NW BERG DRIVE AND NW CHERRY LANE

FOR

CITY OF MADRAS

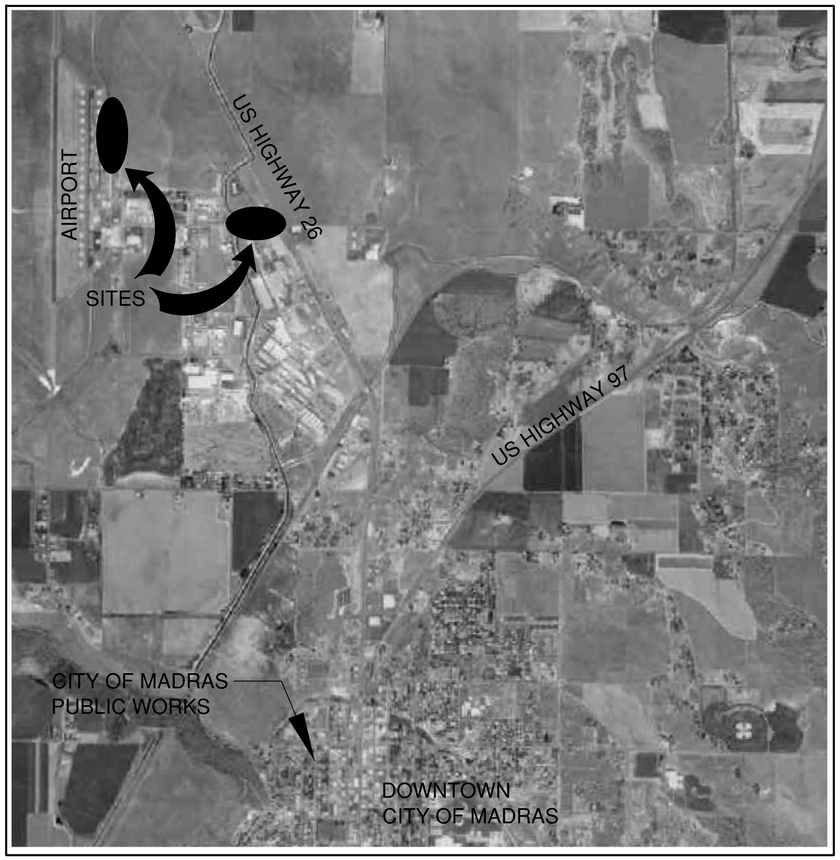
AUGUST, 2013

JEFFERSON COUNTY, OREGON

OWNER:

CITY OF MADRAS

216 NW "B" STREET
MADRAS, OR 97741
(541) 475-7672



VICINITY MAP

SCALE: NOT TO SCALE

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LEGEND:

EXISTING FEATURES

- PROPERTY LINE
- CURB LINE
- SD — STORM DRAIN LINE
- OHP — OVERHEAD POWER LINES
- UGP — UNDERGROUND POWER LINE PER LOCATE MARKS
- GAS — UNDERGROUND GAS LINE PER LOCATE MARKS
- TEL — UNDERGROUND TELEPHONE LINE PER LOCATE MARKS
- W — UNDERGROUND WATER LINE PER LOCATE MARKS
- S — UNDERGROUND SEWER LINE PER LOCATE MARKS
- X — FENCE
- ASPHALT PAVING
- CONCRETE
- CATCH BASIN
- FIRE HYDRANT
- GATE VALVE
- WATER METER
- LIGHT
- GUY POLE/ANCHOR
- UTILITY POLE
- ELECTRIC TRANSFORMER & PAD
- ELECTRIC SERVICE
- CABLE TV SERVICE/RISER
- TELEPHONE RISER
- GAS SERVICE
- SEWER MANHOLE
- 3620 — CONTOUR LINE, 1' INTERVAL
- PONDEROSA PINE TREE

