



SHEET NOTES

- A. SITE MUST HAVE CERTIFIED EROSION AND SEDIMENT CONTROL LEAD TO COMPLY WITH BMP C160.  
B. ALL MATERIAL HANDLING ON SITE MUST COMPLY WITH BMP C150, BMP C151, AND BMP C154.  
C. PLACE PLASTIC COVERING OVER ALL SOIL PILES COMPLYING WITH BMP C123 OR STRAW COMPLYING WITH BMP C121.  
D. SEQUENCE CONSTRUCTION SCHEDULE TO COMPLY WITH BMP C162.  
E. SEE SWPPP FOR ADDITIONAL EROSION CONTROL MEASURES.  
F. PERMANENTLY STABILIZE SITE, RE-ESTABLISH VEGETATION OR LANDSCAPING PRIOR TO REMOVAL OF EROSION CONTROL MEASURES  
G. SEE GENERAL GRADING AND EROSION NOTES SHEET CXXX  
H. SHEET FLOW & DIVERSION TRENCHES SHALL BE UTILIZED TO DIRECT RUNOFF TO TEMPORARY SEDIMENT PONDS.

NOTE:  
SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITIONS. THE DEVELOPER AND CONTRACTOR SHOULD BE PREPARED TO PROVIDE EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE.

