R-1 (RESIDENTIAL)	REQUIRED	PROPOSED
MIN. LOT AREA:	17,000 SF	172,960
MIN. LOT FRONTAGE	64 FT	>64 FT
MIN. LOT WIDTH	80 FT	>80 FT
MAX. BUILDING HEIGHT	29 FT (PRIMARY) 40 FT (SECONDARY)	<29 FT (PRIMARY) <40 FT (SECONDARY)
MAX. FLOOR AREA RATIO	SEE BELOW	SEE BELOW
MAX. LOT COVERAGE	0.7	28,303 SF (14.88% IMPERMOUS
BUILDING SETBACK		
MIN. FRONT STREET YARD SETBACK	28 FT	104 FT+/-
MIN. SIDE YARD SETBACK	14 FT	43 FT+/-
MIN. SOLAR (NORTHERN REAR) YARD SETBACK	17 FT	144 FT+/-
BUFFERYARD SETBACK		
MIN. FRONTYARD SETBACK	20 FT/30 FT	20 FT/30 FT
MIN. SIDEYARD SETBACK	20 FT	20 FT/ALT. BUFFER
MIN. REAR YARD SETBACK	20 FT	20 FT
VEHICLE PARKING	20 min/25 max	44 (INCLUDE 8 DROP OFF SPACES
BICYCLE PARKING	8	44 (INCLODE 8 DNOT OFF SPACE)
DICTOLE PARNING	8	4
TOTAL IMPERMOUS AREA (OF GLA)	7,896 SF (4.15%)	29,702 SF (15.61%)
NON RCD ZONE IMPERMOUS AREA	7,630 SF (4.41%)	29,436 SF (15.47%)
ZONE 1 IMPERMOUS AREA	0 SF (0.0%)	0 SF (0.0%)
ZONE 2 IMPERVIOUS AREA	0 SF (0.0%)	0 SF (0.0%)
ZONE 3 IMPERMOUS AREA	266 SF (0.15%)	266 SF (0.15%)
TOTAL LAND DISTURBANCE AREA		50,632 SF (29.30%)
NON RCD ZONE LAND DISTURBANCE AREA	N/A	50,140 SF (29.00%) ZONING
ZONE 1 LAND DISTURBANCE AREA	N/A	0 SF (0.0%)
ZONE 2 LAND DISTURBANCE AREA	N/A	0 SF (0.0%)
ZONE 3 LAND DISTURBANCE AREA	N/ A	492 SF (0.28%)
CLODE CATECODY	DELINICATED ADEAC	DICTI IDDED ADEAC
SLOPE CATEGORY	DELINEATED AREAS	DISTURBED AREAS ±18,470 SF (10.67%)
0%TO14.99%	31,297 SF (18.09%) 50,356 SF (29.11%)	±29,690 SF (17.17%)
15%TO 24.99% 25%& GREATER	91,307 SF (52.79%)	± 2,472 SF (1.43%)
	, ,	, ,
FLOOR AREA CALCULATIONS		
GROSS LAND AREA (GLA)	172,960 sfx 1.10 = 190,256 sf	
NON RCD ZONE	87,212 sf (50.42%)	(87,212x0.076)=6,628 sf
ZONE1	24,311 sf (14.06%)	(24,311x0.01)=243 sf
ZONE 2	31,149 sf (18.01%)	(31,149x0.019)=592 sf
ZONE3	30,288 sf (17.51%)	(30,288x0.076)=2,302 sf
EFFECTIVE FLOOR AREA RATIO (EFAR)		(9,765 sf/172,960 sf)=0.0564
ALLOWABLE FLOOR AREA MAXIMUM (GLAX EFAR)		(190,256 sfx 0.0564)=10,730 s
PROPOSED FLOOR AREA		9,000 sf
TOTAL CANADA (ADDA TOTAL TOTAL CANADA (ADDA TOTAL C		110/
TREE CANOPY AREATO REMAIN	69,184 SF (40.00%)	113,275 SF (65.49%)

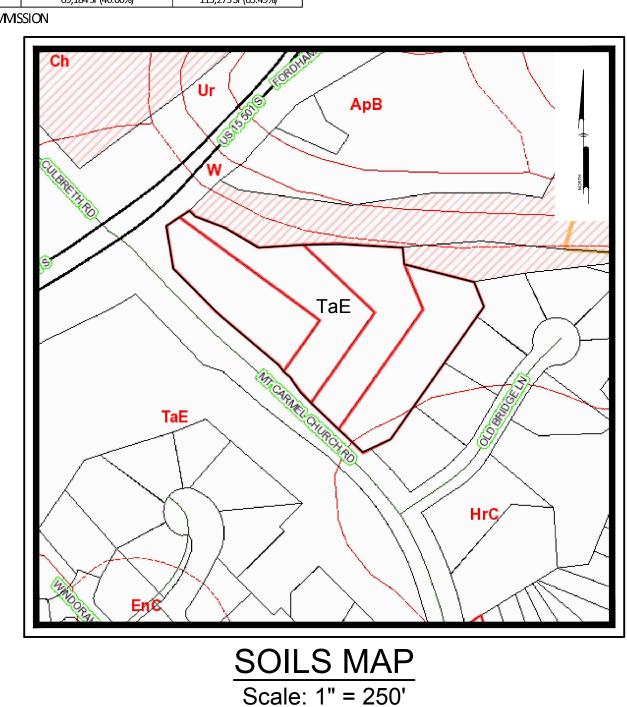
CHAPEL HILL COOPERATIVE PRESCHOOL SPECIAL USE PERMIT APPLICATION

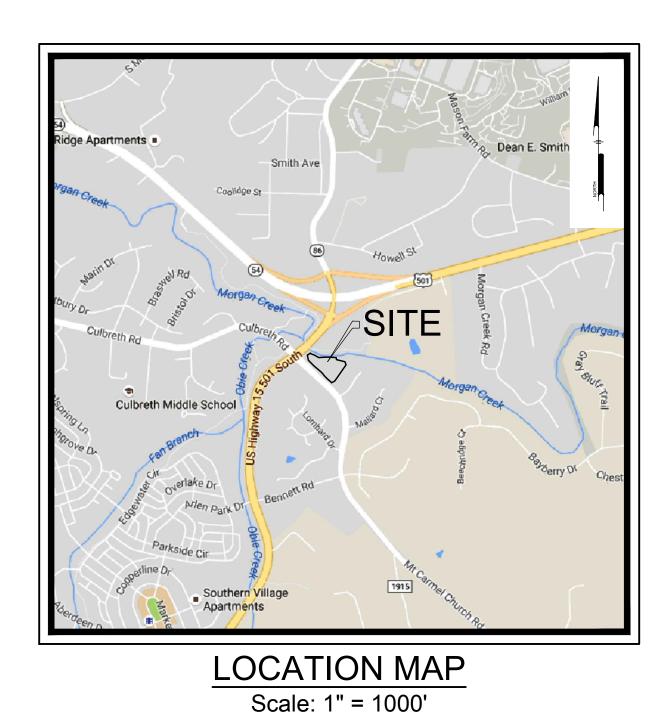
PIN: 9787-29-6199; 9787-29-7266; 9787-29-9047; 9787-39-0045 108 MT. CARMEL CHURCH ROAD 2017-12-18

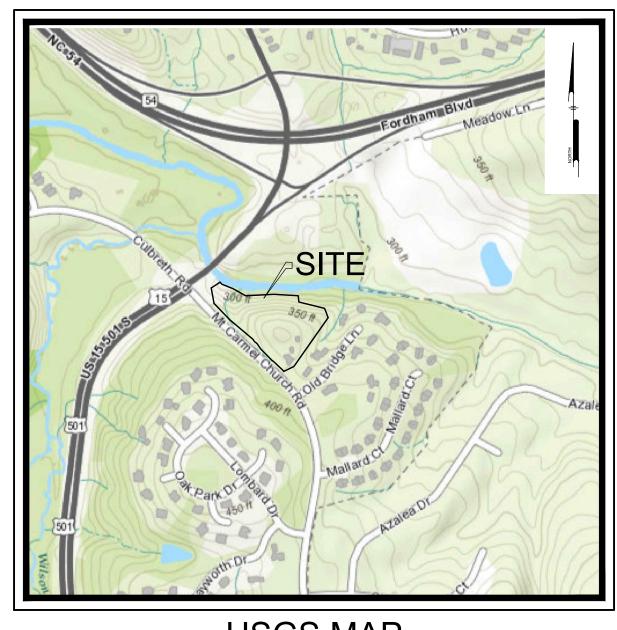
PREPARED FOR:

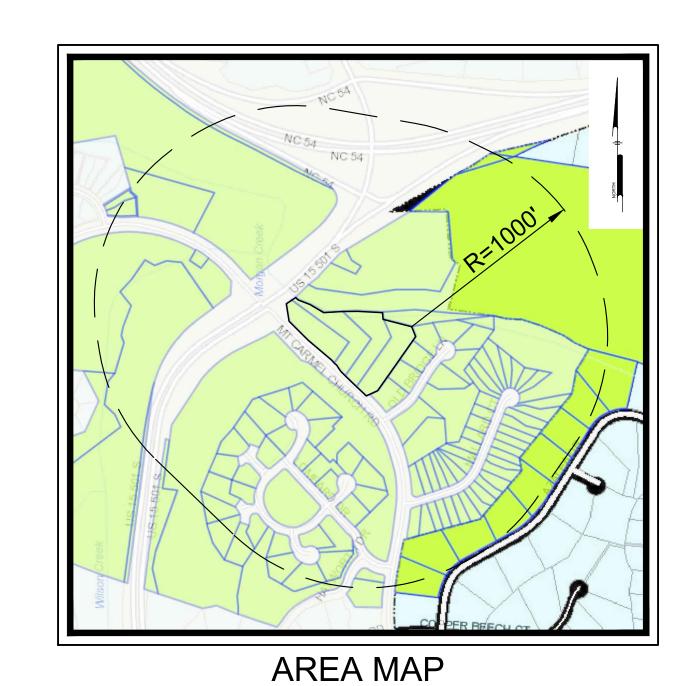
CHAPEL HILL COOPERATIVE PRESCHOOL

106 PUREFOY ROAD CHAPEL HILL, NC, 27514 (919) 942-3955









Scale: 1" = 500'

USGS MAP Scale: 1" = 500'

PREPARED BY:



401 Providence Road #200 Chapel Hill, NC 27514 **T** 919.929.1173 **F** 919.493.6548

PENNONI ASSOCIATES INC.



PRELIMINARY NOT FOR CONSTRUCTION

	SHEET LIST TABLE				
AGE	DESCRIPTION	DATE SUBMITTED	DATE REVISED		
1	COVER SHEET	12/18/2017			
2	GENERAL NOTES AND LEGEND	12/18/2017			
3	EXISTING CONDITIONS	12/18/2017			
4	SLOPE ANALYSIS MAP	12/18/2017			
5	DEMOLITION PLAN	12/18/2017			
6	SITE PLAN	12/18/2017			
7	GRADING & DRAINAGE PLAN	12/18/2017			
8	UTILITY PLAN	12/18/2017			
9	LANDSCAPE & LIGHTING PLAN	12/18/2017			
10	SITE DETAILS	12/18/2017			
11	SITE DETAILS	12/18/2017			
12	EROSION CONTROL PLAN	12/18/2017			
13	CONSTRUCTION MANAGEMENT PLAN	12/18/2017		۳ ۳	
14	EROSION & SEDIMENT CONTROL DETAILS	12/18/2017		CONTRACTOR OF ANY S WITH WORK	
	3D EXTERIOR VIEWS	12/18/2017			
	3D EXTERIOR VIEWS	12/18/2017			
				ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOI AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK	CARO TIPE

ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTE TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS OF THE EXTENSIONS OF THE PROJECT OR ON ANY OTHE PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATI
OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNER: SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNON ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES A EXPENSES ARISING OUT OF OR RESULTING THEREFRO

CHCP1601 2017-12-18

		LEGEND	DECORIDATION
	EXISTING	PROPOSED	DESCRIPTION CABLE TV, JUNCTION BOX
		© oc — oc —	CABLE TV, MANHOLE CABLE TV, OVERHEAD CABLE TV, DANEL BOX
	₩ (V) ***	□ 100 ⊕	CABLE TV, PANEL BOX CABLE TV, PEDESTAL CABLE TV, STUB OUT
			CABLE TV, UNDERGROUND CABLE TV, WITNESS POST
		©	CHANNEL COMMUNICATION, HANDHOLE
	© —— oc —— oc ——	©	COMMUNICATION, JUNCTION BOX COMMUNICATION, MANHOLE COMMUNICATION, OVERHEAD
	## © ***	23 © 0	COMMUNICATION, PANEL BOX COMMUNICATION, PEDESTAL COMMUNICATION, STUB OUT
		uc uc	COMMUNICATION, UNDERGROUND COMMUNICATION, WITNESS POST CONTROL, BENCHMARK
	<u>A</u>		CONTROL, BENCHWARK CONTROL, GPS CONTROL, MAPPING
	△ △		CONTROL, REFERENCE CONTROL, TRAVERSE
			CURB DEPRESSION
			EDGE OF PAVEMENT EDGE OF GRAVEL
			EASEMENT
	× × × (TD)	x — x — x — page	FENCE FIBER OPTIC, HANDHOLE
	(FO)	(F)	FIBER OPTIC, JUNCTION BOX FIBER OPTIC, MANHOLE FIBER OPTIC, OVERHEAD
		FO —	FIBER OPTIC, PANEL BOX FIBER OPTIC, PEDESTAL
	F0F0	- FO — FO	FIBER OPTIC, STUB OUT FIBER OPTIC, UNDERGROUND
		- - -	FIBER OPTIC, WITNESS POST FLOODPLAIN
		● OFG — OFG —	FUEL, MANHOLE FUEL, OVERHEAD FUEL, PLUG
	©	@ PUP	FUEL, PUMP FUEL, UNDERGROUND
	I I I	=	GUIDE RAIL LIMITS OF DISTURBANCE
	Š.	& □	MARKING, HANDICAP PARKING NATURAL GAS, METER
		(G) OG ——————————————————————————————————	NATURAL GAS, MANHOLE NATURAL GAS, OVERHEAD
	(a)	\$ [3]	NATURAL GAS, STUB OUT NATURAL GAS, WANDERGROUND NATURAL GAS, WITNESS POST
		UG UG 	PHONE, HANDHOLE PHONE, JUNCTION BOX
	T)	III	PHONE, MANHOLE PHONE, OVERHEAD
	<i> 0T 0T</i>	ot — ot — ot —	PHONE, PANEL BOX PHONE, PEDESTAL
	T) **T	T) T	PHONE, STUB OUT PHONE, UNDERGROUND BHONE, WITNESS BOST
LICATION	UTUT		PHONE, WITNESS POST POWER, GUY POLE POWER, GUY WIRE
ERMIT APP	© II		POWER, HANDHOLE POWER, JUNCTION BOX
IAL USE PI	어	<u>마</u>	POWER, SINGLE HEAD LIGHT POWER, DOUBLE HEAD LIGHT
PROJECT STATUS: SPECIAL USE PERMIT APPLICATION		\$ \ \$	POWER, THREE HEAD LIGHT POWER, FOUR HEAD LIGHT
OJECT STA	☆	☆	POWER, LIGHT POWER, SPOTLIGHT
			POWER, LIGHT POLE SINGLE POWER, LIGHT POLE DOUBLE
noni NCS.s	OE OE	(E) OE OE	POWER, MANHOLE POWER, OVERHEAD
PLOTSTYLE: Pennoni NCS.stb	② EB	③ EB	POWER, METER POWER, PANEL BOX POWER, PEDESTAL
PLOT	E	© ************************************	POWER, STUB OUT POWER, TRANSFORMER
ald Chitty		E — E — E —	POWER, UNDERGROUND POWER, UTILITY POLE
4:49 PM, BY: Donald Chitty		÷ . -□- -₩	POWER, WITNESS POST POWER, YARD LIGHT
			PROPERTY, LINE LEGAL RIGHT-OF-WAY
PLOTTED: 12/27/2017	⊙	● �	PROPERTY, CORNER FOUND PROPERTY, CORNER FOUND (OTHER
PLOTI		•	PROPERTY, CONCRETE MONUMENT PROPERTY, ADJOINING LINED PROPERTY, LINE RESERVED
2.dwg	© FREEH	• ⊚	RAIL, MILE MARKER RAIL, PANEL BOX
M/CHCP1601-Mt Carmel Church Road\DESIGN_PUBLISH\CS0002.dwg	—		RAIL, TRACK SITE, AIR COMPRESSOR
GN_PUBLI	<u>ad</u>	<u>-</u> <u></u>	SITE, AIR CONDITIONER SITE, BOLLARD
Road\DESI	•	•	SITE, BORING LOCATION BUILDING
mel Church	()	(!	SITE, FLAG POLE SITE, HEAD STONE
601-Mt Car		⊠ ⊕	SITE, MAIL BOX SITE, MONITOR WELL
MCHCP1	⊕ ⊕	⊕ ⊕	SITE, PARKING METER SITE, POST

GENERAL NOTES APPLICAN1 RESPONSIBLE OFFICER: CHAPEL HILL COOPERATIVE PRESCHOOL MARIA DICKINSON 106 PUREFOY ROAD CHAPEL HILL, NORTH CAROLINA 27514

2. EXISTING TOPOGRAPHIC FEATURES WERE TAKEN FROM A TOPOGRAPHIC SURVEY PLAN PROVIDED BY PHILIP POST & ASSOC. DATED: 6/14/2016.

SITE, TRAFFIC SIGN

SOIL BOUNDARY

SITE, SIGN POST AND BOARD

SOIL LABEL

PROPERTY, CORNER FOUND (OTHERS)

A. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED. B. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND SHALI BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO

COMMENCEMENT OF CONSTRUCTION. C. ALL UTILITIES AND SERVICES INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC, ETC. WITHIN THE LIMITS OF DISTURBANCE SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION AT NO COST TO THE OWNER.