PROPOSED IMPROVEMENTS

- CURB LINE
- W — WATER LINE (SIZE AS NOTED)
- SS — SEWER LINE (SIZE AS NOTED)
- BENCH MARK
- ASPHALT PAVING

GENERAL CONSTRUCTION NOTES

1. CONSTRUCTION OF CITY OF MADRAS IMPROVEMENTS AND ALL WORK WITHIN PUBLIC RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH THE 2011 CITY OF MADRAS PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
2. THE CITY OF MADRAS PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY CONSTRUCTION WORK DONE PRIOR TO NOTICE TO PROCEED BEING ISSUED BY THE OWNER, OR WITHOUT INSPECTION WILL BE REJECTED.
3. THE CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT, AND METHODS REQUIRED TO PREVENT HIS OPERATIONS FROM PRODUCING DUST IN AMOUNTS DAMAGING TO PROPERTY, CULTIVATED VEGETATION, AND DOMESTIC ANIMALS OR CAUSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY DUST RESULTING FROM HIS OPERATIONS.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT "UNDERGROUND LOCATE SERVICE" AT 1-800-332-2344 AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO THE START OF CONSTRUCTION FOR LOCATION OF POWER, GAS, OIL, CABLE TV, AND TELEPHONE UNDERGROUND FACILITIES. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE PUBLIC AGENCY FOR LOCATION OF ALL UNDERGROUND FACILITIES.
5. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE INDUSTRIAL SAFETY REGULATIONS. THE CITY OF MADRAS AND THE ENGINEER, SHALL NOT BE RESPONSIBLE FOR ENFORCING SAFETY REGULATIONS.
6. TOPOGRAPHIC INFORMATION SHOWN IS BASED ON A FIELD SURVEY PERFORMED BY HICKMAN, WILLIAMS, AND ASSOCIATES IN JULY 2013.
7. ALL UTILITIES SHOWN ARE ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. NO POTHOLING TO VERIFY LOCATION AND ELEVATION WAS CONDUCTED. THE CONTRACTOR HAS THE TOTAL RESPONSIBILITY TO VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND TO NOTIFY THE UTILITY COMPANIES WHEN WORKING IN PROXIMITY TO THEIR FACILITIES.
8. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS ON THE JOB SITE INCLUDING DIMENSIONS, GRADES, ELEVATIONS, EXTENT AND COMPATIBILITY OF THE WORK DESCRIBED ON THE ENGINEERS DRAWING WITH THE EXISTING SITE CONDITIONS. ANY DISCREPANCIES OR UNEXPECTED CONDITIONS THAT AFFECT OR CHANGE THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. CONTRACTOR SHALL NOT PROCEED WITH ANY OF THE WORK IN THE AREA OF DISCREPANCIES UNTIL ALL SUCH DISCREPANCIES ARE RESOLVED. IF THE CONTRACTOR CHOOSES TO DO SO, THEN IT IS UNDERSTOOD THAT HE SHALL BE PROCEEDING AT HIS OWN RISK AND INCUR ALL COST, IF ANY, TO RESOLVE THE ISSUE TO THE SATISFACTION OF THE ENGINEER.
9. MATERIAL QUANTITIES USED, NOTED, OR PROVIDED IN A SEPARATE ITEMIZED QUANTITY TAKE-OFF ARE AN ENGINEER'S OPINION OF PROBABLE MATERIAL REQUIREMENTS, AND ARE ESTIMATES ONLY. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY OF MAKING HIS OWN QUANTITY TAKE-OFFS ON WHICH TO BASE HIS BID.
10. SURVEY MONUMENTS AND/OR PROPERTY CORNERS THAT ARE DESTROYED OR DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE RESTORED AND/0R REPLACED AT THE CONTRACTOR'S EXPENSE.

SHEET INDEX:

C1 COVER SHEET
C2 LOCATION MAP
C3 TYPICAL SECTIONS AND DETAILS
C4 BERG DRIVE DRAINAGE AND ESC PLAN
C5 BERG DRIVE PLAN AND PROFILE
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REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1988 GRANT HARDGRAVE
EXPIRES: 30 JUNE, 2015

CITY OF MADRAS
NW BERG DRIVE AND NW CHERRY LANE
COVER SHEET
JEFFERSON COUNTY, OREGON

REVISIONS:

HWA ENGINEERS, SURVEYORS & PLANNERS
HICKMAN, WILLIAMS & ASSOCIATES, INC
62930 O.B. RILEY ROAD, SUITE 100
BEND, OREGON 97701
PHONE: 541-383-3313 FAX: 541-388-5416
WWW.HWA-INC.ORG