APPROXIMATE EARTHWORK VOLUMES

CUT: 8,400 yd<sup>3</sup>  
FILL: 4,800 yd<sup>3</sup>

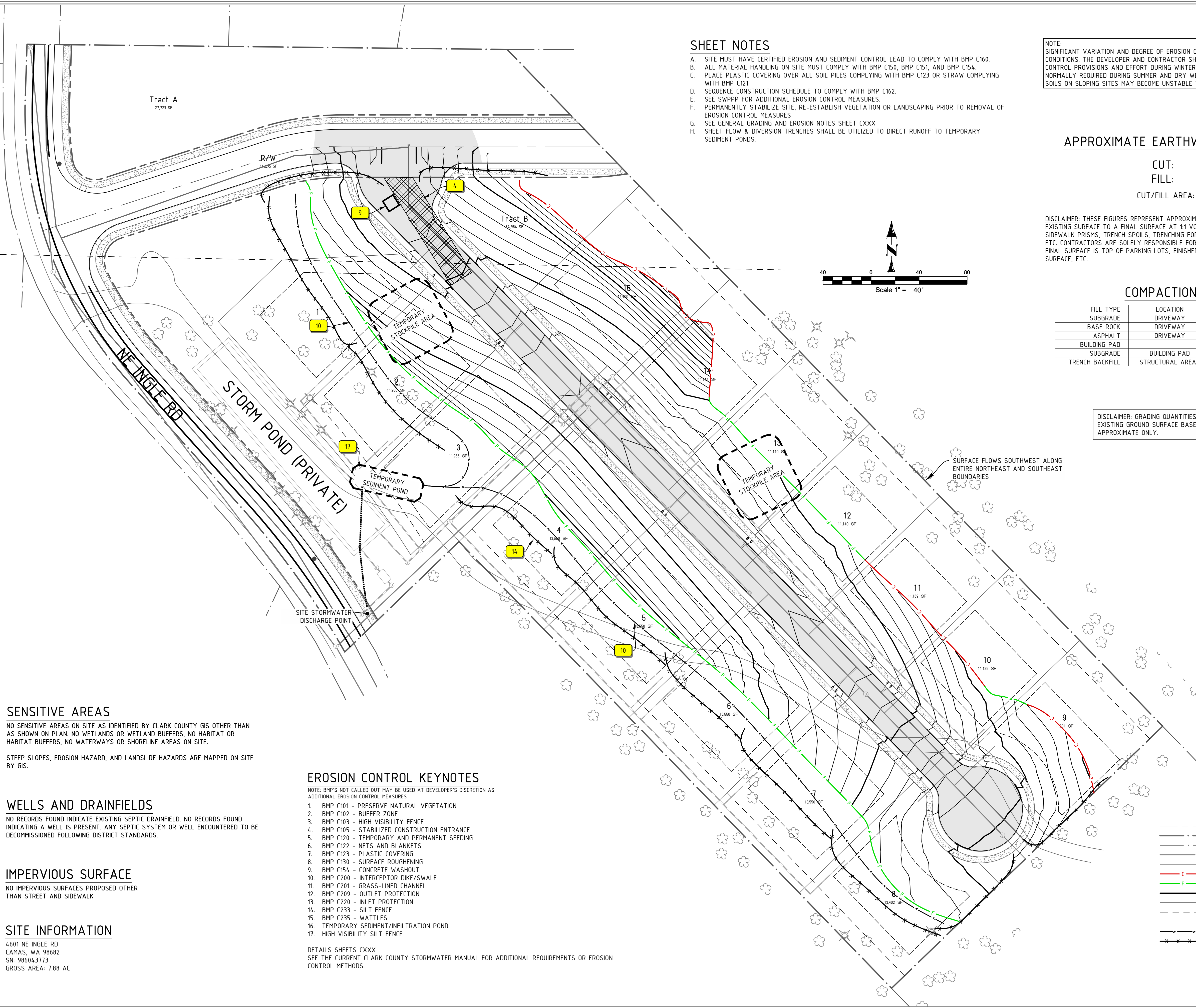
CUT/FILL AREA: 3.035 ACRE

DISCLAIMER: THESE FIGURES REPRESENT APPROXIMATE EARTHWORK QUANTITIES CALCULATED FROM THE EXISTING SURFACE TO A FINAL SURFACE AT 1:1 VOLUME. THIS ESTIMATE DOES NOT INCLUDE THE ROAD OR SIDEWALK PRISMS, TRENCH SPOILS, TRENCHING FOR UTILITIES, OVER EXCAVATION, SHRINKAGE OR SWELL ETC. CONTRACTORS ARE SOLELY RESPONSIBLE FOR QUANTITY ESTIMATES FOR BIDDING PURPOSES. THE FINAL SURFACE IS TOP OF PARKING LOTS, FINISHED FLOOR ELEVATIONS, FINAL GRADING, FINAL ROAD SURFACE, ETC.

COMPACTION TABLE

FILL TYPE	LOCATION	COMPACTION REQ.	AASHTO TEST METHODOLOGY
SUBGRADE	DRIVEWAY	95%	ASTM D1557
BASE ROCK	DRIVEWAY	95%	ASTM D1557
ASPHALT	DRIVEWAY	91%	ASTM D2041
BUILDING PAD			
SUBGRADE	BUILDING PAD	95%	ASTM D1557
TRENCH BACKFILL	STRUCTURAL AREAS	95%	ASTM D1557

DISCLAIMER: GRADING QUANTITIES FOR PRELIMINARY PLAN ONLY.  
EXISTING GROUND SURFACE BASED ON GIS INFORMATION AND IS APPROXIMATE ONLY.



SENSITIVE AREAS

NO SENSITIVE AREAS ON SITE AS IDENTIFIED BY CLARK COUNTY GIS OTHER THAN AS SHOWN ON PLAN. NO WETLANDS OR WETLAND BUFFERS, NO HABITAT OR HABITAT BUFFERS, NO WATERWAYS OR SHORELINE AREAS ON SITE.

STEEP SLOPES, EROSION HAZARD, AND LANDSLIDE HAZARDS ARE MAPPED ON SITE BY GIS.

WELLS AND DRAINFIELDS

NO RECORDS FOUND INDICATE EXISTING SEPTIC DRAINFIELD. NO RECORDS FOUND INDICATING A WELL IS PRESENT. ANY SEPTIC SYSTEM OR WELL ENCOUNTERED TO BE DECOMMISSIONED FOLLOWING DISTRICT STANDARDS.