- 4. AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR ORANGE COUNTY, NC, MAP #43710978700J (PANEL 9787J), EFFECTIVE DATE 2/2/2007 THE SITE AREA PROPOSED TO BE DEVELOPED LIES WITHIN "ZONE X" DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 100 YEAR FLOOD PLAIN
- 5 FIRE WATCH; DURING CONSTRUCTION AND DEMOLITION WHERE HOT WORK, MATERIALS SUBJECT TO SPONTANEOUS COMBUSTION, OR OTHER HAZARDOUS CONSTRUCTION OR DEMOLITION IS OCCURRING. THE OWNER OR THEIR DESIGNEE SHALL BE RESPONSIBLE FOR MAINTAINING A FIRE WATCH. THE FIRE WATCH SHALL CONSIST OF AT LEAST ONE PERSON WITH A MEANS OF COMMUNICATING AN ALARM TO 911, SHALL A WRITTEN ADDRESS POSTED IN A CONSPICUOUS LOCATION AND SHALL MAINTAIN CONSTANT PATROLS. NC FPC 2012 SECTION 1404.
- 6. CONSTRUCTION / DEMOLITION; ALL CONSTRUCTION AND DEMOLITION CONDUCTED SHALL BE IN COMPLIANCE OF THE CURRENT EDITION OF CHAPTER 14 OF THE NC FPC.
- PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY APPLICANT SHALL REPLACE ANY TREES SHOWN AS PRESERVED-PROTECTED ON THE LANDSCAPE PROTECTION PLAN THAT HAVE DIED OR ARE IN POOR HEALTH AS A RESULT OF LAND DISTURBING
- 8. PRIOR TO ISSUANCE OF A ZONING COMPLIANCE PERMIT APPLICANT SHALL RECORD A RECOMBINATION PLAT FOR THE FOUR PROPERTIES WITH THE ORANGE COUNTY REGISTRY. AN EXEMPT PLAT APPLICATION TO BE REVIEWED AND APPROVED BY THE TOWN IS REQUIRED FOR THIS ACTION.
- 9. SITE LAND DISTURBANCE CALCULATIONS
- A. OVERALL LAND DISTURBANCE
- SITE LAND DISTURBANCE: 50.632 SQ.FT.
- OFF-SITE LAND DISTURBANCE: 2,228 SQ.FT. iii. TOTAL LAND DISTURBANCE (LOD): 52,860 SQ.FT.

LEGEND

		·
EXISTING	PROPOSED	DESCRIPTION
0	0	SANITARY SEWER, CLEAN-OUT
	—— FM ——— FM ——	SANITARY SEWER, FORCE MAIN
(FM)	FM	SANITARY SEWER, FORCE MAIN MANHOLE
•	₩ ₩	SANITARY SEWER, FORCE STUB OUT
sss		SANITARY SEWER, LATERAL
(S)	S	SANITARY SEWER, MANHOLE
ss	ss	SANITARY SEWER, UNDERGROUND (4" DIA TO 10
		SANITARY SEWER, SEPTIC TANK
•	\$	SANITARY SEWER, STUB OUT
100		SANITARY SEWER, VALVE
-0-	-0-	SANITARY SEWER, WITNESS POST
		STREAM
		STORM SEWER, INLET
	<u></u>	STORM SEWER,HEADWALL
		STORM SEWER, MANHOLE
		STORM SEWER, UNDERGROUND
	*	STORM SEWER, DOWNSPOUT LOCATION
D	— RD —— RD —— RD —	STORM SEWER, ROOF DRAIN LINE
D	_	STORM SEWER, STAND PIPE
0	0	STORM SEWER, CLEAN-OUT
© 	() - - -	STORM SEWER, WITNESS POST
101		MINOR CONTOUR
100	101	MAJOR CONTOUR
100.5 × 100.5	100	
X 700.0	100.5 T.B.R.	SPOT ELEVATION
	I.D.K.	TO BE REMOVED
oko	oko	TRAFFIC, PAVEMENT MARKING, BIKE LANE
会会会会		
^ ^ ^	^ ^	TRAFFIC, PAVEMENT MARKING, TURN ARROWS
٨	٨	TRAFFIC, PAVEMENT MARKING, HOV LANE
٧	V	TRAFFIC, HAND HOLE
©		TRAFFIC, JUNCTION BOX
TC)	(I C)	TRAFFIC, MANHOLE
_	_	TRAFFIC, PANEL BOX
		TRAFFIC, PEDESTAL
		TRAFFIC, PEDESTRIAN SIGNAL
	人	TRAFFIC, SIGNAL POLE
	<u> </u>	TRAFFIC, SIGNAL POLE & LIGHT ARM
<u> </u>	\bigcirc	
₩ ••••••••••••••••••••••••••••••••••••	₩	TRAFFIC, STUB OUT
		VEGETATION, SHRUB
		VEGETATION, GRASS LINE / LANDSCAPED AREA
Million Comments of the Commen		VEGETATION, DECIDUOUS SHOWING CANOPY
The state of the s		VEGETATION, CONIFEROUS SHOWING CANOPY
	\cdots	VEGETATION, TREE LINE
Ų	Ų I	WATER, HOSE BIB
- -	-	WATER, FIRE HYDRANT
©	©	WATER, IRRIGATION HEAD
		WATER, IRRIGATION VALVE BOX
W	W	WATER, MANHOLE
\bigcirc		WATER, METER
	\bigotimes	WATER, POST INDICATOR VALVE

WATER, SIAMESE CONNECTION

WATER. STUB OUT

WATER, VALVE

_____w____w____w_____w____

____F____F____F_____F

WATER, UNDERGROUND

WATER, WITNESS POST

WATER, UNDERGROUND FIRE

GENERAL CONSTRUCTION AND GRADING NOTES:

STORMWATER MANAGEMENT PLAN.

- ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL AND LOCAL CODES AND OSHA STANDARDS ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER/DEVELOPER.
- 2. THE CONTRACTOR SHALL BE REQUIRED TO REVIEW AND ABIDE BY SPECIFICATIONS OF THE PLAN AND ALL SUPPORTING DOCUMENTS, PERMITS, AND REPORTS FOR THIS SITE, INCLUDING NOT BUT NOT LIMITED TO: EROSION AND SEDIMENTATION CONTROL PLAN
- 3. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER OF ANY DISCREPANCIES OR ERROR THEY DISCOVER IN THE PLANS.
- 4. DEVIATION FROM THESE PLANS AND NOTES WITHOUT THE PRIOR CONSENT OF THE OWNER OR HIS REPRESENTATIVE OR THE ENGINEER MAY BE CAUSE OF THE WORK TO
- 5. UTILITY COORDINATION SHALL BE INCLUDED IN THE PROJECT SCHEDULE AND IT IS THE EXPLICIT RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT THE PROJECT SCHEDULE INCLUDES THE NECESSARY RELOCATIONS. THE CONTRACTOR WILL NOT BE PAID ADDITIONALLY FOR THIS COORDINATION. THE CONTRACTOR SHOULD SEEK ASSISTANCE FROM ALL UTILITY COMPANIES TO LOCATE AND PROTECT THEIR FACILITIES. IF CONFLICTS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND DESIGN ENGINEER FOR INSTRUCTION BEFORE PROCEEDING WITH
- 6. ALL MATERIALS SHALL BE NEW UNLESS USED OR SALVAGED MATERIALS ARE AUTHORIZED BY THE OWNER AND APPLICANT.
- 7. TRAFFIC CONTROL METHODS, SUCH AS BARRICADES, SUFFICIENT LIGHTS, SIGNS, ETC., MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE CONSTRUCTION IN ACCORDANCE WITH CURRENT AND NCDOT STANDARDS.
- 8. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES, FENCING AND OTHER APPROPRIATE SAFETY ITEMS/MEASURES NECESSARY TO PROTECT THE PUBLIC FROM THE WORK AREA CONSTRUCTION ACTIVITIES
- HIGH INTENSITY LIGHTING FACILITIES SHALL BE SO ARRANGED THAT THE SOURCE OF ANY LIGHT IS CONCEALED FROM PUBLIC VIEW AND FROM ADJACENT RESIDENTIAL PROPERTY AND DOES NOT INTERFERE WITH TRAFFIC.
- 10. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES AROUND AND TO ALL BUILDINGS NEAR CONSTRUCTION. IN TIME OF RAIN OR MUD. ROADS SHALL BE ABLE TO CARRY A FIRE TRUCK BY BEING PAVED OR HAVING A CRUSHED STONE BASE ETC., WITH A MINIMUM WIDTH OF 20 FEET. ACCESS TO BUILDINGS THAT HAVE SPRINKLER OR STANDPIPE SYSTEMS SHALL BE WITHIN 40 FEET OF THE FIRE DEPARTMENT CONNECTOR. (NFPA 1141 3-1)
- 11. BEDDING REQUIREMENTS SPECIFIED HEREIN ARE TO BE CONSIDERED AS MINIMUMS FOR RELATIVELY DRY, STABLE EARTH CONDITIONS. ADDITIONALLY BEDDING SHALL BE REQUIRED FOR ROCK TRENCHES AND WET AREAS. CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO PROVIDE SUCH ADDITIONAL BEDDING AS MAY BE REQUIRED TO PROPERLY CONSTRUCT THE WORK.
- 12. BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO THE DENSITY OF 95% OF THEORETICAL MAXIMUM DRY DENSITY (ASTM D698). BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER FOREIGN DEBRIS AND SHALL BE PLACED IN LAYERS NOT TO EXCEED SIX (6) INCHES IN COMPACTED FILL THICKNESS. A REPORT FROM A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE PUBLIC WORKS INSPECTOR. CORRECTION OF ANY TRENCH SETTLEMENT WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR
- 13. THE CONTRACTOR WILL ENSURE THAT POSITIVE AND ADEQUATE DRAINAGE I MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, A) REPLACEMENT OR RECONSTRUCTION OF EXISTING DRAINAGE STRUCTURES THAT HAVE BEEN DAMAGED OR REMOVED, OR B) REGRADING AS REQUIRED BY THE ENGINEER, EXCEPT FOR THOSE DRAINAGE ITEMS SHOWN AT SPECIFIC LOCATIONS AND HAVING SPECIFIC PAY ITEMS IN THE DETAILED ESTIMATE. NO SEPARATE PAYMENT WILL BE MADE FOR ANY COSTS INCURRED TO COMPLY WITH THIS
- 14. THE CONTRACTOR SHALL PROVIDE ANY AND ALL EXCAVATION AND MATERIAL SAMPLES NECESSARY TO CONDUCT REQUIRED SOIL TESTS. ALL ARRANGEMENTS AND SCHEDULING FOR THE TESTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 15. SOIL TESTING AND ON-SITE INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. A GEOTECHNICAL ENGINEER IS REQUIRED TO INSPECT, TEST AND CERTIFY TO THE COMPACTION OF ALL LOAD BEARING FILLS. THE GEOTECHNICAL ENGINEER SHALL PROVIDE COPIES OF TEST REPORTS TO THE CONTRACTOR, THE OWNER AND TO THE OWNER'S REPRESENTATIVE AND SHALL PROMPTLY NOTIFY THE OWNER, HIS REPRESENTATIVE AND THE CONTRACTOR, SHOULD WORK PERFORMED BY THE CONTRACTOR FAIL TO MEET THESE SPECIFICATIONS.
- 16. ALL PERMITS MUST BE OBTAINED PRIOR TO THE START OF CONSTRUCTION
- 17. ALL PAVEMENT MARKINGS AND REGULATORY SIGNS ON PRIVATE PROPERTY SHALL CONFORM TO CURRENT MUTCD STANDARDS

WATER AND SEWER SERVICE NOTES HORIZONTAL AND VERTICAL SEPARATION

- SANITARY SEWERS SHALL BE LAID AT LEAST 10-FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A 10-FOOT SEPARATION, THE PUBLIC WORKS SUPPLY MAY ALLOW DEVIATION A CASE-BY-CASE BASIS. IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION ON MAY ALLOW THE INSTALLATION OF THE SANITARY SEWER CLOSER TO A WATER MAIN, PROVIDED THAT THE WATER MAIN IS IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SANITARY SEWER AND AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18-INCHES ABOVE THE TOP OF THE SEWER.
- IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS DESCRIBED ABOVE OR ANYTIME THE SANITARY SEWER IS OVER THE WATER MAIN BOTH THE WATER MAIN AND SANITARY SEWER MUST BE CONSTRUCTED OF FERROUS PIPE COMPLYING WITH THE PUBLIC WATER SUPPLY DESIGN STANDARDS AND BE PRESSURE TESTED TO 150PSI TO ASSURE WATER TIGHTNESS BEFORE
- A 24-INCH VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN STORM SEWER AND SANITARY SEWER LINES OR FERROUS PIPE SPECIFIED. A 12-INCH VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN STORM SEWER AND WATER MAIN.
 - IF A 12-INCH VERTICAL SEPARATION IS NOT MAINTAINED AT A CROSSING BETWEEN STORM SEWER AND WATER MAINS (OR PRESSURE SEWERS). THE WATER MAIN SHALL BE CONSTRUCTED OF FERROUS PIPE AND A CONCRETE COLLAR SHALL BE POURED AROUND WATER MAINS AND STORM SEWER TO IMMOBILIZE THE CROSSING.

CROSSINGS

- SANITARY SEWER CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18-INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SANITARY SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SANITARY SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.
- WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS MUST BE
- THE SANITARY SEWER SHALL BE DESIGNED AND CONSTRUCTED OF FERROUS PIPE AND SHALL BE PRESSURE TESTED AT 150-PSI TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING, OR
- EITHER THE WATER MAIN OR THE SANITARY SEWER LINE MAY BE ENCASED IN A WATERTIGHT CARRIER PIPE, WHICH EXTENDS 10-FEET ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE OF MATERIALS APPROVED BY THE PUBLIC WATER SUPPLY FOR USE IN WATER MAIN CONSTRUCTION

GENERAL UTILITY NOTES

- 1. ALL UTILITIES AND SERVICES INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC, ETC. WITHIN THE LIMITS OF DISTURBANCE SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION AT NO COST TO THE OWNER.
- 2. UTILITY COORDINATION SHALL BE INCLUDED IN THE PROJECT SCHEDULE AND IT IS THE EXPLICIT RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT THE PROJECT SCHEDULE INCLUDES THE NECESSARY RELOCATIONS. THE CONTRACTOR WILL NOT BE PAID ADDITIONALLY FOR THIS COORDINATION.
- 3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATIONS AND DEPTHS OF ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK AND TO TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION. THE ENGINEER HAS DILIGENTLY ATTEMPTED TO LOCATE AND INDICATE ALL EXISTING FACILITIES ON THESE PLANS; HOWEVER, THIS INFORMATION IS SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UTILITIES SHOWN OR NOT SHOWN. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED.
- THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES FOR EXACT LOCATION AND PROTECTION OF THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AND REPLACE ANY AND ALL DAMAGE MADE TO UTILITIES BY THE CONTRACTOR.
- CONTRACTOR MUST APPLY FOR ALL UTILITY CONNECTION APPLICATIONS. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY CONNECTION FEES FOR CONSTRUCTION. REFER TO COVER SHEET FOR AVAILABLE UTILITY COMPANY LIST.
- CONTRACTOR MUST OBTAIN ANY REQUIRED UTILITY DETAILS FOR RECONNECTION OF EXISTING SERVICES OR NEW SERVICE AND IS RESPONSIBLE FOR THE CONSTRUCTION OF EACH NEW SERVICE PER THE APPROPRIATE UTILITY COMPANY'S SPECIFICATIONS.
- 7. THE CONTRACTOR SHALL COORDINATE LOCATION AND INSTALLATION OF ALL UNDERGROUND UTILITIES AND APPURTENANCES TO MINIMIZE DISTURBANCE TO CURBING PAVING AND COMPACTED SUB-GRADE
- 8. IF CONFLICTS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR INSTRUCTION BEFORE PROCEEDING WITH WORK.
- 9. ALL PIPE LENGTHS AND DISTANCES BETWEEN STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE ALONG A HORIZONTAL PLANE.
- 10. THE CONTRACTOR SHALL PROVIDE ANY AND ALL EXCAVATION AND MATERIAL SAMPLES NECESSARY TO CONDUCT REQUIRED SOIL TESTS. ALL ARRANGEMENTS AND SCHEDULING FOR THE TESTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 11. SOILS TESTING AND ON-SITE INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. THE SOILS ENGINEER SHALL PROVIDE COPIES OF TEST REPORTS TO THE CONTRACTOR, THE OWNER AND THE OWNER'S REPRESENTATIVE AND SHALL PROMPTLY NOTIFY THE OWNER, HIS REPRESENTATIVE AND THE CONTRACTOR SHOULD WORK PERFORMED BY THE CONTRACTOR FAIL TO MEET THESE SPECIFICATIONS
- 12. CONTRACTOR SHALL EXCAVATE ONLY ENOUGH TRENCH FOR WHICH PIPE CAN BE INSTALLED AND TRENCH BACKFILLED BY THE END OF EACH WORK DAY.
- 13. BEDDING REQUIREMENTS SPECIFIED HEREIN ARE TO BE CONSIDERED AS MINIMUMS FOR RELATIVELY DRY, STABLE EARTH CONDITIONS. ADDITIONAL BEDDING SHALL BE REQUIRED FOR ROCK TRENCHES AND WET AREAS. CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO PROVIDE SUCH ADDITIONAL BEDDING AS MAY BE REQUIRED TO PROPERLY CONSTRUCT THE WORK.
- 14. COMPACTION OF THE BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO THE DENSITY OF 95% OF THEORETICAL MAXIMUM DRY DENSITY (ASTM D698). BACKFILL MATERIAL SHALL BE FREE FROM ROOTS. STUMPS. OR OTHER FOREIGN DEBRIS AND SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN COMPACTED FILL THICKNESS. A REPORT FROM A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE PUBLIC WORKS INSPECTOR. CORRECTION OF ANY TRENCH SETTLEMENT WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 15. RUNOFF FROM IMPERVIOUS AREAS SHALL NOT BE DIRECTED INTO THE SANITARY SEWER NOR ONTO ADJACENT PROPERTIES.
- 16. ALL JOINTS ON THE STORM WATER CONVEYANCE SYSTEM SHALL BE WATERTIGHT.
- 17. ALL CONSTRUCTION ASSOCIATED WITH WATER AND SANITARY SEWER SHALL BE IN ACCORDANCE WITH O.W.A.S.A. STANDARDS AND SPECIFICATIONS.
- 18. ALL ELECTRICAL SERVICE LINES TO OR AROUND THE PROPOSED STRUCTURE SHALL BE UNDERGROUND.