DESIGNED BY:
DRAWN BY: J CLAY
CHECKED BY: G. HARDGRAVE
SCALE: AS NOTED
FILE: 130406-CD.DWG
DATE: 9/12/2013

VERIFY SCALES
0 1"
BAR EQUALS ONE INCH ON ORIGINAL DRAWING

SHEET:
C1

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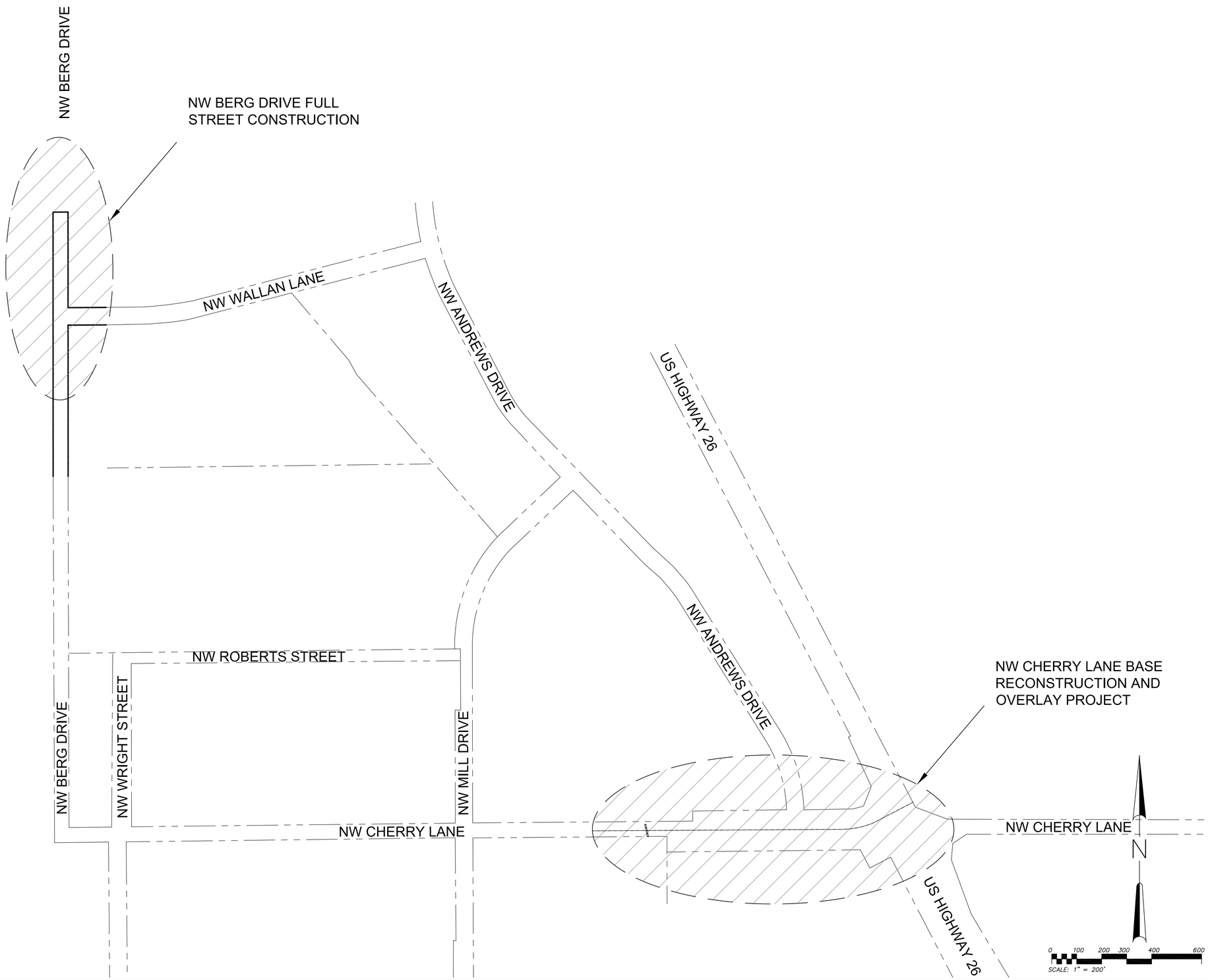

REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1999 GRANT HARDGRAVE
EXPIRES: 30 JUNE, 2015

CITY OF MADRAS
NW BERG DRIVE AND NW CHERRY LANE
LOCATION MAP
JEFFERSON COUNTY, OREGON

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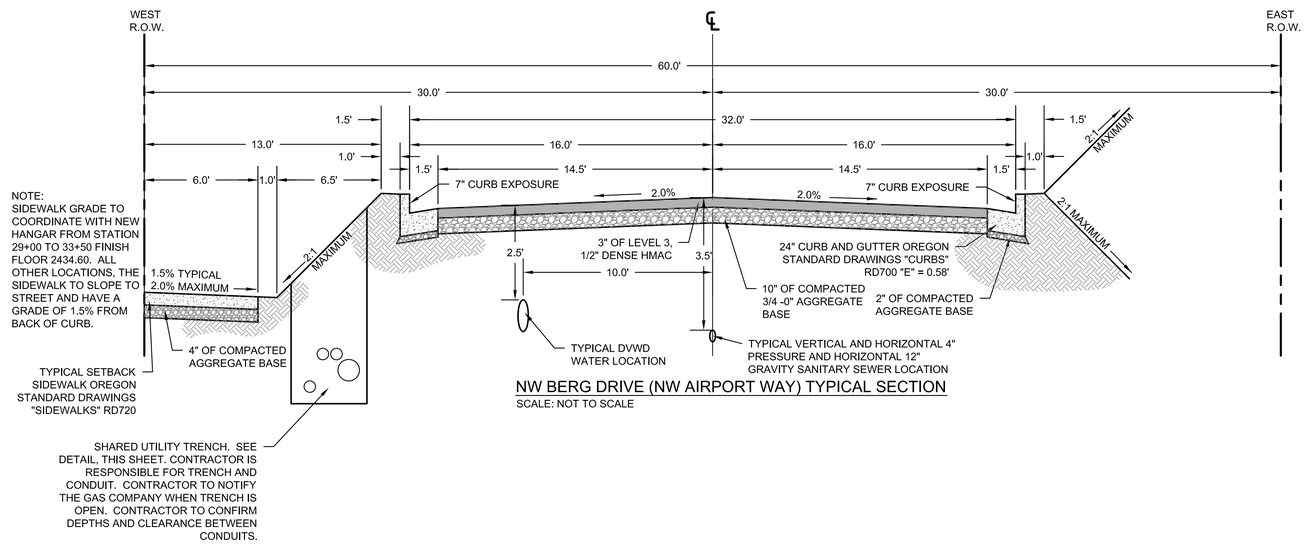

