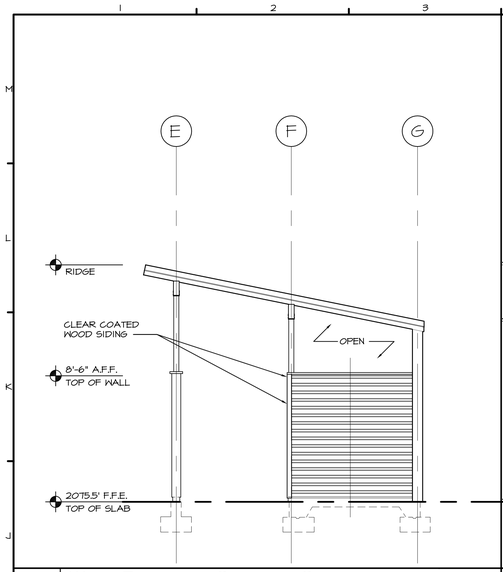
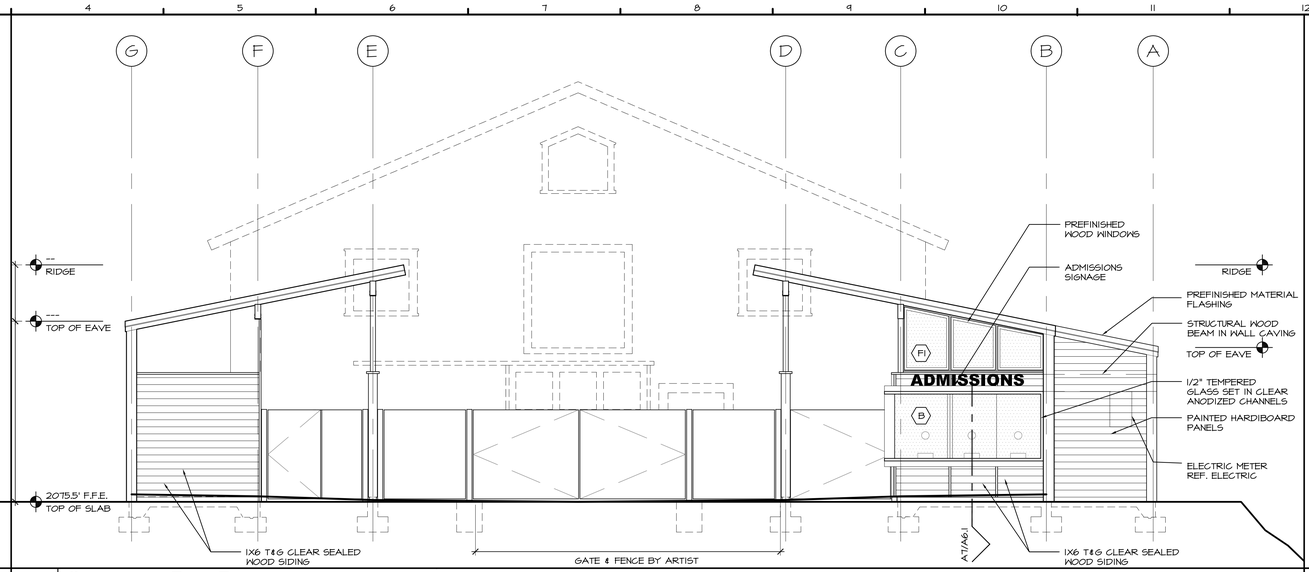
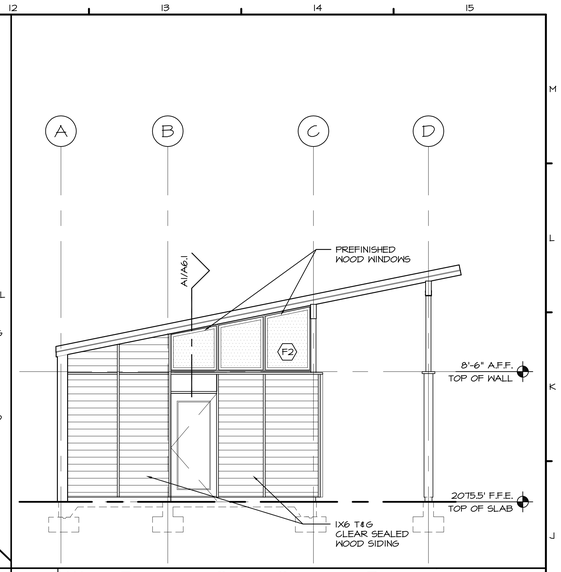


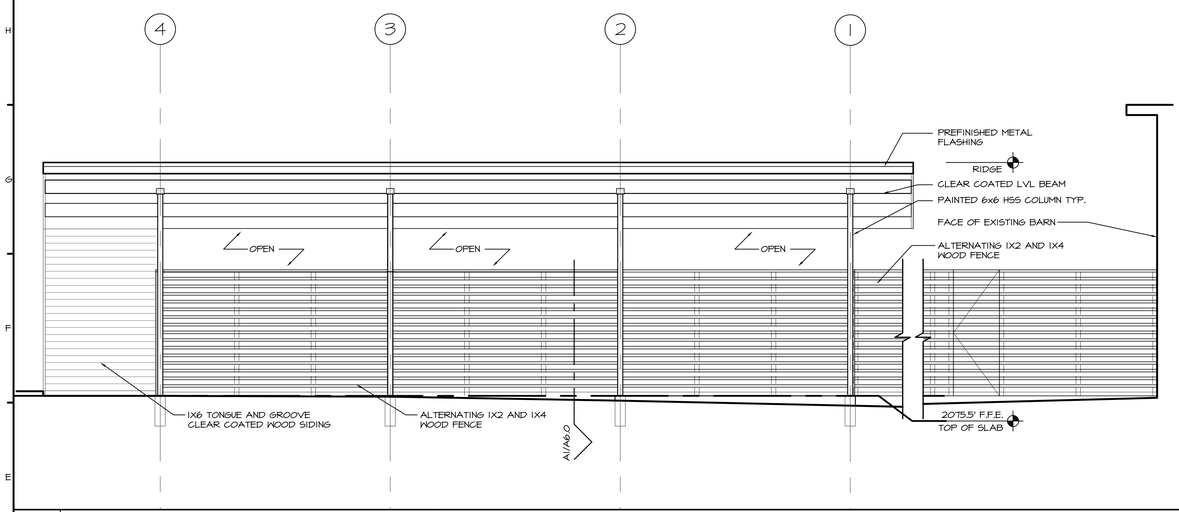
J1 | West Elevation Storage Shed
1/4" = 1'-0" | 2152EE01.DWG



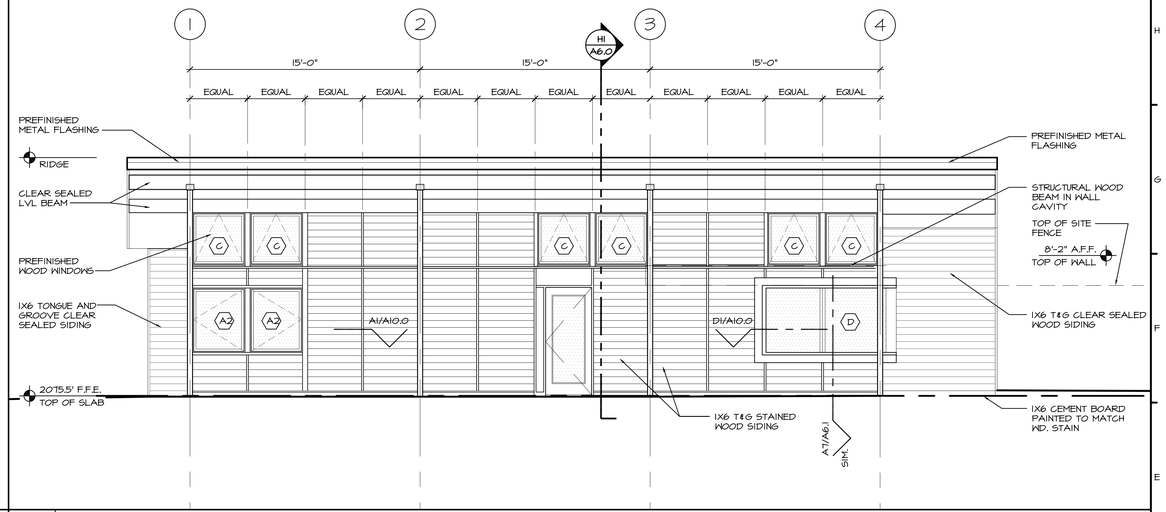
J4 | Composite East Elevation
1/4" = 1'-0" | 2152EE01.DWG



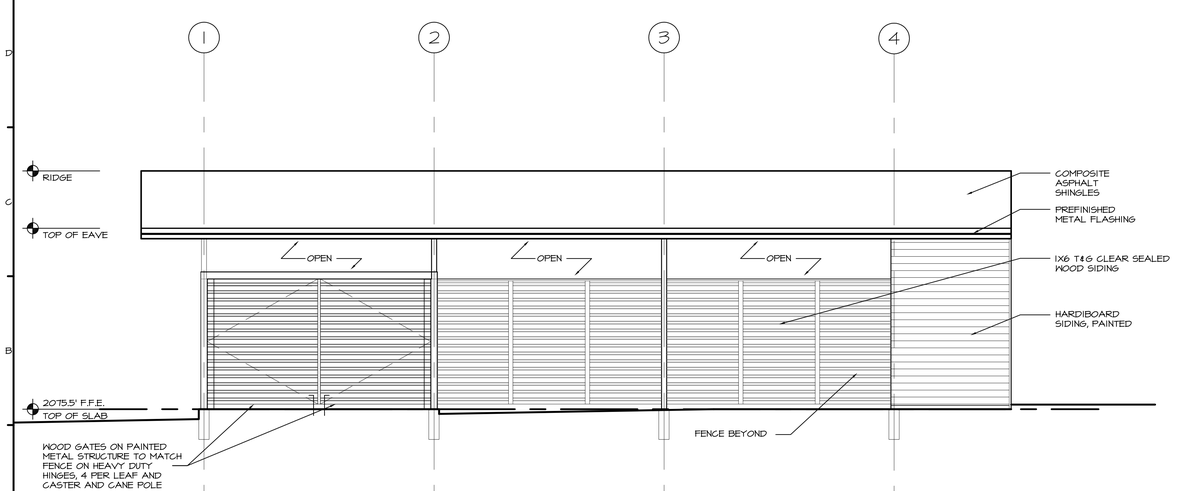
J12 | West Elevation Guest Services Building
1/4" = 1'-0" | 2152EE01.DWG



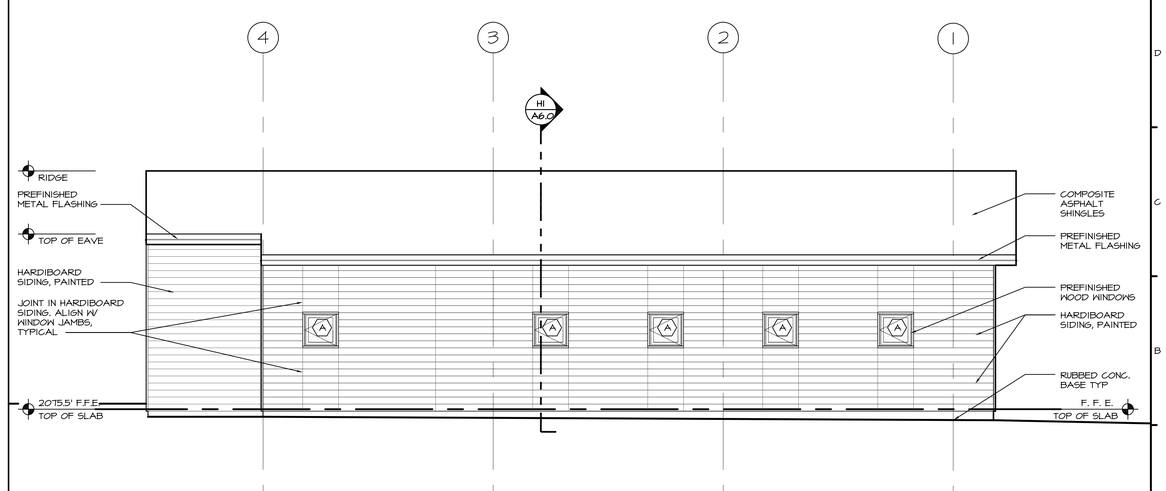
E1 | North Elevation Storage Shed
1/4" = 1'-0" | 2152EE01.DWG



E8 | South Elevation Guest Services Building
1/4" = 1'-0" | 2152EE01.DWG



A1 | South Elevation Storage Shed
1/4" = 1'-0" | 2152EE01.DWG



A8 | North Elevation Guest Services Building
1/4" = 1'-0" | 2152EE01.DWG

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Exterior Building Elevations
Guest Services Building

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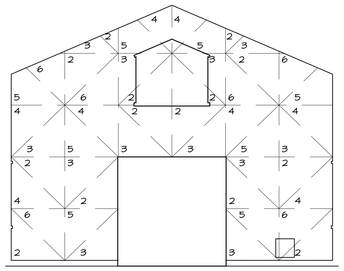
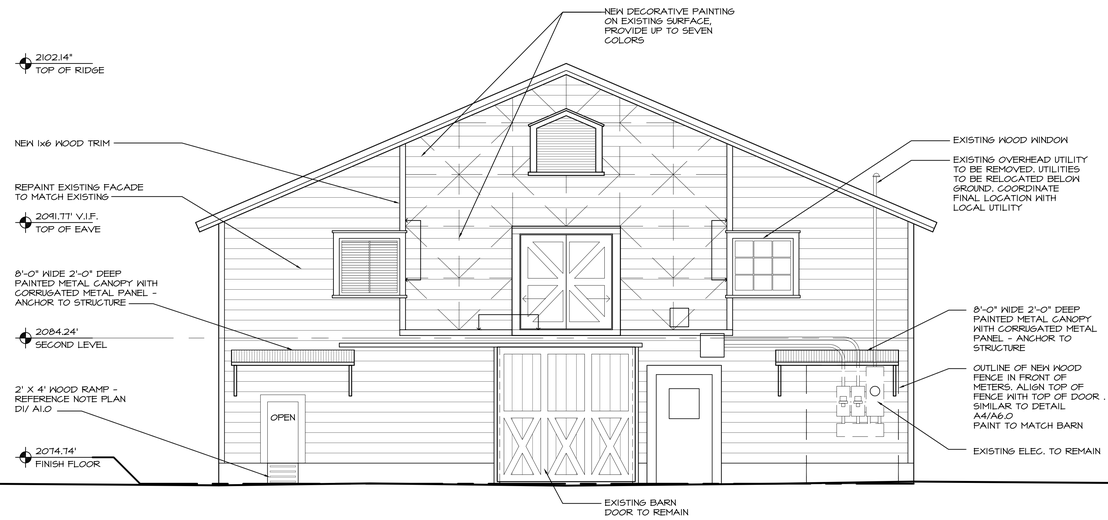


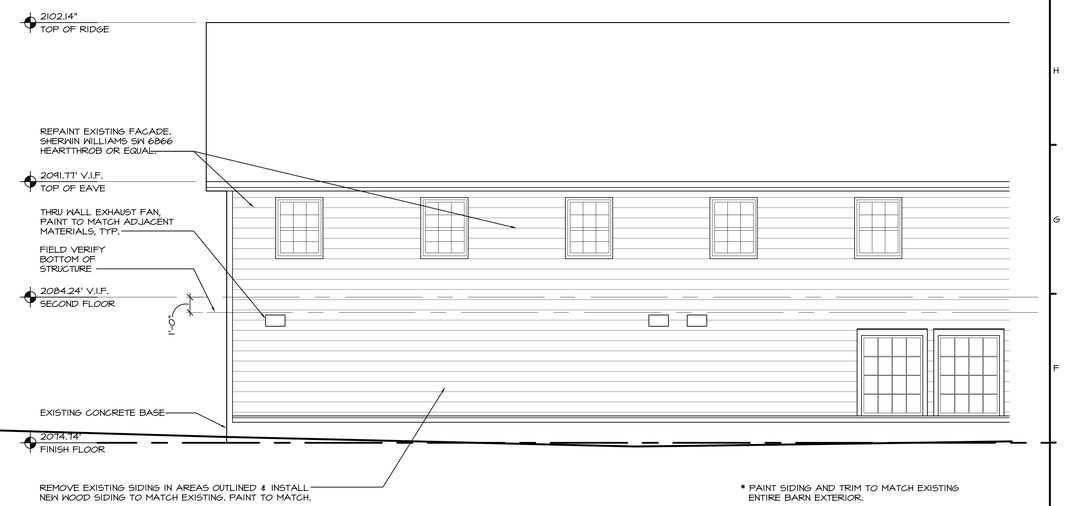
ALL NUMBERS ABOVE REFERENCE PAINT COLORS AS NOTED IN THE FINISH LEGEND.

J1 BARN QUILT PATTERN COLOR DIAGRAM
1/4" = 1'-0"

J4

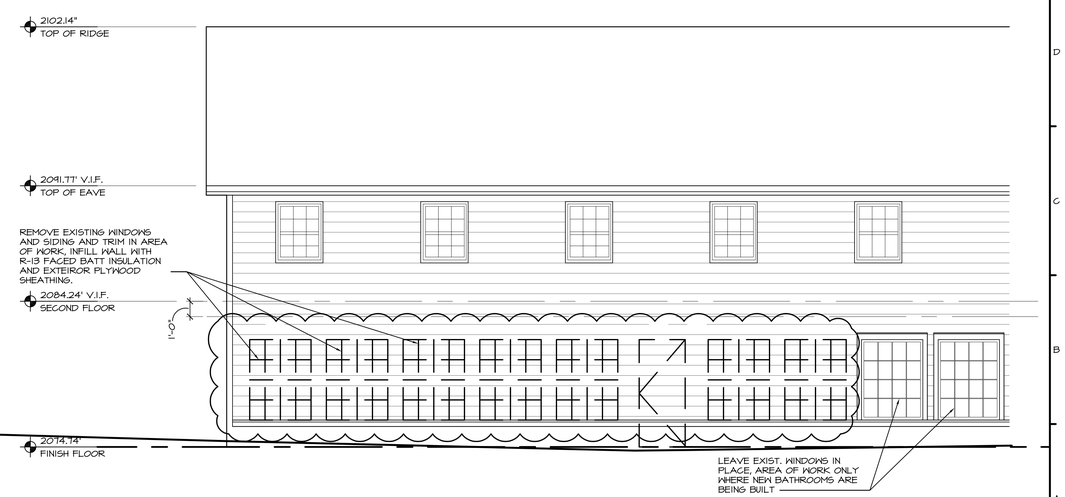


E1 REMODELED EAST BARN ELEVATION
1/4" = 1'-0" 2152EE02.DWG



E9 REMODELED NORTH BARN ELEVATION
1/4" = 1'-0" 2152EE02.DWG

A1 DEMOLITION EAST BARN ELEVATION
1/4" = 1'-0" 2152EE02.DWG



A9 DEMOLITION NORTH BARN ELEVATION
1/4" = 1'-0" 2152EE02.DWG

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BUILDING ELEVATIONS
EXISTING BARN ELEVATIONS

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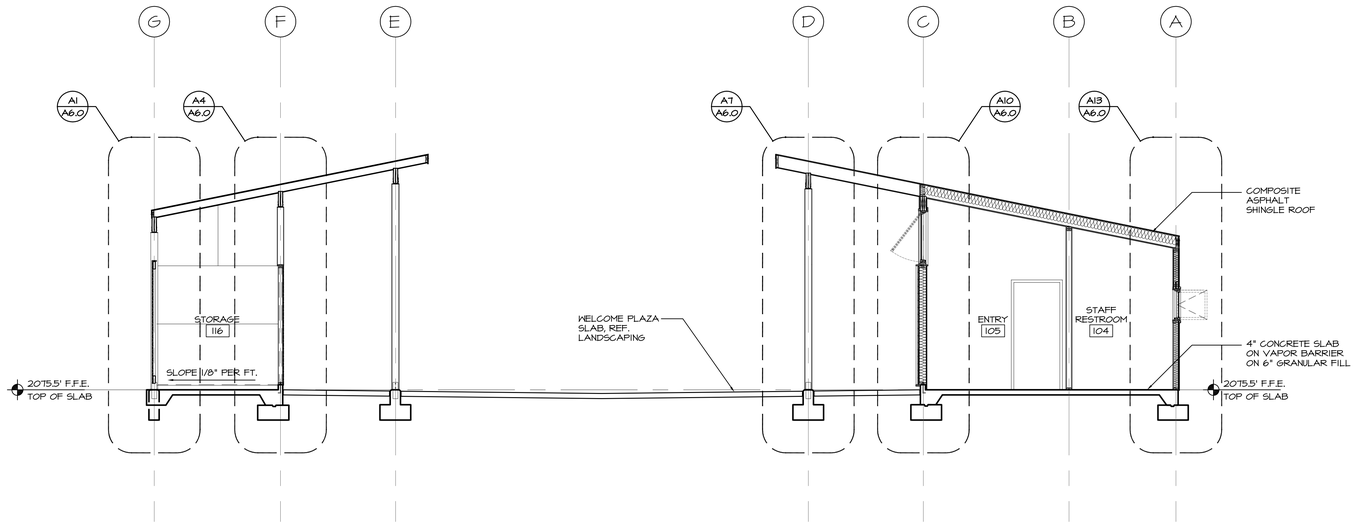
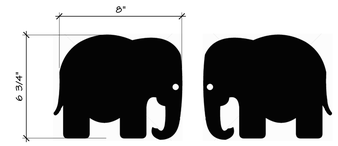


H1 OVERALL BUILDING SECTION
1/4" = 1'-0" | 2152bs01.dwg

NOTE: CITY/ OWNER WILL PROVIDE ACTUAL SILHOUETTE DESIGNS. (UP TO 4 DIFFERENT ANIMAL SILHOUETTES.

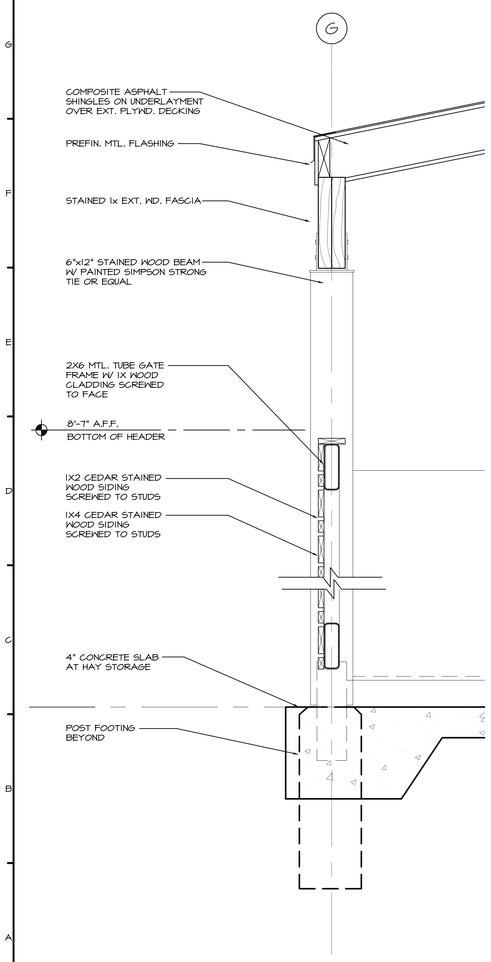


A. GUEST SERVICES
CUT OUTLINE OF DECORATIVE METAL ANIMAL MOTIF AT EACH COLUMN, PAINTED. TOTAL (4)

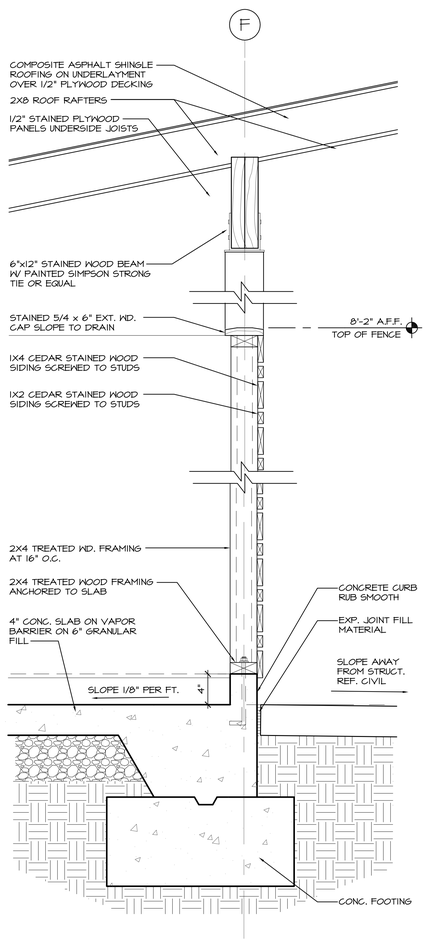
B. STORAGE BUILDING
TOTAL (4)

K10 DECORATIVE DETAIL
3"= 1'-0" | 2152dt05.dwg

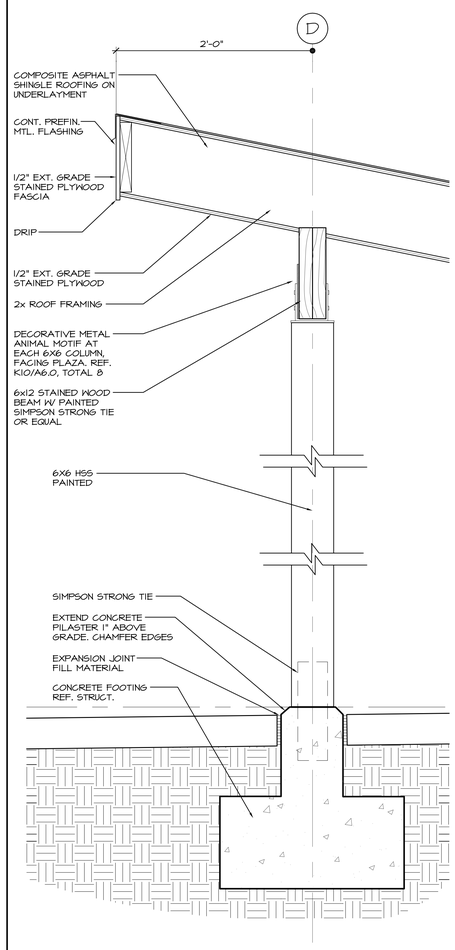
K13



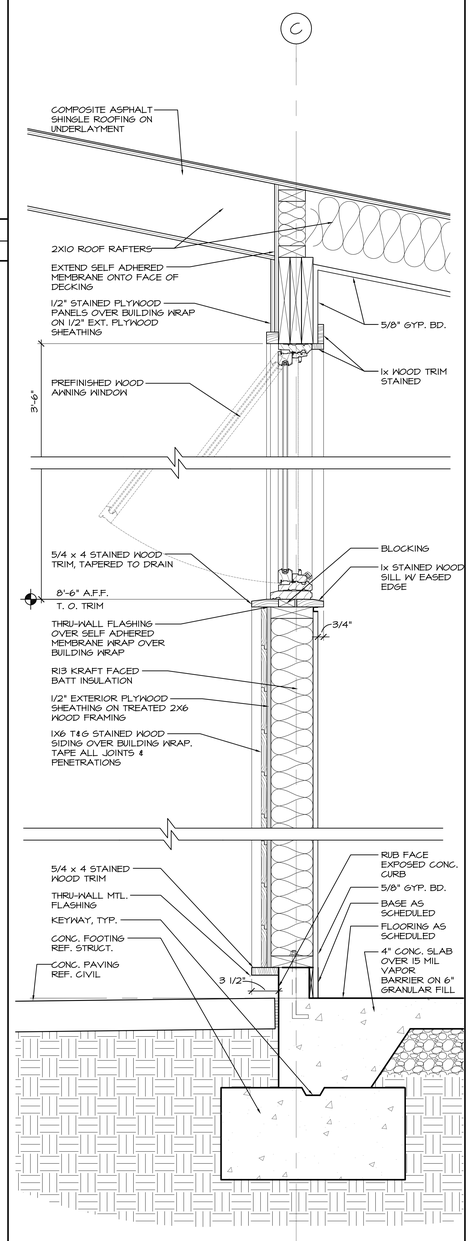
A1 WALL SECTION
1 1/2" = 1'-0" | 2152ws01.dwg