ADA INSTRUCTIONS TO CONTRACTOR:

FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

CONTRACTORS MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAP) ACCESSIBLE COMPONENTS AND ACCESS ROUTES FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE CURRENT ADA STANDARDS AND REGULATIONS' BARRIER FREE ACCESS AND ANY MODIFICATIONS, REVISIONS OR UPDATES TO SAME. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE(S). PUBLIC TRANSPORTATION. PEDESTRIAN ACCESS INTER-BUILDING ACCESS. TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT. MUST COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- 1. PARKING SPACES AND PARKING AISLES SLOPE SHALL NOT EXCEED 1:50 (1/4" PER
- 2. CURB RAMPS SLOPE MUST NOT EXCEED 1:12 (8.3%) FOR A MAXIMUM OF SIX (6) FEET.
- 3. LANDINGS MUST BE PROVIDED AT EACH END OF RAMPS, MUST PROVIDE POSITIVE DRAINAGE, AND MUST NOT EXCEED 1:50 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY
- 4 PATH OF TRAVEL ALONG ACCESSIBLE ROUTE MUST PROVIDE A 36-INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS CANNOT REDUCE THIS MINIMUM WIDTH). THE SLOPE MUST BE NO GREATER THAN 1:20 (5.0%) IN THE DIRECTION OF TRAVEL, AND MUST NOT EXCEED 1:50 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), ADA RAMP REGULATIONS MUST BE ADHERED TO. A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM RISE OF 2.5 FEET, MUST BE PROVIDED. THE RAMP MUST HAVE ADA HAND RAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE CROSS SLOPED NO MORE THAN 1:50 IN ANY DIRECTION (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE.
- 5. DOORWAYS MUST HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117.1-2003 AND OTHER REFERENCED INCORPORATED BY COD.)
- WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION, MODIFICATION REVISION OR EXTENSION OF OR TO ADA COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, CONTRACTOR MUST VERIFY EXISTING ELEVATIONS SHOWN ON THE PLAN NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN ALLOWS FOR STEEPER RAMP SLOPES, IN RARE CIRCUMSTANCES PRIOR TO THE COMMENCEMENT OF WORK, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER IN WRITING OF ANY DISCREPANCIES AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS IN WRITING BEFORE COMMENCEMENT OF WORK CONSTRUCTED IMPROVEMENTS MUST FALL WITHIN THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE ADA REQUIREMENTS.
- 7. THE CONTRACTOR MUST VERIFY THE SLOPES OF CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-CONFORMANCE IS OBSERVED OR EXISTS CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO POURING CONCRETE. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND REPLACE NON-CONFORMING CONCRETE.
- 8. THE SITE SHALL BE FULLY COMPLIANT WITH THE NORTH CAROLINA ACCESSIBILITY CODES (ANSI 117.1 -2009 AND CHAPTER 11 OF THE NCBC) UNLESS AND EXCEPT IN AREAS WHERE AN APPROVED STATEMENT FROM A SITE ENGINEER, SURVEYOR OR ARCHITECT VERIFIES THAT SITE CONDITIONS EXIST WHERE THE TOPOGRAPHY OF THE SITE IS EXTREME AND ONLY ALTERNATE METHODS OF COMPLIANCE ARE POSSIBLE.
- 9. ACCESSIBILITY REQUIREMENTS: THAT PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE APPLICANT SHALL PROVIDE THE MINIMUM REQUIRED HANDICAPPED PARKING SPACES AND DESIGN ALL HANDICAPPED PARKING SPACES. RAMPS. AND CROSSWALKS, AND ASSOCIATED INFRASTRUCTURE ACCORDING TO AMERICANS WITH DISABILITIES ACT STANDARDS, NORTH CAROLINA BUILDING CODE, AMERICAN NATIONAL STANDARDS INSTITUTE ANSI CODE. AND TOWN STANDARD.1. PARKING - NUMBER OF SPACES TO COMPLY WITH NCBC 2012 SECTION 1106.1. 1 PER 6 COMPLIANT SPACES OR PORTION THEREOF MUST BE VAN ACCESSIBLE. NO SLOPE TO EXCEED 2 PERCENT IN ANY DIRECTION. SIGNAGE PER NC REQUIREMENTS. MUT-CD AND ICC A 117.1.2. CURE CUTS AND ACCESSIBLE ROUTES PER ICC A117.1 2009 ED. CROSS SLOPE LIMITED TO 2 PERCENT, CALL FOR INSPECTION BEFORE PLACEMENT OF CONCRETE.€¢ SLOPE GREATER THAN 5 PERCENT REQUIRES CONSTRUCTION AS A RAMP.

IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCEMENT OF

ORANGE COUNTY SOLID WASTE NOTES

- a. ALL EXISTING STRUCTURES 500 SQUARE FEET AND LARGER SHALL BE ASSESSED PRIOR TO THE ISSUANCE OF A DEMOLITION PERMIT TO ENSURE COMPLIANCE WITH THE COUNTY'S REGULATED RECYCLABLE MATERIALS ORDINANCE (RRMO) AND TO ASSESS THE POTENTIAL FOR DECONSTRUCTION AND/OR THE REUSE OF SALVAGEABLE MATERIALS.
- b. PURSUANT TO THE COUNTY'S RRMO. CLEAN WOOD WASTE. SCRAP METAL. AND CORRUGATED CARDBOARD PRESENT IN CONSTRUCTION OR DEMOLITION WASTE
 - c. PURSUANT TO THE COUNTY'S RRMO, ALL HAULERS OF MIXED CONSTRUCTION AND
 - DEMOLITION WASTE WHICH INCLUDES ANY REGULATED RECYCLABLE MATERIALS SHALL BE LICENSED BY ORANGE COUNTY
- d. PRIOR TO ANY DEMOLITION OR CONSTRUCTION ACTIVITY ON THE SITE, THE APPLICANT SHALL HOLD A PRE-DEMOLITION/PRE-CONSTRUCTION CONFERENCE WITH SOLID WASTE STAFF. THIS MAY BE THE SAME PRE-CONSTRUCTION MEETING HELD WITH OTHER DEVELOPMENT/ENFORCEMENT OFFICIALS.
- e. THE PRESENCE IF ANY ASBESTOS CONTAINING MATERIALS (ACM) AND/OR OTHER HAZARDOUS MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH ANY AND ALL LOCAL, STATE, AND FEDERAL REGULATIONS AND GUIDELINES.

INSPECTION NOTES

- 1. A SINGLE ELECTRICAL SERVICE SHALL BE PROVIDED TO SERVE THE STRUCTURE WITH THE EXCEPTION IF A FIRE PUMP WAS REQUIRED. ARTICLE 230.2 A 2014 EDITION
- OF NORTH CAROLINA ELECTRIC CODE ADDRESS NUMBERS MUST BE A MINIMUM OF 4 INCHES HIGH AND OF CONTRASTING COLOR TO THEIR BACKGROUND, REFLECTIVE NUMBERS ARE PREFERRED, WHEN THE DISTANCE FROM THE STREET OR FIRE DEPARTMENT ACCESS LANE TO THE FRONT OR ADDRESS SIDE OF THE BUILDING EXCEEDS 25 FEET, LARGER NUMBERS ARE REQUIRED. 26 FEET TO 50 FEET SHALL HAVE 8 INCH NUMBERS, 51-75 FEET SHALL HAVE 12 INCH NUMBERS AND OVER 75 FEET SHALL HAVE 18 INCH NUMBERS. WHERE ACCESS IS BY PRIVATE MEANS OF A PRIVATE ROAD AND THE BUILDING CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT, POLE OR OTHER SIGN OR MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE
- KEY BOXES SHALL BE REQUIRED ON ANY BUILDING THAT HAS A FIRE ALARM SYSTEM A FIRE SPRINKLER SYSTEM, AN ELEVATOR, OR SPECIAL LOCKING ARRANGEMENTS. THE KEY BOX SHALL BE OF AN APPROVED TYPE AS REQUIRED FROM THE CHAPEL HILL FIRE DEPARTMENT. THE SIZE OF THE KEY BOX WILL BE DETERMINED BY THE NUMBER OF KEYS NECESSARY TO MITIGATE ANY EMERGENCY SITUATION BASED ON THE BUILDING AND ITS OCCUPANCY. AN APPROVED LOCK SHALL BE INSTALLED ON GATES OR SIMILAR BARRIERS WHEN REQUIRED BY THE FIRE CODE OFFICIAL. KEYS SHALL BE CHANGED OUT IMMEDIATELY IF THE LOCKS ARE CHANGED OR REKEYED ALL FENCE GATES IN PLAYGROUND AREA SHALL OPEN IN THE DIRECTION OF EGRESS
- TRAVEL WITH PANIC HARDWARE OWASA REQUIRES A LEAD-FREE RPZ WITH BYPASS FOR THE BACKFLOW
- PROTECTION. ENSURE AT LEAST 18 INCHES OF WORKING CLEARANCE IS PROVIDED AROUND OR MORE IF MANUFACTURER'S INSTRUCTIONS REQUIRE MORE. 6. DEMOLITION OF THE EXISTING STRUCTURES WILL REQUIRE AN ASBESTOS TEST
- PRIOR TO DEMOLITION AND A SECOND ASBESTOS TEST OF THE SOIL AFTER THEY 7. THE PROPOSED BUILDING SHALL BE PROTECTED BY NFPA 13 SPRINKLER SYSTEM

FIRE DEPARTMENT NOTES

- FIRE APPARATUS ACCESS ROADS; ANY FIRE APPARATUS ACCESS ROADS, ANY PUBLIC/PRIVATE STREET. PARKING LOT ACCESS. FIRE LANES AND ACCESS ROADWAYS, USED FOR FIRE DEPARTMENT ACCESS SHALL BE ALL WEATHER AND DESIGNED TO CARRY THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 80,000 LBS. FIRE APPARATUS ACCESS ROADS SHALL HAVE A MINIMUM WIDTH OF 20' EXCLUSIVE OF SHOULDERS WITH AN OVERHEAD CLEARANCE OF AT LEAST 13'-6" FOR STRUCTURES NOT EXCEEDING 30' IN HEIGHT AND SHALL PROVIDE ACCESS TO WITHIN 150' OF ALL EXTERIOR PORTIONS OF THE BUILDING. STRUCTURES EXCEEDING 30' IN HEIGHT SHALL BE PROVIDED WITH AN AERIAL APPARATUS ACCESS ROAD 26' IN WIDTH IN THE IMMEDIATE VICINITY OF THE BUILDING OR PORTION THEREOF AND SHALL PROVIDE AT LEAST ONE OF THE REQUIRED ACCESS ROADS TO BE LOCATED NOT LESS THAN 15' AND NOT MORE THAN 30' FROM THE STRUCTURE PARALLEL TO ONE ENTIRE SIDE OF THE STRUCTURE. NC FPC 2012 502.1,503.1.1,
- GRADE AND APPROACH; FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 10% IN GRADE UNLESS APPROVED BY THE FIRE CHIEF AND ALL APPROACH AND DEPARTURE ANGLES SHALL BE WITHIN THE LIMITS ESTABLISHED BASED ON THE
- DEPARTMENT'S APPARATUS. NC FPC 2012, 503.2.7, 503.2.8 and D103.2 3. GATES AND BARRICADES; WHERE REQUIRED OR AUTHORIZED BY THE FIRE CODE OFFICIAL AND PERMANENT OR TEMPORARY CONSTRUCTION, ANY GATES ACROSS FIRE APPARATUS ACCESS ROADS SHALL BE A MINIMUM WIDTH OF 20 FEET, BE OF SWINGING OR SLIDING TYPE, HAVE AN EMERGENCY MEANS OF OPERATION, SHALL BE OPENABLE BY FITHER FORCIBLE ENTRY OR KEYED CAPABLE OF BEING OPERATED BY ONE PERSON, AND SHALL BE INSTALLED AND MAINTAINED
- ACCORDING TO UL 325 and ASTM F 2200. NC FPC 2012, 503.5, 503.6, D103.5 FIRE LANES; WHERE REQUIRED, APPROVED MARKING SIGNS INCLUDING THE WORDS, NO PARKING-FIRE LANE SIGNS SHALL BE PROVIDED FOR FIRE APPARATUS ACCESS ROADS TO IDENTIFY SUCH ROADS. NC FPC 2012, 503.3, D103.6, D103.6.1,
- PREMISE IDENTIFICATION; APPROVED BUILDING ADDRESS NUMBERS, PLACED IN ACCEPTABLE POSITION TO THE FIRE CODE OFFICIAL, SHALL BE REQUIRED ON ALL
- NEW BUILDINGS NC FPC 2012 505 1 KEY BOXES: WHERE REQUIRED BY THE FIRE CODE OFFICIAL. A SECURE KEY BOX. MOUNTED ON THE ADDRESS SIDE OF THE BUILDING, NEAR THE MAIN ENTRANCE, SHALL BE PROVIDED TO ENSURE ADEQUATE ACCESS TO THE BUILDING BASED ON
- LIFE SAFETY AND/OR FIRE PROTECTION NEEDS INC EPC 2012 506 FIRE HYDRANTS; THE ADDITION OF ANY REQUIRED HYDRANTS TO SERVE THE SUBMITTED BUILDING MUST FLOW A MINIMUM OF 2500 GPM PER TOWN ENGINEERING STANDARDS UNLESS APPROVED BY THE FIRE CODE OFFICIAL. THE FARTHEST HYDRANT SERVING A PROPOSED STRUCTURE MUST BE NO MORE THAN 500 FEET DISTANT, A MAXIMUM DISTANCE OF 500 FEET SPACING BETWEEN HYDRANTS MUST BE MAINTAINED UNLESS OTHERWISE APPROVED BY THE FIRE CODE OFFICIAL. LESSER SPACING DISTANCES MAY BE REQUIRED. A MINIMUM WORKING SPACE OF 3 FEET MUST BE MAINTAINED AROUND ALL HYDRANTS. WHERE HYDRANTS ARE SUBJECT TO PHYSICAL IMPACT. PHYSICAL PROTECTION MAY BE REQUIRED. NO EPO 2012, 507,5.6, THE MINIMUM NUMBER OF REQUIRED HYDRANTS AND THEIR SPACING
- MUST MEET NC FPC 2012, APPENDIX C, TABLE C 105.1 FIRE DEPARTMENT CONNECTIONS, LOCATIONS; ANY REQUIRED FDCS FOR ANY BUILDINGS SHALL MEET THE DESIGN AND INSTALLATION REQUIREMENTS FOR THE CURRENT, APPROVED EDITION OF NFPA 13, 13D, 13R, OR 14 OF THE NC FPC 2012 AND TOWN ORDINANCES; 7-38 FOR LOCATION. FDCS SHALL BE INSTALLED ON THE STREET/ ADDRESS SIDE OF THE BUILDING AND WITHIN 100' OF A HYDRANT OR UNLESS OTHERWISE APPROVED BY THE FIRE CODE OFFICIAL AND SHALL NOT BE OBSTRUCTED OR HINDERED BY PARKING OR LANDSCAPING. FDC'S SHALL BE
- EQUIPPED WITH NST. FIRE DEPARTMENT CONNECTIONS. INSTALLATION: A WORKING SPACE OF NOT LESS THAN 36 INCHES IN WIDTH AND DEPTH AND A WORKING SPACE OF 78 INCHES IN HEIGHT SHALL BE PROVIDED ON ALL SIDES WITH THE EXCEPTION OF WALL MOUNTED FDC'S UNLESS OTHERWISE APPROVED BY THE FIRE CODE OFFICIAL. THE FDC'S WHERE REQUIRED MUST BE PHYSICALLY PROTECTED BY AN APPROVED BARRIER FROM IMPACTS. NC FPC 2012, 912.1, 912.2 912.2.1, 912.3.2, 312

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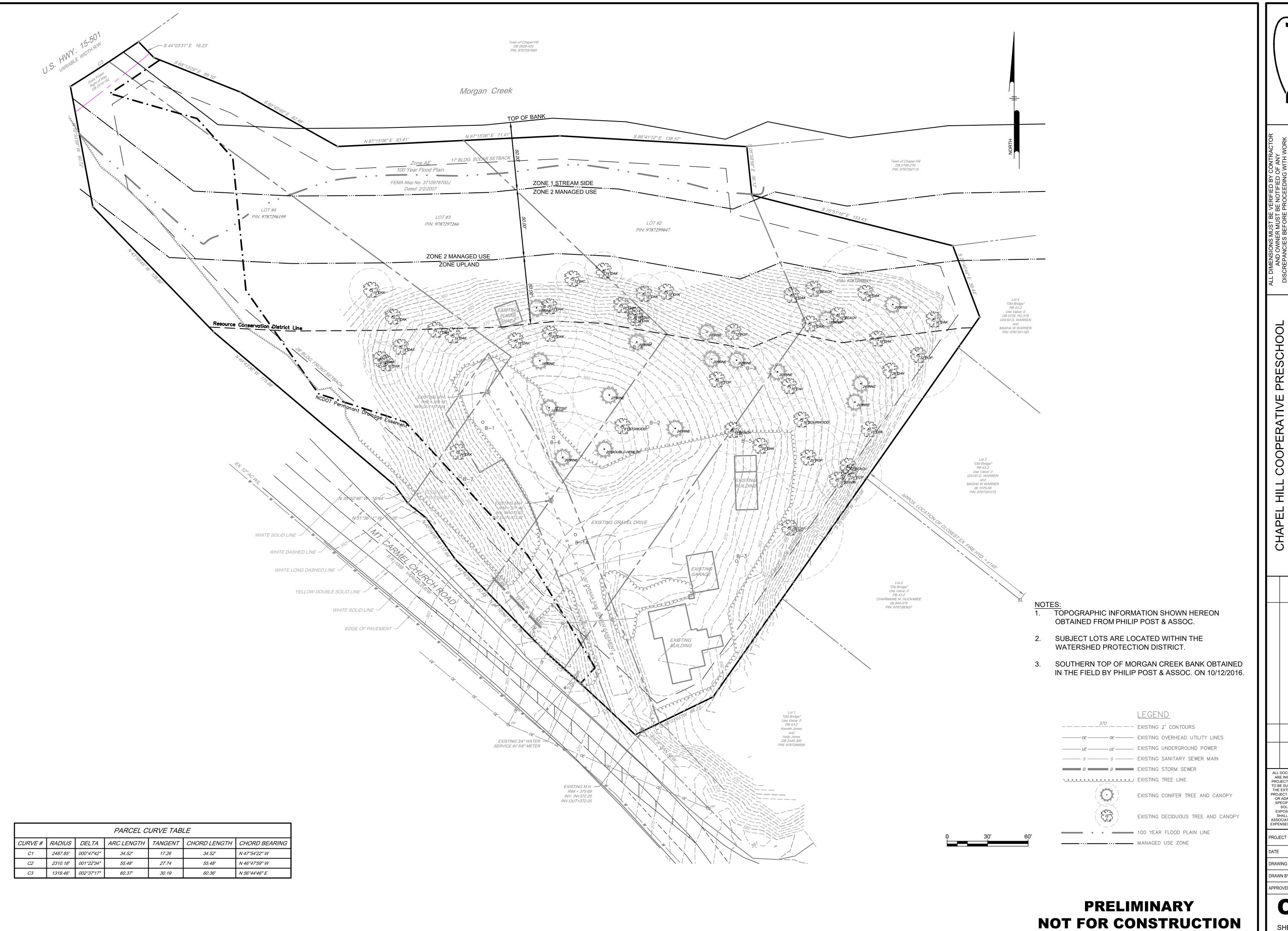
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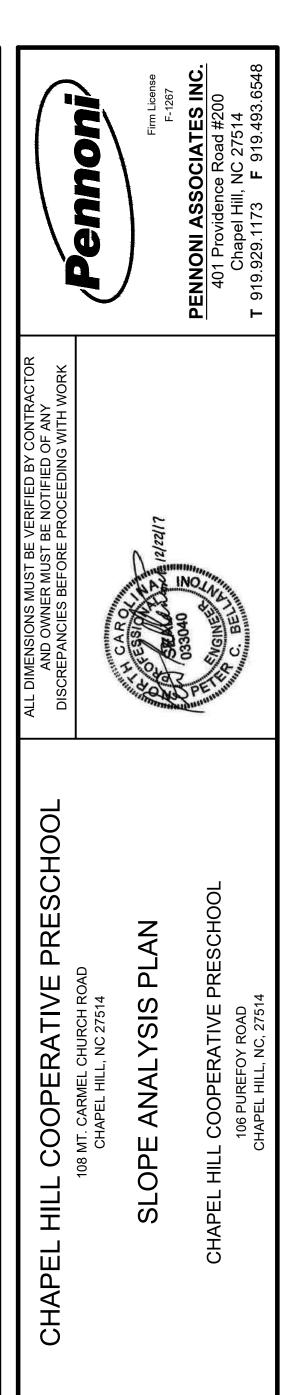