NW BERG DRIVE (NW AIRPORT WAY) TYPICAL SECTION

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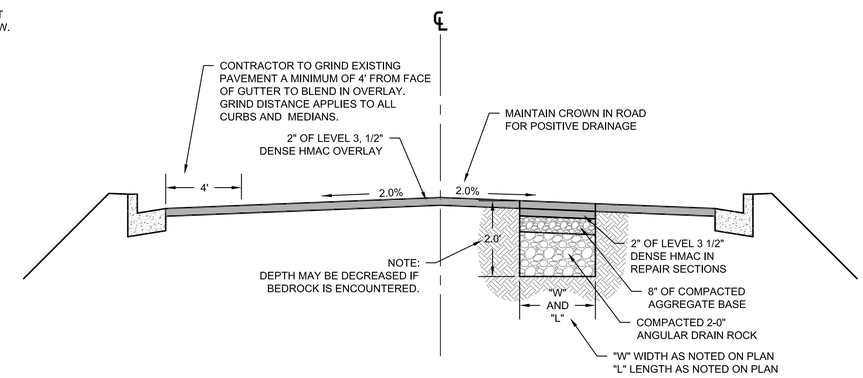

NW CHERRY LANE TYPICAL SECTION

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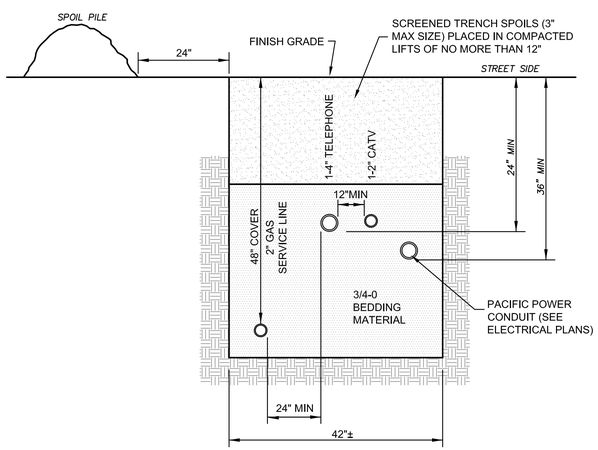

SHARED UTILITY TRENCH

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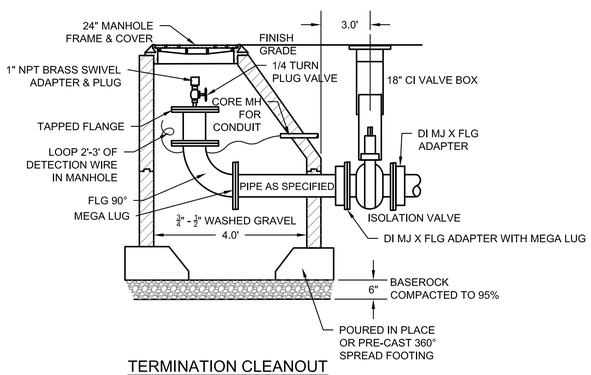

TERMINATION CLEANOUT

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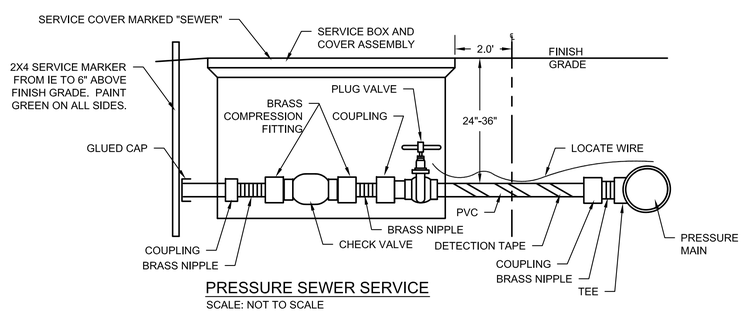

PRESSURE SEWER SERVICE

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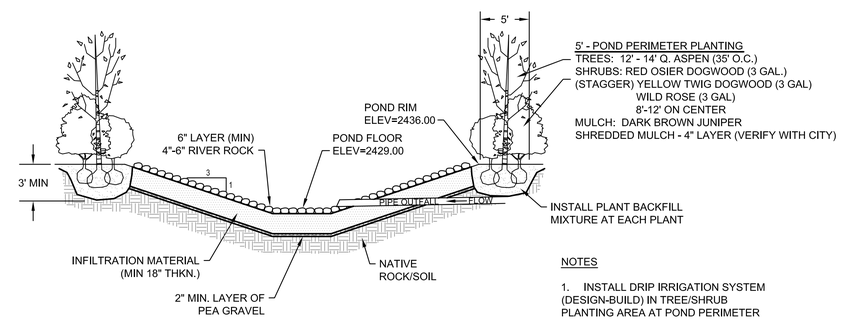

NW BERG DRIVE POND TYPICAL SECTION

SCALE: NOT TO SCALE

NOTES

1. INSTALL DRIP IRRIGATION SYSTEM (DESIGN-BUILD) IN TREE/SHRUB PLANTING AREA AT POND PERIMETER

2. INFILTRATION MEDIA TO BE A SOIL MIX CONSISTING OF A WELL MIXED COMBINATION OF 50-60% CLEAN SAND, 20-30% TOPSOIL, AND 5-20% CERTIFIED COMPOST AND/OR PEAT

REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1990 GRANT HARDGRAVE

EXPIRES: 30 JUNE, 2015

CITY OF MADRAS

NW BERG DRIVE AND NW CHERRY LANE

TYPICAL SECTIONS AND DETAILS

JEFFERSON COUNTY, OREGON

REVISIONS:

HWA ENGINEERS, SURVEYORS & PLANNERS
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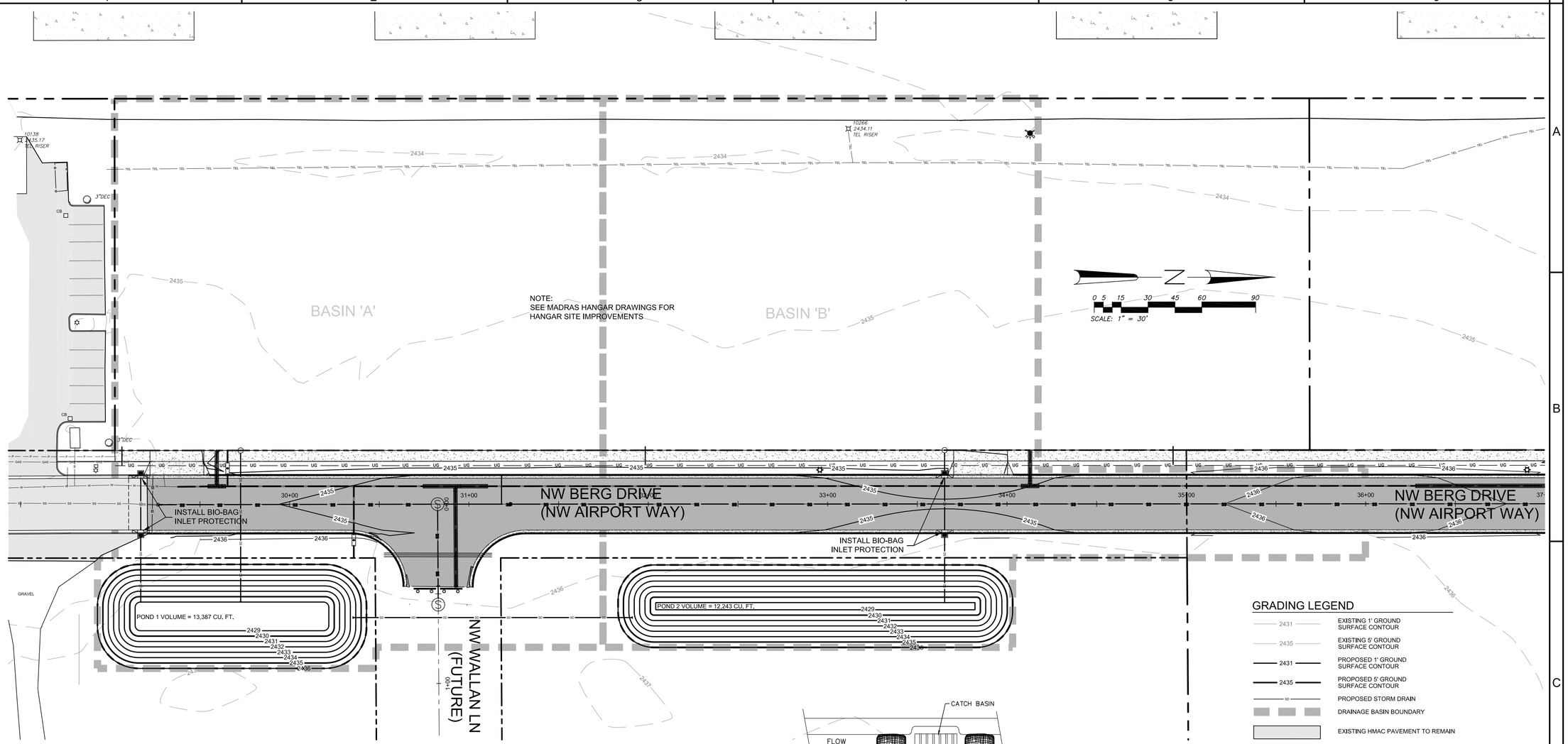
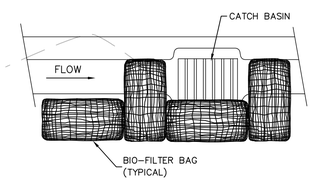


GRADING LEGEND

- 2431 — EXISTING 1' GROUND SURFACE CONTOUR
- 2435 — EXISTING 5' GROUND SURFACE CONTOUR
- 2431 — PROPOSED 1' GROUND SURFACE CONTOUR
- 2435 — PROPOSED 5' GROUND SURFACE CONTOUR
- PROPOSED STORM DRAIN
- DRAINAGE BASIN BOUNDARY
- EXISTING HMAC PAVEMENT TO REMAIN
- PROPOSED HMAC PAVEMENT
- EXISTING CONCRETE
- PROPOSED PCC SIDEWALK