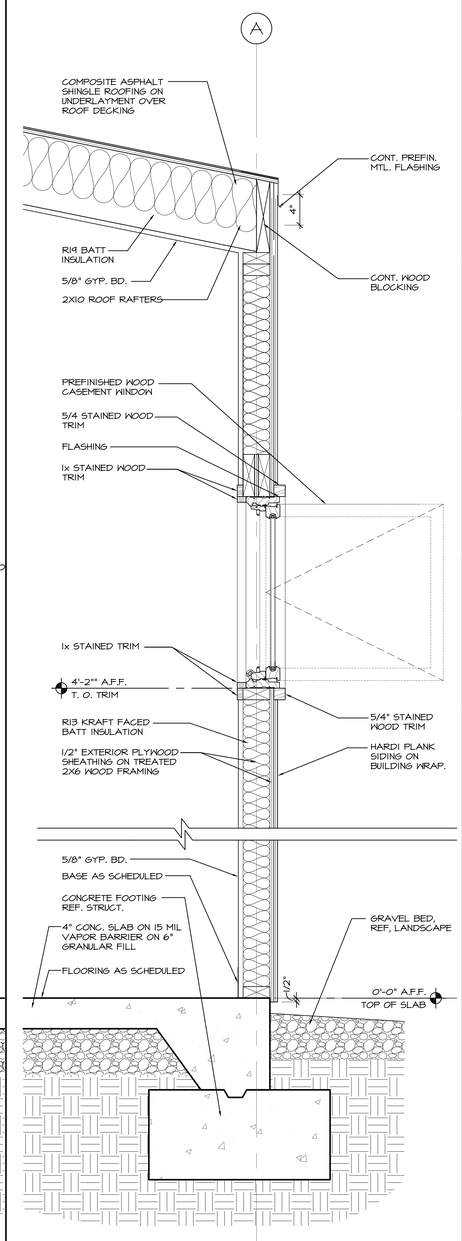
A4 WALL SECTION
1 1/2" = 1'-0" | 2152ws01.dwg



A7 WALL SECTION
1 1/2" = 1'-0" | 2152ws01.dwg



A10 WALL SECTION
1 1/2" = 1'-0" | 2152ws01.dwg



A13 WALL SECTION
1 1/2" = 1'-0" | 2152ws01.dwg

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BUILDING SECTIONS & WALL SECTIONS

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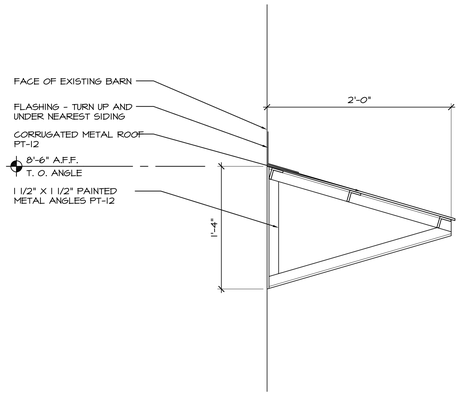
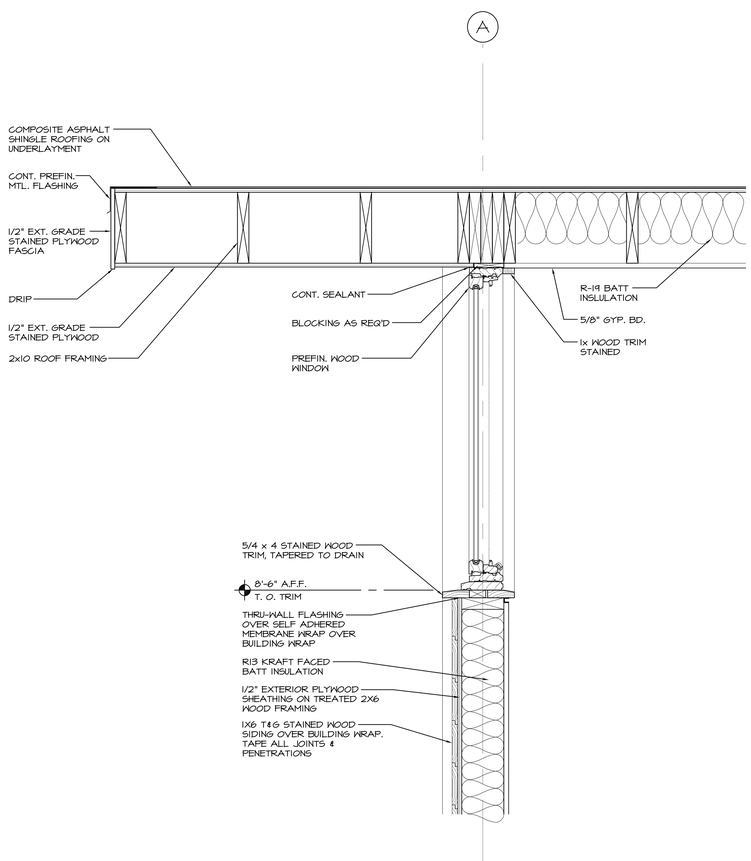
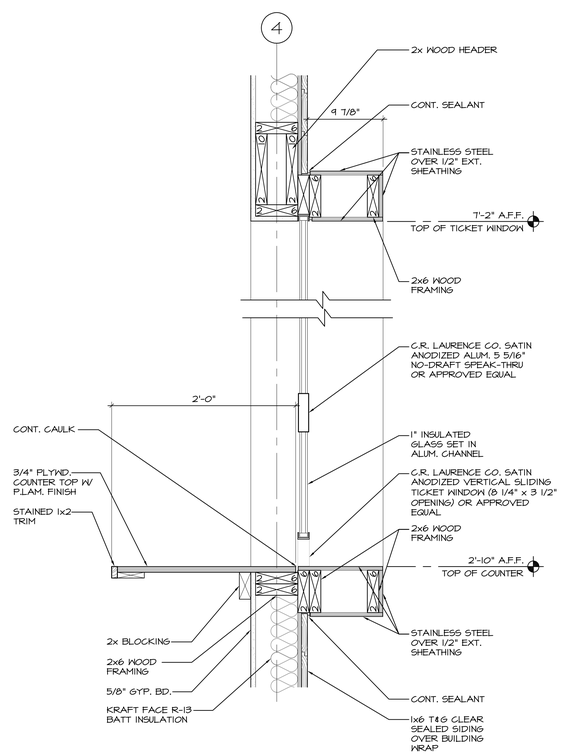


J1 SECTION DETAIL @ CANOPY
1 1/2" = 1'-0" | 2152DT01.DWG

J5



A1 SECTION DETAIL @ GUEST SERVICES
1 1/2" = 1'-0" | 2152DT01.DWG



A7 SECTION DETAIL @ GUEST SERVICES
1 1/2" = 1'-0" | 2152DT01.DWG

A13 SECTION DETAIL @ STORAGE
1 1/2" = 1'-0" | 2152DT01.DWG

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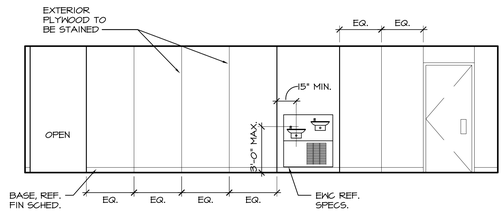
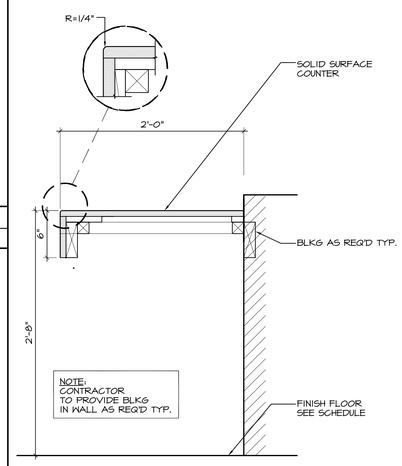
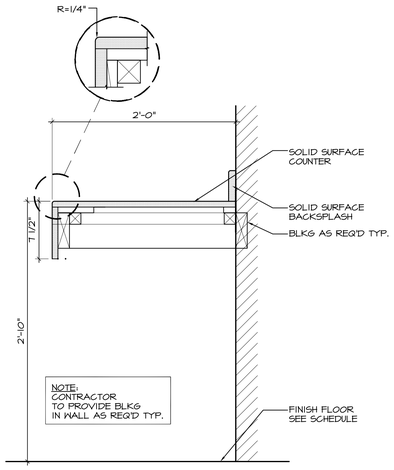


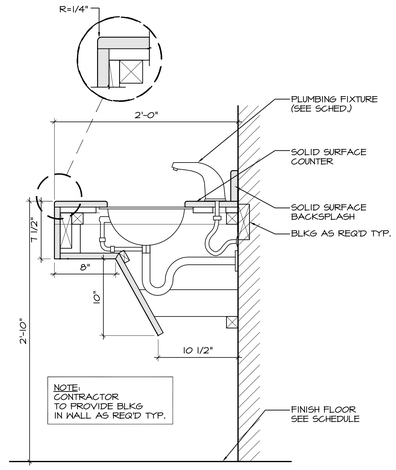
J1 CORRIDOR 110 ELEVATION
1/4" = 1'-0" | 2152IE02.DWG



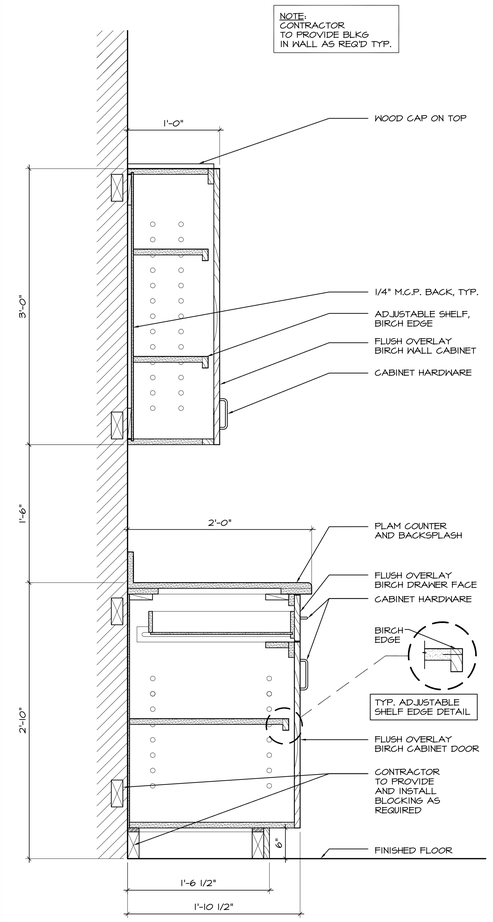
J4 SECTION THRU TRANSACTION COUNTER
1 1/2" = 1'-0" | 2152IE02.DWG



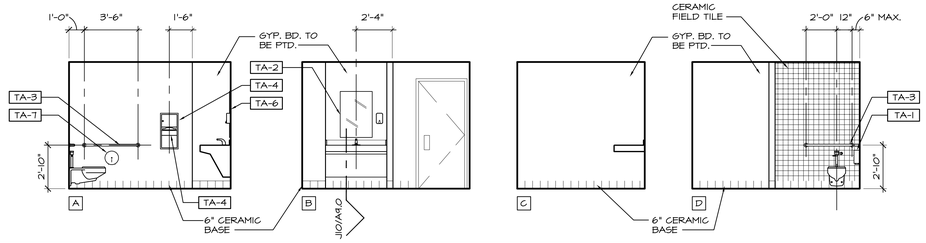
J7 SECTION THROUGH COUNTER
1 1/2" = 1'-0" | 2152MW01.DWG



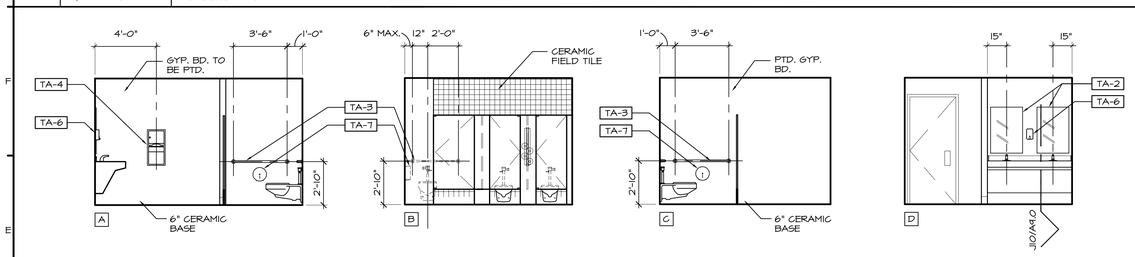
J10 SECTION THROUGH LAVATORY COUNTER
1 1/2" = 1'-0" | 2152MW01.DWG



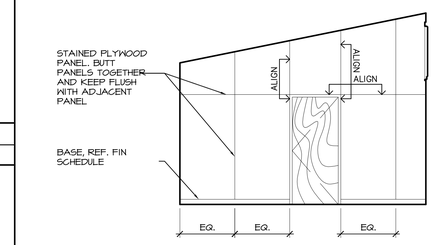
E12 SECTION THROUGH COUNTER & CABINET
1 1/2" = 1'-0" | 2152MW01.DWG



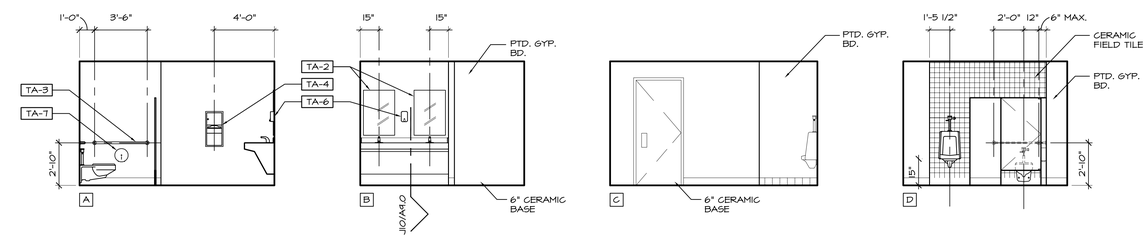
G1 FAMILY RESTROOM 109 ELEVATIONS
1/4" = 1'-0" | 2152IE01.DWG



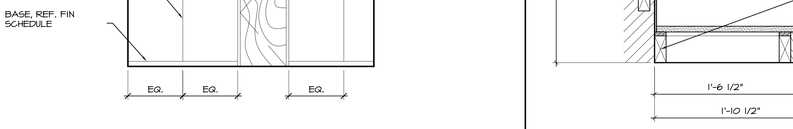
E1 WOMEN'S RESTROOM 108 ELEVATIONS
1/4" = 1'-0" | 2152IE01.DWG



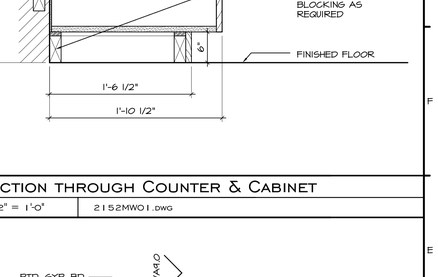
E9 FRIEND'S OFFICES 106 ELEVATION
1/4" = 1'-0" | 2152IE02.DWG



C1 MEN'S RESTROOM 107 ELEVATIONS
1/4" = 1'-0" | 2152IE01.DWG

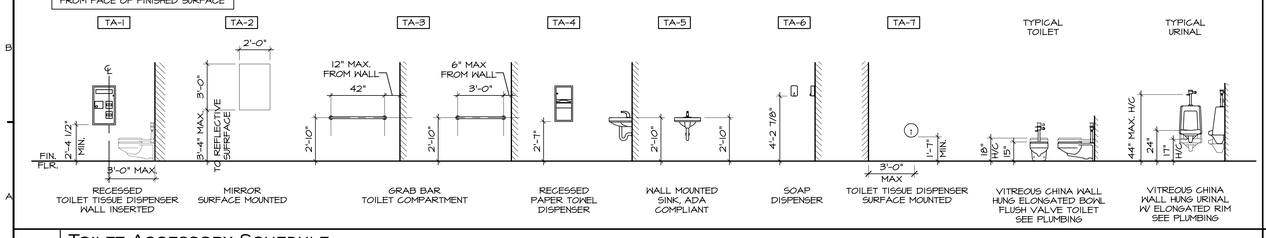


C9 TICKET OFFICE 100 ELEVATION
1/4" = 1'-0" | 2152IE02.DWG

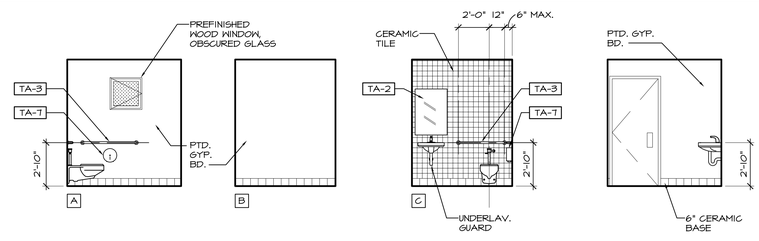


C12 BREAK ROOM 101 ELEVATION
1/4" = 1'-0" | 2152IE02.DWG

NOTE: ALL DIMENSIONS GIVEN ARE FROM FACE OF FINISHED SURFACE



A1 TOILET ACCESSORY SCHEDULE
1/4" = 1'-0" | 2152IE01.DWG



A9 STAFF RESTROOM 104 ELEVATIONS
1/4" = 1'-0" | 2152IE01.DWG

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Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina
PARCEL ID NUMBER 966803961900000

INTERIOR ELEVATIONS & DETAILS

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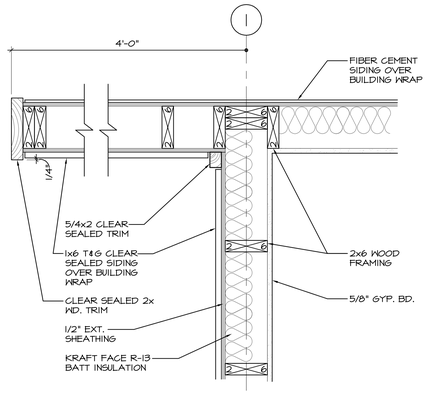
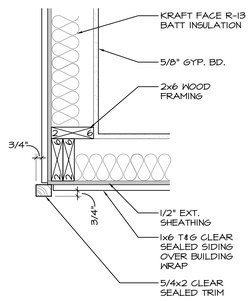
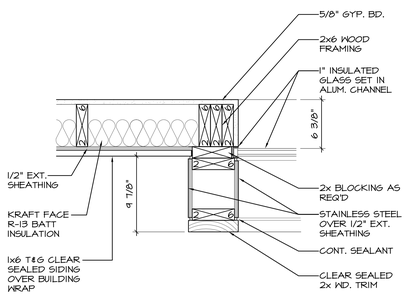


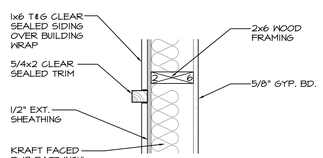
K1 | Plan Detail
1 1/2" = 1'-0" | 2152FP01.dwg



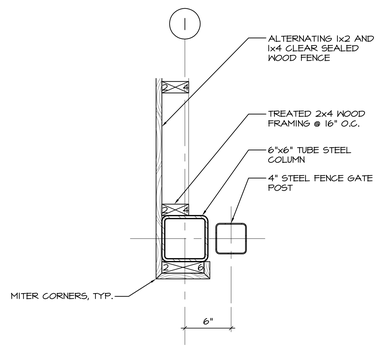
G1 | Plan Detail
1 1/2" = 1'-0" | 2152FP01.dwg



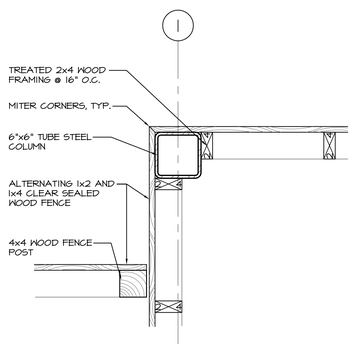
D1 | Plan Detail
1 1/2"=1'-0"



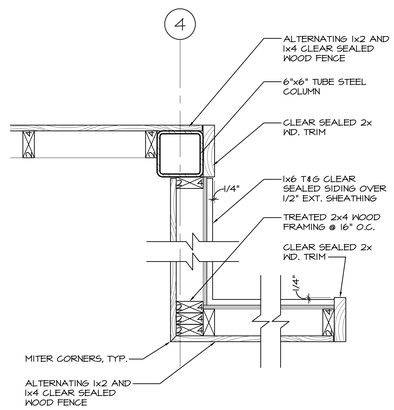
A1 | Plan Detail
1 1/2"=1'-0"



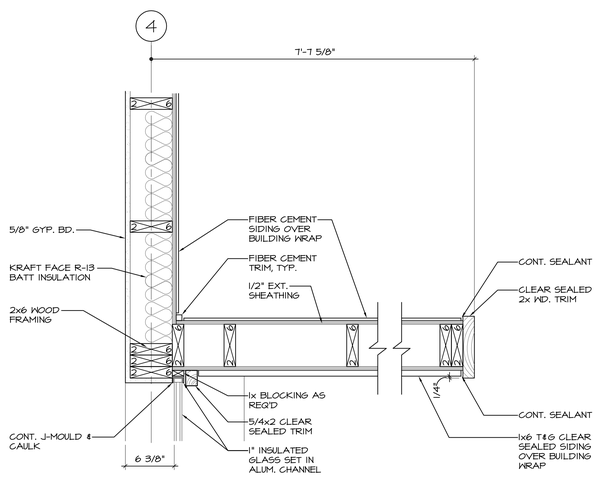
G4 | Plan Detail
1 1/2"= 1'-0"



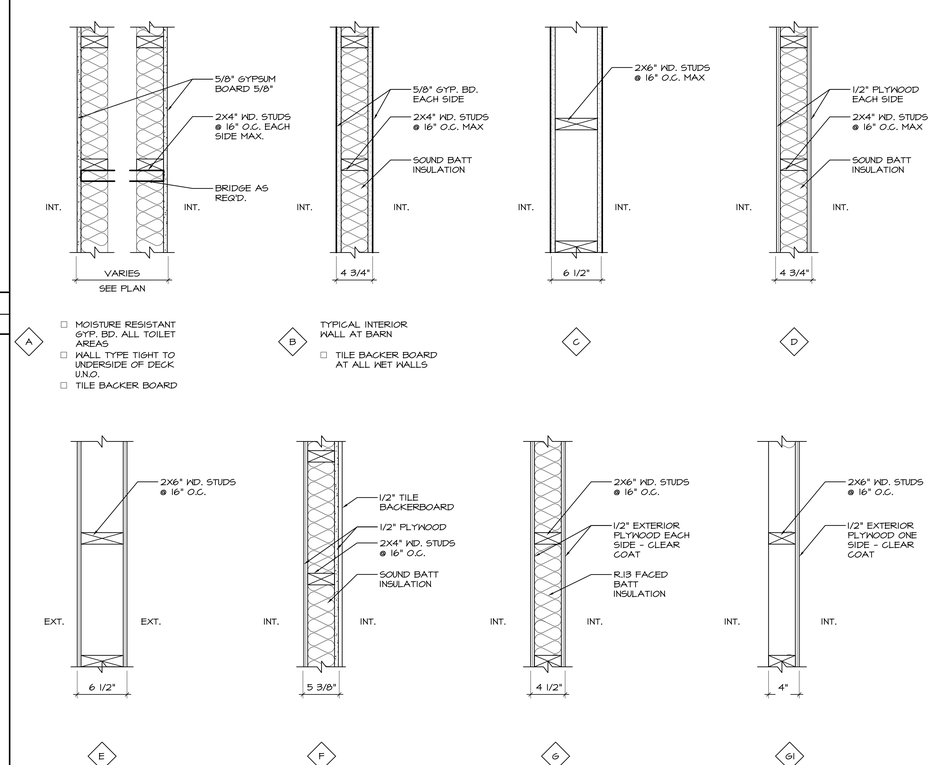
D4 | Plan Detail
1 1/2"= 1'-0"



D7 | Plan Detail
1 1/2" = 1'-0" | 2152FP01.dwg



A4 | Plan Detail
1 1/2"= 1'-0"



A9 | Wall Types
1 1/2"= 1'-0" | 2152WT01.dwg

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Enlarged Plan Details and Wall Types

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Door Schedule

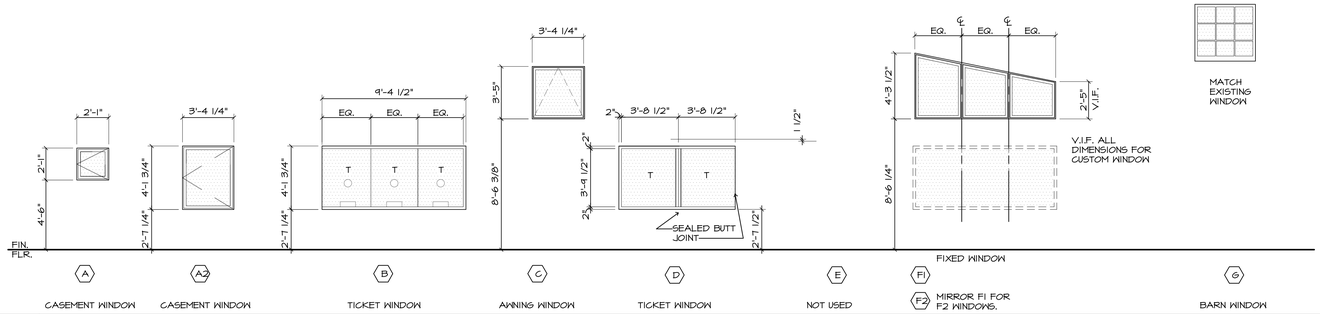
Door											Frame						Hdw.	Remarks
Mark	Room Name	Room No.	Width	Height	Thick.	Material	Finish	Type	Glazing	Label	Type	Material	Finish	Head	Jamb	Thresh.	Set No.	
Guest Services																		
100	Ticket Office	100	3'-0"	6'-8"	1 3/4"	WD.	Clear Seal	A	--	--	1	H.M.	Painted			-	J	
102	Staff Office	102	3'-0"	6'-8"	1 3/4"	HM	Painted	B	--	--	1	H.M.	Painted				J	
103	Mech.	103	3'-0"	6'-8"	1 3/4"	WD.	Clear Seal	A	--	--	1	H.M.	Painted					Vent
104	Staff Restroom	104	3'-0"	6'-8"	1 3/4"	WD.	Clear Seal	A	--	--	1	H.M.	Painted					
105	Entry	105	3'-0"	7'-0"	1 3/4"	WD.	Clear Seal	C	Tempered	--	2	WD.	Stained				--	
106	Friends Office	106	3'-0"	7'-0"	1 3/4"	WD.	Stained	C	Tempered	--	2	WD.	Stained			-		
107	Friends Office	106	3'-0"	6'-8"	1 3/4"	WD.	Clear Seal	B	--	--	1	H.M.	Painted				--	
Barn																		
107	Mens Toilet	107	3'-0"	6'-8"	1 3/4"	HM.	Painted	B	--	--	1	H.M.	Painted				--	
108	Womens Toilet	108	3'-0"	6'-8"	1 3/4"	HM.	Painted	B	--	--	1	H.M.	Painted				--	
109	Family Toilet	109	3'-0"	6'-8"	1 3/4"	HM	Painted	B	--	--	1	H.M.	Painted					
113	Wash Stall	113	3"-0"	6'-8"	1 3/4"	H.M.	Painted	B	--	--	1	H.M.	Painted	--	--	--	--	--
115	Hay Storage	115	(2) 8'-2"	6'-8"	3"	WD.	Stained	D	--	--	--	WD.	Stained	--	--	--	--	Custom door, ref specs
Second Floor																		
200	Owl Enclosure	200	(2) 5'-0"	6'-3"	1 3/4"	WD.	Painted	F	--	--	--	WD.	Painted	-		--	--	--

Window Schedule

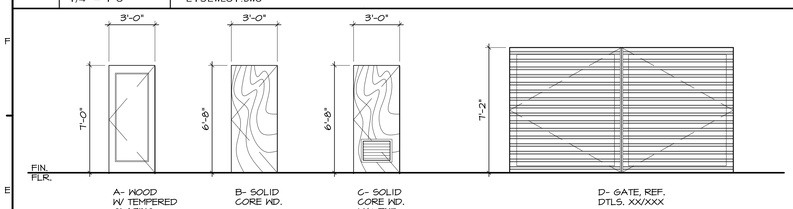
Window				Frame						Remarks
Mark	Type	Glazing	Finish	Width	Material	Finish	Head	Jamb	Sill	
Exterior Windows										
A	Operable	1" Insulated	Clear	-	WD.	Prefin/Stain				Pella Architectural Series
B	Fixed	1/2" Tempered	Clear	-	Alum. Channel	Clear Anodized				--
C	Operable	1" Insulated	Clear	-	WD.	Prefin/Stain				Pella Architectural Series
D	Fixed	1/2" Tempered	Clear	-	Alum. Channel	Clear Anodized				--
E	Fixed	1" Tempered	Clear	-	WD.	Prefin/Stain				See door schedule
F1	Fixed	1" Insulated	Clear	-	WD.	Prefin/Stain				Bank of windows, three total
F2	Fixed	1" Insulated	Clear	-	WD.	Prefin/Stain				Mirror image of F1, bank of 3 win.