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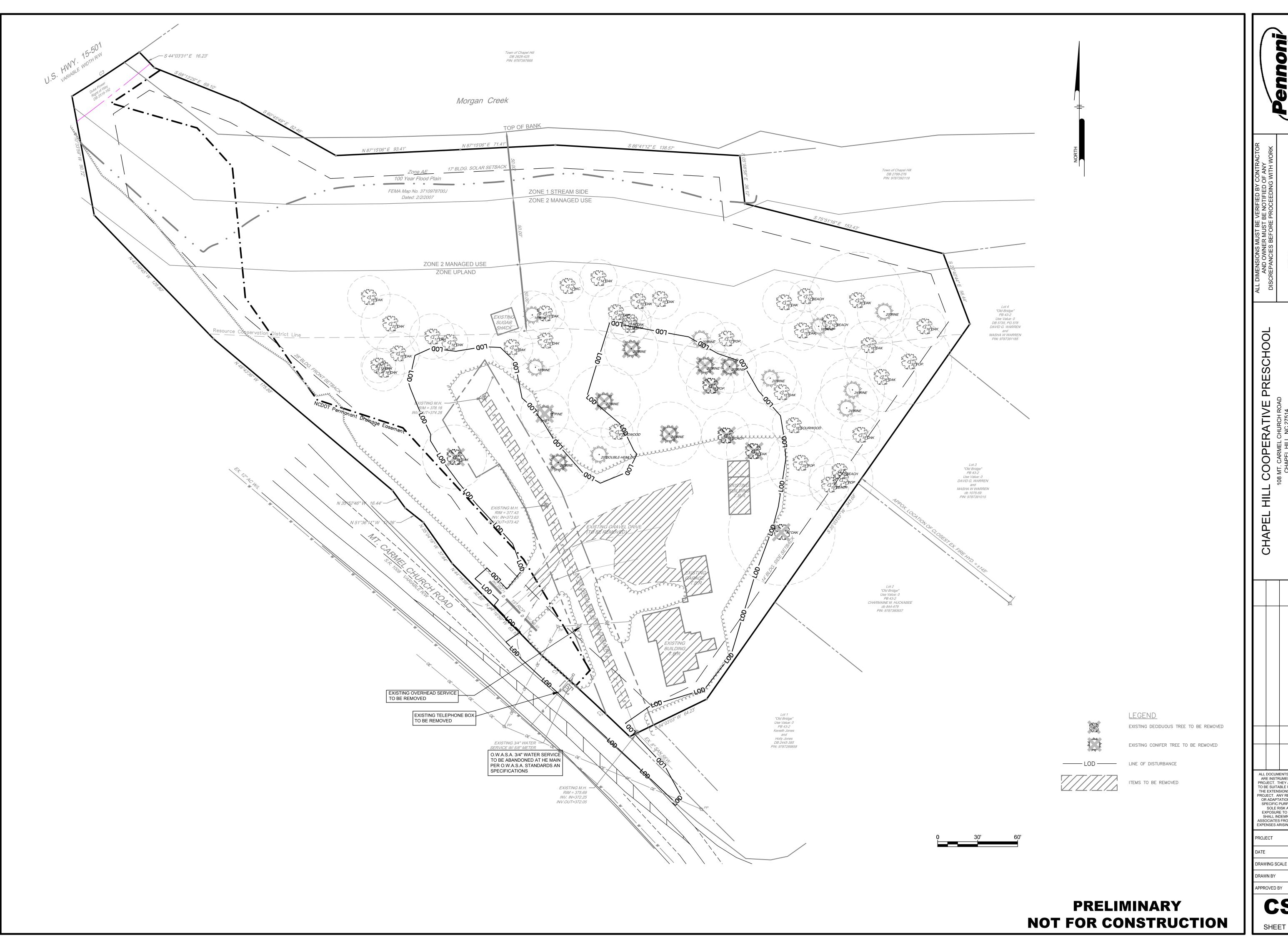
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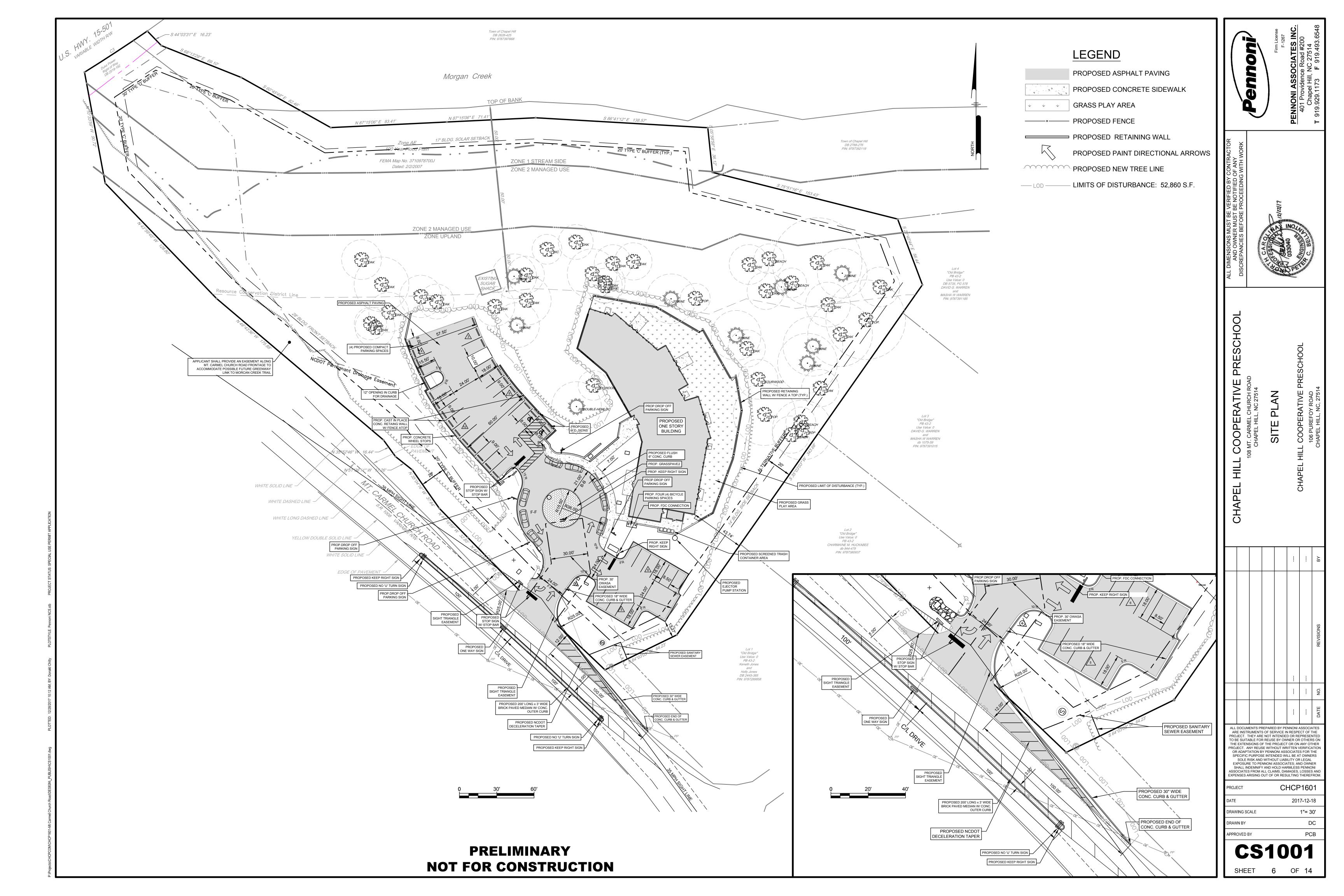
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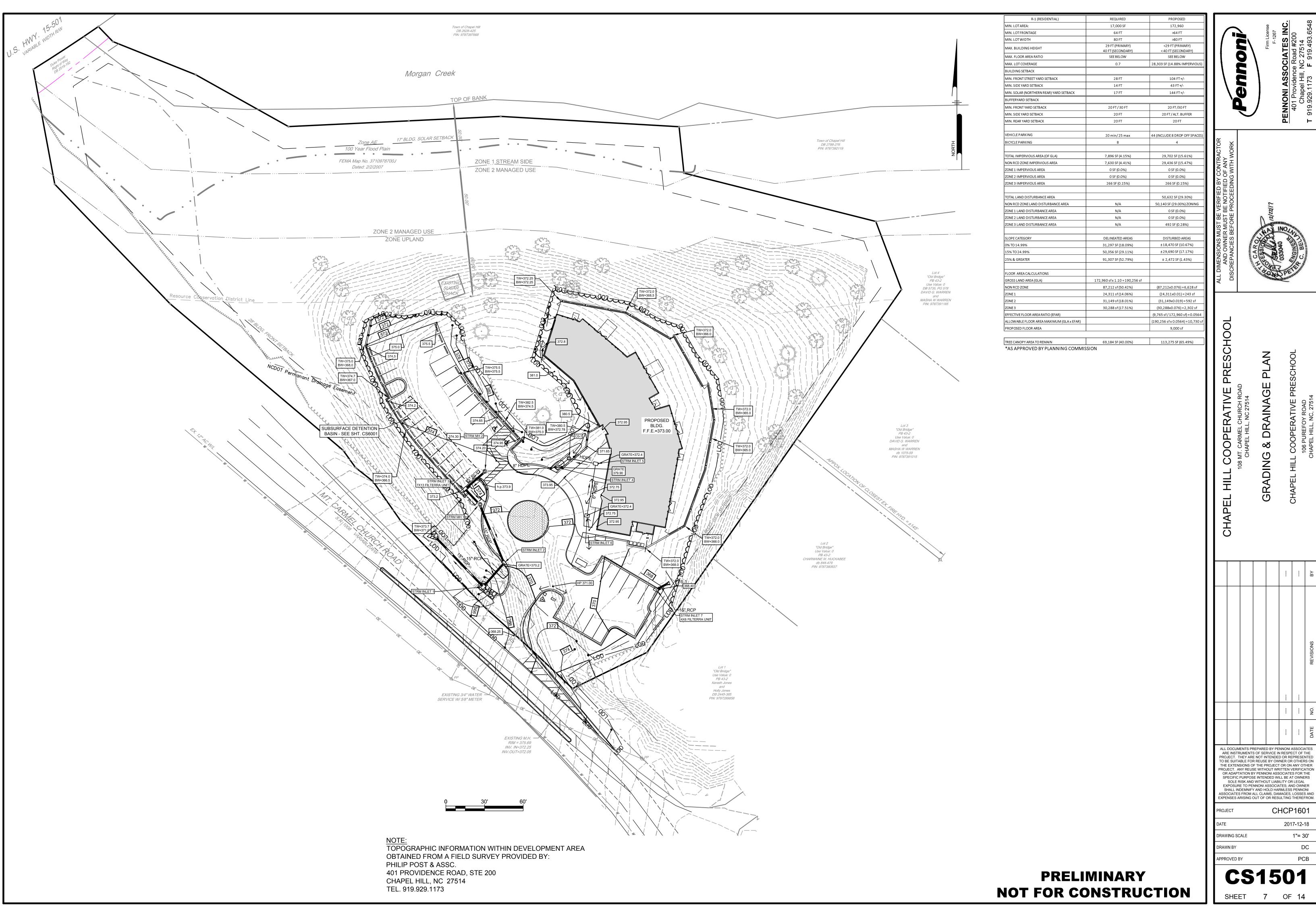
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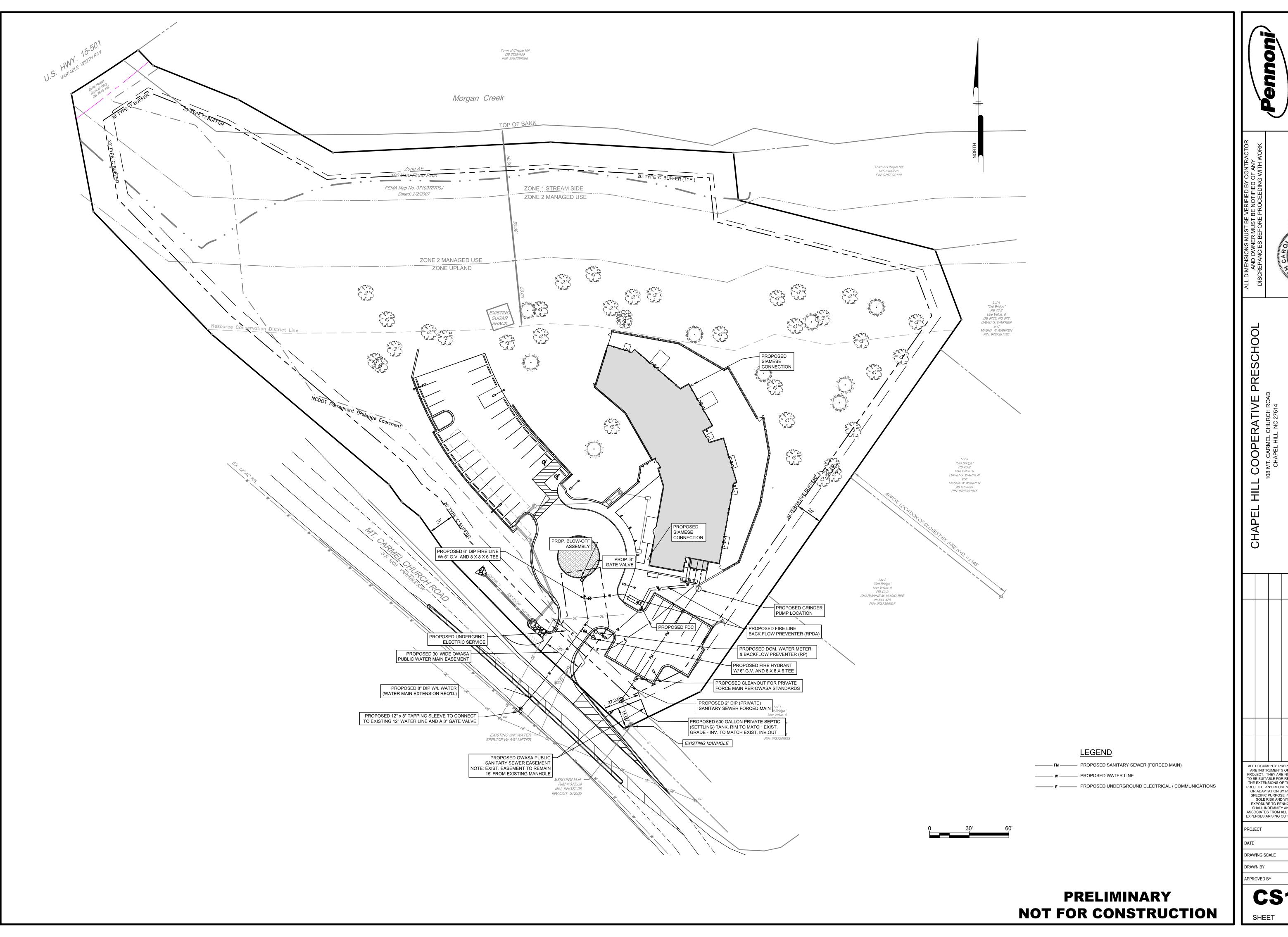