IMPERVIOUS SURFACE

NO IMPERVIOUS SURFACES PROPOSED OTHER THAN STREET AND SIDEWALK

SITE INFORMATION

4601 NE INGLE RD  
CAMAS, WA 98682  
SN: 986043773  
GROSS AREA: 7.88 AC

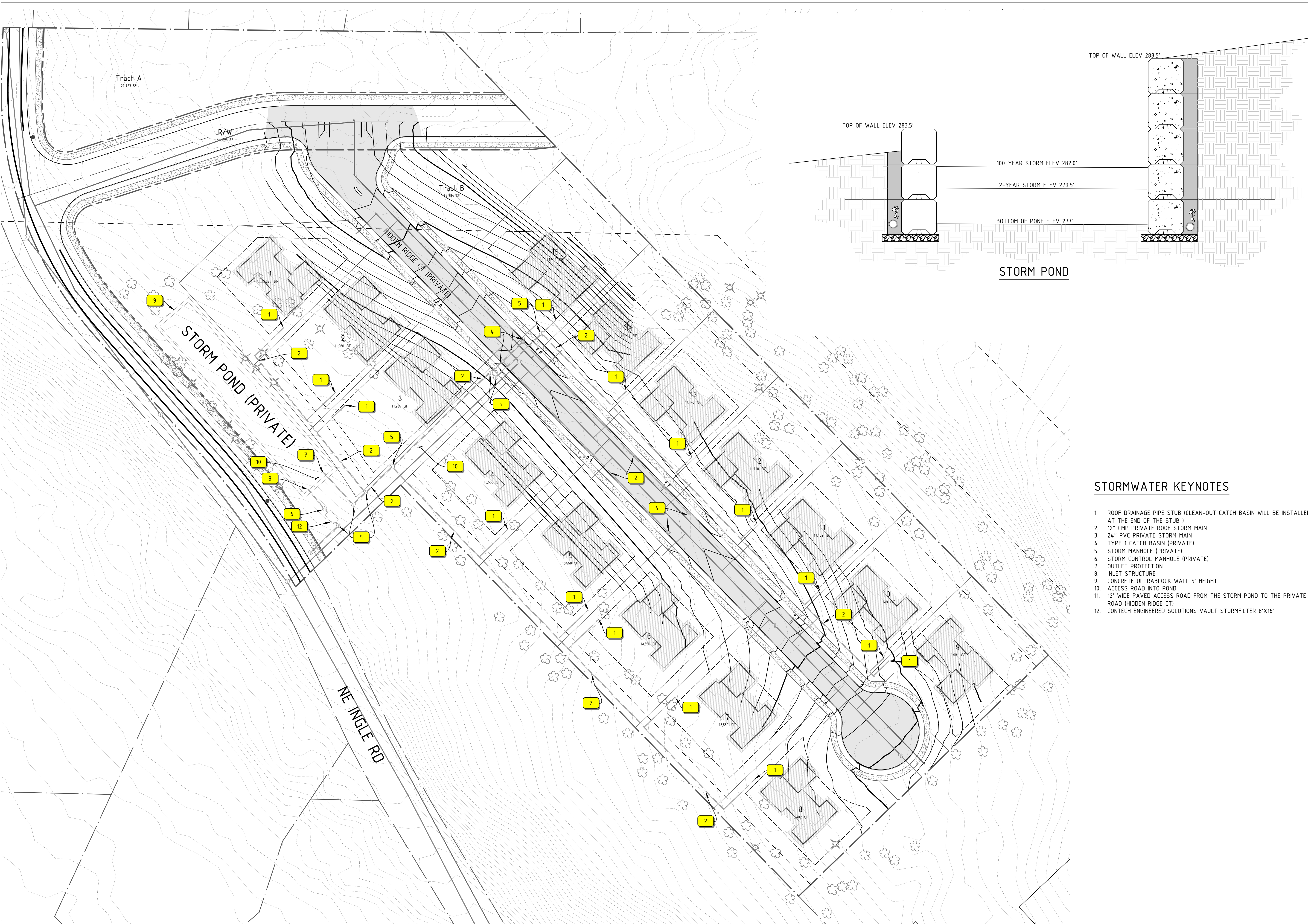
EROSION CONTROL KEYNOTES

NOTE: BMP'S NOT CALLED OUT MAY BE USED AT DEVELOPER'S DISCRETION AS ADDITIONAL EROSION CONTROL MEASURES

1. BMP C101 - PRESERVE NATURAL VEGETATION
2. BMP C102 - BUFFER ZONE
3. BMP C103 - HIGH VISIBILITY FENCE
4. BMP C105 - STABILIZED CONSTRUCTION ENTRANCE
5. BMP C120 - TEMPORARY AND PERMANENT SEEDING
6. BMP C122 - NETS AND BLANKETS
7. BMP C123 - PLASTIC COVERING
8. BMP C130 - SURFACE ROUGHENING
9. BMP C154 - CONCRETE WASHOUT
10. BMP C200 - INTERCEPTOR DIKE/SWALE
11. BMP C201 - GRASS-LINED CHANNEL
12. BMP C209 - OUTLET PROTECTION
13. BMP C220 - INLET PROTECTION
14. BMP C233 - SILT FENCE
15. BMP C235 - WATTLES
16. TEMPORARY SEDIMENT/INFILTRATION POND
17. HIGH VISIBILITY SILT FENCE

DETAILS SHEETS CXXX  
SEE THE CURRENT CLARK COUNTY STORMWATER MANUAL FOR ADDITIONAL REQUIREMENTS OR EROSION CONTROL METHODS.