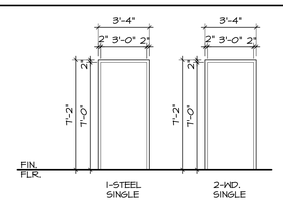
Window General Notes

1. Prefinished wood window basis of design: Pella Corporation Architectural Series
2. The contractor shall verify all conditions prior to frame, window or hardware installation.
3. The contractor shall verify overall partition thickness at all openings prior to fabrication.



F1 Window Elevations
1/4" = 1'-0" | 2152WE01.dwg





E1 Door Elevations
1/4" = 1'-0" | 2152DE01.dwg

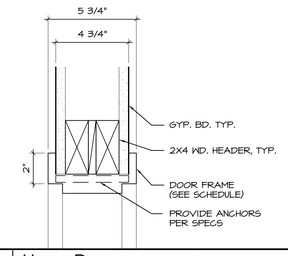
E1 Door Elevations
1/4" = 1'-0" | 2152DE01.dwg

Finish Schedule

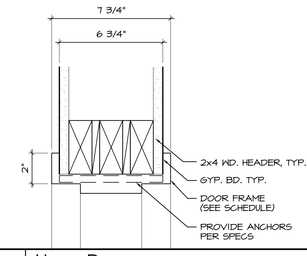
Room		Floor	Base	Walls								Ceiling		Remarks
				North		East		South		West				
Room No.	Room Name	Material	Material	Material	Finish	Material	Finish	Material	Finish	Material	Finish	Material	Finish	
100	Ticket Office	Seal Conc	RB-1	G.B.	PTD-7	G.B./ Glass	PTD-7	G.B./ Glass	PTD-7	Plywood	PTD-9	G.B.	PTD-11	
101	Break Room	Seal Conc	RB-1	G.B.	PTD-12	Plywood	PTD-9	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-11	
102	Staff Office	Seal Conc	RB-1	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	Plywood	PTD-9	G.B.	PTD-11	
103	Mechanical	Seal Conc	RB-1	G.B.	PTD-7	Plywood	PTD-9	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-11	
104	Staff Toilet	Seal Conc	CTB-2	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	Plywood	PTD-9/CT-1	G.B.	PTD-11	West wall base material CTB-1
105	Entry	Seal Conc	RB-1	G.B.	PTD-12	G.B.	PTD-7	G.B.	PTD-7	Plywood	PTD-9	G.B.	PTD-11	
106	Friends Office	Seal Conc	RB-1	G.B.	PTD-7	Plywood	PTD-9	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-11	
107	Mens	EP-1	CTB-2	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	G.B./ Tile	CT-1, PTD-7	G.B.	PTD-11	West wall base material CTB-1
108	Womens	EP-1	CTB-2	G.B.	PTD-7	GB/ Tile	PTD-7/ CT-1	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-11	East wall base material CTB-1
109	Family	EP-1	CTB-2	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	G.B./ Tile	PTD-7/ CT-1	G.B.	PTD-11	West wall base material CTB-1
110	Corridor	Seal Conc	RB-1	Plywood	PTD-9	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	Exposed	-	
111	Exhibit	Seal Conc	RB-1	G.B.	PTD-7	Exist	PTD-7	Exist	PTD-7	Exist	PTD-7	Exposed	-	
112	Chicken Coop	Exist	-	Exist	PTD-7	Exist	PTD-7	Exist	PTD-	7	PTD-7	Exposed	-	
113	Wash Stall	Seal Conc	RB-1	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	Exposed	-	
114	Janitor	Seal Conc	RB-1	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	G.B.	PTD-7	Exposed	-	Provide cement board all walls
115	Hay Storage	Seal Conc	-	Wood	PTD-10	Wood	PTD-10	Wood	PTD-10	Wood	PTD-10	Exposed	PTD-10	
116	Storage	Seal Conc	-	Wood	PTD-10	Wood	PTD-10	-	-	Wood	PTD-10	Exposed	PTD-10	

Door and Door Hardware General Notes

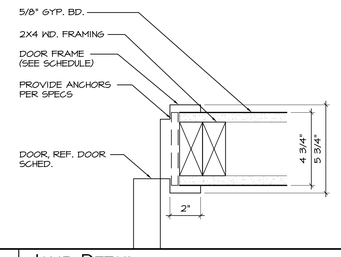
1. The contractor shall verify all conditions prior to frame, door or hardware installation.
2. The contractor shall verify overall partition thickness at all openings prior to fabrication.
3. All doors closers and hardware shall meet ADA/ accessibility and NFPA requirements.
4. Provide coordinators on all pairs of doors swinging in the same direction.
5. Provide weather stripping and closers at all exterior doors. All thresholds of required egress doors shall meet accessibility requirements.
6. Contractor shall verify that the requirements of these notes are met by the hardware schedule.



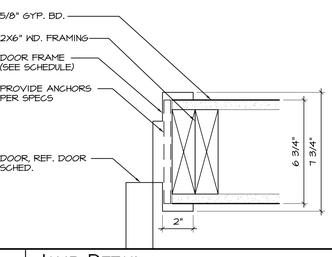
C5 Head Detail
3"= 1'-0" | 2124DD01.dwg



C3 Head Detail
3"= 1'-0" | 2124DD01.dwg



A5 Jamb Detail
3"= 1'-0" | 2124DD01.dwg



A3 Jamb Detail
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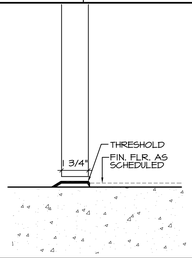
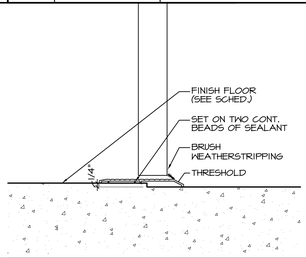


A1 Threshold
3"= 1'-0" | 2124DD01.dwg



C1 Threshold
3"= 1'-0" | 2124DD01.dwg

Finish Material Legend

Flooring

SEAL CONC
Sealed Concrete

EP-1
Manufacturer:Tnemec Company Incorporated
Product: Series 280 Tneme-Glaze
Color: Slate Gray 31GR

RB -1
Manufacturer: Flexco
Product: Wallflowers Premium
Type: Rubber Base 6-Inch
Color:Greystone 042

CTB-1
Manufacturer: DALTILE
Product: Semi-Gloss Matte
Color:KI75 Biscuit
Size:6x6 Cove Base

CTB-2
Manufacturer: DALTILE
Product: Semi-Gloss Matte
Color:GO98 Key Lime
Size:6x6 Cove Base

Paint

PT-1
Manufacturer: Sherwin Williams
Product: A-100 Exterior Acrylic Latex
Color:SW6866 Hearthrob
Finish: Flat
Location: Exterior Barn Wood Siding and Hardiplank walls

PT-2
Manufacturer: Sherwin Williams
Product: A-100 Exterior Acrylic Latex
Color:SW6671 Curry
Finish: Flat
Location: Barn Quilt Pattern

PT-3
Manufacturer: Sherwin Williams
Product: A-100 Exterior Acrylic Latex
Color:SW6881 Cayenne
Finish: Flat
Location: Barn Quilt Pattern

PT-4
Manufacturer: Sherwin Williams
Product: A-100 Exterior Acrylic Latex
Color:SW6838 Vigorous Violet
Finish: Flat
Location: Barn Quilt Pattern

PT-5
Manufacturer: Sherwin Williams
Product: A-100 Exterior Acrylic Latex
Color:SW6835 Determined Orange
Finish: Flat
Location: Barn Quilt Pattern

PT-6
Manufacturer: Sherwin Williams
Product: A-100 Exterior Acrylic Latex
Color:SW6566 Framboise
Finish: Flat
Location: Barn Quilt Pattern

PT-7
Manufacturer: Sherwin Williams
Color:SW6119 Antique White
Finish: Egg Shell
Location: Interior Walls

PT-8
Manufacturer: Sherwin Williams
Color:SW7102 White Flour
Finish: Gloss
Location: Interior door frames

PT-9
Manufacturer: Sherwin Williams
Product: Minwax Polycrylic Finish
Color:Clear Coat
Finish: Satin
Location: Interior wood walls and doors

PT-10
Manufacturer: Pratt & Lambert
Product: Vibralite Exterior UVA Spar Varnish
Color:Clear Coat
Location: Exterior Wood Siding and trim

PT-11
Manufacturer: Sherwin Williams
Color:SW6119 Antique White
Finish: Flat
Location: Interior ceilings

PT-12
Manufacturer: Sherwin Williams
Product: A-100 Exterior Acrylic Latex
Color:SW6278 Cloak Gray
Finish: Semi Gloss
Location: Exterior Metals, columns, posts, connections, angles etc.

Wall Tile

CT-1
Manufacturer: DALTILE
Product: Semi-Gloss Matte
Color:KI75 Biscuit
Size:6x6

CT-2
Manufacturer: DALTILE
Product: Semi-Gloss Matte
Color:GO98 Key Lime
Size:6x6

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Door & Window Schedules

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Abbreviations

Adj	Adjacent
AFF	Above Finished Floor
Approx	Approximate(ly)
Arch	Architectural
BC	Bottom Chord
Bldg	Building
Bm	Beam
Btm	Bottom
BP	Base Plate
Brg	Bearing
BS	Both Sides
BW	Both Ways
C	Compression
Chnl	Channel
CJ	Construction Joint
CL	Centerline
Clr	Clear or Clearance
CMU	Concrete Masonry Unit
Col	Column
Conc	Concrete
Conn	Connection
Const	Construction
Cont	Continuous
Coord	Coordinate
D	Depth
Dia, Ø	Diameter
Dim	Dimension
Dwg	Drawing
Dwl	Dowel
Ea	Each
EF	Each Face
Elec	Electrical
Elev	Elevation
Embed	Embedment
Eq	Equal
Equip	Equipment
EW	Each Way
Exist	Existing
Exp	Expansion
Ext	Exterior
Fnd	Foundation
FFE	Finished Floor Elevation
FP	Full Penetration
FS	Far Side
Ftg	Footing
Ga	Gage or Gauge
Galv	Galvanized
Horiz	Horizontal
HS	Headed Stud
Insul	Insulation
Int	Interior
Jst	Joist
Jt	Joint
K	Kips(1000 LBS.)
KSI	Kips per Square Inch
LB, #	Pound
LD	Development Length
LL	Live Load
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
Long	Longitudinal
LWC	Lightweight Concrete
Manuf	Manufacturer
Matl	Material
Max	Maximum
Mech	Mechanical
Mezz	Mezzanine
Mid	Middle
Min	Minimum
Misc	Miscellaneous
Mtl	Metal
N/A	Not Applicable
NS	Near Side
NTS	Not to Scale
o.c.	On Center
OF	Outside Face
Opng	Opening
Opp	Opposite
Perp	Perpendicular
PL	Plate
PEMB	Pre-engineered Metal Building
Prelim	Preliminary
Proj	Projection
PSF	Pounds per Square Foot
psi	Pounds per Square Inch
Rad	Radius
RD	Roof Drain
Reinf	Reinforcing(-ed, -ment)
Req'd	Required
Rev	Revision
RW	Retaining Wall
Sched	Schedule(d)
Sect	Section
Sht	Sheet
Sim	Similar
Spec	Specifications(s)
Sq	Square
SS	Stainless Steel
Struct	Structure
Sym	Symmetrical
T	Top, Tension
T/, T.O.	Top of
T/Conc	Top of Concrete
T/Ftg	Top of Footing
T/Slab	Top of Slab
T&B	Top & Bottom
Temp	Temperature
Thk	Thickness
TOS	Top of Steel
TOW	Top of Wall
Trnv	Transverse
Typ	Typical
UNO	Unless Noted Otherwise
Vert	Vertical
w/	With
w/o	Without
WP	Work Point
WWF	Welded Wire Fabric

General Notes

1. No provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the contract documents) shall be effective to change the duties and responsibilities of the owner, contractor, architect, engineer, supplier, or any of the consultants, agents, or employees from those set forth in the contract documents, nor shall it be effective to assign to the structural engineer of record (S.E.R.) or any of the S.E.R.'s consultants, agents, or employees any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibilities contrary to the provisions of the contract documents.
2. Reference to standard specifications (concerning structural design) of any technical society, organization, or association or to codes of local or state authorities, shall mean the latest standard codes, specification or tentative specification adopted at the date of taking bids, unless specifically stated otherwise.
3. In the event contract documents conflict with the code of practice or specifications of ACI, PCI, AISC, AISI, SJI or other standards, contact structural engineer for clarification.
4. Notes and specific details on the drawings shall take precedence over general structural notes and typical details. Contact the architect / engineer for a determination of intent before proceeding with related work if there is any discrepancy or question regarding which note to follow.
5. Material, workmanship, and design shall conform to the referenced building code.
6. The contractor shall verify the dimensions, elevations and site conditions before starting work. The architect / engineer shall be notified of any discrepancy.
7. The design, adequacy, and safety of erection bracing, shoring, temporary supports, etc. is the sole responsibility of the contractor.
8. The contractor shall coordinate the architectural, mechanical, electrical, plumbing and civil works with the structural contract documents. The architect / engineer shall be notified of any discrepancies or omissions.
9. The contractor shall notify, in writing, the engineer of conditions encountered in the field that are contradictory to those shown on the contract documents.
10. For dimensions not shown on the structural drawings see the architectural drawings.

Design Criteria

1. 2009 International Building Code (IBC)
2. Live Loads (reduced as allowed by the building code):
   A. Roof = 15 psf
3. Dead Loads:
   A. Roof = 15 psf
4. Snow Loads:
   A. Ground Snow Load: Pg = 20 psf
5. Wind Loads:
   A. Basic wind speed (3 second gust): 90 mph
   B. Wind Importance Factor: 1.0
   C. Wind Exposure: B
6. Seismic loads:
   A. Occupancy Category: II
   B. Spectral Response Coefficients: Sds = 0.391; Sdl = 0.169
   C. Soil Site Class: D
   D. Seismic Design Category: D
   E. Response modification factor: R= 1.25
   F. Deflection amplification factor: Cd = 1.25
   G. System overstrength factor: Defl = 1.25
   H. Seismic force resisting system: Cantilevered Steel Columns (Ordinary)
   I. Design base shear: V= CsW
   J. Analysis procedure: Equivalent Lateral Force

Shallow Foundations

1. Foundations are designed based upon assumed soil bearing capacities as stated below.
2. Allowable soil bearing pressures used in design:
   A. Spread footings: 2000 psf
   B. Continuous footings: 2000 psf
3. Footing excavations shall be observed and tested by an experienced geotechnical engineer prior to steel or concrete placement in order to assess that the foundation materials are consistent with above stated assumed soil bearing capacities.
4. In the event that the soils test results are disapproved, footing excavations shall be undercut (under the direction of the soils engineer) until soils of adequate bearding capacity are encountered. Backfill under footings shall consist of concrete f'c = 2500 psi @ 28 days placed up to the proposed bottom of footing elevation
5. Footings shall bear on undisturbed residual soils or compacted fill, maximum density of 98%%% ASTM D-698.
6. Footing elevations shown on the plans are for estimating purposes only. Actual footing elevations shall be determined by the contractor at the site and shall be a minimum of 12" below finished grade.
7. All water shall be removed from foundation excavations prior to placing of concrete. If bottoms of trenches become softened due to water before footings are cast, the contractor, at his own expense, shall excavate the softened material and replace with concrete.
8. All pipes (water lines, sewer lines, etc.) And conduits running through walls / slabs shall be protected with ½" expansion material.
9. Continuous footing perpendicular to pipe runs shall be either lowered to allow pipes to pass through above such footings or have concrete jacket if pipes are low enough to be placed below such footings. Footings parallel to pipe runs shall be lowered to avoid surcharge onto the trench excavations.
10. Refer to civil/architectural plans for limits of excavation.

Structural Steel

1. Structural steel W shapes shall conform to ASTM A992 unless noted otherwise. Angles, Channels, Plates, & Bars shall be A36. Pipe columns shall conform to ASTM A53 type E or S Grade B. Tubes shall conform to ASTM A500 Grade B.
2. Design, fabrication, and erection shall be in accordance with AISC specification for the design, fabrication, and erection of structural steel buildings.
3. Structural steel shall be detailed in accordance with standard practices of AISC
   a. Connections: AISC Manual standard connections, unless noted.
   b. High-strength bolts: ASTM A325 bearing type N installed in accordance with "specification for structural joints Using ASTM A325 or A490 Bolts", research council on riveted and bolted structural joints.
4. All welds must be made in accordance with the American Welding Society Code D-1.1.
5. Field and shop connections shall be welded as shown on drawings or bolted with high strength bolts, unless noted otherwise.
6. See architectural drawings for angles, clips, bars, plates, and other items attached to structural members, and for chamfers on concrete walls, beams, etc.
7. Provide temporary bracing as required to maintain alignment and security of structures during construction.
8. Do no cutting, drilling or modifying of structural members without the approval of the engineer.
9. The manufacturer's name, brand or trademark (mill identification marks) shall be shown in raised letters at intervals along the length. (ASTM A6/A6M 96-97, paragraph 12.2) note: For beams with the greatest cross-sectional dimension not exceeding (6") six inches, the producer or processor has the option of marking or tagging a bundle of such beams with the above information.

Lumber

1. Wood structures have been designed in accordance with the National Design Specifications for Wood Construction by the National Forest Products Association.
2. All dimensional lumber shall be No. 2 Southern Pine kiln dried to 19% maximum moisture content with allowable stress values of 1200 psi in bending and a modulus of elasticity of 1600ksi.
3. All laminated veneer lumber (LVL) shall have a grade equivalent to or better than 2.0E with an allowable stress value equal to 2500 psi in bending and a modulus of elasticity of 2000ksi.
4. Use light gauge galvanized steel joist hangers and framing anchors, sized for the full load capacity of the supported members (U.N.O.). All wood connectors specified in the drawings shall be manufactured by Simpson Strong-Tie Co., or equal, (U.N.O.)
5. Pressure treat all wood products in direct contact with the foundation.
6. Provide double studs on each side of all openings and all wall ends and triple studs at beam bearings, (U.N.O.)
7. Provide solid blocking under posts, multiple studs or beam bearing locations.
8. Where plywood fillers are required in beams they shall be continuous pieces for the length of the opening and shall be nailed to the 2x members with (2) rows of 10d nails at 12"o.c. Staggered. All top loaded built-up beams shall have their individual pieces fastened together with a minimum of (2) rows of 16d nails at 12"o.c. (U.N.O.)
9. All nailing shall be done in accordance wit the minimum requirements of the local building code, except as otherwise shown, and shall be done with common wire nails.
10. Bolts shall be unfinished A307 with bolt holes through the wood drilled no more than 1/16" greater than the bolt diameter.
11. Plywood sheathing shall be APA rated Exposure 1, ¾" thick. For diaphragm construction, all plywood shall be installed in accordance with the latest provisions of the American Plywood Association.

Reinforcing

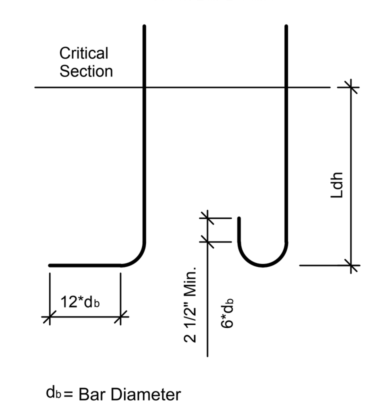
1. Reinforcing shall be detailed and placed in conformance with ACI Detailing Manual.
2. Reinforcing bars shall conform to the requirements of ASTM A615 Grade 60 except all reinforcing in concrete moment frames and shear walls and all welded reinforcement shall conform to ASTM A706 Grade 60.
3. Welded wire fabric shall conform to ASTM A185.
4. Minimum lap of welded wire fabric shall be 6" or one full mesh + 2", whichever is greater.
5. Dowels between footings and walls shall be the grade, size and spacing or number as the vertical reinforcing, respectively.
6. Reinforcing steel in all concrete walls and footings shall be continuous around corners.
7. Provide (2) #5 extra reinforcing bars around all side of openings in concrete, unless noted otherwise on the plans. Extend bars 2'-0" beyond each edge of opening.
8. Minimum clear coverage of concrete over reinforcement shall be:
   a. Concrete cast against and permanently exposed to earth ....3"
   b. Concrete exposed to earth or weather:
      i. No. 6 through no. 18 bar..2"
      ii. No. 5 bar, w31 or d31 wire or smaller...........................1-1/2"
   c. Concrete not exposed to weather or in contact with ground:
      i. Slabs walls and joists no. 14 & no. 18...........................1-1/2"
      ii. Slabs walls and joists no. 11 & smaller...........................3/4"
      iii. Beams, columns: ties and primary reinforcing...............1-1/2"

REINFORCING EMBEDMENT / DEVELOPMENT LENGTH

Bar Size	f'c = 3000 psi		f'c = 4000 psi		f'c = 5000 psi	
	Ld	Ldh	Ld	Ldh	Ld	Ldh
#3	16 1/2"	8 1/2"	14 1/2"	8"	13"	7"
#4	22"	11"	19"	10"	17"	9"
#5	28"	14"	24"	12"	22"	11"
#6	33"	17"	29"	15"	26"	13"
#7	48"	20"	42"	17"	38"	15"
#8	55"	22"	48"	19"	43"	17"
#9	62"	25"	54"	22"	48"	20"
#10	70"	28"	61"	25"	54"	22"
#11	78"	31"	67"	27"	60"	24"

Notes:
1. Fy = 60 ksi
2. Ld = Straight Bar Development Length
3. Ldh = Development Length w/ Standard Hook.

Hook Bar Details

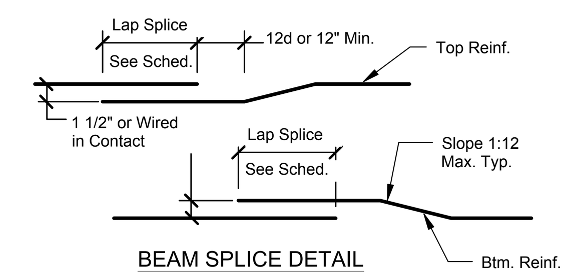


d_b = Bar Diameter

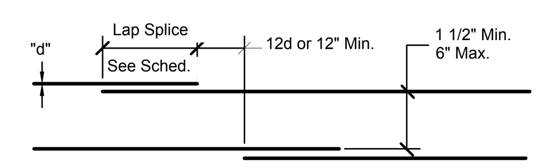
REINFORCING LAP SPLICE LENGTH SCHEDULE

Bar Size	f'c = 3000 psi	f'c = 4000 psi	f'c = 5000 psi
#3	22"	19"	17"
#4	29"	25"	22"
#5	36"	31"	28"
#6	43"	38"	34"
#7	63"	54"	49"
#8	72"	62"	56"
#9	81"	70"	63"
#10	91"	79"	71"
#11	101"	87"	78"

Notes:
1. Fy = 60 ksi
2. Splice lengths are for normal weight concrete.
3. All splices shall be staggered as shown. If more than 50% of the reinforcing is lap spliced within the required lap splice length, the lap splice length shall be increased by 33%.
4. Lap lengths specifically detailed in drawings shall govern in lieu of schedule.
5. Smaller bar required lap length shall be used when splicing with a larger bar.



BEAM SPLICE DETAIL



SLAB SPLICE DETAIL

Concrete

1. All phases of work pertaining to the concrete construction shall conform to the "Building Code Requirements for Structural Concrete" (ACI 318), latest edition with modifications as noted in the drawings or specifications.
2. Concrete mixes shall be designed by a qualified testing laboratory and approved by the structural engineer.
3. All exposed corners or edges of columns, piers, walls, etc., shall be formed with a 3/4" chamfer unless noted otherwise on structural or architectural drawings.
4. All reinforcing bars, anchor bolts and other concrete inserts shall be well secured in position prior to placing concrete.
5. Provide sleeves for plumbing and electrical openings in concrete before placing concrete. Do not cut any reinforcing that may conflict. Coring is not permitted except as shown. Notify the structural engineer in advance of conditions not shown on the drawings.
6. Conduit or pipe size (o.d.) shall not exceed 30% of the slab thickness and shall be placed between the top and bottom reinforcing unless specifically detailed otherwise. Concentrations of conduits or pipes shall be avoided except where detailed openings are provided.
7. Curing compounds on concrete that is to receive special finish shall be approved by the manufacturer before use.
8. Roughen surface of horizontal or nearly horizontal construction joints so that the aggregate shall be exposed uniformly, leaving no laitance, loosed particles or damaged concrete.
9. Locate joints not indicated to least impair strength and appearance of the structure. Locate horizontal joints in concrete only where they normally occur or where indicated. Locate vertical joints in middle third of spans of slabs, beams, or girders unless a beam intersects a girder at middle location, in which case offset joints in girders twice the width of the beam.
10. Once formwork has been removed from concrete retaining walls, brace walls thoroughly before placing soil against wall and keep bracing in place for a minimum of 7 days after earthwork is complete.