1 / C4 BIO-BAG INSTALLATION

SCALE: NOT TO SCALE

GENERAL EROSION CONTROL NOTES

1. HOLD A PRE-CONSTRUCTION MEETING THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS.
2. THE ESC PLAN MUST BE KEPT ONSITE AT ALL TIMES WHEN WORK IS OCCURING.
3. THE ESC MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS, DURING THE CONSTRUCTION PERIOD, THE MEASURES MUST BE UPGRADED AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS.
4. NO PARKING OR STAGING ON EXISTING NW BERG DRIVE PAVEMENT.
5. RETAIN THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT AND DURATION PRACTICAL.
6. INSPECT ALL ROADWAYS ADJACENT TO THE CONSTRUCTION ACCESS ROUTE AT THE END OF EACH DAY. SIGNIFICANT AMOUNTS OF SEDIMENT THAT LEAVES THE CONSTRUCTION SITE MUST BE CLEANED UP WITHIN 24-HRS AND STABILIZED BACK ON THE SITE OR PROPERLY DISPOSED. THE CAUSE OF SEDIMENT RELEASE MUST BE IDENTIFIED AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24-HRS. VACUUMING OR DRY SWEEPING MUST BE USED TO CLEAN-UP RELEASED SEDIMENT AND SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
7. COVER AND SECURE ALL DUMP TRUCK LOADS LEAVING THE CONSTRUCTION SITE TO MINIMIZE SPILLAGE ON ROADS.
8. RESTORE CONSTRUCTION ACCESS ROUTE EQUAL TO OR BETTER THAN THE PRE-CONSTRUCTION CONDITION.
9. CONTROL FUGITIVE DUST FROM CONSTRUCTION ACTIVITY.
10. STABILIZE EXPOSED UNWORKED SOILS (INCLUDING STOCKPILES), WHETHER AT FINAL GRADE OR NOT, WITHIN 10 CALENDAR DAYS DURING THE REGIONAL DRY SEASON (JULY 1 - SEPT. 30) AND WITHIN 5 CALENDAR DAYS DURING THE REGIONAL WET SEASON (OCT. 1 - JUNE 30).
11. PROTECT INLETS, DRYWELLS, CATCH BASINS AND OTHER STORMWATER MANAGEMENT FACILITIES FROM SEDIMENT, WHETHER OR NOT THE FACILITIES ARE OPERABLE.
11. KEEP ROADS ADJACENT TO INLETS CLEAN.
12. INSPECT INLETS WEEKLY AT A MINIMUM AND DAILY DURING STORM EVENTS. CLEAN OR REMOVE AND REPLACE INLET PROTECTION DEVICES BEFORE SIX INCHES OF SEDIMENT CAN ACCUMULATE.
13. WHENEVER POSSIBLE, CONSTRUCT STORMWATER CONTROL FACILITIES (DETENTION/RETENTION STORAGE POND OR SWALES) BEFORE GRADING BEGINS. THESE FACILITIES SHOULD BE OPERATIONAL BEFORE THE CONSTRUCTION OF IMPERVIOUS SITE IMPROVEMENTS.
14. STOCKPILE MATERIALS (SUCH AS TOPSOIL) ONSITE, KEEPING OFF ROADWAYS AND SIDEWALKS.
15. COVER, CONTAIN AND PROTECT ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND NON-INERT WASTES PRESENT ONSITE FROM VANDALISM. MAINTAIN A SUPPLY OF MATERIALS ON HAND TO ADDRESS AND CONTAIN SPILLS.
16. LOCATE DESIGNATED VEHICLE AND EQUIPMENT SERVICE AREAS, FUEL, AND MATERIALS AWAY FROM DRAINAGE INLETS, WATERCOURSES, AND CANALS, PROPERLY CONTAIN AREAS USING BERMS, SANDBAGS, OR OTHER BARRIERS, REGULARLY INSPECT AND MAINTAIN EQUIPMENT, ESPECIALLY FOR DAMAGED HOSES AND LEAKY GASKETS.
17. DESIGNATE AN AREA FOR CLEANING PAINTING EQUIPMENT AND TOOLS. NEVER CLEAN BRUSHES OR RINSE CONTAINERS INTO THE STREET, GUTTER, DRAINAGE INLET, OR WATERWAY.
18. APPLY LANDSCAPING OR AGRICULTURAL CHEMICALS, INCLUDING FERTILIZERS AND PESTICIDES, IN SUCH A MANNER, AND AT APPLICATION RATES, THAT INHIBITS THE LOSS OF CHEMICALS INTO STORMWATER RUNOFF FACILITIES.
19. INSPECT ON A REGULAR BASIS (AT A MINIMUM WEEKLY, AND DAILY DURING/AFTER A RUNOFF PRODUCING STORM EVENT) AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL BMPS TO ENSURE SUCCESSFUL PERFORMANCE OF THE BMPS.
20. REMOVE TEMPORARY ESC BMPS WITHIN 30 DAYS AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED, PERMANENTLY STABILIZE AREAS THAT ARE DISTURBED DURING THE REMOVAL PROCESS.
21. WATER SITE UNTIL SURFACE IS WET AND REPEAT AS NEEDED. WATER SHALL BE APPLIED AT RATES SO THAT RUNOFF DOES NOT OCCUR.