STORMWATER KEYNOTES

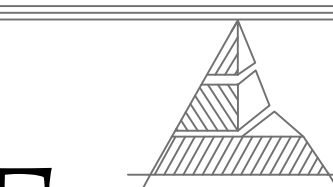
1. ROOF DRAINAGE PIPE STUB (CLEAN-OUT CATCH BASIN WILL BE INSTALLED AT THE END OF THE STUB )
2. 12" CMP PRIVATE ROOF STORM MAIN
3. 24" PVC PRIVATE STORM MAIN
4. TYPE 1 CATCH BASIN (PRIVATE)
5. STORM MANHOLE (PRIVATE)
6. STORM CONTROL MANHOLE (PRIVATE)
7. OUTLET PROTECTION
8. INLET STRUCTURE
9. CONCRETE ULTRABLOCK WALL 5' HEIGHT
10. ACCESS ROAD INTO POND
11. 12' WIDE PAVED ACCESS ROAD FROM THE STORM POND TO THE PRIVATE ROAD (HIDDEN RIDGE CT)
12. CONTECH ENGINEERED SOLUTIONS VAULT STORMFILTER 8'X16'



PROJECT NO: 21-1289  
DESIGNED BY: PCW  
DRAWN BY: PCW  
DATE: 1/12/2021

SHEET NO. C110  
3 OF 7





Engineering  
Northwest

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PRELIMINARY SEWER & WATER PLAN