CONCRETE DESIGN

Use (Location)	28 Day Strength	Aggregate Size (Max.)	Cement/CY (Min.)	W/C ratio (Max.)	Slump (Max.)	Air Entrainment
Slab-on-grade (Interior)	f'c=3,500 psi	1"	520#	.58	4-1/2"	None
Slab-on-grade (Dugouts)	f'c=3,500 psi	1"	520#	.58	4-1/2"	4%-6%
Exposed Concrete	f'c=4,000 psi	1"	560#	.54	4-1/2"	4%-6%
Footings	f'c=3,000 psi	1"	480#	.62	4-1/2"	None

1. All aggregate shall be Limestone.
2. All Cement shall be Portland Cement Type 1.

DRAWING LIST

Sheet No:	Sheet Name
S1.0	General Notes
S1.1	Typical Details
S2.0	Foundation Plan & Details
S2.1	Foundation Plan & Details
S3.0	Framing Plan & Details
S3.1	Framing Details
S3.2	Framing Plan & Details
S3.3	Framing Details

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GENERAL NOTES

NORTH CAROLINA PROFESSIONAL ENGINEER 025211 E. KEITH SEAGRAVES
E. Keith Seagraves 7.18.14

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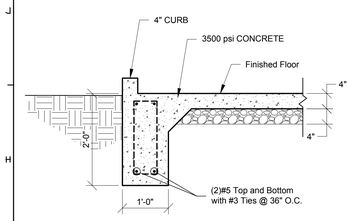
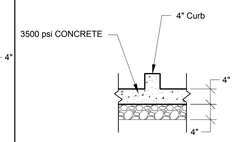


G1 Section
3/4" = 1'-0"



G3 Curb
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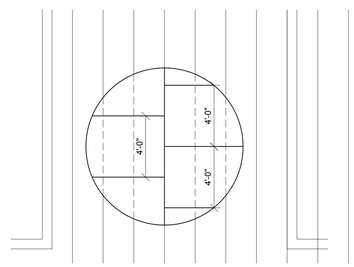

G5 Plywood Sheathing Spacing
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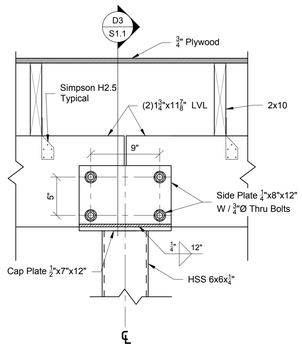
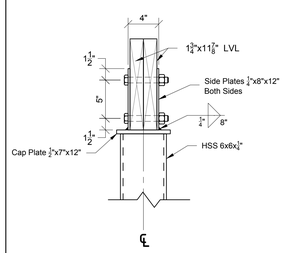


D1 SPLICE @ Column
1-1/2" = 1'-0"



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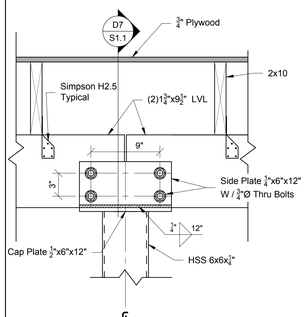

D5 SPLICE @ Column
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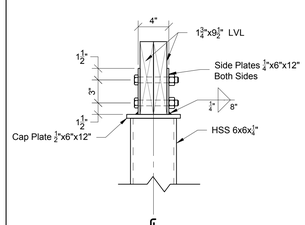

D7 Section @ Column
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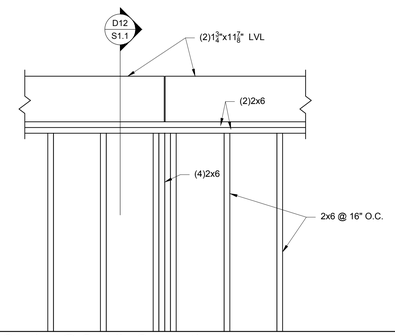
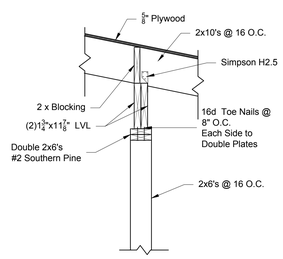
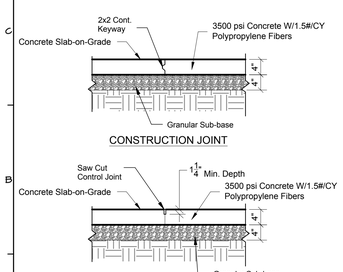


D9 Section @ Saddle Connection
3/4" = 1'-0"

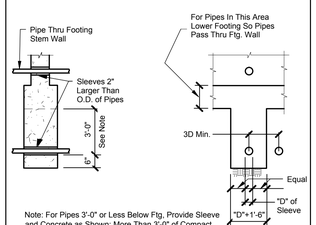


D12 Section @ Saddle Connection
1-1/2" = 1'-0"



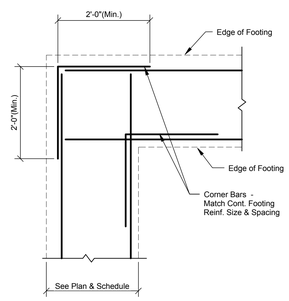
Notes:
1. Maximum spacing of control joints shall be 15'-0"o.c. (U.N.O.).
2. Locate control joints as specified on architectural drawings (when applicable).
3. Provide 10 MIL Vapor Barrier below slab (U.N.O.)

A1 Slab-on-Grade Details
3/4" = 1'-0"

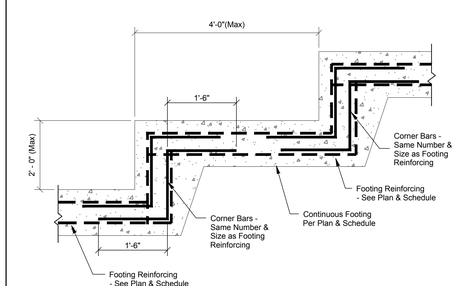


Note: For Pipes 3'-0" or Less Below Ftg, Provide Sleeve and Concrete as Shown; More Than 3'-0" of Compact Backfill Over Pipe as Approved by Soils Engineer, or Use Stepped Footing Below Pipe. Where Pipes Cross Under and are More Than 3' Below, the Ftgs Shall be Stepped if the Following Exists:
a) Multiple Pipes Where the Spacing Betw. is < 3 Times the Diameter of the Larger Pipe Size.
b) Pipes 24" Diameter or Larger.

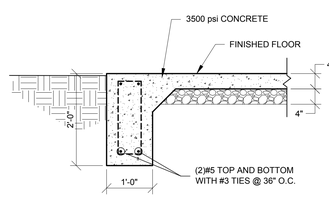
A3 Pipe @ Footing Detail
3/4" = 1'-0"



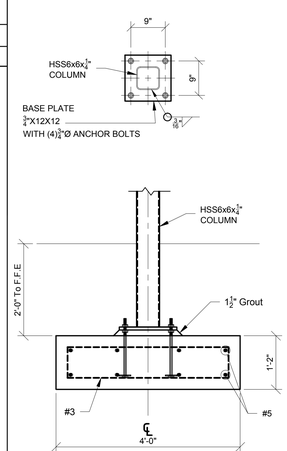
A5 Typ. Cont. Corner Footing Detail
3/4" = 1'-0"



A7 Typical Footing Step Detail
3/4" = 1'-0"



A10 Section
3/4" = 1'-0"



A14 Section Column
3/4" = 1'-0"

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TYPICAL DETAILS

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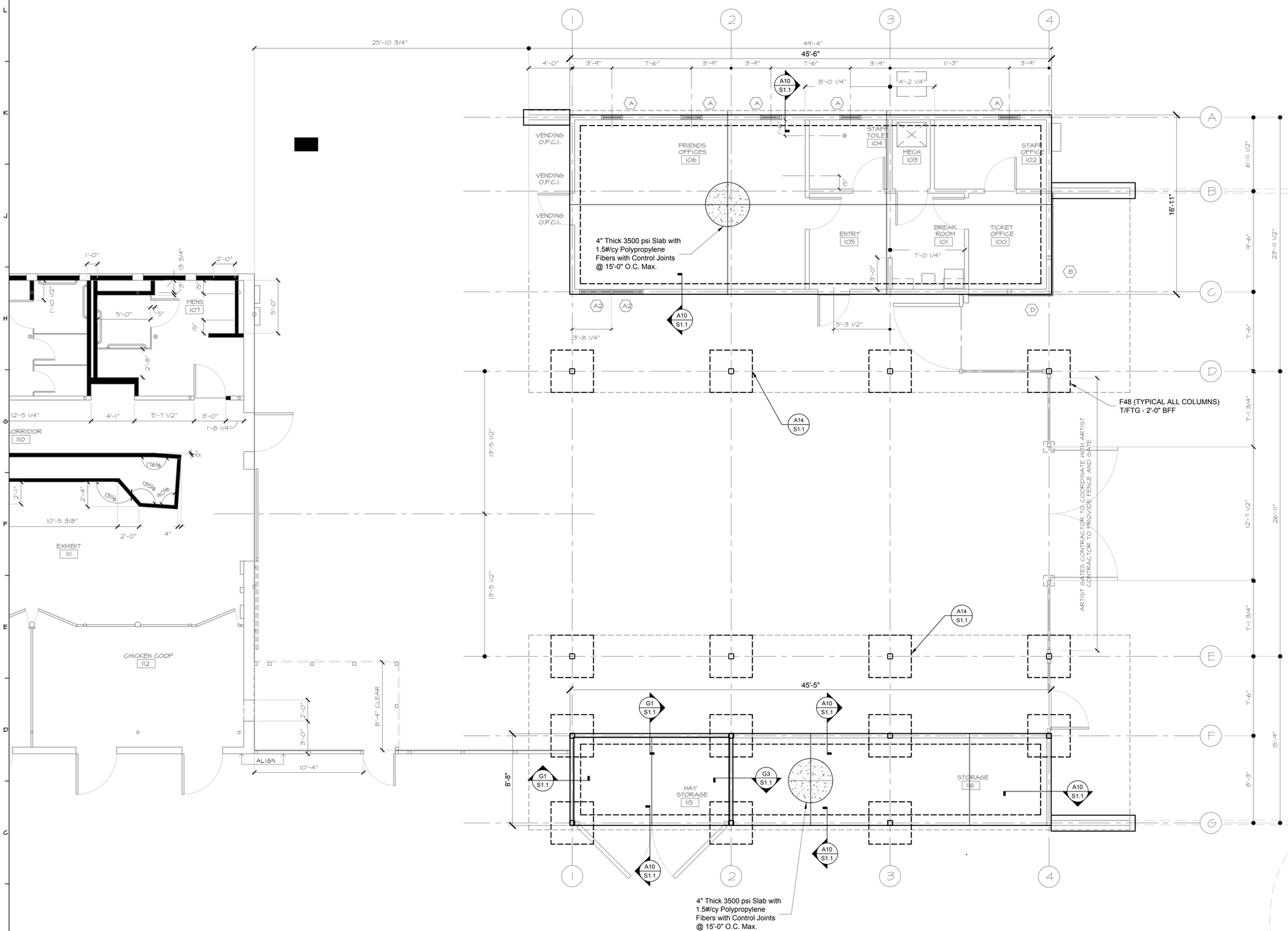

A1 FOUNDATION PLAN

1/4" = 1'-0"

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FOUNDATION PLAN

NORTH CAROLINA
PROFESSIONAL
025211
ENGINEER
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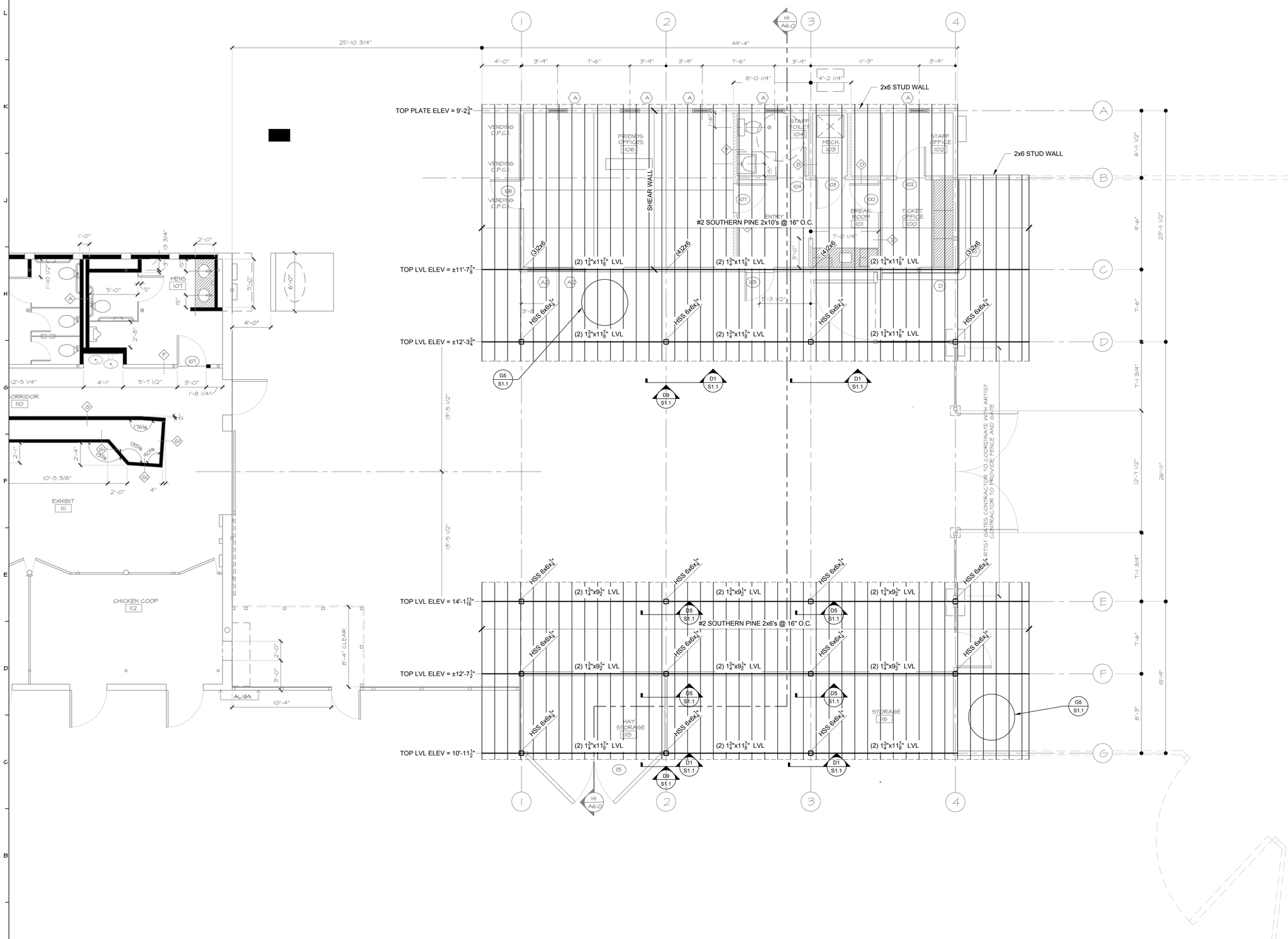

1 ROOF FRAMING PLAN

1/4" = 1'-0"

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ROOF FRAMING PLAN

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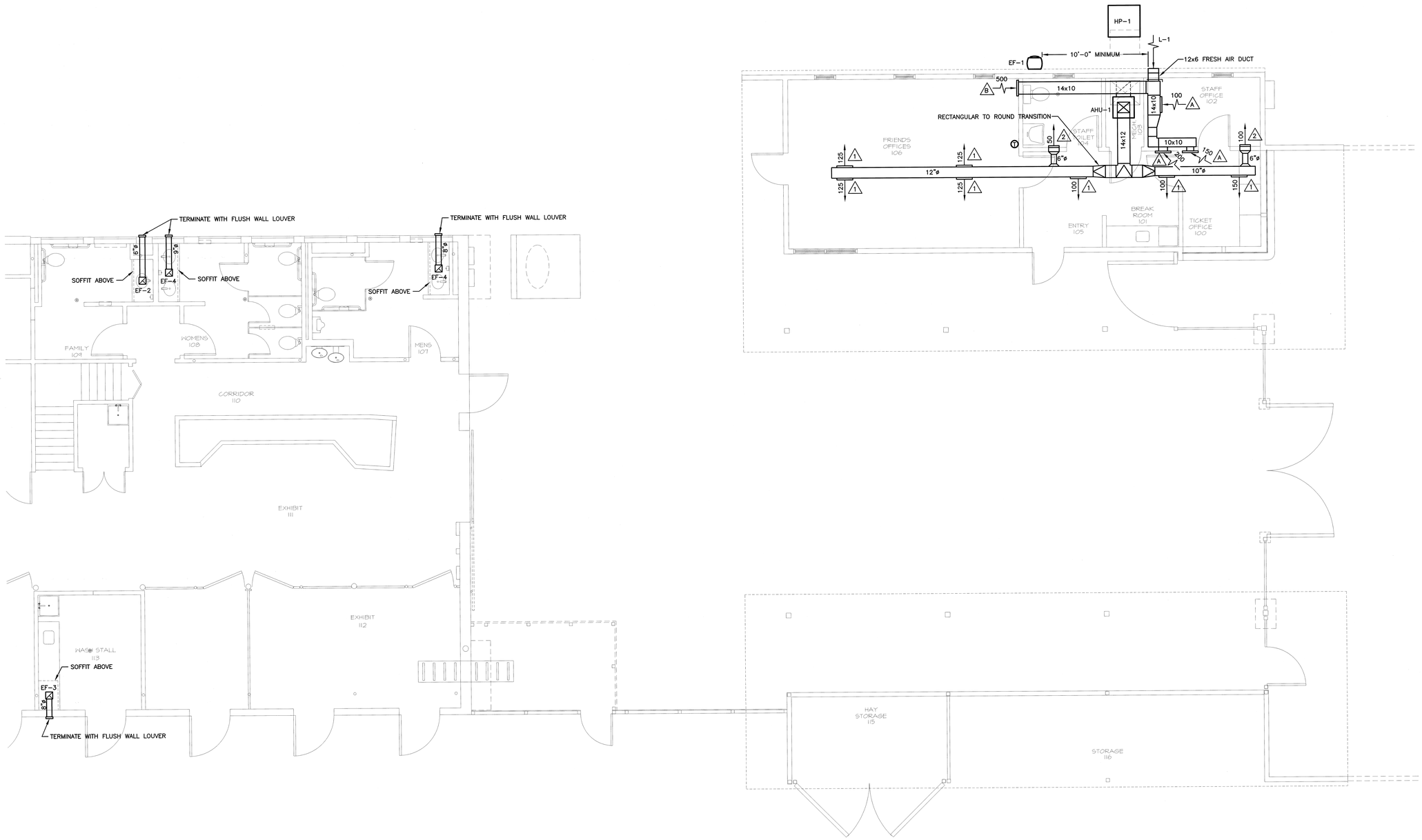

1 M101 FLOOR PLAN – HVAC
SCALE: 1/4" = 1'-0"

gus@simsengineers.com

NORTH CAROLINA PROFESSIONAL SEAL 14566 AUGUSTUS SIMS

B. Augustus Sims 7.18.14

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Asheville Wildlife Park
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Floor Plans – HVAC

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18 July 2014

Project No.
2152

Date
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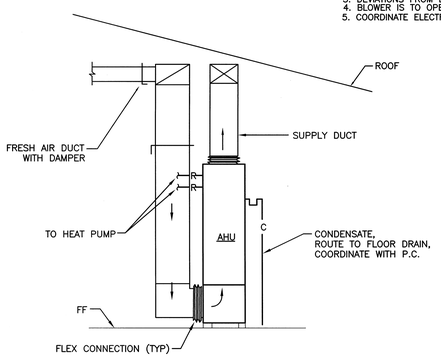
Scale
AS NOTED

Sheet
M101

CENTRAL HEATING AND AIR CONDITIONING EQUIPMENT SCHEDULE – HEAT PUMP

UNIT NO.	COOLING CAPACITY TOTAL (BTUH)	COOLING CAPACITY SENSIBLE (BTUH)	COOLING CAPACITY SEER (W/TXV)	HEATING CAPACITY TOTAL (BTUH) (AT 17°)	HEATING CAPACITY COP	AUX. HEAT TOTAL (KW)	AUX. HEAT STEPS	AUX. HEAT VOLTS /ø	COMPRESSOR MOTOR QTY	COMPRESSOR MOTOR FLA (EA)	COMPRESSOR MOTOR VOLTS /ø	O D FAN MOTOR QTY	O D FAN MOTOR FLA	O D FAN MOTOR VOLTS /ø	BLOWER QTY FANS MOTORS	BLOWER CFM TOTAL	BLOWER O D AIR CFM	BLOWER ESP	BLOWER HP	BLOWER VOLTS /ø	DESCRIPTION
AHU–1 HP–1	26,710	21,050	13.0	16,550	2.66	10	1	240/1	1	14.1	240/1	1	0.5	240/1	1	1000	75	0.6	1/3	120/1	AHU: CARRIER #FY5BNF030010 – HP: CARRIER #25HBC330A0030

NOTES:
1. PROVIDE SINGLE POINT ELECTRICAL CONNECTIONS AND LOW AMBIENT CONTROLS
2. SYSTEM IS HEAT PUMP WITH ELECTRIC COOL.
3. DEVIATIONS FROM DESIGN CRITERIA SHALL BE HIGHLIGHTED IN SUBMITTALS.
4. BLOWER IS TO OPERATE CONTINOUSLY WHEN BUILDING IS OCCUPIED.
5. COORDINATE ELECTRICAL REQUIREMENTS WITH EC PRIOR TO ORDERING AND INSTALLING EQUIPMENT.



1 / M201 AHU DETAIL
NOT TO SCALE

NOTE:
1. ROOF STRUCTURE IS EXPOSED TO CONDITIONED SPACE

EXHAUST FAN SCHEDULE

MARK	CFM	SP	HP	RPM	VOLTS	DESCRIPTION
EF–1	100	.375	1/6	1000	120	SIDEWALL MOUNTED, DIRECT DRIVE, BACKDRAFT DAMPER, SQUARE INLET GRILLE #SG–10 COOK #ACWD–70
EF–2	75	.250	–	950	120	CEILING MOUNTED, BACKDRAFT DAMPER GREENHECK SP–A110
EF–3	150	.250	–	1400	120	CEILING MOUNTED, BACKDRAFT DAMPER GREENHECK SP–A190
EF–4	225	.250	–	1000	120	CEILING MOUNTED, BACKDRAFT DAMPER GREENHECK SP–A250

1. DAMPER FANS TO REQUIRED CFM.
2. PROVIDE MOUNTING SUPPORTS.

HVAC LEGEND

MARK	DESCRIPTION
2 / 350	DIFFUSER, 2 DENOTES TYPE (SEE SCHEDULE) "350" DENOTES CFM, MAY USE FIVE FEET OF FLEX DUCT TO CONNECT TO TRUNK
3 / 350	RETURN REGISTER, 3 DENOTES TYPE (SEE SCHEDULE), "350" DENOTES CFM
75 / 8x8	EXHAUST REGISTER, "75" DENOTES CFM. 8x8 DENOTES FACE AREA.
T / 1	THERMOSTAT, PROGRAMABLE FOR 5–1–1 DAY WEEKS, NIGHT SET BACK, AUTO HEAT TO COOL, "1" DENOTES UNIT CONTROLLED, PROVIDE THERMOSTAT FOR EACH HVAC SYSTEM, COORDINATE LOCATION WITH ARCHITECT.
12x6	RECTANGULAR DUCTWORK, GALVANIZED; "12" DENOTES WIDTH, "6" DENOTES DEPTH. DIMENSIONS SHOWN ARE FREE AND CLEAR.
12"ø	DUCTWORK, ROUND, SPIRAL WOUND, UNILOCK JOINTS, PAINT GRIP FINISH. MANUFACTURER'S FITINGS.
	DUCT TEE, BEND, ELBOW, RADIUS NOT LESS 1.5 C/L WIDTH OR PROVIDE RECTANGULAR ELBOWS WITH AIR FOIL TURNING VANES.
	SPLITTER DAMPER
EF–1	EXHAUST FAN, "1" DENOTES NUMBER (SEE SCHEDULE), COORDINATE CURB INSTALLATION WITH ROOF INSTALLATION
	SIDE TAKE OFF WITH VOLUME CONTROL DAMPER TYPICAL ALL TAKE OFFS.
—R—	REFRIGERANT LINE SET, SIZE PER MFG. INSTRUCTIONS, INSULATE SUCTION LINE WITH ARMAFLEX. PAINT AND SEAL ARMAFLEX EXPOSED TO WEATHER.
—C—	CONDENSATE PIPING, SCHEDULE 40 PVC
FD	FIRE DAMPER PROVIDE ACCESS DOOR IN DUCT
RD	RADIATION DAMPER PROVIDE ACCESS DOOR IN DUCT

RETURN REGISTER SCHEDULE

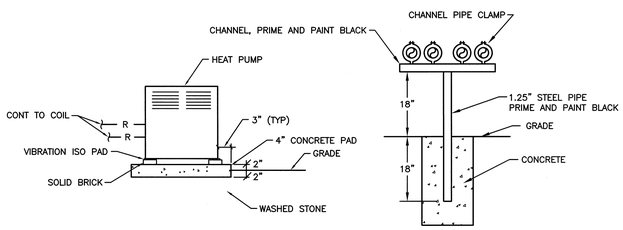
MARK	FACE	DESCRIPTION
A	14x10	STEEL, 45° FIXED HORIZONTAL FRONT BLADES, OPPOSED BLADE DAMPER, BAKED OFF–WHITE FINISH, NAILOR MODEL 6145H
B	26x14	

SUPPLY DIFFUSER SCHEDULE

MARK	THROAT	DESCRIPTION
1	16x4	STEEL, CURVED, DOUBLE DEFLECTION, COMBO EXTRACTOR & OPPOSED BLADE DAMPER, HORIZONTAL FRONT BLADES, NAILOR MODEL 640HC
2	10x6	STEEL, DOUBLE DEFLECTION, OPPOSED BLADE DAMPER, HORIZONTAL FRONT BLADES, NAILOR MODEL 61DH

INTAKE LOUVER SCHEDULE

MARK	THROAT	CFM	DESCRIPTION
L–1	12x12	75	ALUMINUM, FIXED BLADE, INSECT SCREEN, HORIZONTAL FRONT BLADES, RUSKIN #ELF375X



2 / M201 EXTERNAL UNIT & REFRIGERANT PIPE SUPPORT DETAIL
NOT TO SCALE

NOTES:
1. SUPPORT REFRIGERANT PIPING 48" ON CENTER AND AT CHANGES OF DIRECTION

SIMS PROJECT # 1343

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Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina

HVAC Schedules & Details

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Project No. 2152
Date 02.23.2013
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M201

SECTION 15010H
BASIC HVAC REQUIREMENTS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Basic HVAC Requirements specifically applicable to Division 15 Sections, in addition to Division 1 – General Requirements.

1.2 SCOPE OF WORK

A. Provide central HVAC equipment including, but not limited to, Air handling units and Heat Pump units, controls, thermostats, ventilators, piping, ducting, air distribution equipment, etc., and other required materials to produce complete and operating HVAC system as shown on drawing.
B. Obtain all permits, pay all fees and request inspection from authority having jurisdiction.
C. Provide demolition of all Mechanical materials made obsolete by this project and remove from site. Owner retains salvage rights.
D. All work and materials shall be guaranteed for one year from date of substantial completion.

1.3 WORK SEQUENCE

A. Coordinate construction and utility outages (if any) with Owner, Engineer, all other trades and utility companies.
B. Visit site before submitting bid to confirm existing conditions. Notify Engineer in writing of discrepancies in Contract Documents and existing conditions.
C. Please E-Mail questions and or comments to gus@simsengineers.com or fax (828-251-2026) in lieu of telephone calls.