BASIN DESIGN DATA

BASIN	TRIBUTARY AREA (SQ. FT.)	TRIBUTARY AREA (ACRE)	PROPOSED IMPERVIOUS AREA (ACRE)	PROPOSED PERVIOUS AREA (ACRE)	COMPOSITE CN	NRCS STORM TYPE	2/3 OF 2-YR STORM WATER QUALITY RUNOFF VOLUME (CU. FT.)	25-YR STORM POND VOLUME REQUIRED (CU. FT.)	100-YR STORM POND VOLUME REQUIRED (CU. FT.)	DESIGNED POND STORAGE VOLUME AT WATER SURFACE ELEV = 2433'
A	85,573	1.96	1.26	.60	95	TYPE I	2,357	9,283	12,296	13,387
B	82,596	1.90	1.20	.58	95	TYPE 1	2,299	8,863	11,738	12,243

PROGRAM USED: HYDRAFLOW HYDROGRAPHS EXTENSION FOR AUTOCAD CIVIL 3D 2012
NOTE: ASSUMING LITTLE TO NO INFILTRATION (PER GEOTECH. REPORT 0.25 IN./HR.)
MIN. PIPE VELOCITY FLOW DESIGN = 2.0 FT./SEC.
NOAA ATLAS 2 - VOLUME X PRECIPITATION VALUES (IN.):
2/3 OF 2-YR = 0.87 25-YR = 2.1
2-YR = 1.3 100-YR = 2.6
THE PROPOSED PONDS ON THE EAST SIDE OF NW BERG DRIVE HAVE BEEN SIZED TO A 100-YR/24-HR STORM EVENT. ROOF DRAIN FROM THE PROPOSED BUILDING SHALL BE CONNECTED TO STORM DRAIN AND ROUTED TO THE PROPOSED PONDS.

REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1988 GRANT HARDGRAVE
EXPIRES: 30 JUNE, 2015

CITY OF MADRAS
NW BERG DRIVE AND NW CHERRY LANE
NW BERG DRIVE DRAINAGE & ESC PLAN
JEFFERSON COUNTY, OREGON

REVISIONS:

HWA ENGINEERS, SURVEYORS & PLANNERS
HICKMAN, WILLIAMS & ASSOCIATES, INC
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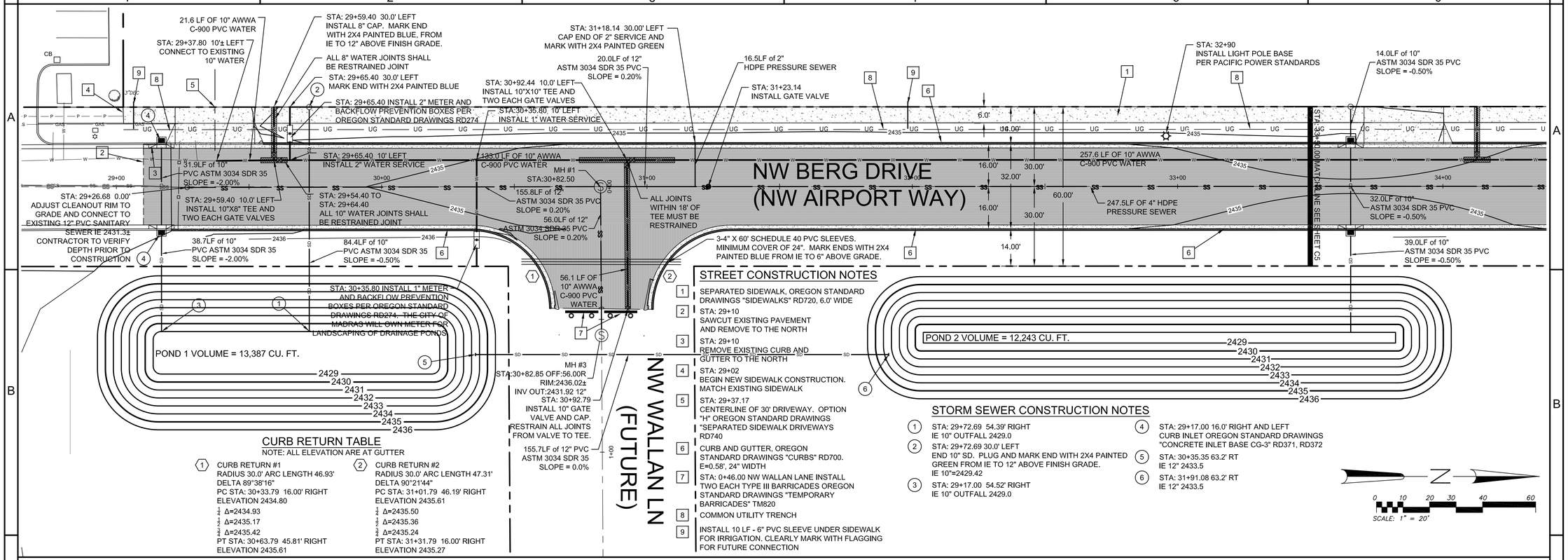


STREET CONSTRUCTION NOTES

1. SEPARATED SIDEWALK, OREGON STANDARD DRAWINGS "SIDEWALKS" RD720, 6.0' WIDE
2. STA: 29+10 SAWCUT EXISTING PAVEMENT AND REMOVE TO THE NORTH
3. STA: 29+10 REMOVE EXISTING CURB AND GUTTER TO THE NORTH
4. STA: 29+02 BEGIN NEW SIDEWALK CONSTRUCTION. MATCH EXISTING SIDEWALK
5. STA: 29+37.17 CENTERLINE OF 30' DRIVEWAY. OPTION "H" OREGON STANDARD DRAWINGS "SEPARATED SIDEWALK DRIVEWAYS RD740
6. CURB AND GUTTER, OREGON STANDARD DRAWINGS "CURBS" RD700. E=0.58', 24" WIDTH
7. STA: 0+46.00 NW WALLAN LANE INSTALL TWO EACH TYPE III BARRICADES OREGON STANDARD DRAWINGS "TEMPORARY BARRICADES" TM820
8. COMMON UTILITY TRENCH
9. INSTALL 10 LF - 6" PVC SLEEVE UNDER SIDEWALK FOR IRRIGATION. CLEARLY MARK WITH FLAGGING FOR FUTURE CONNECTION