HIDDEN RIDGE ESTATES



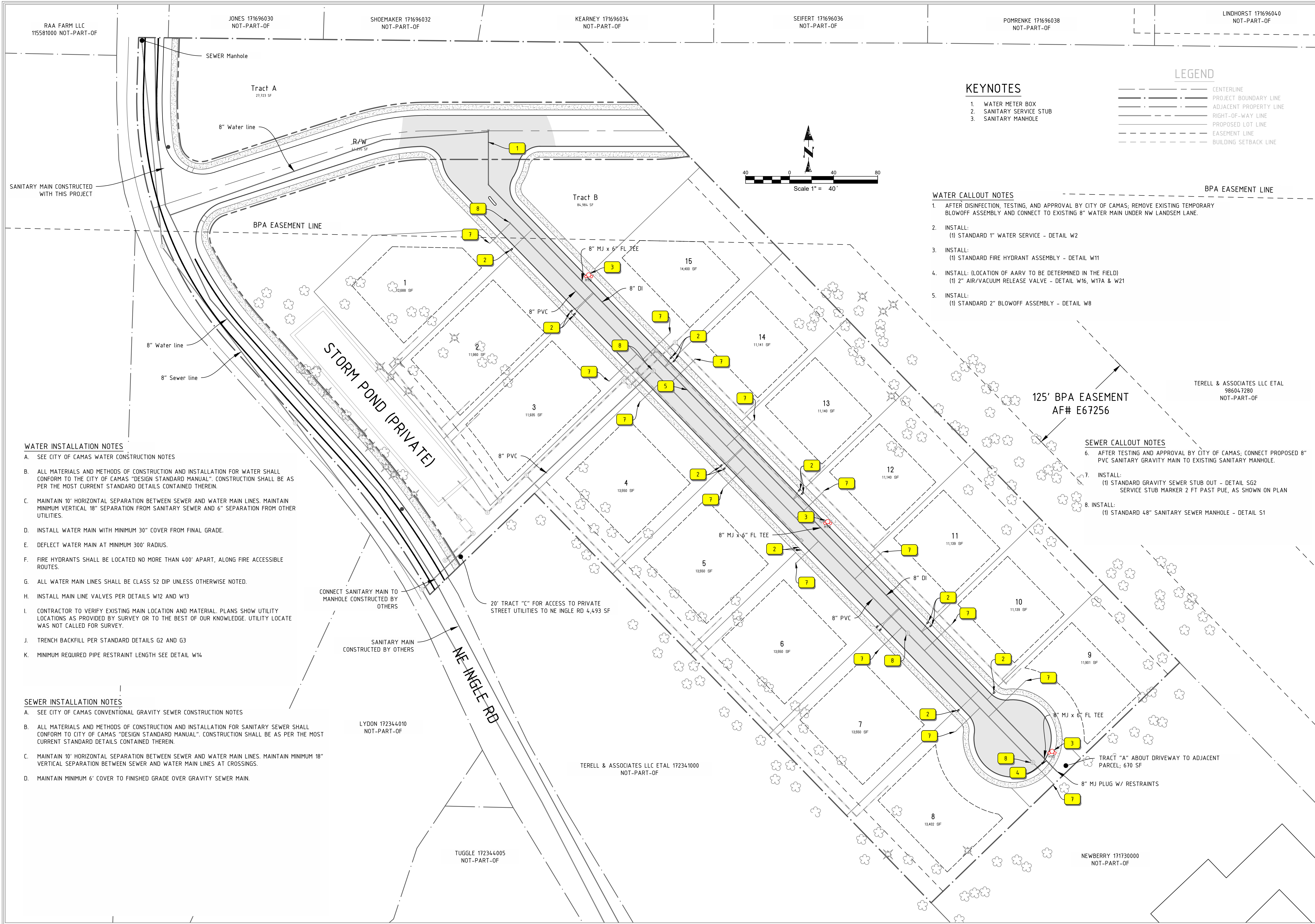
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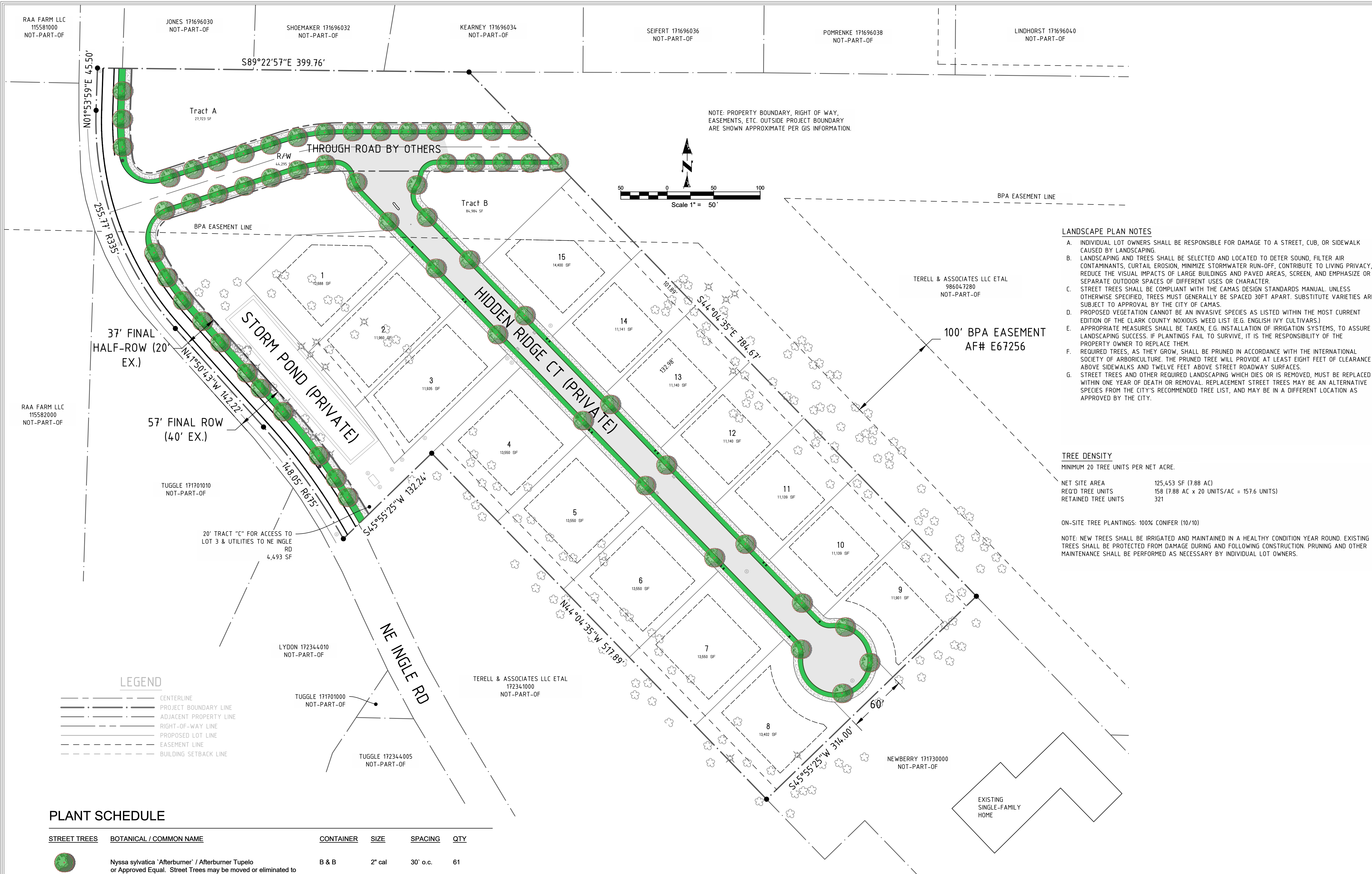
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DESIGNED BY: PCW  
DRAWN BY: PCW  
DATE: 1/12/2021