1.4 SUBMITTALS

A. Submit under provisions of Contract Documents.
B. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal. Identify items with marks to match those shown on drawings.
C. Mark dimensions and values in units to match those specified.
D. Architect shall approve all colors.
E. All submittals shall have the General Contractor's stamp, with approval signature.
F. Highlight deviations from specified materials.
G. Shop Drawings: 6 sets, including 3 for maintenance manuals.
H. Product Data: 6 sets, including 3 sets for maintenance manuals. Data shall include the following, but not limited to:
   1. Air handling units and Heat Pump
   2. Insulation
   3. Air Distribution Equipment
   4. Exhaust Fans
   5. Valves
   6. Controls
I. Certifications: 3 copies
J. Test Reports: 3 copies
K. Warranties (Guarantees): 6 copies, including 3 for maintenance manuals.
L. Maintenance Manuals: 3 complete sets with individual sets each of this data bound in 10 1/2 x 11 1/2 loose-leaf 3-ring binders, 1 1/2", 2", or 3" ring size, with rigid permanent vinyl covered back and front. Separators with index tabs and loose-leaf sheet protectors shall be provided. One set shall have all sheets individually encased in clear, plastic document protectors.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable North Carolina State and Local Building Codes.
B. Fire Protection: Conform to NFPA.
C. Electrical: National Electric Code.
D. Life Safety Code, NFPA 101.
E. All Codes shall be the most recent edition.
F. The Contractor shall install all materials per the State and Local Building Code. Any work that does not comply shall be made to comply at the Contractor's expense.
G. All equipment shall be UL approved for purpose specified.
H. Install all materials and equipment per manufacturer's instructions.

1.6 PROJECT/SITE CONDITIONS

A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
B. Prepare record drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Architect/Engineer before proceeding. Submit all changes on Record Documents as a requirement of project close out.
C. Refer to Architectural drawings for dimensions, locations, cabinets, etc. Do not scale HVAC Drawings.
D. Conceal all duct, piping, etc. except where the Architect/Engineer grants specific permission.
E. Arrange HVAC work in a neat, well organized manner with piping and similar services running parallel with primary lines of the building construction.
F. Locate operating and control equipment properly to provide easy access, and arrange entire mechanical work with adequate access for operation and maintenance.
G. Give right-of-way to piping which must slope for drainage.
H. Advise other trades of openings required in their work for the subsequent move-in of large units of mechanical work (equipment).
I. Coordination Drawings: For locations where several elements of mechanical (or combined mechanical and electrical) work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings (shop drawings) showing the actual dimensions (at accurate scale) required for the installation. Prepare and submit coordination drawings prior to purchase-fabrication-installation of any of the elements involved in the coordination.

1.7 SUBSTITUTIONS

All products listed are to establish design and quality standards, not to limit submittals. Substitutions may be accepted if approved as equivalent. Contact Engineer prior to bid with any questions. All substitutions must be submitted within 10 days after bid or supply as specified. Highlight substitution deviations from materials specified. Cost incurred to modify project to install substituted materials shall be the responsibility of the Contractor requesting the substitution.

1.8 Provide Valve Directory indicating number, size, manufacturer, location, function, and normal position. Valve tag numbers shall be as specified.

1.9 Mechanical Equipment: Show the following information for all mechanical equipment:
Nameplate designation
Manufacturer's nameplate data
Location of equipment
Area served
Complete parts drawing and list
Manufacturer's operating instructions
Manufacturer's maintenance instructions
Manufacturer's repair manuals
Manufacturer's installation instructions
Nearest supplier for parts and replacements with telephone number
Nearest service organization for equipment with telephone number

1.10 Control Data:
Control diagrams and wiring diagrams where applicable. Description of control systems.
Catalog data, maintenance and calibration instruction for all components.
Control supplier and address
Control installer and address

1.11 Maintenance Instruction: A typewritten form of instructions for maintenance of the systems in itemized form and with time schedule for maintenance work, shall be furnished. The instructions shall list each item of mechanical equipment requiring inspection, lubrication or service and describe the performance of such maintenance. The list shall include the type of bearings for each piece of equipment, the type of and frequency of lubrication required. The operating personnel shall be instructed in the care of the system in accordance with the typewritten instructions.

2. PART 2 DESCRIPTION OF WORK

2.1 GENERAL DESCRIPTION OF WORK

A. Coordinate work with other trades.
B. Fire stop all penetrations through rated assemblies. See Architectural sheets for locations of rated assemblies.
C. All major pieces of material shall be produced by the same manufacturer. Provide Lamicoire labels.
D. HVAC Contractor shall provide all penetrations, etc. and patching required to install HVAC work.
E. Coordinate all required line voltage starters, disconnects, switches with Electrical Contractor for installation. Coordinate electrical requirements for equipment supplied with Electrical Contractor prior to ordering equipment.
F. Provide low voltage controls and control transformers.

2.2 DUCTWORK:

A. GALVANIZED STEEL LOW PRESSURE DUCT CONSTRUCTION

STL U.S. STD GAGE	DUCT DEMENSIONS IN INCHES	CONSTRUCTION TRANSVERSE JOINTS
26	UP THRU 12	S SLIP, DRIVE SLIP
24	13 THRU 18 19 THRU 30	S SLIP, DRIVE SLIP BAR SLIP, DRIVE SLIP
22	31 THRU 42 43 THRU 54	POCKET LOCK ON 4' CENTERS, MECHANICAL BOLTED GASKETED, 20 GAGE MECHANICAL, GASKETED, 20 GAGE BOLTED
20	55 THRU 60	MECHANICAL BOLTED, GASKETED 18 GAGE JOINT ON 4' CENTERS 1 1/2 x 1 1/2 x 1/8 ANGELS 2 FEET FROM JOINT

1. Longitudinal joints may be either Pittsburged or snap locked.
2. Where round duct is indicated it shall be minimum 26 gage and otherwise conform to schedule for low pressure duct.
3. Branch take offs shall be throated with the area of the throat being 1.5 times the area of the branch. Takeoff shall incorporate single blade damper constructed of hemmed 24 gage steel with at least 2 galvanized strap hinges, connected to ¼" control rod operating through a nylon bearing.
4. Suspension of duct shall consist of 24 gage galvanized strap for duct through 18". For duct 19" through 30" use ¼" rod and 1 ¼" x 1 ¼" x ¼" galvanized angle on 4' centers, for duct through 60" use 3/8" rod and 2" x 2" x 1/8" galvanized angle on 3' centers.

B. GALVANIZED STEEL MEDIUM PRESSURE DUCT CONSTRUCTION

1. Medium pressure duct, 2" – 5" WG, or that duct in a VAV system between fan and terminal box shall be constructed of steel at least 2 U.S. gages heavier than specified for low pressure duct.
2. Test duct for leakage by applying a static pressure of at least 7" WG once the duct has been assembled but before terminals or fans are connected.

C. INSULATION

1. Line all ductwork with 'R' value 5.0 (minimum) acoustical duct liner with anti-microbial agent.
2. Provide additional duct wrap with 'R' value 3.0 (minimum) for total 'R' value of 8.0 (minimum) for ductwork routed in attics or non-conditioned space.

2.3 CONDENSATE PIPING:
Shedule 40 PVC

2.4 REFRIGERANT PIPING:

Copper, approved for use by unit manufacturers. Insulate suction line with Armoflex. Seal and paint insulation exposed to weather. Secure 5 feet on center.

2.5 WIRING

All control wiring (120V and less) to be complete to all motorized equipment, and control devices listed in this specification and shown on the mechanical drawings, shall be done under Division 15. The Contractor shall refer to Electrical plans and specifications to determine the source of electrical energy for the various control circuits. All wiring shall be in conduit, shall conform with Division 16 of these specifications, all local codes, the National Electrical Code, and shall be installed by an approved licensed electrician. Wiring diagrams indicating wire sizes and conduit runs for all electrical work that is required to be installed under this contract shall be submitted to the Engineer for prior approval before work is begun. Upon completion of the work, the wiring diagrams shall be revised to incorporate any additions or corrections and two copies of the "as installed" diagrams shall be furnished to the Owner and one to the Engineer on reproducible sepia paper.

Wiring shown on electrical plans is for mechanical equipment scheduled. Any equipment provided by the Contractor that differs from that scheduled in electrical characteristics that requires additional voltage, electrical design and/or electrical cost changes shall be the responsibility of this Contractor. Any cost incurred for additional electrical design and/or electrical changes due to any equipment other than equipment scheduled, shall be the responsibility of this Contractor.

In general interlock wiring between pieces of mechanical equipment shall be done under Division 15M (Example: Exhaust fan interlock with air handling unit).

2.6 FOUNDATIONS: All concrete foundations anchor forms, or pads indicated on the drawings that may be necessary and required for the installation of equipment specified under this contract, shall be furnished and installed. Provide anchor bolts for the equipment foundations/pads. Equipment to receive pads are pumps, boiler and air cooled chiller.

2.7 MISCELLANEOUS STEEL SUPPORTS: All supporting steel grillage, steel angles, channels, pipe or structural steel stands, and anchoring devices that may be required to adequately and rigidly support either piping, insulation, or equipment installed under this contract, shall be provided and installed.

2.8 CHASES AND OPENINGS: Lay out all chases and openings, required for the execution of this work well in advance of the structural work. Provide thimbles in walls and partitions. Thimbles shall be standard weight galvanized steel pipe.

2.9 HVAC SYSTEM IDENTIFICATION:

A. Piping System: All piping installed under this division of the specifications shall be identified as follows:
B. Painting: Piping in mechanical rooms to be painted. Refer to "Painting Mechanical Work."
C. Method of Marking: Colored stencil letter that designate the material being handled, shall be applied at not more than 15 foot intervals on straight pipe runs, adjacent to valves and where pipe passes through walls and floors. Piping shall be marked at all the equipment connections. All piping shall be identified.
D. Identification: Lettering shall be stenciled in block letters, size as scheduled below. Letters on covered (insulated) pipe shall be stenciled on covering. On uncovered pipe, painted bands shall be wide enough (See Table 1) to accommodate required letters. Letters shall be positioned so that it can be easily read by a man standing on the floor. Lettering on parallel groups of lines shall be neatly lined up. Surfaces of piping or insulation finished in dark colored shall be lettered in white; and that finished in light colors shall be lettered in black.

All lines also shall be marked with arrows indicating the direction of flow.

TABLE 1

Outside Diameter of Pipe or Converting (Inches)	Letter Size	Size of Letter (Inches)
1/2 to 1-1/4		1/2
1-1/2 to 2		3/4
2-1/2 to 8		1-1/4

All dimensions are given in inches.

2.10 VALVE IDENTIFICATION

A. Tags: Polished brass with 1/4" high stamp-engraved lettering, different shapes for each generic piping service.
B. Application: Tag every valve and control device in each mechanical-work piping system; exclude check valves, valves within equipment units, and valves in fan coil units.
C. Valve Schedule: Prepare and submit valve tag schedules (in duplicate), listing each tagged valve by location, service, and tag description. Install each page of one copy of the valve schedule in glazed frames, and mount where directed.

2.11 EQUIPMENT

A. Signs: Provide engraved plastic-laminate signs at locations of major equipment units and primary control devices. Provide text of sufficient clarity and lettering of sufficient size to convey adequate information at each location, and mount permanently in an appropriate and effective location. Comply with recognized industry standards for color and design.
B. Selection: Refer to instances where either a plastic-laminate sign or plasticized tag might be appropriate to the Engineer for resolution.

2.12 ACCESSIBILITY:

A. No valves, controls, unions, etc., shall be placed in any pipe line at a location that will be inaccessible after the system is completed.

B. Any dampers, controls, valves and piping controls, expansion joints, or other apparatus which must be located in an inaccessible location shall be provided with suitable access doors (fitted in a framed hole) which will permit proper operation and servicing of the apparatus. Access doors aforementioned includes access doors in walls, ceilings, ductwork, and, where required, a combination of above. Access doors to be piano hinged.

2.13 EXCAVATING FOR MECHANICAL WORK

A. General: The work of this article is defined to include whatever excavating and backfilling (but excluding insulating backfill) is necessary to install the mechanical work. Coordinate the work with other excavating and backfilling in the same area, including dewatering, floor protection provisions, and other temporary facilities. Coordinate the work with other work in the same area, including other underground services, landscape development, paving, and floor slabs on grade. Coordinate with weather conditions and provide temporary facilities needed for protection and proper performance of excavating and backfilling.
B. General Standards: Except as otherwise indicated, comply with the applicable provisions of the Division 2 sections, for mechanical work excavating and backfilling. Refer instances of uncertain applicability to the Engineer for resolution before proceeding.
C. Rock Excavation shall be defined as the removal of a formation that cannot be excavated without systematic drilling and blasting or without the use of pneumatic tools. All rock excavation/removal shall be performed by the General Contractor. The Plumbing, Mechanical, and Electrical subcontractors shall lay out their work and perform all normal or earth excavation. Should these subcontractors encounter rock (bulk or trench), it shall be removed by the General Contractor using allowable funds. The General Contractor shall be responsible for providing fill material for backfill of rock excavations. Rock may be used for structural fill provided it is broken down by the excavation and compaction equipment into particles with a maximum dimension of 6". Otherwise, it must be removed from the site and legally disposed of. Placement of rock in the fill or removal from the site shall be done by the General Contractor at no additional cost to the Owner.
D. Piping Support: Support pipe 4" and smaller directly on undisturbed soil. Support pipe 6" and larger, on compacted and shaped sub-base material of depth shown but not less than 6" deep. Compact previously disturbed and unsatisfactory subsoil to provide adequate, uniform support for mechanical work; or excavate and replace with stable sub-base material or lean concrete.
E. Sequencing: Delay backfill and encasement of piping until testing of piping system has been completed.

2.14 PAINTING HVAC WORK

A. General: All piping in the mechanical rooms (3) to be painted in the colors as scheduled hereinafter. Refer to Contract Documents for type of paint to be used. All other piping in building requires no painting other than the sizing of the insulation jackets. Contractor to provided color stenciling of piping for identification; touching up paint that is chipped or scratched from mechanical equipment supplied; and 2 coats of black rust preventative on all exposed support metal and hangers mounted outdoors and in mechanical rooms.
B. Cleaning: Exterior surfaces of piping, materials, or equipment that is to be painted or insulated shall be cleaned to remove lint, grease and oil.

Ductwork, coils, fans and casing shall be cleaned on the inside before fans and filters are operated. After the equipment has been used for any purpose such as adjusting, testing, or temporary ventilation, filters shall be cleaned or replaced, as necessary, and supply, exhaust and return ducts shall be cleaned. All coils are to be combed to remove lint.

All components of the mechanical systems shall be cleaned on outside of dust, trash, paint and masonry dropping, and left in first class condition. Belt drives shall be adjusted for proper tension and sheaves aligned. All motor and equipment bearings shall be lubricated as recommended by the individual manufacturer and oil reservoir shall be left full.

2.15 TESTS

A. Provide written test results to the Engineer. Provide one week notice prior to all tests.
B. Adjustments shall be coordinated with cleaning and testing to assure equipment performance as specified.

The entire temperature control system shall be adjusted and placed in operation by the manufacturer. Readjustments necessary to accomplish the specified results during the first year of operation shall be made without cost to the Owner.

Air duct systems shall be adjusted and balanced so that air quantities are regulated to deliver or remove the required cfm at each supply, return and exhaust terminal as specified or shown on the drawings. Distribution from air terminals shall be free from drafts, and uniform over the face of each air terminal.

Adjustments shall be made so that splitters and volume adjusters close to air terminals will have the least pressure drop consistent with volume requirements. Additional pressure drop required for balancing of shorter runs shall be obtained by adjustment of the dampers at branch duct take-offs. Adjusting fan drives shall be used for making final adjustments of total air quantities. Provide all labor and/or replacement and furnishing of extra sheaves of different sizes to accomplish the scheduled specified quantities.

Direct reading velocity meters may be used for comparative adjustment of individual air terminals, but air quantities in trunk ducts shall be measured by means of pitot tube traverses. Factory fabricated plugged or capped openings for pitot tubes shall be provided as required.

Settings of dampers, splitters, and other volume adjusting devices shall be permanently marked so that they can be restored if disturbed at any time.

Record all fan static pressures, equipment rpm's and ammeter readings at each motor.
C. General: Capacities of air handling unit, fans, and other related equipment shall be determined by operating tests of not less than eight hours duration, after stable conditions have been established.

Tabulate the final readings and analysis, and deliver four typewritten copies of the completed reports to the Engineers. The Contractor shall advise the Engineers in writing not less than 10 days in advance of when final testing and balancing will begin.

All labor and technical personnel, instruments and appliances for balancing and tests shall be furnished. If gauges, thermometers, etc., which are to be left permanently installed are used for tests, they shall not be installed until just prior to the tests to avoid possible changes in calibration.

Water and electricity will be furnished by the Owner for the final operating tests.

All unfired pressure vessels furnished under this division shall be constructed, inspected and stamped in accordance with applicable sections of the ASME Codes. Data shall include inspector's National Board registration number.

3. PART 3 HVAC WORK CLOSEOUT

3.1 General: Refer to the Division 1 sections for general closeout requirements. Maintain a daily log of operational data on mechanical equipment and systems through the closeout period; record hours of operation, assigned personnel, fuel consumption and similar information; submit copy to Owner.

3.2 Record Drawings: For HVAC work, give special attention to the complete and accurate recording of underground piping, ductwork, other concealed and non-accessible work, branching arrangement and valve location for piping systems, locations of dampers and coils in duct systems, locations of control system sensors and other control devices, and work of change orders where not shown accurately by contract documents. Submit to Engineer at end of project one set of reproducible sepias that show all recorded changes in the mechanical work.

3.3 Closeout Equipment/Systems Operations: Sequence operations properly so that work of project will not be damaged or endangered. Coordinate with seasonal requirements. Operation each item of equipment and each system in a test run of appropriate duration (with the Engineer present, and with the Owner's operating personnel present), to demonstrate sustained,satisfactory performance. Adjust and correct operations as required for proper performance. Clean and lubricate each system, and replace dirty filters, excessively worn parts and similar expendable items of the work.

3.4 Operating Instructions: Conduct a day walk-through instruction seminar for the Owner's personnel to be involved in the continued operation and maintenance of mechanical equipment and systems. Explain the identification system, operation diagrams, emergency and alarm provisions, sequencing requirements, seasonal provisions, security, safety, efficiency, and similar features of the systems.

3.5 Training: Contractor to provide training on all major equipment, controls, etc., as part of the contract.

3.6 Turn-Over of Operations: At the time of substantial completion, turn over the prime responsibility for operation of the mechanical equipment and systems to the Owner's operating personnel. However, until the time of final acceptance, provide one full-time employee, who is completely familiar with the work, to consult with and continue training with the Owner's personnel.

END OF SECTION

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SIMS PROJECT # 1343

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Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina

Electrical Specifications

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Sheet
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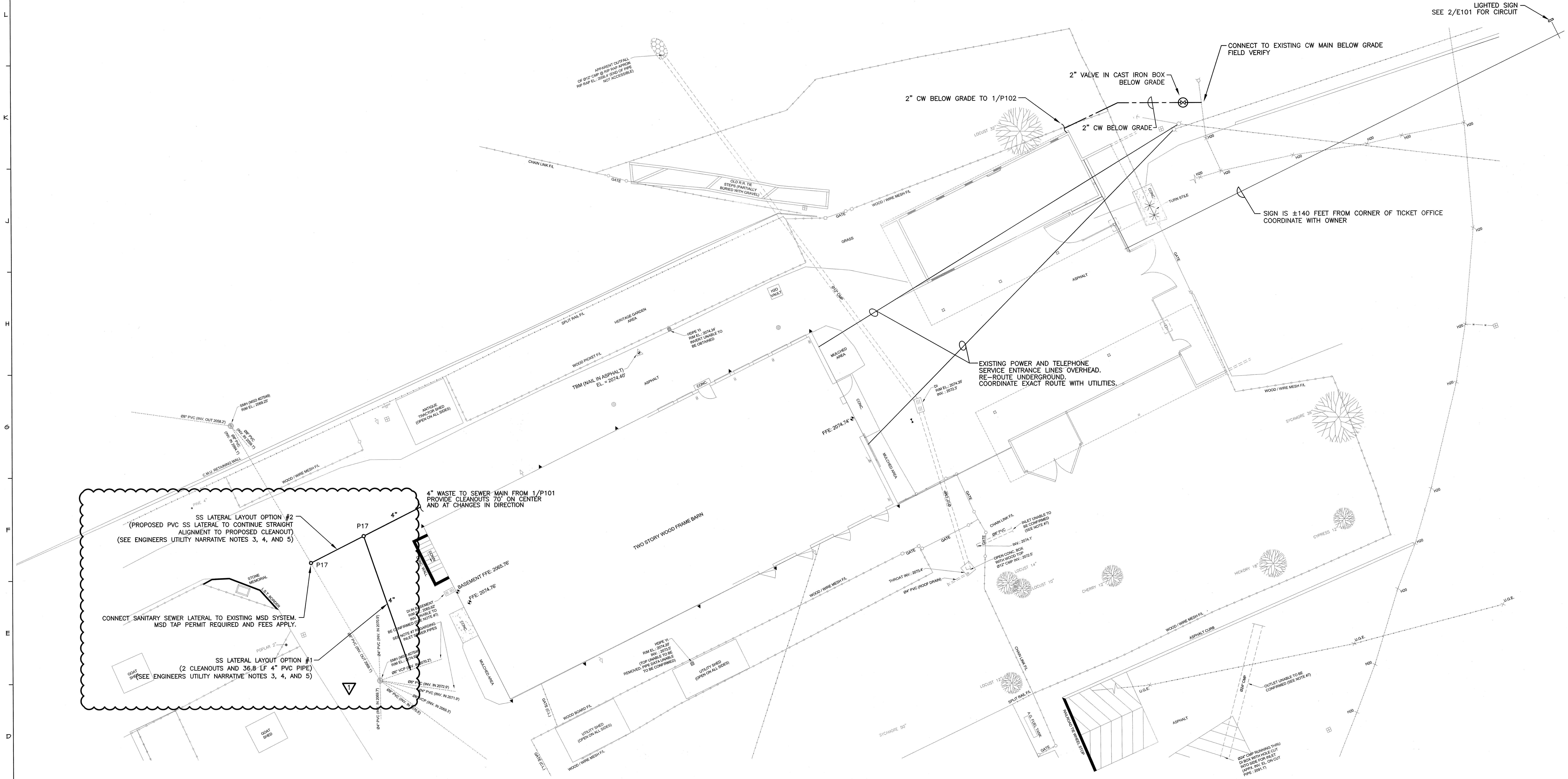

1
PE100

PARTIAL SITE PLAN – PLUMBING/ELECTRICAL

SCALE: 1" = 10'-0"

SIMS PROJECT # 1343

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Asheville Wildlife Park
Visitor Reception & Welcome Plaza
Asheville, North Carolina

Site Plan – Plumbing/Electrical

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02.23.2013

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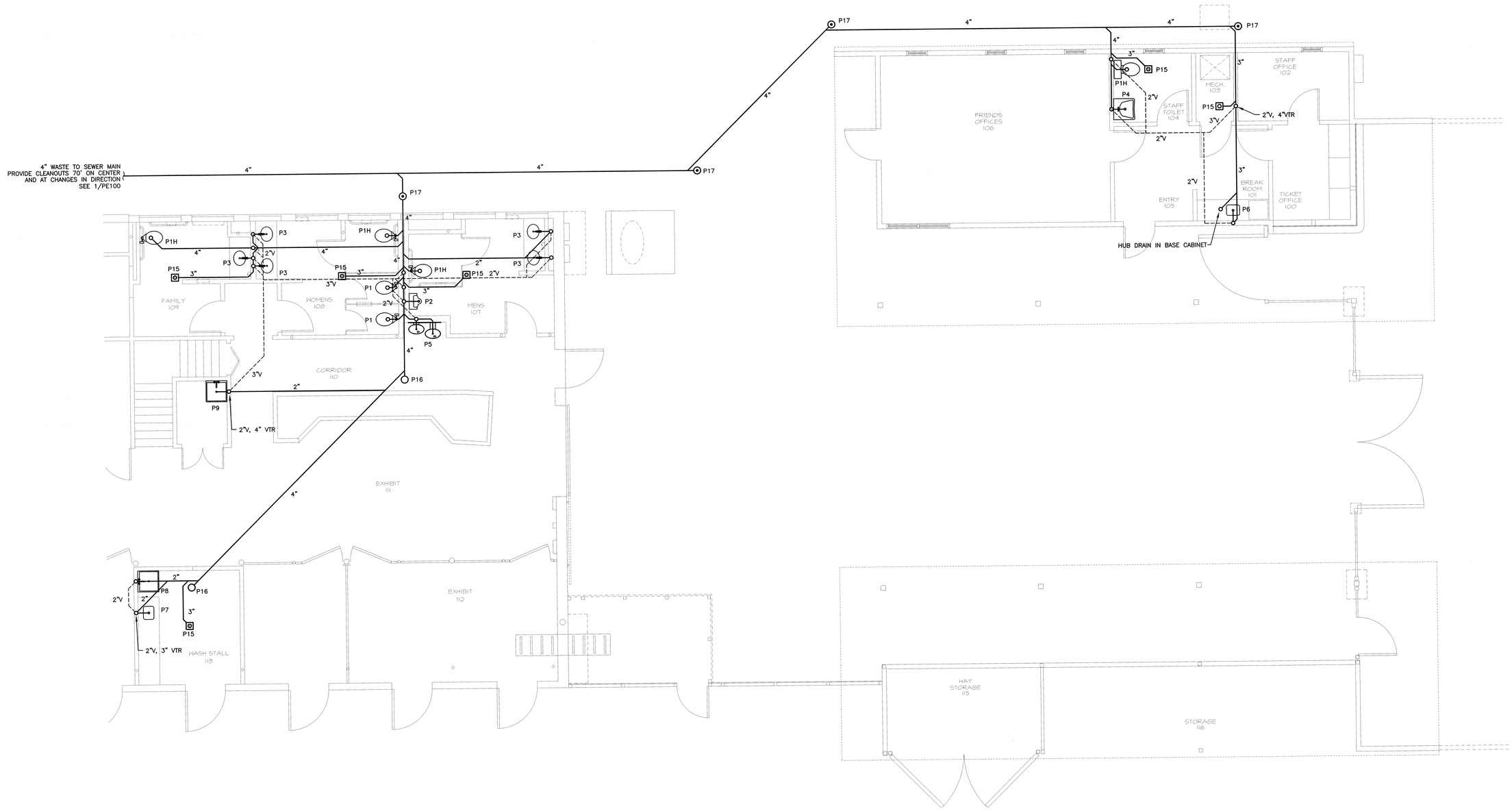
REVISIONS		
NO.	DATE	DESCRIPTION
1	JULY 5, 2016	OWNER COMMENTS



1 / P101 FLOOR PLAN – PLUMBING DWV
SCALE: 1/4" = 1'-0"