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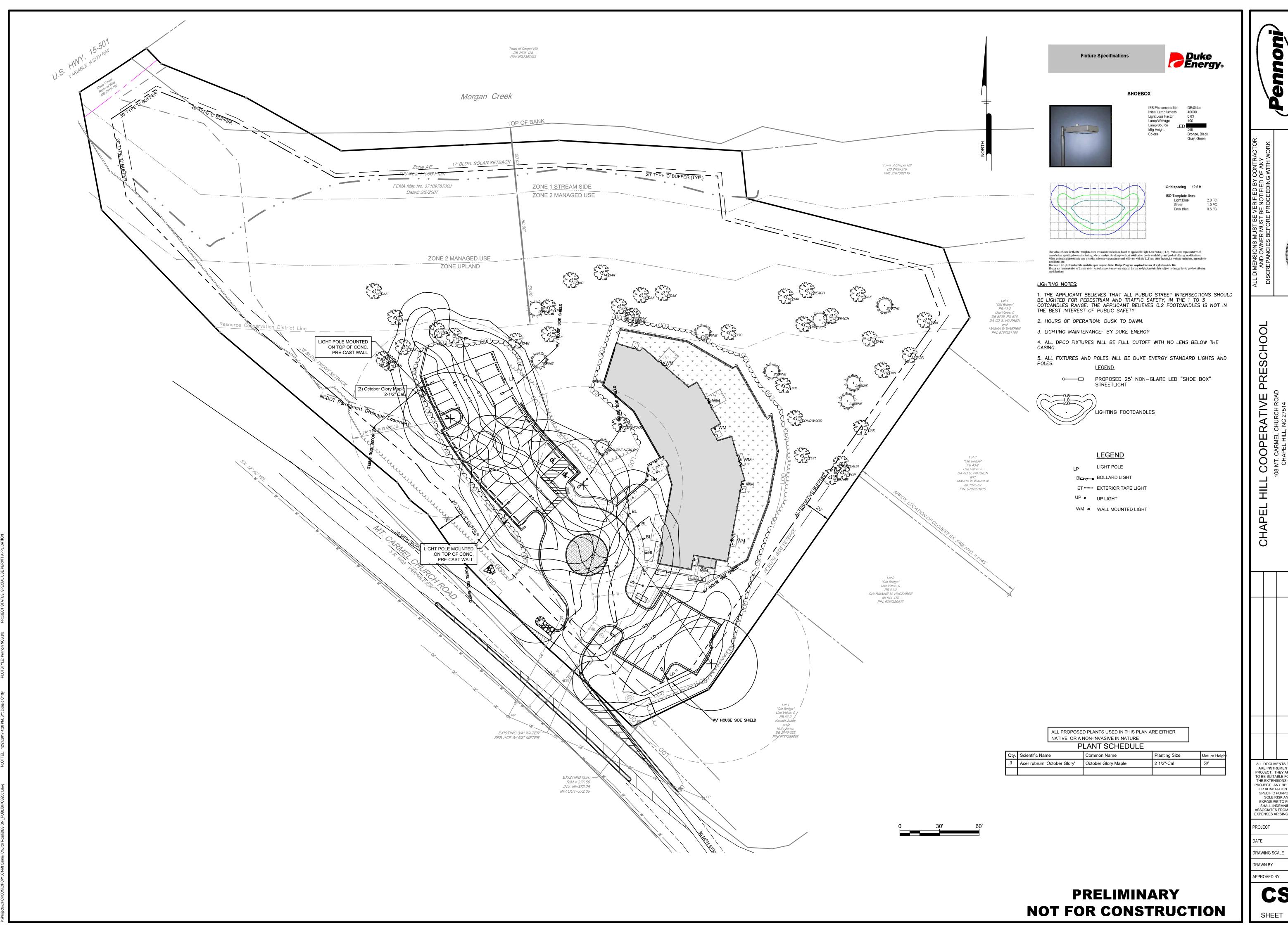
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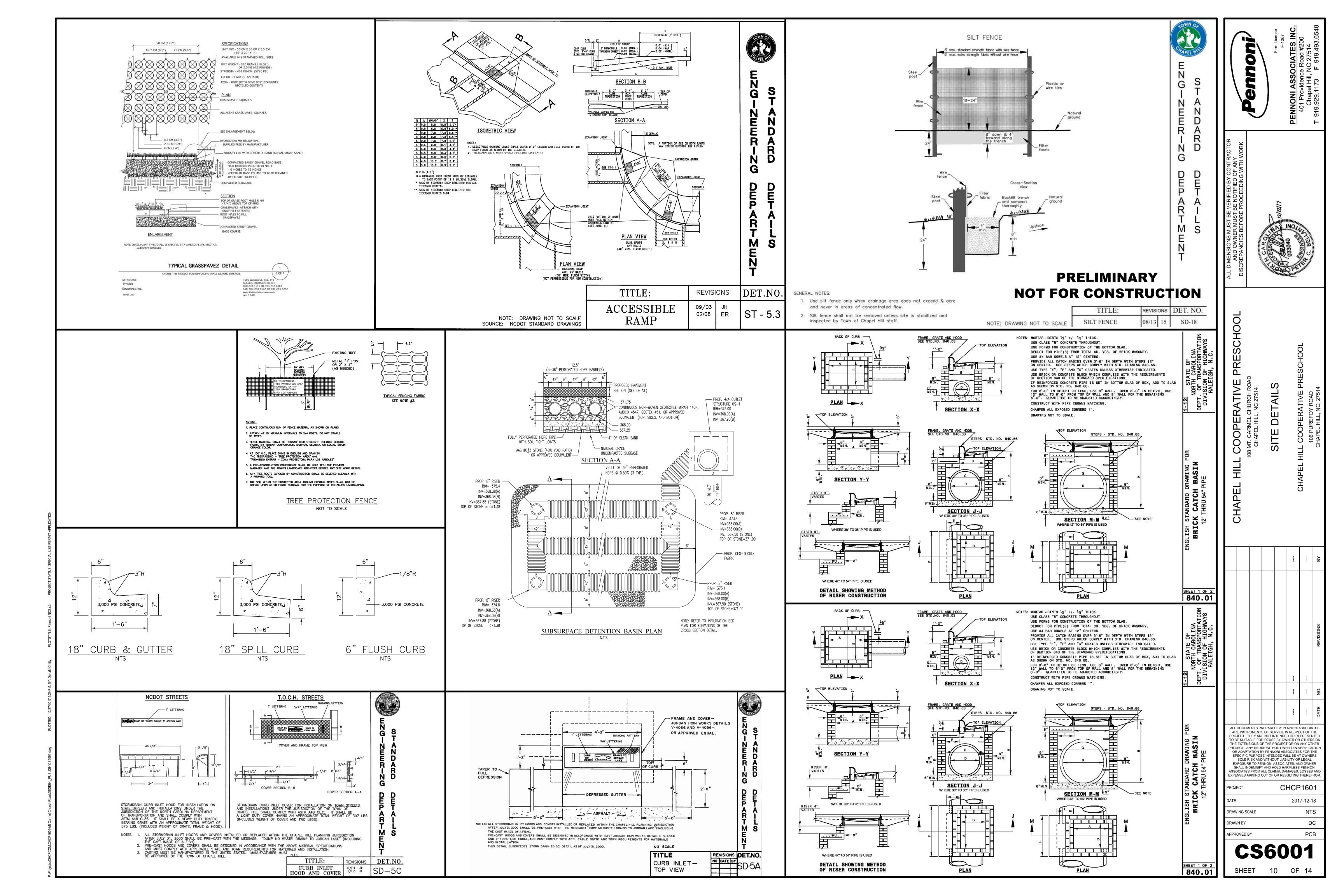
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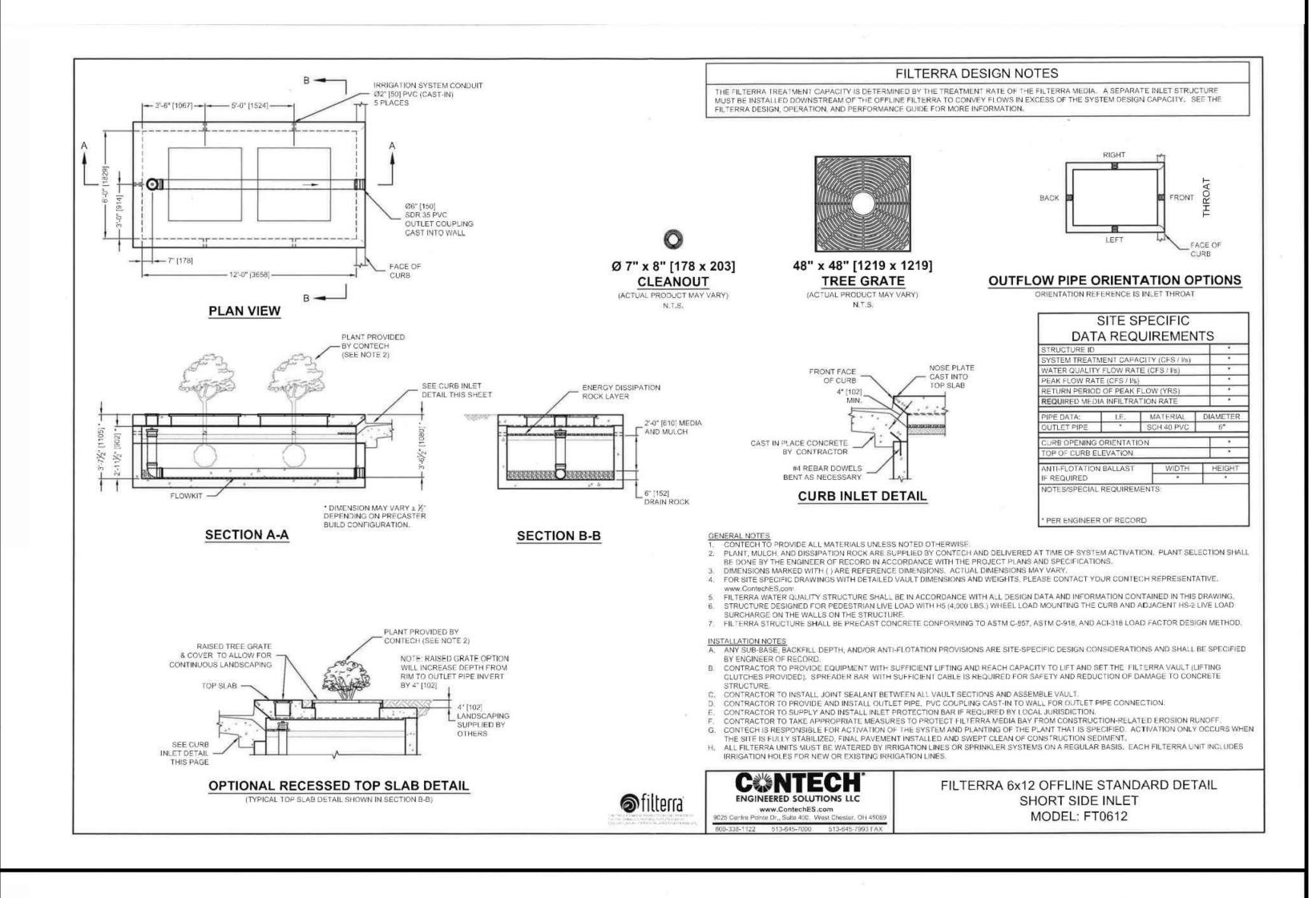
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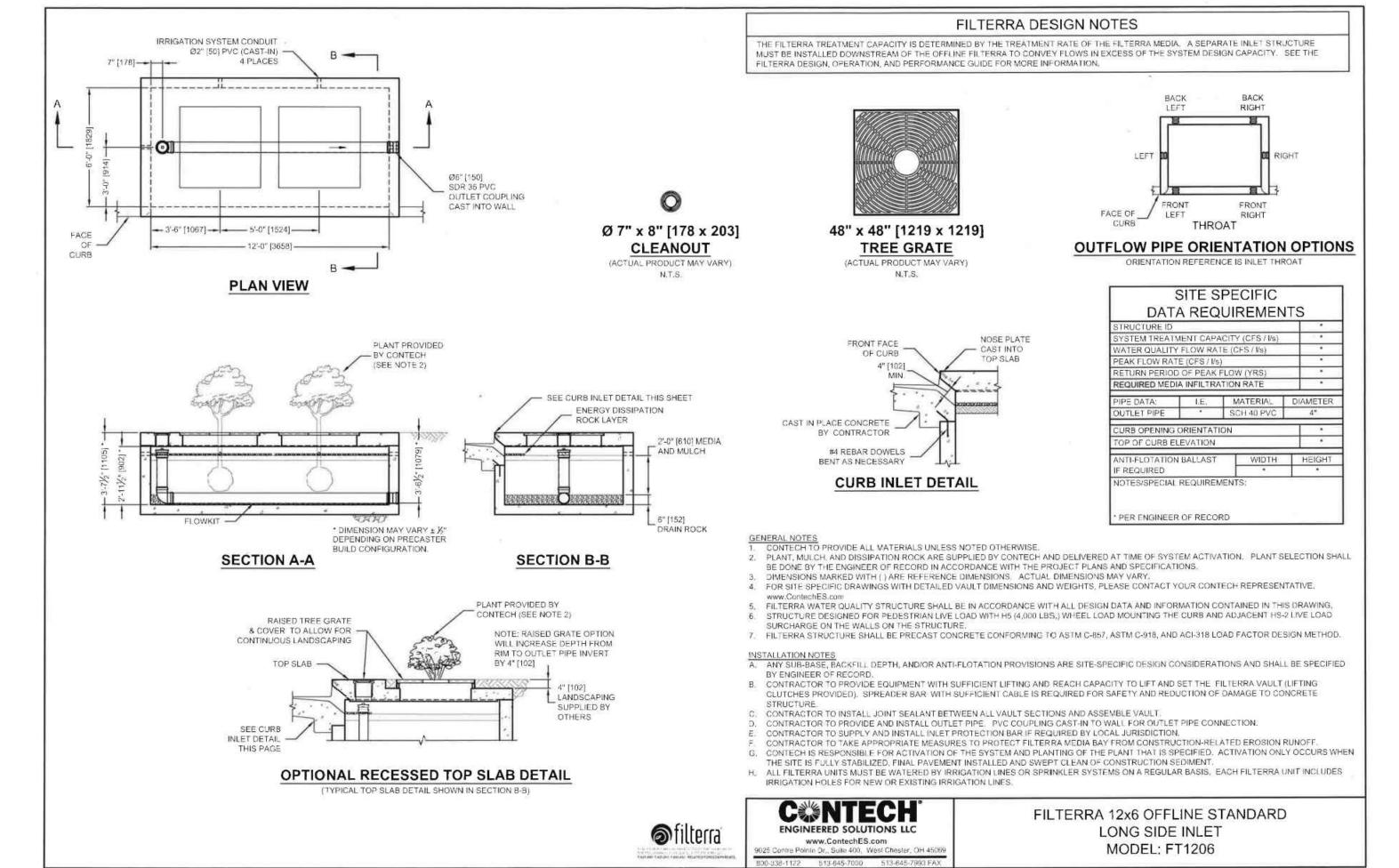