SHEET NO.  
C130

4 OF 7

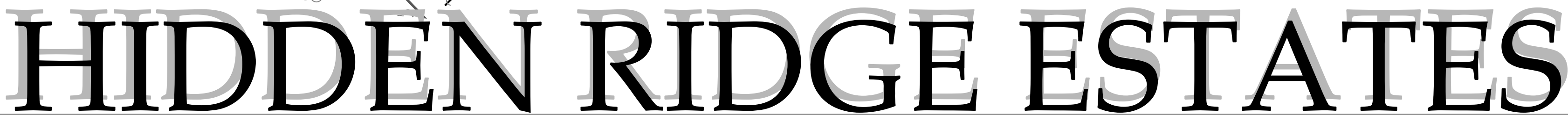






# HIDDEN RIDGE ESTATES







EXISTING TREES

SYMBOL

BOTANICAL/COMMON NAME

Acer Macrophyllum/Big Leaf Maple

Pseudotsuga/Douglas Fir

NOTES

SYMBOL

EXISTING TREES RETAINED

EXISTING TREE REMOVED

TREE PROTECTION ZONE (MINIMUM SHOWN)



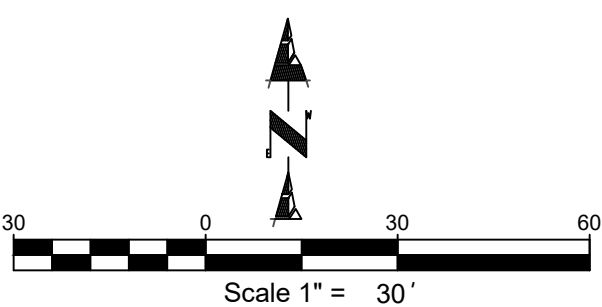
TREE DENSITY  
MINIMUM 20 TREE UNITS PER NET ACRE.

NET SITE AREA	125,453 SF (7.88 AC)
REQ'D TREE UNITS	158 (7.88 AC x 20 UNITS/AC = 157.6 UNITS)
RETAINED TREE UNITS	321

ON-SITE TREE PLANTINGS: 100% CONIFER (10/10)

NOTE: NEW TREES SHALL BE IRRIGATED AND MAINTAINED IN A HEALTHY CONDITION YEAR ROUND. EXISTING TREES SHALL BE PROTECTED FROM DAMAGE DURING AND FOLLOWING CONSTRUCTION. PRUNING AND OTHER MAINTENANCE SHALL BE PERFORMED AS NECESSARY BY INDIVIDUAL LOT OWNERS.

- LEGEND
- CENTERLINE
- PROJECT BOUNDARY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED LOT LINE
- EASEMENT LINE
- BUILDING SETBACK LINE

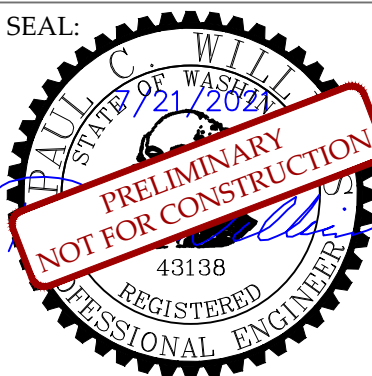


# HIDDEN RIDGE ESTATES





REVISIONS:



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SHEET NO.  
C130

PRELIMINARY COST ESTIMATE (OFFSITE)