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Floor Plans – Plumbing DWV

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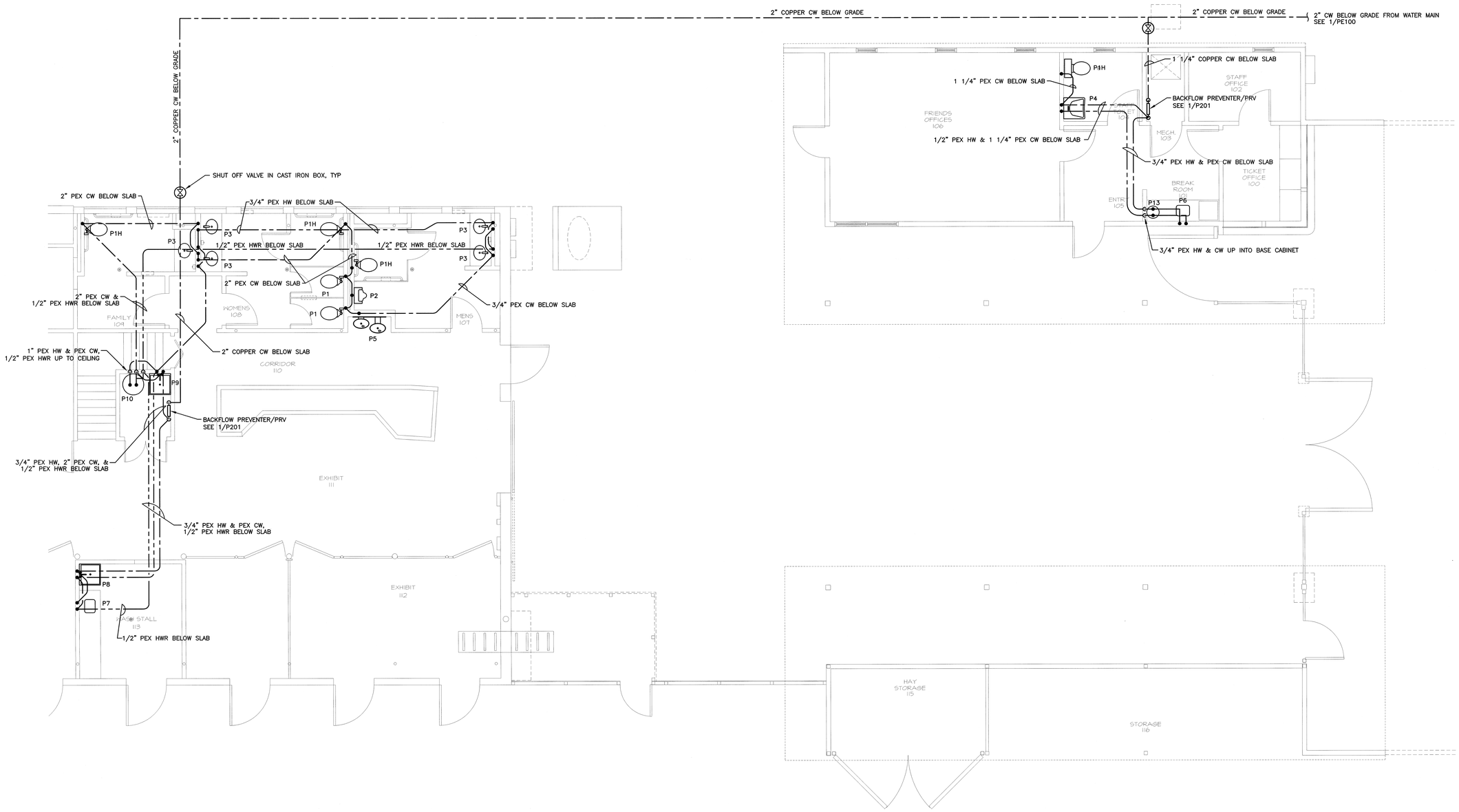

1 / E102 FLOOR PLAN – PLUMBING SUPPLY
SCALE: 1/4" = 1'-0"

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Floor Plans – Plumbing Supply

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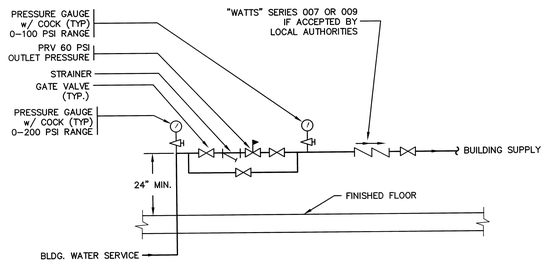
MARK	PLUMBING LEGEND DESCRIPTION
	COLD WATER: SERVICE ENTRY – ANNEALED "K" UNDER SLAB AND BELOW GRADE, MINIMAL JOINTS UNDER SLAB. DISTRIBUTION – BLUE PEX, NO JOINTS BELOW SLAB
	120° HOT WATER, SAME AS ABOVE, RED PEX
	HOT WATER RETURN, SAME AS ABOVE
	SOIL PIPING SCHEDULE 40 PVC
	VENT PIPING, SAME AS ABOVE
	CUTOUT VALVE, GATE OR BALL, BRONZE, SIZE TO EQUAL PIPE, APPROVED FOR POTABLE WATER SYSTEMS
	GATE OR BALL VALVE, BRONZE, SIZE TO EQUAL PIPE APPROVED FOR POTABLE WATER SYSTEMS
	CHECK VALVE SAME AS ABOVE
VTR	VENT THROUGH ROOF, EXTEND 6" ABOVE ROOF, PENETRATE BEHIND ROOF PEAK OR PARAPET, PAINT TO MATCH ROOF, COORDINATE FLASHING WITH ROOF. MAINTAIN 10' CLEARANCE FROM HVAC MAKE-UP AIR INTAKES

PLUMBING FIXTURE SCHEDULE

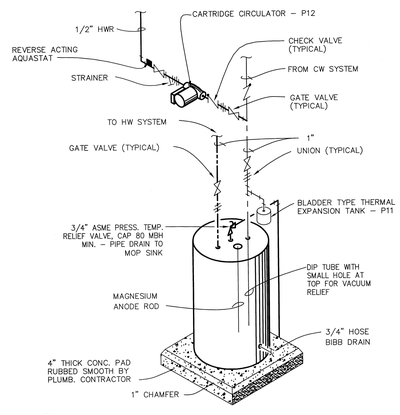
ITEM NO.	ITEM	CONNECTION SIZE WASTE		HOT	COLD	DESCRIPTION
P1	FLUSH VALVE TOILET	4"			1"	ELONGATED, WHITE, VITREOUS CHINA, 1.6 GPF, AMERICAN STANDARD 'MADERA' #3451.160 OPEN FRONT SEAT LESS COVER, CHURCH #9500C FLUSH VALVE: SLOAN ROYAL #111
P1H	FLUSH VALVE TOILET HANDICAPPED ACCESSIBLE	4"			1"	ELONGATED, WHITE, VITREOUS CHINA, 1.6 GPF, ADA APPROVED, AMERICAN STANDARD 'MADERA' #3461.160 OPEN FRONT SEAT LESS COVER, CHURCH #9500C FLUSH VALVE: SLOAN ROYAL #111
P2	URINAL	2"			3/4"	WALL HUNG, WHITE, VITREOUS CHINA, 1.0 GPF, MOUNT AT ADA HEIGHT, AMERICAN STANDARD 'WASHBROOK' #6590.001 FLUSH VALVE: SLOAN ROYAL #186-1
P3	COUNTERTOP LAVATORY	2"		1/2"	1/2"	21x17 5/8, WHITE, VITREOUS CHINA, SELF RIMMING, 4" CENTERS AMERICAN STANDARD 'AQUALYN' #0476.028 GRID STRAINER & TAILPIECE, CHICAGO #327-ACP
P3F	FAUCET USE WITH P3					SINGLE HANDLE, CHROME PLATED, AERATOR, ADA APPROVED, TEMPERATURE LIMITING, T&S #B2711
P4	WALL HUNG LAVATORY	2"		1/2"	1/2"	20 1/2x18 1/4, WHITE, VITREOUS CHINA, 4" CENTERS AMERICAN STANDARD 'LUCERNE' #0355.012 GRID STRAINER & TAILPIECE, CHICAGO #327-ACP
P4F	FAUCET USE WITH P4					SINGLE HANDLE, CHROME PLATED, AERATOR, ADA APPROVED, TEMPERATURE LIMITING, T&S #B2711
P5	BI-LEVEL DRINKING FOUNTAIN BARRIER FREE FREEZE RESISTANT	2"			1/2"	BI-LEVEL, 18 GA STAINLESS STEEL, SATIN FINISH, ADA APPROVED, FREEZE RESISTANT ELKAY #EDFP217FPK
P6	SINGLE BOWL SINK	2"		1/2"	1/2"	22x19x7 1/2", 18 GA. TYPE 304 S.S., SELF RIMMING, 4 FAUCET HOLES, ELKAY #LR2219 S.S. STRAINER & TAILPIECE, ELKAY #LK99
P6F	FAUCET USE WITH P6					CHROME, SWING SPOUT, AERATOR, WING HANDLES, SPRAYER, ELKAY #LKD231
P7	SINGLE BOWL SINK	2"		1/2"	1/2"	22x19x10", 18 GA. TYPE 304 S.S., SELF RIMMING, 4 FAUCET HOLES, ELKAY #DLR2219 S.S. STRAINER & TAILPIECE, ELKAY #LK99
P7F	FAUCET USE WITH P7					CHROME, SWING SPOUT, AERATOR, WING HANDLES, SPRAYER, ELKAY #LKD231
P8	JANITORS SINK	2"		1/2"	1/2"	SMC, WHITE, 20x17x13, WHITE ANGLE STEEL LEGS, FIAT #FL-1 FAUCET: FIAT #A-1
P9	MOP SINK	2"		1/2"	1/2"	36x36, TERRAZZO, CORNER MODEL, 6" DROP FRONT, S.S. CAPS, FIAT #TSBC 1612, FAUCET #830AA, S.S. WALL GUARDS #MSG 3636, MOP BRACKET #889 CC, HOSE & BRACKET #832 AA
P10	ELECTRIC WATER HEATER			1"	1"	80 GALLON, (2) 5kW SIMULTANEOUS ELEMENTS 170 GPH RECOVERY @ 90°F RISE STATE PCE 82 20RTA
P11	EXPANSION TANK				1/2"	5 GALLON, GLASS LINED, BUTYL RUBBER DIAPHRAGM, STATE #ETC-5X
P12	HOT WATER CIRCULATOR			1/2"		BRONZE BODY, 1/25 HP, 120V, 1ø, 4 GPM @ 10' TOTAL HEAD TACO #007
P13	ELECTRIC WATER HEATER			3/4"	3/4"	20 GALLON, (1) 2kW ELEMENT 9 GPH RECOVERY @ 90°F RISE STATE PCE 20 10MSA
P14	EXPANSION TANK				1/2"	2 GALLON, GLASS LINED, BUTYL RUBBER DIAPHRAGM, STATE #ETC-2X
P15	FLOOR DRAIN	3"			1/2"	CAST IRON W/7" DIA. BRONZE STRAINER TOP, DEEP SEAL TRAP W/PRIMER WADE #W-1100
P16	FLOOR CLEAN OUT					SIZE TO EQUAL LINE, CI COVER OUTSIDE, NONSKID COVER SERVICE AREAS, CARPET FLANGE WITH CARPET WADE 6000
P17	YARD CLEAN OUT					SIZE TO EQUAL LINE, CI COVER, INSTALL FLUSH TO GRADE, PROVIDE WITH 18x18x6 CONCRETE COLLAR WADE 6000
P18	HOSE BIB				1/2"	VACUUM BREAKER, WALL ESCUTCHEON, REMOVABLE TEE KEY, CHROME FINISH CHICAGO #952-CP

NOTES:

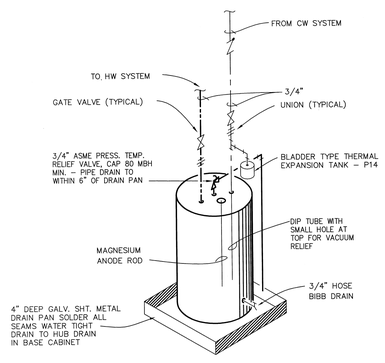
1. P-TRAPS SHALL BE 1 1/4x1 1/2" SEMI CAST WITH 17 GAGE WASTE TO WALL.
2. COORDINATE FAUCETS AND FIXTURE HOLES.
3. MOUNT URINALS AT HANDICAPPED HEIGHT.
4. IF HANDICAP LAVATORY PIPING IS NOT ENCLOSED, PROVIDE DRAIN INSULATION KIT: TRUEFLO HANDI LAV GUARD.
5. PROVIDE OFF-SET DRAINS FOR HANDI-CAP LAVATORIES.
6. CONTROLS FOR HANDICAP FLUSH VALVE SHALL BE ON WIDE SIDE OF TOILET AREAS.
7. PROVIDE 18" AIR CHAMBERS AT EACH FIXTURE



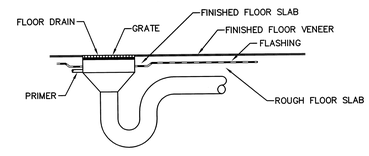
1 / P201 WATER ENTRANCE DETAIL
NOT TO SCALE



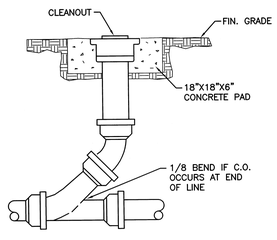
2 / P201 WATER HEATER P10 DETAIL
SCALE: 1/4" = 1'-0"



3 / P201 WATER HEATER P13 DETAIL
SCALE: 1/4" = 1'-0"



4 / P201 FLOOR DRAIN DETAIL
NOT TO SCALE



5 / P201 YARD CLEANOUT DETAIL
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Plumbing Schedules & Details

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SIMS PROJECT # 1343

SECTION 15010P
BASIC PLUMBING REQUIREMENTS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Basic Plumbing Requirements specifically applicable to Division 15 Sections, in addition to Division 1 – General Requirements.

1.2 SCOPE OF WORK

A. Provide controls, valves, piping, plumbing fixtures, taps, and other required materials to produce complete and operating plumbing system as shown on drawing.

B. Not Used

C. Provide demolition of all Plumbing and Fuel Gas fixtures and materials made obsolete by this project and remove from site. Owner retains salvage rights.
D. Obtain all permits, pay all fees and request inspection from authority having jurisdiction.
E. All work and materials shall be guaranteed for one year from date of substantial completion.
F. Provide for water service during construction. The Owner will be responsible for bill.

1.3 WORK SEQUENCE
A. Coordinate construction and utility outages (if any) with Owner, Engineer, all other trades and utility companies.
B. Visit site before submitting bid to confirm existing conditions. Notify Engineer of discrepancies in the Contract Documents and existing conditions.
C. Please E–Mail questions and or comments to gus@simsengineers.com or fax (828–251–2026) in lieu of telephone calls.

1.4 SUBMITTALS
A. Submit under provisions of Contract Documents.
B. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal. Identify items with marks to match those shown on drawings.
C. Mark dimensions and values in units to match those specified.
D. Architect will approve all colors.
E. All submittals shall have the General Contractor's stamp, with approval signature.
F. Highlight deviations from specified materials.
G. Shop Drawings: 6 sets, including 3 for maintenance manuals.
H. Product Data: 6 sets, including 3 sets for maintenance manuals. Data shall include the following, but not limited to:
   1. Pressure Reducing Valves
   2. Insulation
   3. Plumbing Fixtures
   4. Floor Drains, Cleanouts, Accessories
   5. Valves
I. Certifications: 3 copies
J. Test Reports: 3 copies
K. Warranties (Guarantees): 6 copies, including 3 for maintenance manuals.
L. Maintenance Manuals: 3 complete sets with individual sets of this data bound in 10 1/2 x 11 1/2 loose–leaf 3–ring binders, 1/2", 2", or 3" ring size, with rigid permanent vinyl covered back and front. Separators with index tabs and loose–leaf sheet protectors shall be provided. One set shall have all sheets individually encased in clear, plastic document protectors.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable North Carolina State and Local Building Codes.
B. Fire Protection: Conform to NFPA.
C. Electrical: National Electric Code.
D. Life Safety Code, NFPA 101.
E. All Codes shall be the most recent edition.
F. The Contractor shall install all materials per the State and Local Building Code. Any work that does not comply shall be made to comply at the Contractor's expense.
G. All equipment shall be UL approved for purpose specified.
H. Install all materials and equipment per manufacturer's instructions.

1.6 PROJECT/SITE CONDITIONS

A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
B. Prepare record drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Architect/Engineer before proceeding. Submit all changes on Record Documents as a requirement of project close out.
C. Refer to Architectural drawings for dimensions, locations, cabinets, etc. Do not scale Plumbing Drawings.
D. Conceal all piping except where the Architect/Engineer grants specific permission.
E. Arrange mechanical work in a neat, well organized manner with piping and similar services running parallel with primary lines of the building construction.
F. Locate operating and control equipment properly to provide easy access, and arrange entire mechanical work with adequate access for operation and maintenance.
G. Give right–of–way to piping which must slope for drainage.
H. Advise other trades of openings required in their work for the subsequent move–in of large units of mechanical work (equipment).
I. Coordination Drawings: For locations where several elements of mechanical (or combined mechanical and electrical) work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings (shop drawings) showing the actual dimensions (at accurate scale) required for the installation. Prepare and submit coordination drawings prior to purchase–fabrication–installation of any of the elements involved in the coordination.

1.7 SUBSTITUTIONS

All products listed are to establish design and quality standards, not to limit submittals. Substitutions may be accepted if approved as equivalent. Contact Engineer prior to bid with any questions. All substitutions must be submitted within 10 days after bid or supply as specified. Highlight substitution deviations from materials specified. Cost incurred to the project to install substituted materials shall be the responsibility of the Contractor requesting the substitution.

1.8 Provide Valve Directory indicating number, size, manufacturer, location, function, and normal position. Valve tag numbers shall be as specified.

1.9 Plumbing Equipment: Show the following information for all plumbing equipment:
Nameplate designation
Manufacturer's nameplate data
Location of equipment
Area served
Complete parts drawing and list
Manufacturer's operating instructions
Manufacturer's maintenance instructions
Manufacturer's repair manuals

Manufacturer's installation instructions
Nearest supplier for parts and replacements with telephone number
Nearest service organization for equipment with telephone number

1.10 Control Data:
Provide control diagrams and wiring diagrams where applicable. Description of control systems.
Catalog data, maintenance and calibration instruction for all components.
Control supplier and address
Control installer and address

1.11 Maintenance Instruction: A typewritten form of instructions for maintenance of the systems in itemized form and with time schedule for maintenance work, shall be furnished. The instructions shall list each item of mechanical equipment requiring inspection, lubrication or service and describe the performance of such maintenance. The list shall include the type of bearings for each piece of equipment, the type of and frequency of lubrication required. The operating personnel shall be instructed in the care of the system in accordance with the typewritten instructions.

2. PART 2 DESCRIPTION OF WORK

2.1 GENERAL DESCRIPTION OF WORK

A. Coordinate work with other trades.
B. Plumbing Contractor shall provide all fuel gas, water, soil and vent piping.
C. Fire stop all penetrations through rated assemblies. See Architectural sheets for locations of rated assemblies.
D. Provide all valves, fixtures, pipes, pumps, insulation, etc. and other required material.
E. All major pieces of material shall be produced by the same manufacturer.
F. Plumbing Contractor shall provide all penetrations, etc. and patching required to install plumbing work.
G. Provide stops for each fixture. Exposed stops and supplies shall be chrome plated.
H. Coordinate all required starters, disconnects, switches with Electrical Contractor for installation. Coordinate electrical requirements for equipment supplied with Electrical Contractor prior to ordering equipment.
I. Provide warning tape in trench with buried pipe. Locate tape 6" below finish grade directly above pipe.

2.2 PIPING:

A. Cold water service line to 5' from building: "K" copper, annealed. Tubing shall be approved for potable service. 36" below grade. Provide warning tape 6" below grade above tubing.
B. Cold water and hot water. From 5' from building and distribution:
PEX, Blue for cold, Red for hot. No joints below slab.
Insulate piping above grade with 1" pre–formed fiberglass pipe insulation. Provide pre–formed PVC fitting covers.

C. Soil Piping: Schedule 40 PVC except bell and spigot, cast iron under vehicular traffic areas and burial depths less than 24".
D. Vent Piping: Schedule 40 PVC. Coordinate vent termination locations with Owner prior to starting work. Paint to match building.
E. Support piping with threaded rods and hangers, channel trapeze, channel and clamps, or some other approved method from the building structure.

2.3 FIXTURES

A. See fixture schedule on drawing.

2.4 WIRING

All control wiring (120V and less) to be complete to all motorized equipment, and control devices listed in this specification and shown on the mechanical drawings, shall be done under Division 15. The Contractor shall refer to Electrical plans and specifications to determine the source of electrical energy for the various control circuits. All wiring shall be in conduit, shall conform with Division 16 of these specifications, all local codes, the National Electrical Code, and shall be installed by an approved licensed electrician. Wiring diagrams indicating wire sizes and conduit runs for all electrical work that is required to be installed under this contract shall be submitted to the Engineer for prior approval before work is begun. Upon completion of the work, the wiring diagrams shall be revised to incorporate any additions or corrections and two copies of the "as installed" diagrams shall be furnished to the Owner and one to the Engineer on reproducible sepia paper.

Wiring shown on electrical plans is for plumbing equipment scheduled. Any equipment provided by the Contractor that differs from that scheduled in electrical characteristics that requires additional voltage, electrical design and/or electrical cost changes shall be the responsibility of this Contractor. Any cost incurred for additional electrical design and/or electrical changes due to any equipment other than equipment scheduled, shall be the responsibility of this Contractor.

In general interlock wiring between pieces of plumbing equipment shall be done under Division 15P (Example: Power exhaust fan interlock with water heater).

2.5 FOUNDATIONS: All concrete foundations anchor forms, or pads indicated on the drawings that may be necessary and required for the installation of equipment specified under this contract, shall be furnished and installed. Provide anchor bolts for the equipment foundations/pads. Equipment to receive pads are pumps, boiler and air cooled chiller.

2.6 MISCELLANEOUS STEEL SUPPORTS: All supporting steel grillage, steel angles, channels, pipe or structural steel stands, and anchoring devices that may be required to adequately and rigidly support either piping, insulation, or equipment installed under this contract, shall be provided and installed.

2.7 CHASES AND OPENINGS: Lay out all chases and openings, required for the execution of this work well in advance of the structural work. Provide thimbles in walls and partitions. Thimbles shall be standard weight galvanized steel pipe.

2.8 PLUMBING SYSTEM IDENTIFICATION:

A. Piping System: All piping installed under this division of the specifications shall be identified as follows:
B. Painting: Piping in mechanical rooms to be painted. Refer to "Painting Plumbing Work."
C. Method of Marking: Colored stencil letter that designate the material being handled, shall be applied at not more than 15 foot intervals on straight pipe runs, adjacent to valves and where pipe passes through walls and floors. Piping shall be marked at all the equipment connections. All piping shall be identified.
D. Identification: Lettering shall be stenciled in block letters, size as scheduled below. Letters on covered (insulated) pipe shall be stenciled on covering. On uncovered pipe, painted bands shall be wide enough (See Table 1) to accommodate required letters. Letters shall be positioned so that it can be easily read by a man standing on the floor. Lettering on parallel groups of lines shall be neatly lined up. Surfaces of piping or insulation finished in dark colored shall be lettered in white; and that finished in light colors shall be lettered in black.

All lines also shall be marked with arrows indicating the direction of flow.

TABLE 1

Outside Diameter of Pipe or Converting (Inches) Letter Size	Size of Letter (Inches)
1/2 to 1–1/4	1/2
1–1/2 to 2	3/4
2–1/2 to 8	1–1/4

All dimensions are given in inches.

2.9 VALVE IDENTIFICATION

A. Tags: Polished brass with 1/4" high stamp–engraved lettering, different shapes for each generic piping service.
B. Application: Tag every valve and control device in each plumbing–work piping system; exclude check valves, valves within equipment units, and valves in fan coil units.
C. Valve Schedule: Prepare and submit valve tag schedules (in duplicate), listing each tagged valve by location, service, and tag description. Install each page of one copy of the valve schedule in glazed frames, and mount where directed.

2.10 EQUIPMENT

A. Signs: Provide engraved plastic–laminate signs at locations of major equipment units and primary control devices. Provide text of sufficient clarity and lettering of sufficient size to convey adequate information at each location, and mount permanently in an appropriate and effective location. Comply with recognized industry standards for color and design.
B. Selection: Refer to instances where either a plastic–laminate sign or plasticized tag might be appropriate to the Engineer for resolution.

2.11 ACCESSIBILITY:

A. No valves, controls, unions, etc., shall be placed in any pipe line at a location that will be inaccessible after the system is completed.
B. Any controls, valves and piping controls, expansion joints, or other apparatus which must be located in an inaccessible location shall be provided with suitable access doors (fitted in a framed hole) which will permit proper operation and servicing of the apparatus. Access doors aforementioned includes access doors in walls, ceilings, and, where required, a combination of above. Access doors to be piano hinged.
C. Floor drains and floor sinks shall not be installed under equipment. They must be visible and easily accessible. Place them straddling the front edge of equipment. They are a tripping hazard if they are placed too far into the room. Do not install dumpster pad drain under dumpster.

2.12 EXCAVATING FOR PLUMBING WORK

A. General: The work of this article is defined to include whatever excavating and backfilling (but excluding insulating backfill) is necessary to install the plumbing work. Coordinate the work with other excavating and backfilling in the same area, including dewatering, floor protection provisions, and other temporary facilities. Coordinate the work with other work in the same area, including other underground services, landscape development, paving, and floor slabs on grade. Coordinate with weather conditions and provide temporary facilities needed for protection and proper performance of excavating and backfilling.
B. General Standards: Except as otherwise indicated, comply with the applicable provisions of the Division 2 sections, for plumbing work excavating and backfilling. Refer instances of uncertain applicability to the Engineer for resolution before proceeding.
C. Rock Excavation shall be defined as the removal of a formation that cannot be excavated without systematic drilling and blasting or without the use of pneumatic tools. All rock excavation/removal shall be performed by the General Contractor. The Plumbing, Mechanical, and Electrical subcontractors shall lay out their work and perform all normal or earth excavation. Should these subcontractors encounter rock (bulk or trench), it shall be removed by the General Contractor using allowable funds. The General Contractor shall be responsible for providing fill material for backfill of rock excavations. Rock may be used for structural fill provided it is broken down by the excavation and compaction equipment into particles with a maximum dimension of 6". Otherwise, it must be removed from the site and legally disposed of. Placement of rock in the fill or removal from the site shall be done by the General Contractor at no additional cost to the Owner.
D. Piping Support: Support pipe 4" and smaller directly on undisturbed soil. Support pipe 6" and larger, on compacted and shaped sub–base material of depth shown but not less than 6" deep. Compact previously disturbed and unsatisfactory subsoil to provide adequate, uniform support for plumbing work; or excavate and replace with stable sub–base material or lean concrete.
E. Water Bearing Pipe: Except as otherwise specifically indicated, place exterior underground water bearing pipe (including drainage lines) a minimum of 36" below grade (measured to top of pipe).
F. Sequencing: Delay backfill and encasement of piping until testing of piping system has been completed.

2.13 PAINTING PLUMBING WORK

A. General: All piping in the mechanical rooms (3) to be painted in the colors as scheduled hereinafter. Refer to Contract Documents for type of paint to be used. All other piping in building requires no painting other than the sizing of the insulation jackets. Contractor to provided color stenciling of piping for identification; touching up paint that is chipped or scratched from mechanical equipment supplied; and 2 coats of black rust preventative on all exposed support metal and hangers mounted outdoors and in mechanical rooms.
B. Color Coding Scheme: (Unless violates OSHA Standards)
Domestic Water, Cold: Kelly or Safety Green with White arrows and letters.
Domestic Water, Hot: Safety Green with Red arrows and letters.
Fuel Gas: Safety yellow with red arrows and letters.
C. Cleaning, Testing, Adjustments and Inspections shall be accomplished in accordance with the following instructions and requirements. Provide temporary fill and drainage lines, wherever required, and connect them to the piping systems for these procedures and, finally, upon completion disconnect and remove these temporary lines.
D. Cleaning and Oiling: All piping systems shall be thoroughly cleaned of grease, iron cuttings, welding slag, loose scale and other refuse. Should any pipe, valves, traps, strainers, and other specialties, and equipment be stopped up by refuse, disconnect, clean and reconnect such pipe, equipment and material. All strainer baskets shall be removed, cleaned and replaced.

Exterior surfaces of piping, materials, or equipment that is to be painted or insulated shall be cleaned to remove lint, grease and oil.

2.14 TESTS

Provide written test results to the Engineer. Provide one week notice prior to all tests.