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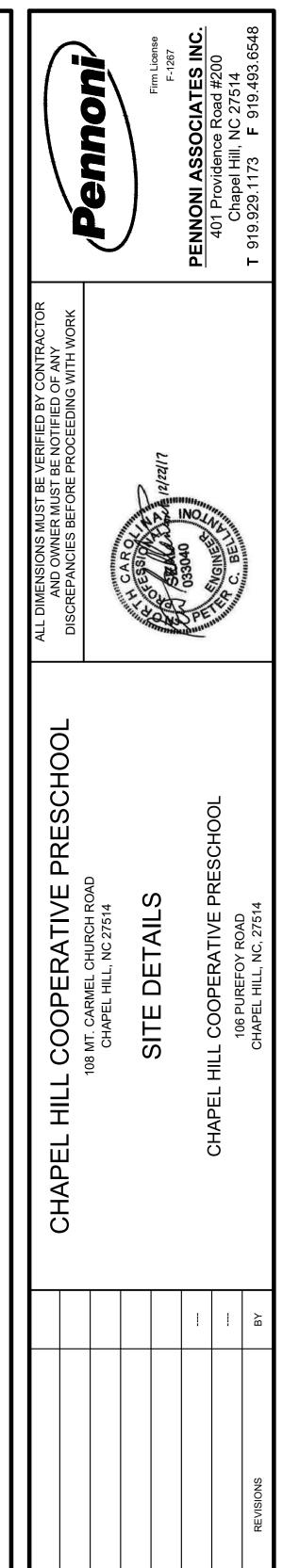
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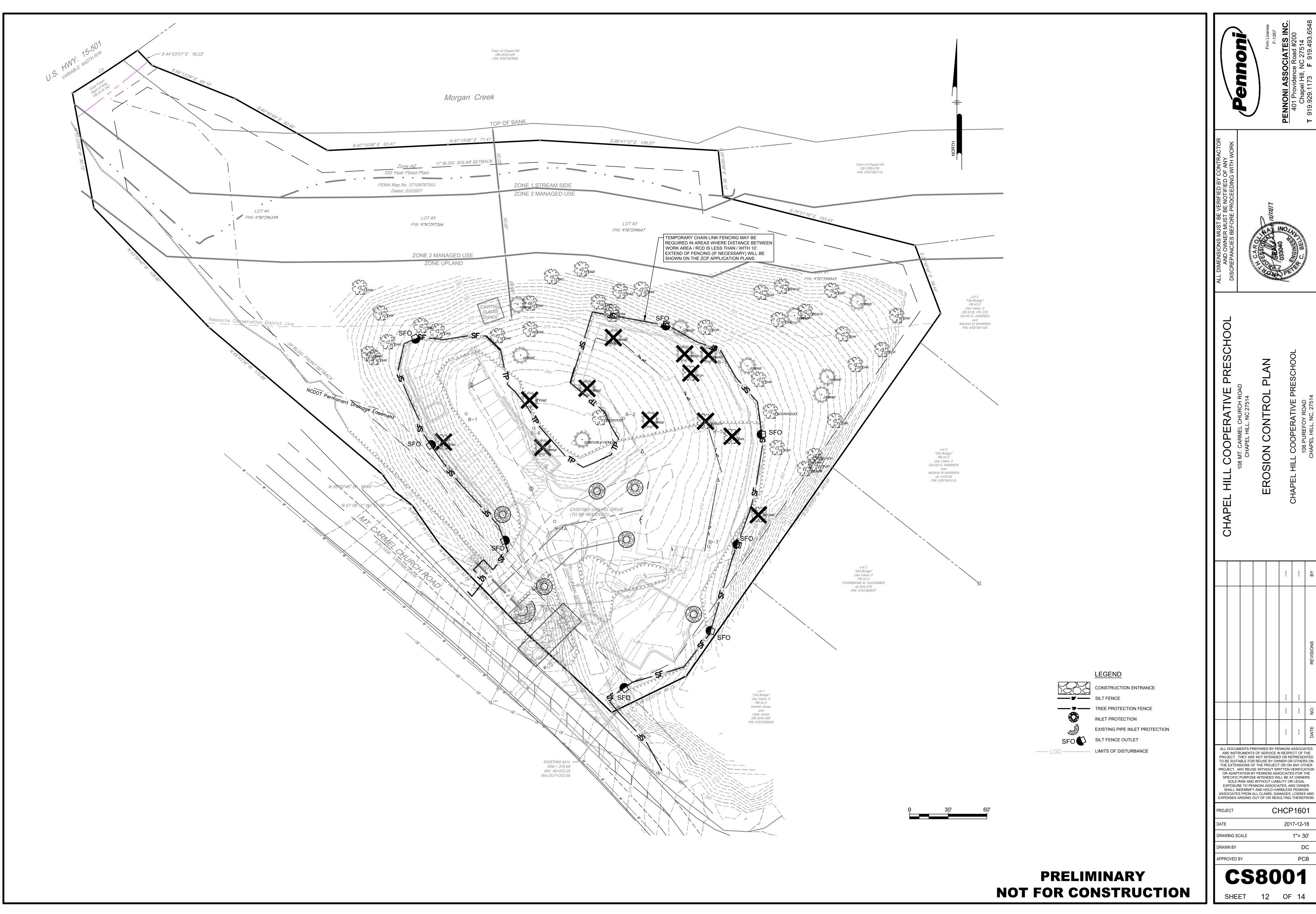
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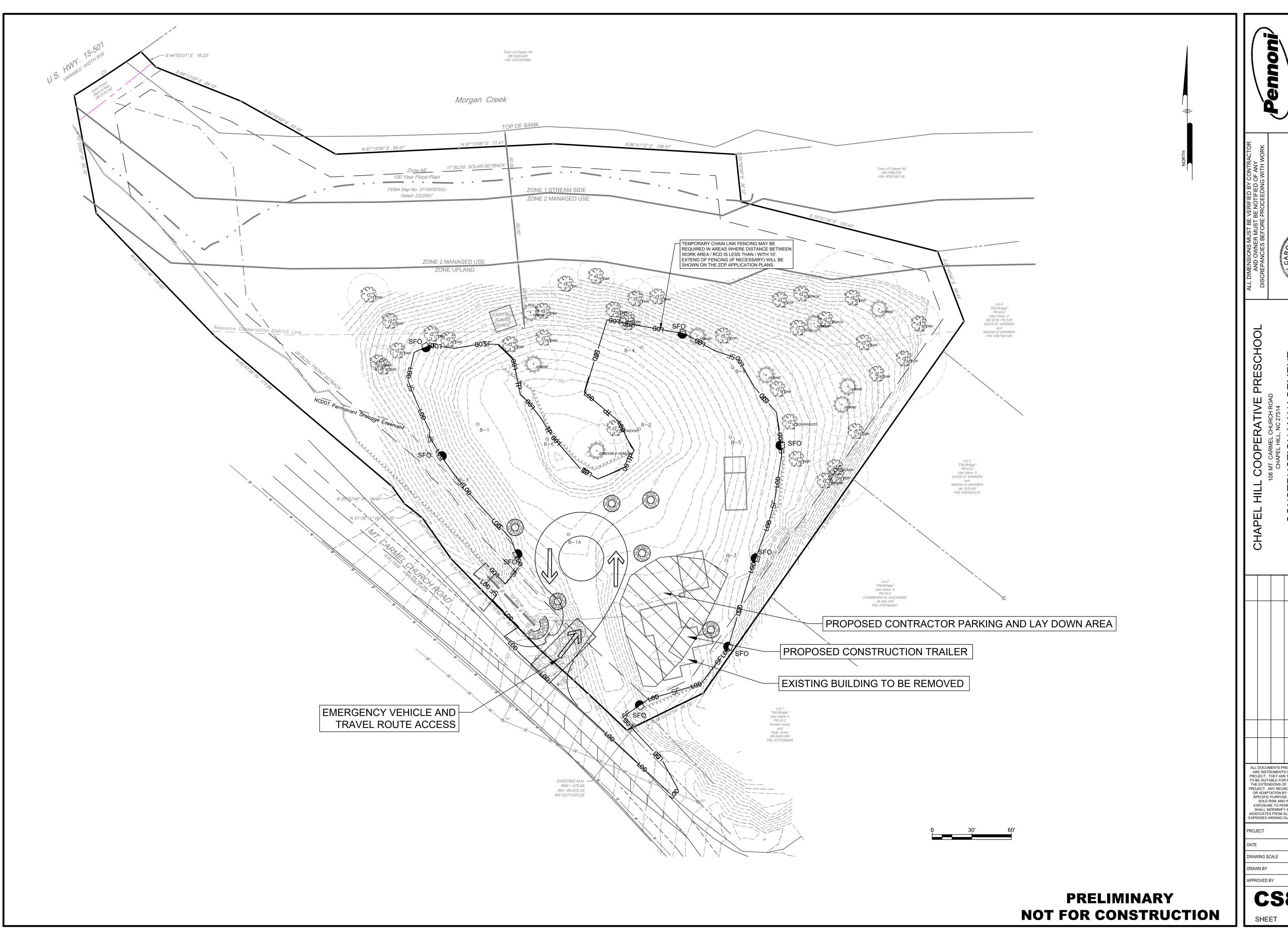
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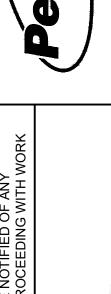


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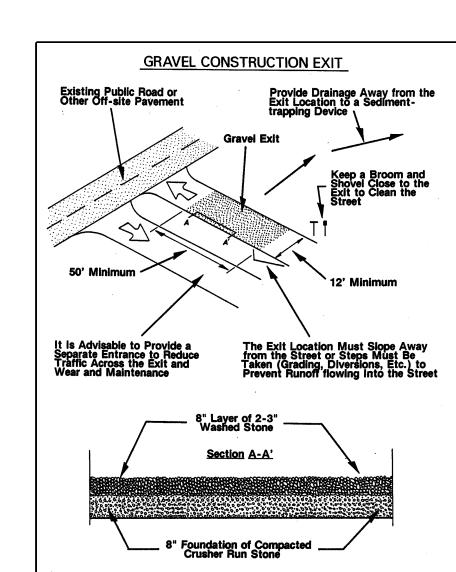


Figure 1: Illustration of a Gravel Construction Exit.

INSTRUCTIONS FOR **GRAVEL CONSTRUCTION EXIT**

- 1. REFER TO PLANS FOR LOCATION AND SPECIFICATIONS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION OR METHODS OF INSTALLATION CONTACT THE ENGINEER, ARCHITECT, OR RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. EROSION CONTROL PERSONNEL
- IF THE CONSTRUCTION EXIT IS NOT INSTALLED CORRECTLY THE FIRST TIME, IT WILL HAVE TO BE REBUILT. . DETERMINE THE LOCATION ON THE GROUND, TAKING INTO
- * THE CONSTRUCTION EXIT MUST BE IN PLACE DURING ALL PHASES OF CONSTRUCTION; IF THE LOCATION IS TO BE GRADED, THE EXIT MUST BE INSTALLED FOR THE INITIAL WORK, REMOVED TO ALLOW GRADING OF THE LOCATION, AND REPLACED IMMEDIATELY AFTER GRADING SO THAT IT IS IN PLACE AND FUNCTIONING AT ALL TIMES.
- * IF THE SITE WILL HAVE A LARGE NUMBER OF VEHICLES USING THE EXIT, IT IS ADVISABLE TO HAVE A DIVIDED ENTRANCE THAT DIRECTS ENTERING TRAFFIC THROUGH A SEPARATE TRAVELWAY PARALLEL TO THE GRAVEL CONSTRUCTION EXIT IN ORDER TO REDUCE THE NUMBER OF TRIP
- OVER THE STONE, INCREASING THE LIFE OF THE GRAVEL, AND REDUCING RUNOFF AND SEDIMENT FROM THE SITE MUST BE DIRECTED AWAY FROM
- * IF THE GRAVEL CONSTRUCTION EXIT DOES NOT FUNCTION TO KEEP MUD AND DUST ON-SITE, THEN ANY SOIL OR DEBRIS TRACKED FROM THE SI MUST BE PHYSICALLY REMOVED FROM THESE AREAS BY FIRST USING A
- * IF THE PERSON RESPONSIBLE FOR THE DISTURBANCE FAILS TO TAKE INITIATIVE TO KEEP SOIL AND DEBRIS ON THE SITE ENFORCEMENT ACTION MAY BE TAKEN AGAINST THE SITE AND THE GRADING PERMIT REVOKED AND/OR A STOP WORK ORDER ISSUED.
- 3. CLEAR THE LOCATION OF THE EXIT, REMOVING STUMPS, ROOTS, AND OTHER VEGETATION IN ORDER TO PROVIDE A FIRM FOUNDATION SO THAT THE STOME IS NOT PRESSED INTO SOFT GROUND. CLEAR ENOUGH WIDTH TO ALLOW PASSAGE OF LARGE VEHICLES, BUT CLEAR ONLY WHAT IS NECESSARY FOR THE EXIT. DO NOT CLEAR ADJACENT AREAS UNTIL THE REQUIRED EROSION CONTROL DEVICES ARE IN PLACE. IF THE SOIL AT THE LOCATION IS SOFT IT IS ADVISABLE TO PLACE A 6 TO 8 INCH LAYER OF CRUSHER RUN STONE DOWN FIRST TO PROVIDE A FIRM FOUNDATION AND PREVENT THE WASHED STONE BEING PRESSED INTO
- AT THE LOCATION OF THE EXIT, PLACE AN 8-INCH LAYER OF WASHED STONE 2 TO 3 INCHES IN DIAMETER AT LEAST 50 FEET LONG AND AS WIDE AS THE FULL WIDTH OF THE EXIT OR AT LEAST 10 FEET WIDE. FLARE THE END OF THE STONE WHERE IT MEETS THE PAVEMENT SO THAT THE WHEELS OF TURNING VEHICLES REMAIN ON STONE AND DO NOT TRAVEL OVER UNPROTECTED SOIL.
- 5. A SQUARE-EDGED SHOVEL AND BROOM WITH STIFF BRISTLES MUST BE PROVIDED AT THE EXIT FOR REMOVING ANY MUD THAT MAY BE TRACKED INTO THE STREET.
- . AS VEHICLES LEAVING THE SITE DRIVE ACROSS THE WASHED STONE THE ABRASIVE ACTION OF THE WASHED STONE SHOULD REMOVE SEDIMENT FRO THE TIRES. IT MAY BE NECESSARY TO USE A SHOVEL TO REMOVE MUD
- . ANY SOIL TRACKED FROM THE SITE MUST BE REMOVED IMMEDIATELY. A SHOVEL AND BROOM MUST BE USED TO REMOVE AS MUCH SOIL AS POSSIBLE BEFORE WASHING THE PAVEMENT.

MATERIALS, EQUIPMENT, AND PERSONNEL MUST BE AVAILABLE FOR MAINTENANCE AT ALL TIMES.

- WHEN THE STONE IN THE EXIT BECOMES CONTAMINATED WITH SOIL AND ITS FUNCTION IS REDUCED TO WHERE SEDIMENT IS BEING TRACKED INTO THE STREET, A 4-INCH LAYER OF CLEAN STONE MUST BE ADDED.
- SEDIMENT-TRAPPING DEVICES MUST BE MAINTAINED ACCORDING TO SPECIFICATIONS FOR THOSE DEVICES.
- PREVENTIVE MAINTENANCE MUST BE PERFORMED.
- . WHEN THE GRAVEL CONSTRUCTION EXIT IS NO LONGER NEEDED, WHEN THE TRAVELWAYS HAVE BEEN STABILIZED AND THE POTENTIAL FOR TRACKING SOIL AND DEBRIS INTO THE STREET HAS BEEN REMOVED, THE GRAVEL

COIR FIBER WATTLE -

MATTING-

MATTING -

ISOMETRIC VIEW

CROSS SECTION TRAPEZOIDAL DITCH

THE STONE AND ANY SEDIMENT SHOULD BE REMOVED AND PROPERLY DISPOSED OF WHERE THEY WILL NOT CREATE AN EROSION HAZARD.

INSTRUCTIONS FOR TEMPORARY STABILIZATION USING

1. REFER TO PLANS FOR LOCATION, EXTENT, AND SPECIFICATIONS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHODS OF INSTALLATION, CONTACT THE ENGINEER, ARCHITECT, OR RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. EROSION CONTROL OF THE SITE OF ASSISTANCE. EROSION CONTROL PERSONNEL HAVE COPIES OF INSTRUCTIONS AND MAY BE ABLE TO IF THE DISTURBANCE IS NOT PROPERLY STABILIZED THE FIRST TIME SO THAT EROSION IS RESTRAINED, THE SEEDING WILL HAVE TO BE

2. USE THE APPLICATION RATES FOR LIME, FERTILIZER, SEED, MULCH, ETC. SPECIFIED IN THE PLAN, OR USE THE RATES BELOW FOR THE

LIME: 90 POUNDS PER 1000 SQUARE FEET (2 TONS PER ACRE). FERTILIZER: 10-10-10; 16 POUNDS PER 1000 SQUARE FEET (700 POUNDS PER ACRE).
STRAW MULCH: 80 POUNDS PER 1000 SQUARE FEET (1.5 TO 2 TONS PER ACRE); USE ENOUGH STRAW TO COVER 75% OF THE GROUND.

RYE GRAIN: 3 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER SPRING OATS: 3 POUNDS PER 1000 SQUARE FEET (125 POUNDS PER

MILLET: 1 POUND PER 1000 SQUARE FEET (40 POUNDS PER SORGHUM HYBRIDS: 1 POUND PER 1000 SQUARE FEET (40 POUNDS PER

OATS: BEFORE OCTOBER 1: 2.5 POUNDS PER 1000 SQUARE FEET (125 POUNDS PER ACRE). WHEAT: AFTER OCTOBER 1: 3 POUNDS PER 1000 SQUARE FEET (180

VEGETATION IS NOT AN APPROPRIATE STABILIZATION DURING THESE SEASONS; USE ANOTHER TYPE OF TEMPORARY GROUND COVER, SUCH AS

3. SEEDBED PREPARATION: REMOVE ROCKS, STUMPS, ROOTS, ETC. SINCE
THEY WILL INTERFERE WITH SEEDING AND MAINTENANCE. THE SMOOTH,
COMPACTED SURFACE OF CUT AND FILL SLOPES IS NOT A GOOD SEED BED
APPLY LIME AND FERTILIZER, THEN RIP THE SOIL 4-6 INCHES TO MIX
THE NUMBER OF THE SOIL AND POLICE THE NUTRIENTS INTO THE SOIL AND TO LOOSEN AND ROUGHEN IT TO

. SEEDING: APPLY SEED AT THE RECOMMENDED RATE, AND GO OVER THE SURFACE WITH A CULTIPACKER WHERE POSSIBLE TO BRING THE SEED INTO

. MULCHING: THE AREA SEEDED MUST BE MULCHED TO PROTECT THE BARE SOIL UNTIL THE VEGETATION IS ESTABLISHED AND TO RETAIN MOISTURE TO PROMOTE SEED GERMINATION AND PLANT GROWTH. APPLY ENOUGH MULCH TO COVER 75% OF THE SOIL SURFACE. TO KEEP IT IN PLACE AND PREVENT WIND OR WATER FROM DISLODGING IT, THE MULCH SHOULD BE HELD IN PLACE BY TACKING IT WITH ASPHALT OR COVERING IT WITH NETTING.

AREAS MUST BE RESEEDED AND MULCHED WHERE THE VEGETATION FAILS TO ESTABLISH ITSELF OR IS DAMAGED BY RUNOFF OR CONSTRUCTION ACTIVITY. IF THE TEMPORARY VEGETATION SHOULD FAIL FOR ANY REASON BEFORE THE PERMANENT STABILIZATION IS PROVIDED, IT MUST BE REPLACED WITH AN APPROPRIATE TYPE OF COVER SUFFICIENT TO

INSTRUCTIONS FOR PERMANENT STABILIZATION USING

- REFER TO PLANS FOR LOCATION, EXTENT, AND SPECIFICATIONS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHODS OF INSTALLATION, CONTACT THE ENGINEER, ARCHITECT, OR RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. EROSION CONTROL PERSONNEL HAVE COPIES OF INSTRUCTIONS AND MAY BE ABLE IF THE DISTURBANCE IS NOT PROPERLY STABILIZED THE FIRST TIME SO THAT EROSION IS RESTRAINED, THE SEEDING WILL HAVE TO BE REPEATED UNTIL IT IS SUCCESSFUL.
- USE THE APPLICATION RATES FOR LIME, FERTILIZER, SEED, MULCH, ETC. SPECIFIED IN THE PLAN, OR USE THE RATES BELOW FOR THE APPROPRIATE SEASON. IF SEEDING IS TO BE DONE IN A SEASON NOT LISTED BELOW, USE VEGETATION COMPATIBLE WITH THAT SEASON OR ANOTHER METHOD OF PERMANENT STABILIZATION.

TALL FESCUE: SEEDING DATES: FEBRUARY 15 - MAY, OR AUGUST 15 - OCTOBER 15 LIME: 135 POUNDS PER 1000 SQUARE FEET (3 TONS PER ACRE)

FERTILIZER: 10-10-10; 23 POUNDS PER 1000 SQUARE FEET (1000 POUNDS PER ACRE). A SPLIT APPLICATION OF 500 POUND PER ACRE INITIALLY AND ANOTHER 500 POUNDS IN THE SPRING OR FALL IS PREFERABLE. ADD 500 POUNDS PER ACRE SUPER PHOSPHATE WHERE THE SUBSOIL IS EXPOSED.