SEWER	QUANTITY	UNIT COST	COST
8" SEWER MAIN	3,512 FEET	\$110.00	\$356,320
MANHOLE	11	\$9,750	\$107,250
TOTAL			\$463,570

WATER	QUANTITY	UNIT COST	COST
8" WATER MAIN	3,512 FEET	\$95.00	\$333,640
FIRE HYDRANTS	6	\$3,750	\$22,500
TOTAL			\$356,140

TOTAL COST OFF-SITE SEWER AND WATER EXTENSION \$819,710

WATER INSTALLATION NOTES

- A. SEE CITY OF CAMAS WATER CONSTRUCTION NOTES
- B. ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR WATER SHALL CONFORM TO THE CITY OF CAMAS "DESIGN STANDARD MANUAL". CONSTRUCTION SHALL BE AS PER THE MOST CURRENT STANDARD DETAILS CONTAINED THEREIN.
- C. MAINTAIN 10" HORIZONTAL SEPARATION BETWEEN SEWER AND WATER MAIN LINES. MAINTAIN MINIMUM VERTICAL 18" SEPARATION FROM SANITARY SEWER AND 6" SEPARATION FROM OTHER UTILITIES.
- D. INSTALL WATER MAIN WITH MINIMUM 30" COVER FROM FINAL GRADE.
- E. DEFLECT WATER MAIN AT MINIMUM 300' RADIUS.
- F. FIRE HYDRANTS SHALL BE LOCATED NO MORE THAN 400' APART, ALONG FIRE ACCESSIBLE ROUTES.
- G. ALL WATER MAIN LINES SHALL BE CLASS 52 DIP UNLESS OTHERWISE NOTED.
- H. INSTALL MAIN LINE VALVES PER DETAILS W12 AND W13
- I. CONTRACTOR TO VERIFY EXISTING MAIN LOCATION AND MATERIAL. PLANS SHOW UTILITY LOCATIONS AS PROVIDED BY SURVEY OR TO THE BEST OF OUR KNOWLEDGE. UTILITY LOCATE WAS NOT CALLED FOR SURVEY.
- J. TRENCH BACKFILL PER STANDARD DETAILS G2 AND G3
- K. MINIMUM REQUIRED PIPE RESTRAINT LENGTH SEE DETAIL W14

SEWER INSTALLATION NOTES

- A. SEE CITY OF CAMAS CONVENTIONAL GRAVITY SEWER CONSTRUCTION NOTES
- B. ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR SANITARY SEWER SHALL CONFORM TO CITY OF CAMAS "DESIGN STANDARD MANUAL". CONSTRUCTION SHALL BE AS PER THE MOST CURRENT STANDARD DETAILS CONTAINED THEREIN.
- C. MAINTAIN 10" HORIZONTAL SEPARATION BETWEEN SEWER AND WATER MAIN LINES. MAINTAIN MINIMUM 18" VERTICAL SEPARATION BETWEEN SEWER AND WATER MAIN LINES AT CROSSINGS.
- D. MAINTAIN MINIMUM 6' COVER TO FINISHED GRADE OVER GRAVITY SEWER MAIN.

WATER CALLOUT NOTES

1. AFTER DISINFECTION, TESTING, AND APPROVAL BY CITY OF CAMAS; REMOVE EXISTING TEMPORARY BLOWOFF ASSEMBLY AND CONNECT TO EXISTING 8" WATER MAIN UNDER NW LANDSEM LANE.
2. INSTALL:  
(1) STANDARD 1" WATER SERVICE - DETAIL W2
3. INSTALL:  
(1) STANDARD FIRE HYDRANT ASSEMBLY - DETAIL W11
4. INSTALL: (LOCATION OF AARV TO BE DETERMINED IN THE FIELD)  
(1) 2" AIR/VACUUM RELEASE VALVE - DETAIL W16, W17A & W21
5. INSTALL:  
(1) STANDARD 2" BLOWOFF ASSEMBLY - DETAIL W8

SEWER CALLOUT NOTES

6. AFTER TESTING AND APPROVAL BY CITY OF CAMAS; CONNECT PROPOSED 8" PVC SANITARY GRAVITY MAIN TO EXISTING SANITARY MANHOLE.
7. INSTALL:  
(1) STANDARD GRAVITY SEWER STUB OUT - DETAIL SG2  
SERVICE STUB MARKER 2 FT PAST PUE, AS SHOWN ON PLAN
8. INSTALL:  
(1) STANDARD 48" SANITARY SEWER MANHOLE - DETAIL S1