A. Soil Lines and Waste & Vent Stacks. After the lines and various connections are in place, all openings, including vents, shall be carefully closed and the whole system filled with water to ten feet of head and test for 6 hours. Any pipe, fitting or joint showing defect shall be immediately removed and replaced and the test reapplied.
B. Domestic Water Lines. After lines are in place and before concealing, all water lines shall be subjected to a hydrostatic pressure of 150 lbs. for a period of at least 6 hours.
C. Fuel gas piping. After lines are in place and before concealing, all fuel gas lines shall be subjected to a pressure of 15 lbs. for a period of at least 6 hours or as required by Code or fuel gas utility.
D. Adjustments shall be coordinated with cleaning and testing to assure equipment performance as specified.

Water and electricity will be furnished by the Owner for the final operating tests.

All unfired pressure vessels furnished under this division shall be constructed, inspected and stamped in accordance with applicable sections of the ASME Codes. Data shall include inspector's National Board registration number.

3. PART 3 PLUMBING WORK CLOSEOUT

3.1 General: Refer to the Division 1 sections for general closeout requirements. Maintain a daily log of operational data on plumbing equipment and systems through the closeout period; record hours of operation, assigned personnel, fuel consumption and similar information; submit copy to Owner.

3.2 Record Drawings: For plumbing work, give special attention to the complete and accurate recording of underground piping, other concealed and non–accessible work, branching arrangement and valve locations (including valve numbers that match those numbers shown on the valve schedule) for piping systems, locations of control system sensors and other control devices, and work of change orders where not shown accurately by contract documents. Submit to Engineer at end of project one set of reproducible sepias that show all recorded changes in the mechanical work.

3.3 Operating Instructions: Conduct a walk–through instruction seminar for the Owner's personnel to be involved in the continued operation and maintenance of plumbing equipment and systems. Explain the identification system, operation diagrams, emergency and alarm provisions, sequencing requirements, seasonal provisions, security, safety, efficiency, and similar features of the systems.

3.4 Training: Contractor to provide training on all major equipment, controls, etc., as part of the contract.

3.5 Turn–Over of Operations: At the time of substantial completion, turn over the prime responsibility for operation of the plumbing equipment and systems to the Owner's operating personnel. However, until the time of final acceptance, provide one full–time employee, who is completely familiar with the work, to consult with and continue training with the Owner's personnel.

END OF SECTION

SIMS PROJECT # 1343

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Plumbing Specifications

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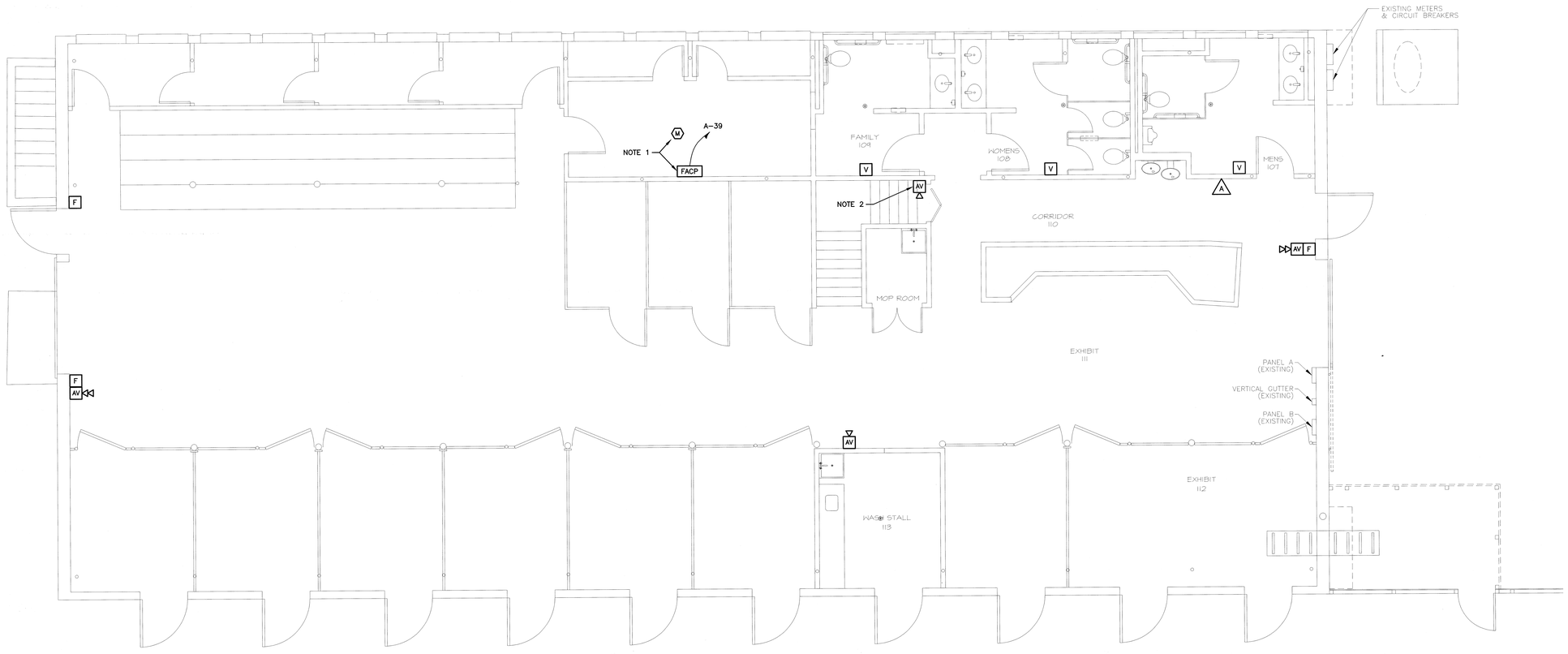

1 / E102 FLOOR PLAN – FIRE ALARM

SCALE: 1/4" = 1'-0"

FIRE ALARM PLAN NOTES:

1. COORDINATE LOCATION OF FACP WITH OWNER. MULTISENSOR MUST BE LOCATED NEAR FACP.
2. MOUNT HORN/STROBE INDICATED AT TOP OF STAIRWELL, 6'-8" ABOVE MEZZANINE FLOOR.
3. ALIGN DEVICES WITH ANY UTILITIES IN WALL BELOW. COORDINATE WITH ARCHITECT.

FIRE ALARM LEGEND

MARK	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL. i064 WITH DIGITAL ALARM COMMUNICATOR (DACT) #SA-DACT. SEE NOTES 2, 3, & 4.
A	REMOTE ANNUNCIATOR, LCD #RLCD-C
AV	AUDIO/VISUAL INDICATOR, 87 dBA, 15 cd SYNCHRONIZED #G1RF-HDVM
AV	AUDIO/VISUAL INDICATOR, 87 dBA, 75 cd SYNCHRONIZED #G1RF-HDVM
V	VISUAL FIRE INDICATOR, SYNCHRONIZED, 15 cd, #G1RF-VM
M	MULTI-SENSING FIRE DETECTOR (ION/PHOTO/HEAT) #SIGA-IPHS
F	PULL STATION #SIGA 270

FIRE ALARM SYSTEM NOTES:

1. THIS IS AN INTELLIGENT ADDRESSABLE SYSTEM BY EST. EQUIVALENT EQUIPMENT BY SIMPLEX, NOTIFIER, OR FCI IS ACCEPTABLE.
2. FACP SHALL HAVE INTEGRAL SURGE PROTECTION.
3. FACP SHALL HAVE STANDBY BATTERIES THAT WILL OPERATE SYSTEM FOR 24 HOURS, AND AT THE END OF 24 HOURS, OPERATE ALL AUDIBLE/VISUAL APPLIANCES FOR 5 MINUTES.
4. DACT SHALL BE MADE OPERATIONAL AND TESTED. COORDINATE WITH OWNER'S TELEPHONE CONTRACTOR.
5. FIRE ALARM WIRING SHALL BE TYPE MC-FPLP CABLE OR TYPE FPLP IN METALLIC CONDUIT PAINTED RED ALONG ITS ENTIRE LENGTH.
6. TEST THE SYSTEM IN ACCORDANCE WITH NFPA 72 AND ANY ADDITIONAL TESTS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
7. FIRE ALARM VENDOR SHALL PROVIDE SYSTEM BATTERY CALCULATIONS AND CUT SHEETS FOR EQUIPMENT SUPPLIED.

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Floor Plans – Fire Alarm

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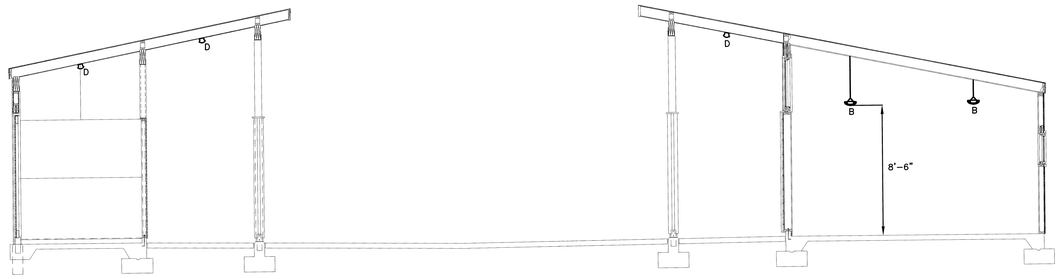
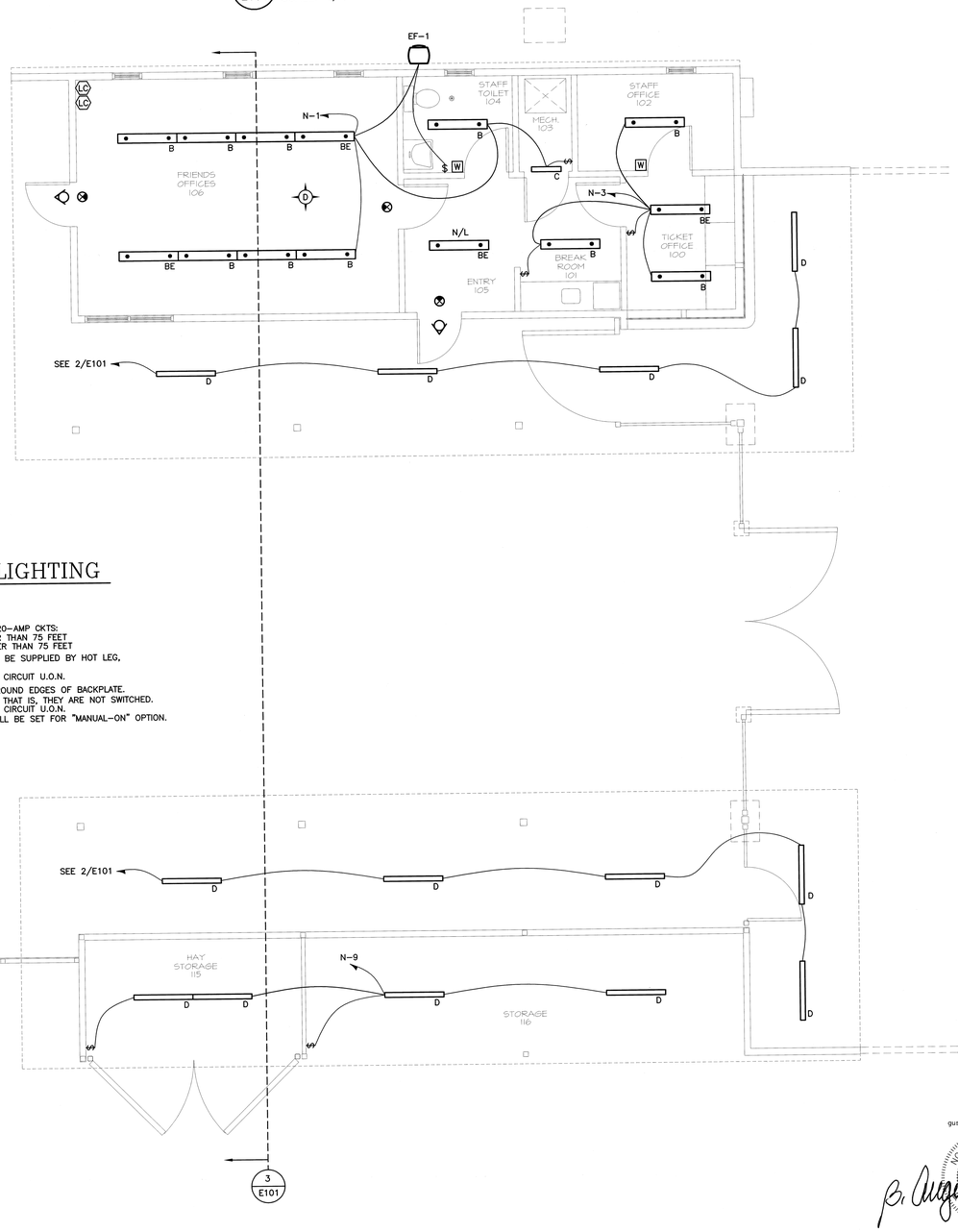
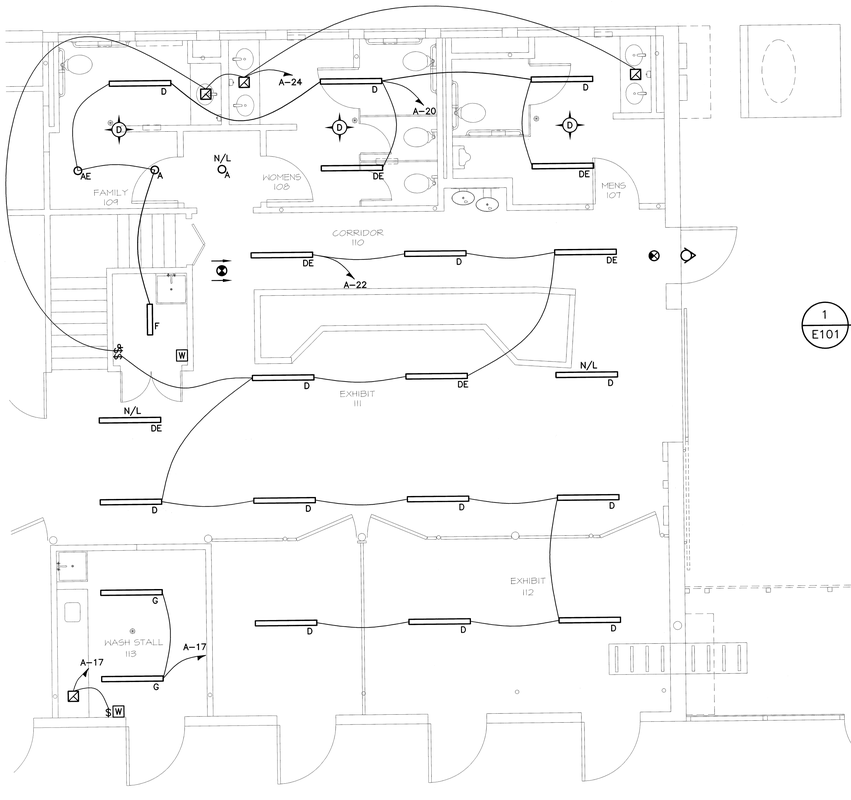
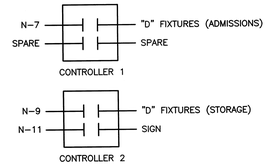


3 E101 SECTION – LIGHTING
SCALE: 1/4" = 1'-0"







NOTE:
1. SEE ELECTRICAL LEGEND FOR CONTROLLER (LC) SPECIFICATIONS.
2. CONTROLLER SHALL BE LOCATED IN FRIENDS OFFICES 106.

2 E101 CONTROL DETAIL – EXTERIOR LIGHTING
NOT TO SCALE

OCCUPANCY SENSOR LIGHTING CONTROL LEGEND		
SYMBOL	OPERATING VOLTAGE	DESCRIPTION
(D)	120 AC	DUAL TECHNOLOGY, LINE VOLTAGE, 800 WATT SEE NOTE WATTSTOPPER # DT-355
W	120 AC	WALL MOUNT, PASSIVE INFRARED, 800W MAX LOAD WATTSTOPPER # PW-101, SEE NOTE 4

NOTES:
1. LOCATION OF SENSORS SHALL BE APPROXIMATELY AS SHOWN ON PLAN.
2. WIRING: WATTSTOPPER PREFABRICATED CABLES SHALL BE USED WHERE APPLICABLE.
3. IN ROOMS WITHOUT CEILINGS INSTALL SENSORS USING THE # MB-1 MOUNTING BRACKET.
4. WALL-MOUNTED OCCUPANCY SENSORS SHALL BE SET FOR "MANUAL-ON" OPTION.
5. CEILING-MOUNTED SENSORS MUST BE LOCATED AT LEAST 6 FT FROM AIR SUPPLY DIFFUSER.
6. FOR QUESTIONS ABOUT INSTALLATION, WIRING, OR ADJUSTMENT CALL WATTSTOPPER TECH SUPPORT AT 1-800-879-8585.

1 E101 FLOOR PLAN – LIGHTING
SCALE: 1/4" = 1'-0"

GENERAL NOTES:
1. UNLESS OTHERWISE NOTED FOR 120-VOLT, 20-AMP CKTS:
   #10 AWG SHALL BE USED FOR CKTS LONGER THAN 75 FEET
   #12 AWG SHALL BE USED FOR CKTS SHORTER THAN 75 FEET
2. EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE SUPPLIED BY HOT LEG, NOT SWITCH LEG.
   SUPPLY FROM NEAREST INTERIOR LIGHTING CIRCUIT U.O.N.
3. EXTERIOR EMERGENCY FIXTURES: CAULK AROUND EDGES OF BACKPLATE.
4. FIXTURES MARKED N/L ARE NIGHT LIGHTS, THAT IS, THEY ARE NOT SWITCHED.
   SUPPLY FROM NEAREST INTERIOR LIGHTING CIRCUIT U.O.N.
5. WALL-MOUNTED OCCUPANCY SENSORS SHALL BE SET FOR "MANUAL-ON" OPTION.

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Floor Plans – Lighting

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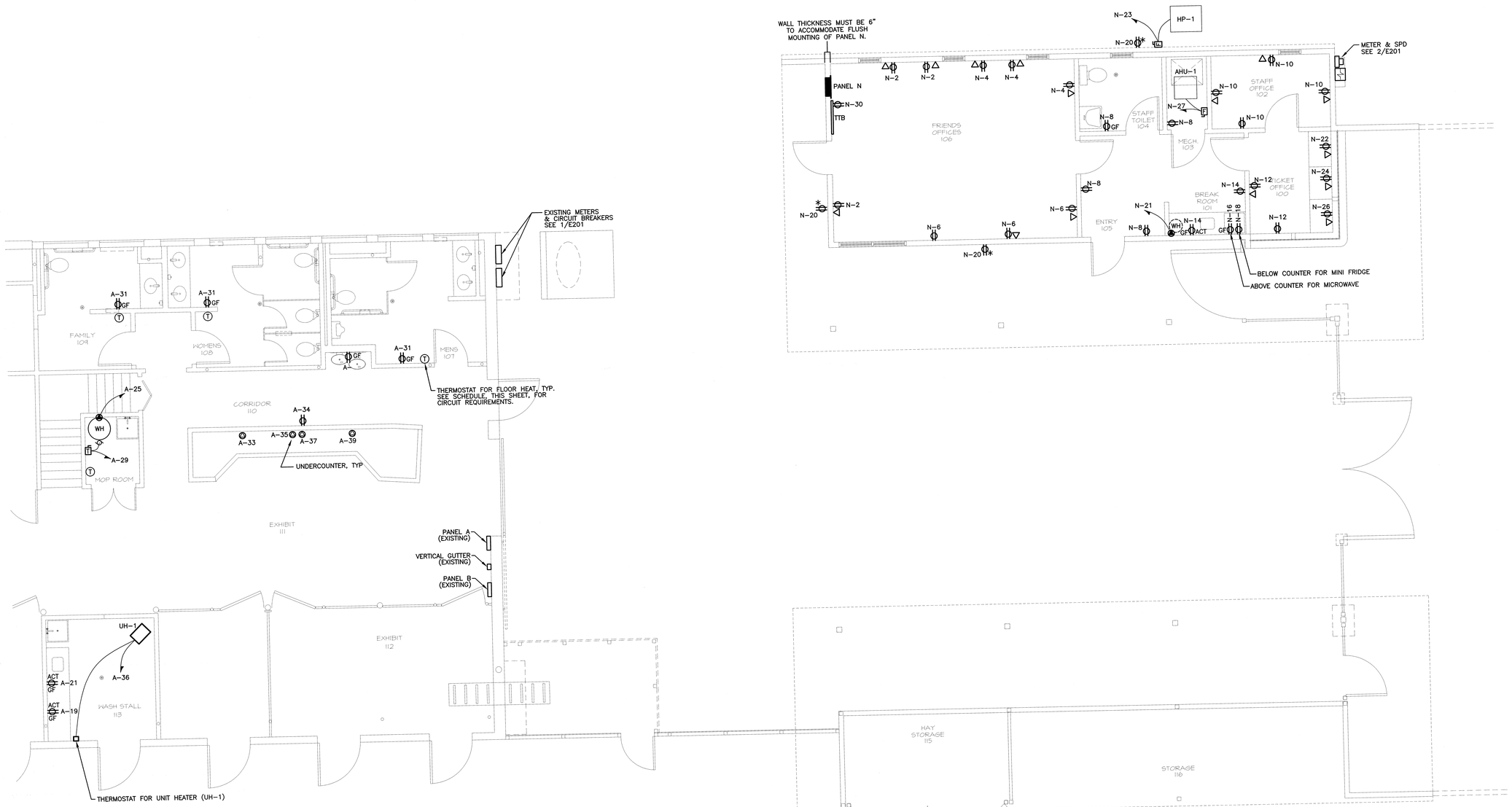

FLOOR HEAT SCHEDULE			
AREA HEATED	FLOOR CABLE PART NO.	THERMOSTAT PART NO.	CIRCUIT
MENS 107	FW24-160	FL-24P	A-26
WOMENS 108	FW24-160	FL-24P	A-26
FAMILY 109	FW24-160	FL-24P	A-30
MOP ROOM	FW24-30	FL-24P	A-30

NOTES:
1. EQUIPMENT LISTED IN SCHEDULE IS BY DELTA-THERM.
2. INSTALL I.A.W. MANUFACTURER'S INSTRUCTIONS.

1 / E102 FLOOR PLAN – POWER

SCALE: 1/4" = 1'-0"

POWER NOTES:
1. TYPE MC CABLE WITH COPPER CONDUCTORS AND GREEN GROUND MAY BE USED FOR CONCEALED FEEDERS AND CONCEALED BRANCH CIRCUITS.
   (a) FEEDERS AND BRANCH CIRCUITS RATED 100 AMPS OR GREATER SHALL BE TERMINATED WITH TYPE MC CONNECTORS. CONNECTORS SHALL BE SOUTHWIRE # NWT (DRY) OR # WT (UNDERGROUND OR EXTERIOR).
   (b) REDHEAD BUSHINGS SHALL BE PROVIDED AT EACH TERMINATION RATED LESS THAN 100 AMPS.
   (c) IF TYPE MC IS USED UNDERGROUND OR UNDER SLAB, THEN THE ARMOR SHALL BE COVERED WITH A PVC JACKET AND THE CABLE SHALL BE INSTALLED IN CONDUIT.
2. ALL CIRCUITS SHALL HAVE EQUIPMENT GROUNDING CONDUCTORS.
3. METALLIC WATER PIPING AND GAS PIPING SHALL BE BONDED TO THE GROUNDING ELECTRODE SYSTEM. (SEE NEC SECTION 250.104)
4. EMT CONNECTORS AND COUPLINGS SHALL BE STEEL COMPRESSION TYPE.
5. UNLESS OTHERWISE NOTED FOR 20-AMP CKTS:
   #10 AWG SHALL BE USED FOR CKTS LONGER THAN 75 FEET
   #12 AWG SHALL BE USED FOR CKTS SHORTER THAN 75 FEET
6. CONDUCTOR SIZES SMALLER THAN #8 AWG SHALL BE SOLID.
7. PROVIDE AND INSTALL CONDUIT FOR HVAC CONTROL WIRING AS REQUIRED. SEE HVAC PLAN FOR T-STATS.
8. FIRESTOP ALL PENETRATIONS THROUGH RATED ASSEMBLIES. SEE ARCHITECTURAL DRAWINGS.
9. FLUSH PANELBOARDS: STUB-OUT TWO 3/4"C AS SPARES.
10. INSTALL PULL CORDS IN ALL EMPTY CONDUITS.

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Floor Plans – Power

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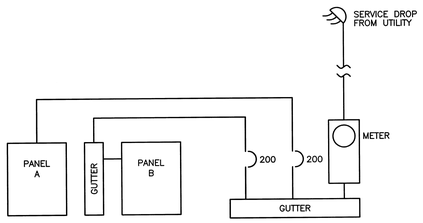

1 / E201 POWER RISER DIAGRAM – EXISTING

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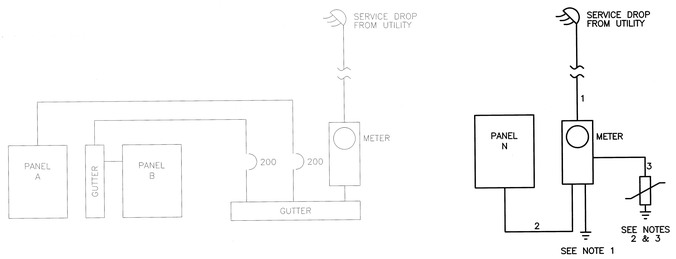

2 / E201 POWER RISER DIAGRAM – PROPOSED

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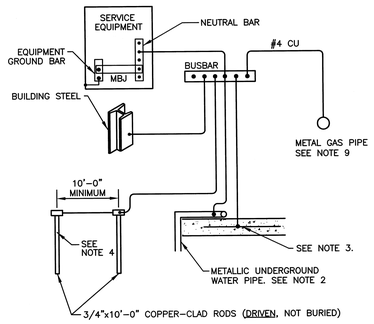
NOTES:
1. SEE 3/E201 FOR GROUNDING ELECTRODE SYSTEM REQUIREMENTS.
2. SPD: THOR # TSnc100Ws2S1P100.
   FOLLOW MANUFACTURER'S INSTRUCTIONS FOR WIRING.
3. SPD SHALL BE MOUNTED DIRECTLY ADJACENT TO PANELBOARD ENCLOSURE AND LEAD LENGTHS MUST BE AS SHORT AS POSSIBLE; OTHERWISE, THE EFFECTIVENESS OF THE SPD IS DIMINISHED.

CONDUCTOR/CONDUIT SCHEDULE			
MARK	INSULATION	CONDUCTORS	CONDUIT
1	THWN	3–#3	1"
2	THWN	3–#3, #6 G	1.25"
3	MTW	4–#10 SEE NOTE 2	0.75"

NOTES:
1. CONDUCTORS SHALL BE COPPER.
2. #10 MTW SHALL BE PROVIDED BY SPD MANUFACTURER.