SEED: 1.5 POUNDS PER 1000 SQUARE FEET (60 POUNDS PER ACRE) MULCH: 80 POUNDS OF SMALL GRAIN STRAW PER 1000 SQUARE FEET (APPROXIMATELY 2 BALES) OR 1.5 -2 TONS PER ACRE; USE ENOUGH STRAW TO COVER 75% OF THE GROUND. TEMPORARY COVER: 0.5 POUNDS OF GERMAN OR BROWNTOP MILLET PER 1000 SQUARE FEET (20 POUNDS PER ACRE)

SEEDBED PREPARATION: REMOVE ROCKS, STUMPS, ROOTS, ETC. SINCE THEY WILL INTERFERE WITH SEEDING AND MAINTENANCE. THE SMOOTH, COMPACTED SURFACE OF CUT AND FILL SLOPES IS NOT A GOOD SEEDBED; APPLY LIME AND FERTLIZER, THEN RIP THE SOIL 4 TO 6 INCHES TO MIX THE NUTRIENTS INTO THE SOIL AND TO LOOSEN AND ROUGHEN IT TO

. <u>SEEDING</u>: APPLY SEED AT THE RECOMMENDED RATE, AND GO OVER THE SURFACE WITH A CULTIPACKER WHERE POSSIBLE TO BRING THE SEED INTO CONTACT WITH THE SOIL.

. MULCHING: THE AREA SEEDED MUST BE MULCHED TO PROTECT THE BARE SOIL UNTIL THE VEGETATION IS ESTABLISHED AND TO RETAIN MOISTURE TO PROMOTE SEED GERMINATION AND PLANT GROWTH. APPLY ENOUGH MULCH TO COVER 75% OF THE SURFACE. TO KEEP IT IN PLACE AND PREVENT WIND OR WATER FROM DISLODGING IT, THE MULCH SHOULD BE HELD IN PLACE BY TACKING IT WITH ASPHALT, CUTTING IT WITH A STRAIGHT-SET DISK, OR COVERING IT WITH NETTING.

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE. USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NO WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED. INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOI

__DOWNSLOPE STAKE

See Inset B

TOP VIEW

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

UPSLOPE ____

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN $12^{\prime\prime}$ IN LENGTH.

ANY PLACES WHERE THE VEGETATION FAILS TO ESTABLISH ITSELF OR IS DAMAGED BY RUNOFF OR CONSTRUCTION ACTIVITY MUST BE RESEEDED.
WHERE THE VEGETATION FAILS TO RESTRAIN EROSION, OTHER EROSION

COIR FIBER WATTLE DETAIL

- NATURAL GROUND

* A SILT BARRIER (PREFABRICATED SILT FENCE) CANNOT BE SUBSTITUTED!! THE SILT FENCE MUST BE CONSTRUCTED AS DESCRIBED IN THESE INSTRUCTIONS. ALLOW SUFFICIENT SPACE FOR MAINTENANCE, GRADING, FILLING, AND OTHER CONSTRUCTION ACTIVITY BETWEEN THE SILT FENCE AND THE CONSTRUCTION SITE. IF NECESSARY, HAVE SLOPE STAKES, BUILDING CORNERS, STORM DRAINS, ETC. SURVEYED BEFORE CLEARING TO GUIDE INSTALLATION. KNOW WHERE THE TOE OF FILL SLOPES WILL EXTEND SO THAT SUFFICIENT ROOM IS LEFT BETWEEN THE TOE AND SILT FENCE FOR ALL MERCALLY AND DEPOLED. * ALLOW AT LEAST: 15 FEET BETWEEN THE FENCE AND SINGLE-STORY BUILDINGS. VEGETATION

WHERE POSSIBLE, INSTALL THE SILT FENCE ON THE CONTOUR SO THAT RUNOFF GOES THROUGH THE SILT FENCE AND DOES NOT FLOW ALONG THE SILT FENCE AND POND AT THE LOWEST POINT. WHERE PONDING DOES OCCUR, SILT FENCE OUTLETS MAY BE NECESSARY SO THAT THE FENCE DOES NOT COLLEDER

MAINTENANCE, REPAIR, AND REMOVAL.

Figure 1: Illustration of Silt Fence Installation.

CLEAR THE LOCATION OF THE SILT FENCE, CLEARING ONLY WHAT IS NEEDED TO PROVIDE ACCESS TO PERSONNEL AND EQUIPMENT FOR INSTALLATION. IT IS PERMISSIBLE TO PLACE THE SILT FENCE IN THE EDGE OF EXISTING TREES AS LONG AS THE OWNER ALLOWS IT AND CARE S TAKEN TO PROTECT THESE TREES DURING INSTALLATION, MAINTENANCE, AND REMOVAL IF THE TREES ARE TO REMAIN AFTER CONSTRUCTION. DO NOT ATTACH THE FILTER FABRIC TO THE TREES, AS IT MAKES BURYING THE TOE IMPOSSIBLE.

25 FEET BETWEEN THE FENCE AND MULTIPLE-STORY BUILDINGS

INSTRUCTIONS FO

SILT FENCE

REFER TO THE PLANS FOR LOCATION, EXTENT, AND SPECIFICATIONS.
THERE ARE QUESTIONS OF PROBLEMS WITH THE LOCATION, EXTENT, OR
METHODS OF INSTALLATION, CONTACT THE ENGINEER, ARCHITECT, OR
RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. EROSION

CONTROL PERSONNEL HAVE COPIES OF INSTRUCTIONS AND MAY HAVE PHOTOGRAPHS OF PROPERLY INSTALLED SILT FENCES AS AN AID TO INSTALLATION.

DETERMINE THE LOCATION ON THE GROUND TAKING INTO

IF THE SILT FENCE IS NOT INSTALLED CORRECTLY THE FIRST TIME, IT WILL HAVE TO BE REBUILT.

 EXCAVATE A 6 X 6-INCH TRENCH ALONG THE LOCATION OF THE FENCE. USING A "DITCH WITCH" IS HELPFUL. ALONG THE LOWER SIDE OF THE TRENCH, PLACE STEEL FENCE POSTS NO

SILT FENCE

Excavate a 6"x6' trench along the location of the fence. Drive posts 18" into the ground on the lower side of the trench. Attach wire fence (hog wire) to the posts and extend the bottom 12" into the tre

6"x6" Trench

2. Attach the filter fabric to the wire fence with staples and extend the bottom 12" into the trench. Use a synthetic filter fabric.

3. Backfill the trench and compact soil to securely anchor the bottom.

DO NOT USE BURLAP!!

MORE THAN 8 FEET APART AND DRIVE THEM 18 INCHES INTO THE 6. ATTACH WIRE FENCE ("HOG WIRE" OF MINIMUM 14 GAUGE WITH MAXIMUM MESH OF 6 INCHES) TO THE UPHILL SIDE OF THE POSTS, AND PLACE 12 INCHES OF THE BOTTOM OF THE FENCE INTO THE TRENCH. DO NOT USE "CHICKEN WIRE." USE WIRE TO FASTEN THE FENCE TO THE POSTS. THE

COMPLETED FENCE MUST BE AT LEAST 2 FEET HIGH AND NOT MORE THAN 3 FEET HIGH. 7. ATTACH SYNTHETIC FILTER FABRIC TO THE UPHILL SIDE OF THE WIRE FENCE WITH STAPLES A MAXIMUM 12 INCHES APART, AND PLACE 12 INCHES OF THE FABRIC INTO THE TRENCH WITH THE WIRE FENCE. USE ROLLS OF FABRIC AND CUT TO THE NECESSARY LENGTH IN ORDER TO

BACKFILL THE TRENCH AND TAMP THE FILL TO FIRMLY ANCHOR THE BOTTOM OF THE FILTER FABRIC AND WIRE FENCE TO PREVENT WATER FROM FLOWING UNDER THE FENCE; MAKE IT GO THROUGH THE FILTER

9. WHERE IT IS IMPOSSIBLE TO INSTALL THE SILT FENCE ON THE CONTOUR, RUNOFF WILL FLOW ALONG THE FENCE AND POND AT THE LOWEST POINT. WHERE THE TOTAL DRAINAGE AREA TO THE POINT OF PONDING IS GREATER THAN 5,000 SQUARE FEET (FOR EXAMPLE: A SQUARE TO FEET ON A SIDE), A SILT FENCE OUTLET IS REQUIRED;
WHERE THE DRAINAGE AREA IS GREATER THAN 10,000 SQUARE FEET (FOR EXAMPLE: A SQUARE 100 FEET ON A SIDE), A SEDIMENT TRAP IS
NECESSARY. THE LOCATION OF THIS OUTLET MAY BE SHOWN ON THE
PLAN, BUT CHECK THE INSTALLATION IN THE FIELD WHEN THE WIRE
FENCE IS UP TO DETERMINE IF ADDITIONAL OUTLETS ARE NEEDED. SEE
THE DETAILS OF THE SILT FENCE OUTLET FOR INSTRUCTIONS THE DETAILS OF THE SILT FENCE OUTLET FOR INSTRUCTIONS.

MATERIALS, EQUIPMENT, AND PERSONNEL MUST BE AVAILABLE FOR MAINTENANCE AT ALL TIMES.

DURING CONSTRUCTION: TO SEE IF MACHINERY OR FALLING TREES HAVE DAMAGED THE SILT FENCE; IF DAMAGED, REPAIR IT. TO SEE THAT FILL MATERIAL HAS NOT ACCUMULATED AGAINST THE FENCE; IF IT HAS, REMOVE THE MATERIAL, REPAIR THE FENCE, AND MOVE THE FENCE OR AFTER EACH RAINFALL: TO SEE THAT RUNOFF IS NOT FLOWING UNDER THE FENCE; IF IT IS, BURY THE BOTTOM OF THE FENCE CORRECTLY. TO SEE THAT RUNOFF HAS NOT TOPPED THE FENCE IN LOW POINTS; IF IT HAS, AN OUTLET MAY BE NEEDED AT THAT POINT TO PREVENT FUTURE

CLEAN OUT ACCUMULATED SEDIMENT WHEN IT REACHES A DEPTH OF ONE-HALF THE HEIGHT OF THE FILTER FABRIC. PLACE THE SEDIMENT IN A DISPOSAL AREA OR, IF APPROPRIATE, MIX IT WITH DRY SOIL ON THE SITE.

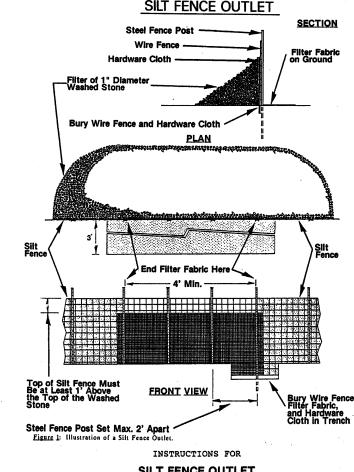
DO NOT DISPOSE OF SEDIMENT IN A MANNER THAT WILL CREATE AN EROSION HAZARD. DO NOT ERECT A NEW SILT FENCE ON TOP OF ACCUMULATED SEDIMENT BEHIND THE FENCE.

3. IF SILT FENCE OUTLETS ARE USED, REMOVE AND REPLACE THE STONE FILTER WITH CLEAN, WASHED STONE WHEN THE FILTER BECOMES CLOGGED. DISPOSE OF ANY CONTAMINATED STONE PROPERLY. 4. REPAIR ANY BREAKS OR ROTTEN PLACES IN THE FILTER FABRIC.

 IF THE FENCE IS SAGGING BETWEEN POSTS, INSTALL ADDITIONAL POSTS. WHEN MAKING REPAIRS, ALWAYS RESTORE THE SILT FENCE TO ITS ORIGINAL DESIGN CONFIGURATION.

1. WHEN GRADING IN THE DRAINAGE AREA ABOVE THE SILT FENCE HAS BEEN FINISHED AND DISTURBED AREAS SUFFICIENTLY STABILIZED TO RESTRAIN EROSION, THE SILT FENCE AND ANY OUTLETS MUST BE

2. REMOVE ANY ACCUMULATED SEDIMENT AND DISPOSE OF IT PROPERLY 3. REMOVE POSTS, FENCE, AND FABRIC; DISPOSE OF THEM PROPERLY. 4. STABILIZE THE DISTURBED AREA WHERE THE FENCE WAS LOCATED.



SILT FENCE OUTLET

INSTALLATION

REFER TO THE PLANS FOR LOCATIONS AND SPECIFICATIONS. DURIN INSTALLATION OF THE SILT BARRIER OR SILT FENCE, INSPECT THE INSTALLATION TO DETERMINE IF OUTLETS ARE NEEDED ACCORDING TO THE CRITERIA SET FORTH IN THE SPECIFICATIONS FOR THE BARRIER AND FENCE. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER, ARCHITECT, OR RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. EROSION CONTROL PERSONNEL HAVE COPIES OF NSTRUCTIONS AND MAY HAVE PHOTOGRAPHS OF PROPERLY INSTALLED

TIME, IT WILL HAVE TO BE REBUILT. DETERMINE THE EXACT LOCATION OF THE OUTLET BEFORE COMPLETING INSTALLATION OF THE SILT BARRIER OR SILT FENCE, TAKING INTO CONSIDERATION:

IF THE SILT FENCE OUTLET IS NOT INSTALLED CORRECTLY THE FIRST

INSTALL THE OUTLET AT THE LOWEST POINT(S) IN THE BARRIER OR FENCE WHERE WATER WILL POND. INSTALL THE OUTLET WHERE IT IS ACCESSIBLE FOR INSTALLATION, MAINTENANCE, AND REMOVAL

* ALLOW AT LEAST: 15 FEET BETWEEN THE BARRIER OR FENCE AND SINGLE-STORY $25\ \mbox{FEET}$ FOR FORK LIFTS BETWEEN THE BARRIER OR FENCE AND MULTIPLE-STORY BUILDINGS.

10 FEET BETWEEN THE BARRIER OR FENCE AND THE TOE OF FILL * PLACE THE OUTLET SO THAT WATER FLOWING THROUGH IT WILL NOT CREATE AN EROSION HAZARD BELOW: AVOID STEEP SLOPES BELOW THE OUTLET AND AREAS WITHOUT PROTECTIVE VEGETATION. USE SLOPE

* DETERMINE THE LOCATION OF THE OUTLET: FOR A <u>SILT BARRIER</u>, WHEN THE TRENCH IS DUG TO BURY THE BOTTOM OF THE FABRIC BECAUSE THE BARRIER WILL BE OMITTED AT THE OUTLET; FOR A <u>SILT FENCE</u>, WHEN THE WIRE FENCE IS IN PLACE BECAUSE THE FILTER FABRIC WILL BE OMITTED AT THE OUTLET.

3. REFER TO THE ILLUSTRATIONS OF THE OUTLET IN THE PLAN.

 CLEAR STUMPS AND ROOTS FROM THE LOCATION OF THE OUTLET. CLEAR ADEQUATE ACCESS FOR THE EQUIPMENT NEEDED FOR INSTALLATION, MAINTENANCE AND PROMISE. MAINTENANCE, AND REMOVAL. 5. FOR A <u>SILT BARRIER</u>:

* JUST BELOW THE GAP IN THE BARRIER, PLACE A LAYER OF FILTER FABRIC ON THE GROUND TO PROTECT THE SOIL FROM EROSION BY OUTFLOW FROM THE OUTLET; PLACE 6 INCHES OF THE UPPER EDGE IN THE TRENCH. STAKE THE REMAINING EDGES OF THE FABRIC TO HOLD IT IN PLACE.

* ALONG THE GAP WHERE THE OUTLET WILL GO, PLACE STEEL FENCE POSTS FOR STRENGTH. THE POSTS MUST BE A MAXIMUM OF 2 FEET APART AND DRIVEN INTO SOLID GROUND AT LEAST 18 INCHES.

* PLACE HARDWARE CLOTH [WELDED GALVANIZED SCREEN WITH SQUARE 1/4 - 1/2-INCH HOLES] ON THE UPHILL SIDE OF THE POSTS TO HOLD THE WASHED STONE IN PLACE. PUT 6 INCHES OF THE BOTTOM OF THE CLOTH IN THE TRENCH AND FASTEN IT TO THE POSTS WITH LENGTHS OF WIRE. BURY THE BOTTOM OF THE HARDWARE CLOTH AND THE UPPER EDGE OF THE

* PLACE A FILTER OF 1-INCH DIAMETER WASHED STONE ON THE UPHILL SIDE OF THE OUTLET. PILE THE STONE UP TO THE TOP OF THE HARDWARE CLOTH AND OVER THE JOINT BETWEEN THE OUTLET AND THE

FOR A <u>SILT</u> <u>FENCE</u>:

* JUST BELOW THE GAP IN THE FENCE, PLACE A LAYER OF FILTER FABRIC ON THE GROUND TO PROTECT THE SOIL FROM EROSION BY OUTFLOW FROM THE OUTLET; PLACE 6 INCHES OF THE UPPER EDGE IN THE TRENCH. STAKE THE OTHER EDGES OF THE FABRIC TO HOLD IT IN PLACE.

* ALONG THE GAP WHERE THE OUTLET WILL GO, PLACE ADDITIONAL STEEL FENCE POSTS FOR STRENGTH. THE POSTS MUST BE A MAXIMUM OF 2 FEET APART AND DRIVEN INTO SOLID GROUND AT LEAST 18 INCHES. * PLACE HARDWARE CLOTH [WELDED GALVANIZED SCREEN WITH SQUARE 1/4 - 1/2-INCH HOLES] ON THE UPHILL SIDE OF THE POSTS TO HOLD THE WASHED STONE IN PLACE. PUT 6 INCHES OF THE BOTTOM OF THE CLOTH THE POST OF THE BOTTOM OF THE CLOTH IN THE TRENCH AND FASTEN IT TO THE POSTS WITH LENGTHS OF WIRE.

* BURY THE BOTTOM OF THE HARDWARE CLOTH, THE UPPER EDGE OF THE FILTER FABRIC BELOW THE OUTLET, AND THE WIRE FENCE IN THE TRENCH AND COMPACT THE FILL.

* PLACE A FILTER OF 1-INCH DIAMETER WASHED STONE ON THE UPHILL SIDE OF THE OUTLET. PILE THE STONE UP TO THE TOP OF THE HARDWARE CLOTH AND OVER THE JOINT BETWEEN THE OUTLET AND THE

MATERIALS, EQUIPMENT, AND PERSONNEL MUST BE AVAILABLE FOR MAINTENANCE AT ALL TIME.

DURING CONSTRUCTION: TO DETERMINE IF MACHINERY, FALLING TREES, ETC. HAVE DAMAGED THE BARRIER, FENCE, OR OUTLET; IF DAMAGED, MAKE REPAIRS. TO SEE THAT FILL MATERIAL HAS NOT ACCUMULATED AGAINST THE OUTLET, BLOCKING OUTFLOW; IF IT HAS, REMOVE THE MATERIAL, REPAIR THE DAMAGE, AND MOVE THE FENCE OR FILL SO THAT

AFTER EACH RAINFALL: TO DETERMINE IF RUNOFF FLOWING THROUGH THE OUTLET HAS CAUSED DAMAGE BY UNDERMINING THE FENCE OR OUTLET, OR IF ACCUMULATED WATER HAS COLLAPSED THE OUTLET; IF IT HAS, MAKE REPAIRS OR INSTALL A SEDIMENT TRAP IF NECESSARY TO PREVENT FUTURE FAILURES. 2. CLEAN OUT ACCUMULATED SEDIMENT WHEN IT REACHES A DEPTH OF ONE-HALF THE HEIGHT OF THE OUTLET. PLACE THE SEDIMENT IN A DISPOSAL AREA, OR MIX IT WITH DRY SOIL ON THE SITE IF APPROPRIATE.

DO NOT DISPOSE OF SEDIMENT IN A MANNER THAT WILL CREATE AN EROSION HAZARD. 3. WHEN THE STONE FILTER BECOMES CLOGGED, PREVENTING FLOW THROUGH THE FILTER, REMOVE THE CONTAMINATED STONE, DISPOSE OF IT PROPERLY, AND REPLACE IT WITH CLEAN WASHED STONE.

4. REPAIR THE OUTLET IF DAMAGED BY USE OR DURING MAINTENANCE. REBUILD IT TO THE ORIGINAL CONFIGURATION.

1. WHEN GRADING IN THE DRAINAGE AREA ABOVE THE OUTLET HAS BEEN COMPLETED AND THE DISTURBED AREA SUFFICIENTLY STABILIZED TO RESTRAIN EROSION, THE OUTLET MUST BE REMOVED.

2. CLEAN OUT ACCUMULATED SEDIMENT AND DISPOSE OF IT PROPERLY. 3. REMOVE POSTS, FENCE, FABRIC, WIRE, AND WASHED STONE; DISPOSE OF

4. GRADE THE LOCATION AS NECESSARY.

5. STABILIZE THE DISTURBED AREA WHERE THE OUTLET WAS LOCATED.

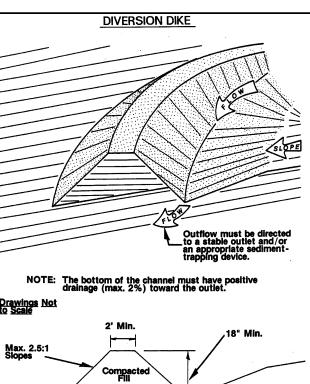


Figure 1: Illustration of a Diversion Dike INSTRUCTIONS FOR

REFER TO PLANS FOR LOCATION, EXTENT, AND SPECIFICATIONS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHODS OF INSTALLATION, CONTACT THE ENGINEER, ARCHITECT, OR RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. ERGSION CONTROL PERSONNEL HAVE COPIES OF INSTRUCTIONS AND MAY HAVE PHOTOGRAPHS OF PROPERLY INSTALLED DIVERSIONS AS AN AID TO INSTALLATION. IF THE DIVERSION DIKE IS NOT INSTALLED CORRECTLY THE FIRST TIME IT WILL HAVE TO BE REPLACED.

DIVERSION DIKE

DETERMINE THE LOCATION ON THE GROUND TAKING INTO CONSIDERATION: CONSIDER THE LOCATIONS OF THE SEDIMENT-TRAPPING DEVICES (SEDIMENT TRAP OR POND) WHEN LOCATING AND BUILDING THE DIVERSION. THE DIVERSION MUST DRAIN TO THE DEVICES.

* THE DIVERSION MUST HAVE POSITIVE DRAINAGE TO THE SEDIMENT-TRAPPING DEVICES. THE MAXIMUM GRADE IS 2%. ALLOW SUFFICIENT SPACE FOR MAINTENANCE AND REMOVAL BETWEEN THE TOE OF THE FILL SLOPE AND THE DIVERSION. IF NECESSARY, HAVE SLOPES STAKES, BUILDING CORNERS, STORM DRAINS, ETC. SURVEYED BEFORE CLEARING TO GUIDE INSTALLATION.

3. CLEAR THE LOCATION FOR THE DIVERSION, CLEARING ONLY WHAT IS NEEDED TO PROVIDE ACCESS FOR PERSONNEL AND EQUIPMENT FOR INSTALLATION. DO NOT CLEAR THE DRAINAGE AREA ABOVE UNTIL THE DIVERSION AND SEDIMENT-TRAPPING DEVICES ARE IN PLACE.

5. GRADE THE CHANNEL AND BUILD THE RIDGE; COMPACT THE FILL. THE SIDES OF THE CHANNEL AND THE BACK OF THE RIDGE MUST BE NO STEEDER THAN A 3:1 SLOPE. THE COMPLETED DIVERSION MUST BE AT LEAST 18 INCHES DEEP, MEASURED FROM THE BOTTOM OF THE CHANNEL TO THE TOP OF THE RIDGE.

MATERIALS, EQUIPMENT, AND PERSONNEL MUST BE AVAILABLE FOR MAINTENANCE AT ALL TIMES.

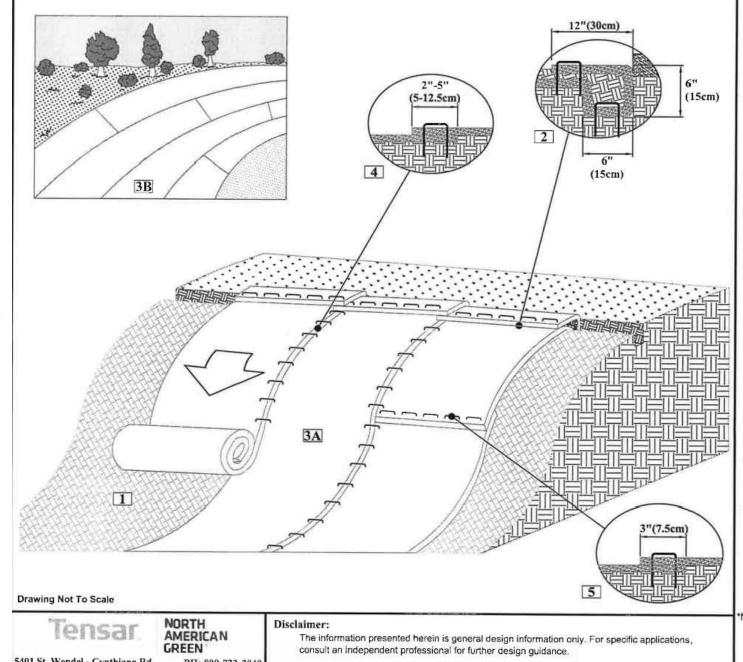
6. CHECK THE BOTTOM OF THE CHANNEL TO ENSURE POSITIVE DRAINAGE IN THE DESIRED DIRECTION.

* DURING CONSTRUCTION: TO SEE IF MACHINERY, FALLING TREES, ETC. HAVE DAMAGED THE DIKE; IF DAMAGED, MAKE REPAIRS. TO SEE THAT FILL MATERIAL HAS NOT BLOCKED THE CHANNEL; IF IT HAS, REMOVE THE FILL TO CLEAR IT.

. WHEN THE GRADING ABOVE THE DIVERSION IS FINISHED AND THE AREA IS STABILIZED, IT MUST BE REMOVED.

2. REMOVE ACCUMULATED SEDIMENT AND DISPOSE OF IT PROPERLY 3. GRADE THE AREA AND SMOOTH IT OUT IN PREPARATION FOR STABILIZATION.

4. STABILIZE THE AREA AS SPECIFIED IN THE PLAN.



4. 發射機長の

Slope of Existing Channel

There Must Be No Overfall at the _____

AFTER EACH RAINFALL: TO SEE THAT RUNOFF IS FLOWING TO THE SEDIMENT-TRAPPING DEVICES; IF NOT; CHANGE THE GRADE SO THAT IT NOT CHANGE THE GRADE SO THAT IT

 IF SEDIMENT ACCUMULATES IN THE CHANNEL, REMOVE IT SO THAT ITS CAPACITY IS NOT REDUCED, CAUSING IT TO FAIL. DO NOT DISPOSE OF THE SEDIMENT IN A MANNER THAT WILL CREATE AN EROSION HAZARD.

RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide. The edges of parallel RECPs mu be stapled with approximately 2" 5" (5-12.5cm) overlap depending on the RECPs type. Consecutive RECPs spliced down the slope must be end over end (Shingle style) with an approximate 3"(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire RECPs width. In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to 5401 St. Wendel - Cynthiana Rd. PH: 800-722-204 properly secure the RECP's. Poseyville, IN 47633 www.nagreen.com Drawn on: 3-16-11 STONE APRON OUTLET PROTECTION **BLOCK AND GRAVEL FILTER** pron width at the outlet is .5 times the width of he flared end section. Section B-B' When the area below the outlet into a defined channel, build a lat apron to disperse runoff. Section B-B' Section A-A'

-Apron Width ---

Where a defined channel exists warp and shape the apron to fithe channel. If necessary, line the entrance to provide a transition into the receiving

INSTRUCTIONS FOR STONE APRON OUTLET PROTECTION

INSTALLATION 1. REFER TO THE PLANS FOR LOCATION, EXTENT, AND SPECIFICATIONS.

IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT,
OR METHOD OF INSTALLATION, CONTACT THE ENGINEER, ARCHITECT, OR
RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. EROSION
CONTROL PERSONNEL HAVE COPIES OF INSTRUCTIONS AND MAY HAVE PHOTOGRAPHS OF PROPERLY INSTALLED APRONS AS AN AID TO INSTALLATION.

IF THE STONE APRON IS NOT INSTALLED CORRECTLY THE FIRST TIME, IT WILL HAVE TO BE REBUILT.

DETERMINE THE LOCATION ON THE GROUND TAKING INTO CONSIDERATION: * DECIDE HOW EQUIPMENT AND MATERIAL WILL REACH THE LOCATION TO CONSTRUCT THE APRON. DO NOT "PAINT YOURSELF INTO A CORNER" AND PLACE FILL, STRUCTURES, ETC. THAT COULD BLOCK ACCESS.

* THE LOCATION OF THE APRON MUST BE SOLID GROUND. IT MAY BE NECESSARY TO EXCAVATE THE LOCATION TO REMOVE MUD AND THEN BACKFILL WITH GOOD MATERIAL. THIS IS NECESSARY SO THE STONE DOES NOT DISAPPEAR INTO THE MUD, WHICH WOULD REQUIRE MUCH MORE 3. CLEAR THE LOCATION OF THE APRON. LEAVE AS MUCH OF THE EXISTING VEGETATION AS POSSIBLE AROUND THE LOCATION TO HOLD THE SOIL IN PLACE AND REDUCE THE AREA THAT WILL HAVE TO BE STABILIZED APTERMADE.

4. EXCAVATE THE BOTTOM TO THE REQUIRED DEPTH TO ACCEPT THE STONE AND THE FILTER BLANKET. WHEN FINISHED, THE BOTTOM OF THE APRON MUST BE LEVEL WITH THE BOTTOM OF THE CHANNEL; THERE

CANNOT BE AN OVERFALL AT THE END OF THE APRON.

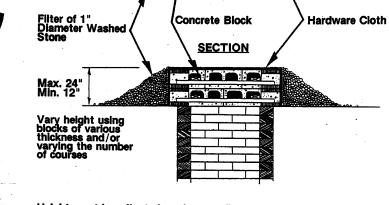
 PLACE THE SPECIFIED STONE TO THE REQUIRED DIMENSIONS AND SHAPE IT TO THE CONFIGURATION SHOWN IN THE PLAN. STABILIZE THE AREA AROUND THE APRON THAT WAS DISTURBED DURING CONSTRUCTION. USE ADDITIONAL STONE OR VEGETATION, WHICHEVER IS APPROPRIATE FOR THE SITUATION.

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1)

NCDENR/Division of Water Quality

NEW STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011) SITE AREA DESCRIPTION **STABILIZATION** TIMEFRAME EXCEPTIONS Perimeter dikes, swales, ditches, slopes 7 days High Quality Water (HQW) Zones 7 days None If slopes are 10' or less in length and are Slopes steeper than 3:1 not steeper than 2:1, 14 days are allowed. Slopes 3:1 or flatter 7 days for slopes greater than 50' in length. All other areas with slopes flatter than 4:1 None, except for perimeters and HQW Zones.

> **PRELIMINARY NOT FOR CONSTRUCTION**



Height must be adjusted so that overflow enters the inlet and does not bypass it.

Figure 1: Illustration of a Block and Gravel Filter. INSTRUCTIONS FOR STORM DRAIN INLET PROTECTION USING A **BLOCK AND GRAVEL FILTER** INSTALLATION

REFER TO THE PLANS FOR LOCATIONS AND SPECIFICATIONS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION OR METHODS OF INSTALLATION, CONTACT THE ENGINEER, ARCHITECT, OR RESPONSIBLE PERSONNEL ON THE SITE FOR ASSISTANCE. EROSION CONTROL PERSONNEL

IF THE INLET PROTECTION IS NOT INSTALLED CORRECTLY THE FIRST TIME, IT WILL HAVE TO BE REBUILT. 2. DETERMINE THE LOCATION ON THE GROUND, TAKING INTO

DIVERSIONS AND/OR BERMS MUST BE USED TO FORCE RUNOFF THROUGH THE FILTER INTO THE INLET SO THAT IT DOES NOT BY-PASS THE INLET AND CAUSE PROBLEMS ELSEWHERE.

* IF THE INLET IS TO BE RAISED IN STAGES AS THE FILL IS BROUGHT UP AROUND IT, THE FILTER MUST BE REMOVED FOR GRADING AND REPLACED IMMEDIATELY SO THAT THE INLET IS ALWAYS PROTECTED FROM THE ENTRY OF UNFILTERED RUNOFF. 3. REFER TO ILLUSTRATIONS IN THE PLAN TO ASSIST INSTALLATION. 4. PLACE CONCRETE BLOCKS AROUND THE OPENING OF THE INLET WITH THE HOLES IN THE BLOCK PARALLEL TO THE GROUND SO THAT WATER CAN FLOW THROUGH THE HOLES. VARY THE NUMBER OF COURSES TO BUILD THE FILTER TO THE REQUIRED HEIGHT. IT MUST BE AT LEAST 12 INCHES HIGH.

5. INSTALL 2 X 4'S AS SHOWN IN THE ILLUSTRATION FOR REINFORCEMENT. WRAP HARDWARE CLOTH AROUND THE OUTSIDE OF THE BLOCKS AND ON THE GROUND. HARDWARE CLOTH IS WELDED, GALVANIZED WIRE FABRIC WITH 1/4 - 1/2-INCH SQUARE HOLES.

PILE CLEAN WASHED STONE (1-INCH DIAMETER) AROUND THE OUTSIDE OF THE BLOCKS AND ON TOP OF THE HARDWARE CLOTH. WHERE POSSIBLE, DIG A SMALL PIT AROUND THE FILTER TO STORE

IT IS ADVISABLE TO PLACE GUARD STAKES AROUND THE FILTER TO ALERT MACHINERY OPERATORS OF ITS LOCATION AND PREVENT DAMAGE T 10. DIVERSIONS AND/OR BERMS MUST BE USED TO DIRECT RUNOFF TO THE FILTER AND INTO THE INLET. RUNOFF MUST NOT BE ALLOWED TO BY-PASS THE INLET AS IT WILL CREATE PROBLEMS DOWNHILL. REFER TO SPECIFIC DETAILS IN THE PLAN.

MATERIALS, EQUIPMENT, AND PERSONNEL MUST BE AVAILABLE FOR MAINTENANCE AT ALL TIMES.

1. INSPECT THE BLOCK AND GRAVEL FILTER:

DURING CONSTRUCTION: TO SEE IF MACHINERY OR CONSTRUCTION ACTIVITY HAVE DAMAGED THE FILTER; IF DAMAGED, REPAIR IT. TO SEE IF CONSTRUCTION TRAFFIC HAS DAMAGED OR REDUCED THE CAPACITY OF THE BERMS AND DIVERSIONS DIRECTING RUNOFF TO THE FILTER; IF SO, MAKE DEPAIDS AFTER EACH RAINFALL: TO SEE IF RUNOFF IS BY-PASSING THE INLET OR TOPPING THE BERMS OR DIVERSIONS BELOW THE FILTER; IF SO, INCREASE THEIR CAPACITY TO PREVENT IT.

WHEN THE STONE FILTER BECOMES COVERED WITH SEDIMENT AND CLOGGED SO THAT RUNOFF CANNOT FLOW THROUGH IT, THE CONTAMINATED STONE MUST BE REMOVED, DISPOSED OF PROPERLY, AND REPLACED WITH CLEAN WARLED STONE DO NOT DISPOSE OF SEDIMENT IN A MANNER THAT WILL CREATE AN EROSION HAZARD.

IF THE FILTER IS DAMAGED, IF THE BLOCKS ARE DISLOCATED OR BROKEN, OR IF THE REINFORCEMENT IS DAMAGED, REBUILD THE FILTER

WHEN GRADING IN THE DRAINAGE AREA ABOVE THE INLET HAS BEEN FINISHED AND THE DISTURBED AREAS STABILIZED, THE BLOCK AND

2. REMOVE ANY ACCUMULATED SEDIMENT AND DISPOSE OF IT PROPERLY. REMOVE THE STONE, HARDWARE CLOTH, BLOCK, AND 2 X 4'S, AND DISPOSE OF THEM PROPERLY.

4. STABILIZE THE DISTURBED AREA AS REQUIRED.

INSTALLATION DETAIL

Prepare soil before installing rolled

including any necessary

application of lime, fertilizer, and

2. Begin at the top of the slope by anchoring the RECPs in

6"(15cm) deep X 6"(15cm) wide

(30cm) of RECPs extended beyond the up-slope portion of the trench Anchor the RECPs with a row of

staples/stakes approximately 1

(30cm) apart in the bottom of the

trench. Backfill and compact the

the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and

compacted soil. Secure RECPs

over compacted soil with a row

of staples/stakes spaced approximately 12"(30cm) apart across the width of the RECPs. Roll the RECPs (A) down or (B) horizontally across the slope.

trench after stapling. Apply seed to

erosion control products (RECPs),

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