3 / E201 GROUNDING ELECTRODE SYSTEM

NOT TO SCALE

NOTES:
1. CONNECTIONS TO ELECTRODES (EXCEPT WATER PIPE) SHALL BE BY EXOTHERMIC WELDING.
2. WATER PIPE: BOND WITH BRONZE CLAMP, ILSCO TYPE "GPL" OR EQUIVALENT; INSTALL BONDING JUMPER AT WATER METER.
3. CONCRETE–ENCASED ELECTRODES (REBAR) SHALL BE LOCATED WITHIN AND NEAR BOTTOM OF CONCRETE FOUNDATION OR FOOTING. ELECTRODES SHALL CONSIST OF AT LEAST 20 FEET OF REBAR OR #2 BARE COPPER (REF 250.52(A)(3)).
4. IF AT LEAST TWO OF BUILDING STEEL, WATER PIPE, AND CONCRETE ENCASED ELECTRODES ARE CONNECTED, THEN GROUND RODS ARE NOT REQUIRED UNLESS NEEDED TO ACHIEVE RESISTANCE TO EARTH LESS THAN 10 OHMS. SEE NOTE 5.
5. AFTER GROUNDING SYSTEM IS INSTALLED, RESISTANCE TO EARTH SHALL BE MEASURED. IF RESISTANCE EXCEEDS 10 OHMS, NOTIFY ENGINEER.
6. CONDUCTORS SHALL BE COPPER #3/O MINIMUM U.O.N.
7. BUSBAR SHALL BE COPPER, HARGER # GBI14 OR EQUIVALENT.
8. A BONDING STRAP (BUSBAR) PROVIDED BY THE MANUFACTURER SHALL BE USED FOR THE MAIN BONDING JUMPER.
9. GAS PIPE IS NOT AN ELECTRODE; IT IS SHOWN ONLY SO THAT BONDING CAN BE SPECIFIED. MAKE CONNECTION WITH BRONZE CLAMP AT THE POINT WHERE THE PIPE ENTERS THE BUILDING. SEE NOTE 2.

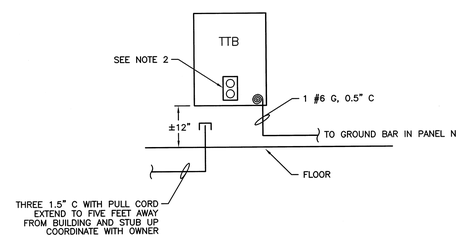
LIGHTING FIXTURE SCHEDULE						
				LAMPS		
MARK	VOLT–AMPS PER FIXTURE	DESCRIPTION	BALLAST	NO.	CODE	COLOR TEMP (K)
	–	EXIT SIGN, LED LAMPS, PLASTIC HOUSING NICAD BATTERY, LITHONIA # EXR LED EL M6	–	–	SUPPLIED W/ FIXTURE	–
	–	EMERGENCY LIGHT, XENON, 2–LAMP, WET LABEL, NIMH BATTERY, LIGHTALARMS # CAMN/LX6	–	–	SUPPLIED W/ FIXTURE	–
A	20	LED DOWNLIGHT, 6" APERTURE, 1500LM, LITHONIA # REAL6CD6–MW–ESL–1500L–35K–.955C–120–6WL	–	–	LED	3500
AE	20	LED DOWNLIGHT, 6" APERTURE, 1500LM, EMERGENCY BATTERY PACK LITHONIA # REAL6CD6–MW–ESL–1500L–35K–.955C–120–6WL–ELR	–	–	LED	3500
B	60	SUSPENDED LINEAR FL, 30% DIRECT/70% INDIRECT, LOUVER, OVERLAY AND DUST COVER, FOCAL POINT # FV3S–PLO–2T5–1C–E–CS–DC	ELECTRONIC	2	F28T5/835	3500
BE	60	SUSPENDED LINEAR FL, 30% DIRECT/70% INDIRECT, LOUVER, OVERLAY AND DUST COVER, EMERGENCY BATTERY BACKUP FOCAL POINT # FV3S–PLO–2T5–1C–E–CS–DC–EM	ELECTRONIC	2	F28T5/835	3500
C	13	2' SURFACE MOUNT LED, 1300LM, – LITHONIA # WL2–12L–D13–LP835	–	–	LED	3500
D	24	4' SURFACE MOUNT LED, 2500LM, DAMP LABEL LITHONIA # WL4–25L–D24–LP835	–	–	LED	3500
DE	24	4' SURFACE MOUNT LED, 2500LM, DAMP LABEL EMERGENCY BATTERY BACKUP LITHONIA # WL4–25L–D24–LP835–EL14L	–	–	LED	3500
F	13	2' SURFACE MOUNT LED, 1200LM, DAMP LABEL LITHONIA # WL2–12L–D13–LP835	–	–	LED	3500
G	60	4' SURFACE MOUNT FL, WET LABEL – LUMAX # VT23248–C01SA	ELECTRONIC	2	F32T8/735	3500

NOTES:
1. ELECTRONIC BALLASTS SHALL BE INSTANT–START MANUFACTURED BY ADVANCE, SYLVANIA, UNIVERSAL, OR GE.
2. COLOR/FINISH OPTIONS SHALL BE SELECTED BY ARCHITECT.
3. SEE ARCHITECT'S REFLECTED CEILING PLAN FOR PRECISE FIXTURE LOCATIONS.

ABBREVIATIONS	
ACT	ABOVE COUNTER TOP
AFC	AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
AIC	AMPS INTERRUPTING CURRENT
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
C/B	CIRCUIT BREAKER
CFL	COMPACT FLUORESCENT
CKT	CIRCUIT
CU	COPPER
EC	ELECTRICAL CONTRACTOR
G OR EGC	EQUIP GROUNDING CONDUCTOR
GF OR GFCI	GROUND FAULT CIRCUIT INTERRUPTER
IAW	IN ACCORDANCE WITH
IG	ISOLATED GROUND
IGC	ISOLATED GROUND CONDUCTOR
IR	INTERRUPTING RATING
MOV	METAL OXIDE VARISTOR
MBJ	MAIN BONDING JUMPER
N	NEUTRAL
OC	ON CENTERS
OVHD	OVERHEAD
SSTL	STAINLESS STEEL
SSW	SAFETY SWITCH
SPD	SURGE PROTECTIVE DEVICE
SWBD	SWITCHBOARD
TPMOV	THERMALLY PROTECTED MOV
UNDG	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
XFMR	TRANSFORMER

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
$	SINGLE POLE TOGGLE SWITCH, BRASS TERMINAL SCREWS, 20 A PASS & SEYMOUR # PS20AC1
$P	SINGLE POLE TOGGLE SWITCH, PILOT LIGHT 20A, 120/277V PASS & SEYMOUR # PS20AC1CPL
	RECEPTACLE, BRASS STRAP AND BRASS SCREWS, 20 AMP, PASS & SEYMOUR # PS5362
GF	RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTING, 20 AMP, AUTO SELF TEST HUBBELL # GFST20
*	RECEPTACLE, 20–AMP, GFCI, WEATHER RESISTANT HUBBELL # GFR5362 ALUMINUM COVER WP–IN–USE # WP826
	EQUIPMENT HARD–WIRED CONNECTION, FIELD VERIFY TO MATCH EQUIPMENT
	SPECIAL PURPOSE RECEPTACLE FIELD VERIFY TO MATCH PLUG PROVIDED WITH EQUIPMENT
T	THERMOSTAT FOR FLOOR HEAT SEE SCHEDULE ON SHEET E102
F	HEAVY DUTY SAFETY SWITCH, FUSIBLE, 240 V, EQUIPMENT GROUND, CLASS R REJECTION KIT NEMA 3R IF OUTSIDE, SEE NOTE 3
T	AC TOGGLE SWITCH USED AS DISCONNECT, PASS & SEYMOUR # PS20AC1
TTB	TELEPHONE TERMINAL BOARD. SEE 4/E201.
	DATA/COMM OUTLET. INSTALL BOX AND 3/4" CONDUIT WITH PULL CORD UNDER SLAB TO TTB. BOX AND CONDUIT BY EC. JACKS, PLATE, AND CABLE BY OWNER'S TELEPHONE CONTRACTOR.
OR	SURGE PROTECTIVE DEVICE
UH–1	UNIT HEATER, 2 kW, 240/1ø, INTEGRAL DISCONNECT SWITCH, BERKO # BWD02212–D WITH WALL–MOUNTED THERMOSTAT # WT11A IN NEMA 4X ENCLOSURE

NOTES:
1. WALLPLATES SHALL BE NYLON U.O.N.
2. COLORS FOR DEVICES AND WALLPLATES SHALL BE SELECTED BY ARCHITECT U.O.N.
3. SAFETY SWITCHES: UNLESS OTHERWISE NOTED, FUSE WITH BUSS # FRN–R. INSTALL CLASS R REJECTION KIT.



4 / E201 TELEPHONE TERMINAL BOARD

NOT TO SCALE

NOTES:
1. 3'x4'x3/4" FIRE–RETARDANT PLYWOOD BACKBOARD.
2. DUPLEX RECEPTACLE SUPPLIED BY DEDICATED CIRCUIT. SEE PLAN FOR CIRCUIT NUMBER.

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Asheville Wildlife Park
Visitor Reception & Welcome Plaza
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Schedules, Legends, & Details

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SIMS PROJECT # 1343

PANEL SCHEDULE

PANEL DESIGNATION: A (EXISTING CONDITION) | LOCATION: BARN
VOLTAGE RATING: 120/240 | BUS RATING: 200 AMPS | MCB (200A) | PHASE: 1 | NO. OF WIRES: 3 | NEMA 1 ENCLOSURE | SURFACE MOUNT
TYPE: CUTLER HAMMER | INTERRUPTING RATING: — AMPS RMS | SPECIAL FEATURES:
OTHER REQTS: 1. SINGLE-POLE C/B 20 AMP U.O.N.

CKT NO	LOAD SERVED	POLE NO	C/B RATING	C/B RATING	POLE NO	LOAD SERVED	CKT NO
1	BREAK ROOM HEATER	1	30	20	2	BOARDWALK LIGHTS	2
		3			4		
5	240V RECEPTACLE	5	40		6	COW DRINKING AREA	6
		7			8	PETTING AREA LIGHTS	8
9	EXIT LIGHTS	9			10	SPACE ONLY	10
11	GROUNDHOG ROOM HEATER	11			12	SKUNK	12
		13	20	15	14	CHICKEN HOUSE LIGHTS	14
15	SPACE ONLY	15		15	16	CHICKEN HOUSE LIGHTS	16
17	SPACE ONLY	17			18	RECEPT NEAR PANEL A	18
19	SPACE ONLY	19			20	SPACE ONLY	20
21	SPACE ONLY	21			22	SPACE ONLY	22
23	SPACE ONLY	23			24	SPACE ONLY	24
25	SPACE ONLY	25			26	SPACE ONLY	26
27	SPACE ONLY	27			28	SPACE ONLY	28
29	SPACE ONLY	29			30	SPACE ONLY	30
31	SPACE ONLY	31			32	SPACE ONLY	32
33	SPACE ONLY	33			34	SPACE ONLY	34
35	SPACE ONLY	35			36	SPACE ONLY	36
37	SPACE ONLY	37			38	SPACE ONLY	38
39	SPACE ONLY	39			40	SPACE ONLY	40

GROUND BAR | NEUTRAL BUS

PANEL SCHEDULE

PANEL DESIGNATION: A (PROPOSED CONDITION) | LOCATION: BARN
VOLTAGE RATING: 120/240 | BUS RATING: 200 AMPS | MCB (200A) | PHASE: 1 | NO. OF WIRES: 3 | NEMA 1 ENCLOSURE | SURFACE MOUNT
TYPE: CUTLER HAMMER | INTERRUPTING RATING: — AMPS RMS | SPECIAL FEATURES:
OTHER REQTS: 1. SINGLE-POLE C/B 20 AMP U.O.N.

CKT NO	LOAD SERVED	POLE NO	C/B RATING	C/B RATING	POLE NO	LOAD SERVED	CKT NO
1	BREAK ROOM HEATER	1	30	20	2	BOARDWALK LIGHTS	2
		3			4		
5	240V RECEPTACLE	5	40		6	COW DRINKING AREA	6
		7			8	PETTING AREA LIGHTS	8
9	EXIT LIGHTS	9			10	SPACE ONLY	10
11	GROUNDHOG ROOM HEATER	11			12	SKUNK	12
		13	20	15	14	CHICKEN HOUSE LIGHTS	14
15	SPACE ONLY	15		15	16	CHICKEN HOUSE LIGHTS	16
17	LTG, WASH STALL	17			18	RECEPT NEAR PANEL A	18
19	RECEPT, WASH STALL	19			20	LTG, BARN RESTROOMS	20
21	RECEPT, WASH STALL	21			22	LTG, BARN	22
23	SPARE	23			24	BATHROOM EXHAUST FANS	24
25	WATER HEATER 2–#6, #10 G, 0.75" C	25	60		26	FLOOR HEAT 2–#10, #10 G, 0.75" C	26
		27		30	28		
29	CIRC PUMP	29			30	FLOOR HEAT 2–#10, #10 G, 0.75" C	30
31	RECEPT, BARN RESTROOMS	31		30	32		
33	UNDERCOUNTER, EXHIBIT 111	33			34	RECEPT, CORRIDOR	34
35	UNDERCOUNTER, EXHIBIT 111	35			36	UNIT HEATER (UH–1), WASH STALL 113 2–#12, #12 G, 0.75" C	36
37	UNDERCOUNTER, EXHIBIT 111	37		15	38		
39	UNDERCOUNTER, EXHIBIT 111	39			40	SPACE ONLY	40

GROUND BAR | NEUTRAL BUS

○ = HANDLE PADLOCK ATTACHMENT

PANEL SCHEDULE

PANEL DESIGNATION: B (EXISTING CONDITION) | LOCATION: BARN
VOLTAGE RATING: 120/240 | BUS RATING: 200 AMPS | MCB (200A) | PHASE: 1 | NO. OF WIRES: 3 | NEMA 1 ENCLOSURE | SURFACE MOUNT
TYPE: CUTLER HAMMER | INTERRUPTING RATING: — AMPS RMS | SPECIAL FEATURES:
OTHER REQTS: 1. SINGLE-POLE C/B 20 AMP U.O.N.

CKT NO	LOAD SERVED	POLE NO	C/B RATING	C/B RATING	POLE NO	LOAD SERVED	CKT NO
1	HENRIETTA'S HOUSE/GOAT HOUSE	1	60	50	2	STOVE, KITCHEN	2
		3			4		
5	STALLS 3 – 6	5			6	COOK	6
7	STALLS 7 – 10	7		30	8		
9	RECEPTACLE	9			10	BACKEND BARN, MAIN LTG BATHROOM	10
11	UPSTAIRS FAN	11			12	COMPUTER, OFFICE, KITCHEN	12
13	LTG, KITCHEN	13			14	RECEPTACLE	14
15	LTG @ STANDS	15			16	TTB	16
17	LTG, UPSTAIS	17			18	COKE MACHINE, STALL RECEPTACLE	18
19	SPARE	19	30		20	RECEPT, KITCHEN	20
21	EMERGENCY NITE LITE, OUTSIDE BARN	21			22	BARN EMERGENCY LTG/RECEPT, COUNTER	22
23	RECEPTACLE	23			24	240V RECEPT @ STANDS	24
25	HEATER IN OFFICE	25		20	26		
27	RECEPTACLE	27			28	RECEPTACLE	28
29	RECEPTACLE	29			30	WATER HEATER	30
31	RABBIT ROOM	31		30	32		
33	SPACE ONLY	33			34	SPACE ONLY	34
35	SPACE ONLY	35			36	SPACE ONLY	36
37	SPACE ONLY	37			38	SPACE ONLY	38
39	SPACE ONLY	39			40	SPACE ONLY	40

GROUND BAR | NEUTRAL BUS

PANEL SCHEDULE

PANEL DESIGNATION: B (PROPOSED CONDITION) | LOCATION: BARN
VOLTAGE RATING: 120/240 | BUS RATING: 200 AMPS | MCB (200A) | PHASE: 1 | NO. OF WIRES: 3 | NEMA 1 ENCLOSURE | SURFACE MOUNT
TYPE: CUTLER HAMMER | INTERRUPTING RATING: — AMPS RMS | SPECIAL FEATURES:
OTHER REQTS: 1. SINGLE-POLE C/B 20 AMP U.O.N.

CKT NO	LOAD SERVED	POLE NO	C/B RATING	C/B RATING	POLE NO	LOAD SERVED	CKT NO
1	HENRIETTA'S HOUSE/GOAT HOUSE	1	60	50	2	STOVE, KITCHEN	2
		3			4		
5	STALLS 3 – 6	5			6	COOK	6
7	STALLS 7 – 10	7		30	8		
9	RECEPTACLE	9			10	BACKEND BARN, MAIN LTG BATHROOM	10
11	UPSTAIRS FAN	11			12	COMPUTER, OFFICE, KITCHEN	12
13	LTG, KITCHEN	13			14	RECEPTACLE	14
15	LTG @ STANDS	15			16	TTB	16
17	LTG, UPSTAIS	17			18	COKE MACHINE, STALL RECEPTACLE	18
19	SPARE	19	30		20	RECEPT, KITCHEN	20
21	EMERGENCY NITE LITE, OUTSIDE BARN	21			22	BARN EMERGENCY LTG/RECEPT, COUNTER	22
23	RECEPTACLE	23			24	240V RECEPT @ STANDS	24
25	HEATER IN OFFICE	25		20	26		
27	RECEPTACLE	27			28	RECEPTACLE	28
29	RECEPTACLE	29			30	WATER HEATER	30
31	RABBIT ROOM	31		30	32		
33	SPACE ONLY	33			34	SPACE ONLY	34
35	SPACE ONLY	35			36	SPACE ONLY	36
37	SPACE ONLY	37			38	SPACE ONLY	38
39	SPACE ONLY	39			40	SPACE ONLY	40

GROUND BAR | NEUTRAL BUS

1. CIRCUIT BREAKERS SHALL BE BOLT–ON TYPE.
2. EQUIPMENT & APPLIANCE CIRCUITS: VERIFY C/B RATING WITH NAMEPLATE. NOTIFY ENGINEER OF ANY DISCREPANCY.
3. CONDUCTOR SIZES THAT EXCEED NEC MINIMUM HAVE BEEN SPECIFIED TO LOWER VOLTAGE DROP OR PREVENT NUISANCE TRIPS.
4. CIRCUIT BREAKER PROTECTING SPD: INSTALL ADJACENT TO MAIN LUGS.

1 / E202 GENERAL PANELBOARD NOTES

PANEL SCHEDULE

PANEL DESIGNATION: N | LOCATION: FRIENDS OFFICES 106
VOLTAGE RATING: 120/240 | BUS RATING: 100 AMPS | MCB (100A) | PHASE: 1 | NO. OF WIRES: 3 | NEMA 1 ENCLOSURE | SURFACE MOUNT
TYPE: NQ | INTERRUPTING RATING: 10,000 AMPS RMS FULLY RATED | SPECIAL FEATURES:
OTHER REQTS: 1. SINGLE-POLE C/B 20 AMP U.O.N. 2. SEE 1/E202.

CKT NO	LOAD SERVED	POLE NO	C/B RATING	C/B RATING	POLE NO	LOAD SERVED	CKT NO
1	LTG, STAFF OFFICE, TICKETS, BREAK, ENTRY	1			2	RECEPT, FRIENDS OFFICES	2
3	LTG, FRIENDS OFFICES, STAFF TOILET, MECH	3			4	RECEPT, FRIENDS OFFICES	4
5	SPARE	5			6	RECEPT, FRIENDS OFFICES	6
7	LTG, EXTERIOR CANOPY @ TICKET OFFICE	7			8	RECEPT, ENTRY, STAFF TLT, MECH	8
9	LTG, EXT CANOPY @ STORAGE, HAY STORAGE	9			10	RECEPT, STAFF OFFICE	10
11	EXTERIOR SIGN	11			12	RECEPT, TICKET OFFICE	12
13	SPARE	13			14	RECEPT, KITCHEN	14
15	SPACE ONLY	15			16	RECEPT, MICROWAVE	16
17	SPACE ONLY	17			18	RECEPT, MICRO FRIDGE	18
19	SPACE ONLY	19			20	RECEPT, EXTERIOR	20
21	WATER HEATER	21	25		22	RECEPT, TICKET OFFICE	22
23	HP–1 2–#10, #10 G, 0.75" C	23			24	RECEPT, TICKET OFFICE	24
		25	30		26	RECEPT, TICKET OFFICE	26
27	AHU–1 2–#6, #10 G, 0.75" C	27			28	SPARE	28
		29	60		30	RECEPT, TTB	30

GROUND BAR | NEUTRAL BUS

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Schedules, Legends, & Details

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SECTION 16010
BASIC ELECTRICAL REQUIREMENTS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Basic Electrical Requirements specifically applicable to Division 16 in addition to Division 1 – General Requirements.

1.2 SCOPE OF WORK

A. Provide conductors, luminaires, wiring devices, and other required materials and labor to produce a complete and operating electrical system as shown on the drawings.

Provide conduit for controls for all equipment in project. Review HVAC sheets for HVAC control locations. Coordinate conduit installation with HVAC contractor.

Provide power wiring and conduit (except where type MC cable is permitted; see power plan notes) for all equipment in project.

B. Obtain all permits, pay all fees, and request inspection from authority having jurisdiction.

C. Provide demolition of all electrical materials made obsolete by this project and remove from site. See plans regarding selected equipment that shall be re–used. Owner retains salvage rights.

D. All work and materials shall be guaranteed for one year from date of substantial completion.

E. Field verify existing conditions prior to starting work.

1.3 WORK SEQUENCE

A. Coordinate construction and utility outages (if any) with Owner, all other trades, and utility companies. After–hours work may be required to interrupt service.

B. Visit site before submitting bid to confirm existing conditions. Notify Engineer of discrepancies in the Contract Documents and existing conditions.

C. E–Mail questions or comments to gus@simsengineers.com or fax (828–251–2026) in lieu of telephone calls.

1.4 REGULATORY REQUIREMENTS

A. Conform to applicable State and Local Building Codes.
B. Fire Alarm: Conform to NFPA 72.
C. Electrical: National Electrical Code, NFPA 70.
D. Life Safety Code, NFPA 101.
E. The Contractor shall install all materials in accordance with State and Local Building Code. Any work that does not comply shall be made to comply at the contractor's expense.
F. All equipment shall be UL or ETL listed for purpose specified.

1.5 PROJECT/SITE CONDITIONS

A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
B. Prepare record drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Architect/Engineer before proceeding. Submit all changes on Record Documents as a requirement of Project Closeout.
C. Refer to Architectural Drawings for dimensions, locations, cabinets, etc. Do not scale Electrical Drawings.
D. Conceal all materials except where the Architect grants specific permission to do otherwise.
E. Arrange electrical work in a neat, well organized manner. Conduit shall run parallel with primary lines of the building construction.
F. Locate operating and control equipment with adequate access for operation and maintenance.
G. Give right–of–way to piping which must slope for drainage.
H. Advise other trades of openings required in their work for the subsequent move–in of large electrical equipment.

1.6 SUBSTITUTIONS:

The purpose of specifying equipment by catalog number is to establish quality standards, not necessarily to limit submittals. Substitutions may be accepted if approved as equivalent. Contact engineer prior to bid with any questions. If substitutes are not submitted within 14 days after the bid is accepted, then the equipment shall be provided as specified. Contractor submitting substitutions shall be responsible for any additional cost resulting from the substitution.

2. PART 2 GENERAL DESCRIPTION OF WORK

2.1 Coordinate work with other Trades.

2.2 General:

A. Provide all luminaires, wiring devices, conductors, switches, receptacles, and other required materials. Coordinate electrical requirements for equipment supplied by other trades prior to ordering electrical materials.
B. Identify major equipment with Lamicor labels.
C. Provide typed panelboard directories.
D. Electrical Contractor shall provide all penetrations and patching required to install electrical work.
E. Support luminaires from building structure.
F. Install all materials in accordance with manufacturer's instructions.

2.3 Design Requirements vs. Code Minimum Requirements.

A. Some of the design requirements specified for this project exceed the minimum requirements of the NEC. These decisions are usually made in order to:
   1. Increase reliability of the system.
   2. Increase service life of system components.
   3. Enhance system safety beyond the minimum requirements of the NEC.
   4. Provide for load growth.

B. Design requirements that may exceed NEC minimum are most often associated with the following:
   1. Insulation type.
   2. Conductor size.
   3. Conduit type.
   4. Conduit couplings.
   5. Size of equipment grounding conductor. See NEC section 250.4A5.

C. Refer to NEC Section 90.1B.

3. PART 3 SPECIFIC REQUIREMENTS

3.1 Conductors:

A. Unless otherwise noted on plans:
   1. Conductors above grade shall be copper with THWN–2 insulation.
   2. Conductors underground or under slab shall be type XHHW.

B. Type MC cable may be used for some circuits. See power plan notes.

C. Provide EGC (equipment grounding conductor) with all circuits. Some EGCs are sized larger than the NEC minimum. This is done in order to reduce the probability of EGCs being damaged during ground faults.

D. Conductors smaller than #8 AWG shall be solid.

3.2 Conduit:

A. Above grade: EMT with compression–type steel couplings and connectors.

Below grade: Schedule 40 PVC. Provide a warning tape 6" below grade.

B. Support conduit from building structure with threaded rods and hangers, trapeze hangers, channel and clamps, or other approved method.

C. Conduit shall be 3/4" minimum unless otherwise noted.
Exceptions: control wiring, 120V receptacles, and switches may use 1/2" if sized per NEC.

4. PART 4 DOCUMENTS AND SUBMITTALS

4.1 SUBMITTALS

A. Submit under provisions of Contract Documents.
B. Submit product data grouped to include complete submittals of related systems, products, and accessories in a single submittal. Identify items with marks to match those shown on drawings.
C. Architect shall approve all colors.
D. All submittals shall have the Contractor's stamp, with approval signature.
E. Highlight deviations from specified materials.
F. Product Data: 6 sets, including 3 sets for maintenance manuals. Data shall include the following:

Luminaires	
Wiring Devices	Surge Protective Devices (SPDs)
Panelboards	
Safety Switches	

G. Test Reports (if required): 3 copies
H. Warranties: 6 copies, including 3 for maintenance manuals.
I. Maintenance Manuals: 3 complete sets in loose–leaf 3–ring binders, with rigid permanent vinyl covered back and front. Separators with index tabs and loose–leaf sheet protectors shall be provided. One set shall have all sheets individually encased in clear, plastic document protectors.

4.2 CONTROL DATA: Provide control diagrams and wiring diagrams where applicable; include description of control systems, catalog data, maintenance, and calibration instruction for all components.

Provide name and address of Controls manufacturer and installer.

4.3 MAINTENANCE INSTRUCTION: Typewritten instructions for maintenance of the systems in itemized form and with time schedule shall be furnished.
The instructions shall list each item of equipment requiring inspection, lubrication, or service and describe the performance of such maintenance.

The operating personnel shall be instructed in the care of the system in accordance with the typewritten instructions.

5. PART 5 ELECTRICAL WORK CLOSEOUT

5.1 General: Refer to the Division 1 sections for general closeout requirements. Maintain a daily log of operational data on electrical equipment and systems through the closeout period; record hours of operation, assigned personnel, fuel consumption and similar information; submit copy to Owner.

5.2 Record Drawings: For electrical work, give special attention to the complete and accurate recording of underground circuits, and other concealed and non–accessible work. Record change orders where not shown accurately by contract documents. Submit to Engineer at end of project one set of reproducible sepias that show all changes in the electrical work.

5.3 Closeout Equipment/Systems Operations: Contractor shall demonstrate sustained, satisfactory performance of equipment and systems in a test run of appropriate duration.
The Owner's operating personnel shall be present. Adjust or correct equipment as required for proper performance. Clean equipment and luminaires.

5.4 Operating Instructions: Conduct a walk–through instruction seminar for the Owner's personnel. Explain the identification system, operation diagrams, emergency and alarm provisions, sequencing requirements, seasonal provisions, security, safety, efficiency, and similar features of the systems.

5.5 Training: Contractor shall provide training on all major equipment, controls, etc, as part of the contract.

5.6 Turn–Over of Operations: At the time of substantial completion, turn over the prime responsibility for operation of the electrical equipment and systems to the Owner's operating personnel. However, until the time of final acceptance, provide one electrician, who is completely familiar with the work, to consult with and continue training the Owner's personnel.

END OF SECTION

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Electrical Specifications

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