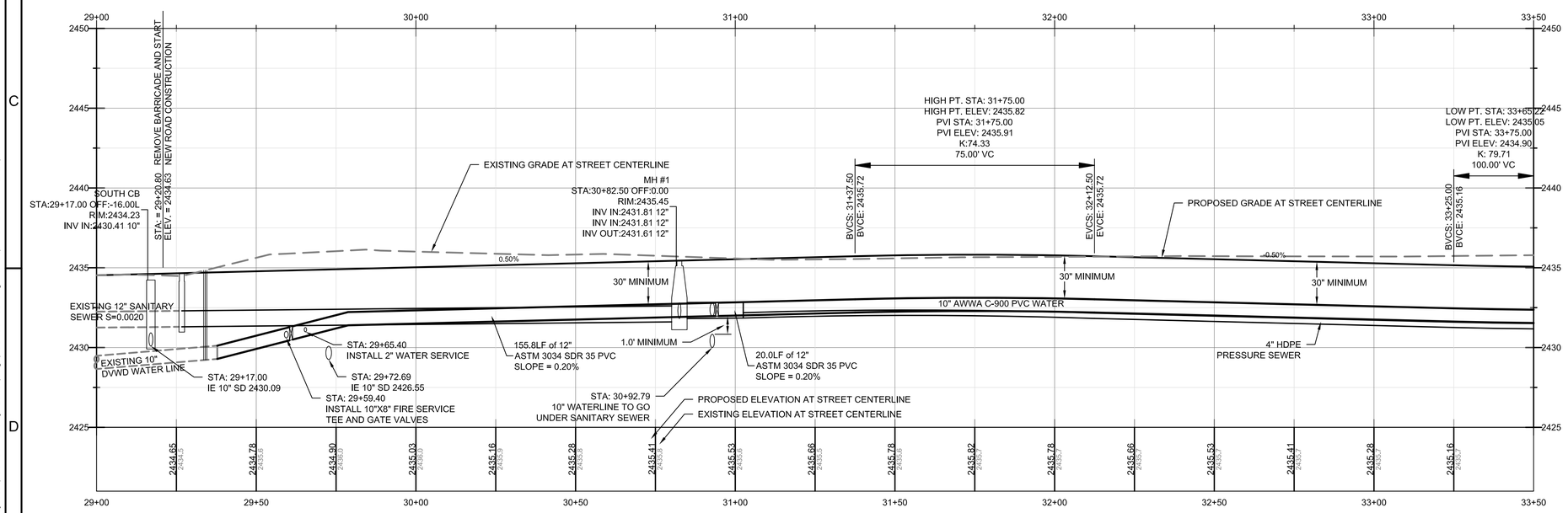
STORM SEWER CONSTRUCTION NOTES

1. STA: 29+72.69 54.39' RIGHT IE 10" OUTFALL 2429.0
2. STA: 29+72.69 30.0' LEFT END 10" SD. PLUG AND MARK END WITH 2X4 PAINTED GREEN FROM IE TO 12" ABOVE FINISH GRADE. IE 10"=2429.42
3. STA: 29+17.00 54.52' RIGHT IE 10" OUTFALL 2429.0
4. STA: 29+17.00 16.0' RIGHT AND LEFT CURB INLET OREGON STANDARD DRAWINGS "CONCRETE INLET BASE CG-3" RD371, RD372
5. STA: 30+35.35 63.2' RT IE 12" 2433.5
6. STA: 31+91.08 63.2' RT IE 12" 2433.5

CURB RETURN TABLE

NOTE: ALL ELEVATION ARE AT GUTTER

1	2
CURB RETURN #1	CURB RETURN #2
RADIUS 30.0' ARC LENGTH 46.93'	RADIUS 30.0' ARC LENGTH 47.31'
DELTA 89°38'16"	DELTA 90°21'44"
PC STA: 30+33.79 16.00' RIGHT	PC STA: 31+01.79 46.19' RIGHT
ELEVATION 2434.80	ELEVATION 2435.61
Δ=2434.93	Δ=2435.50
Δ=2435.17	Δ=2435.36
Δ=2435.42	Δ=2435.24
PT STA: 30+63.79 45.81' RIGHT	PT STA: 31+31.79 16.00' RIGHT
ELEVATION 2435.61	ELEVATION 2435.27



Profile View of Berg Drive

SCALE:
VERTICAL 1"=4'
HORIZONTAL 1"=20'

NOTE:
ALL WATER SYSTEM IMPROVEMENTS ARE TO BE CONSTRUCTED BY THE DESCHUTES VALLEY WATER DISTRICT. CONTRACTOR TO COORDINATE WITH GENERAL MANAGER, ED PUGH AT (541) 475-3849

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EXPIRES: 30 JUNE, 2015

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NW BERG DRIVE PLAN AND PROFILE
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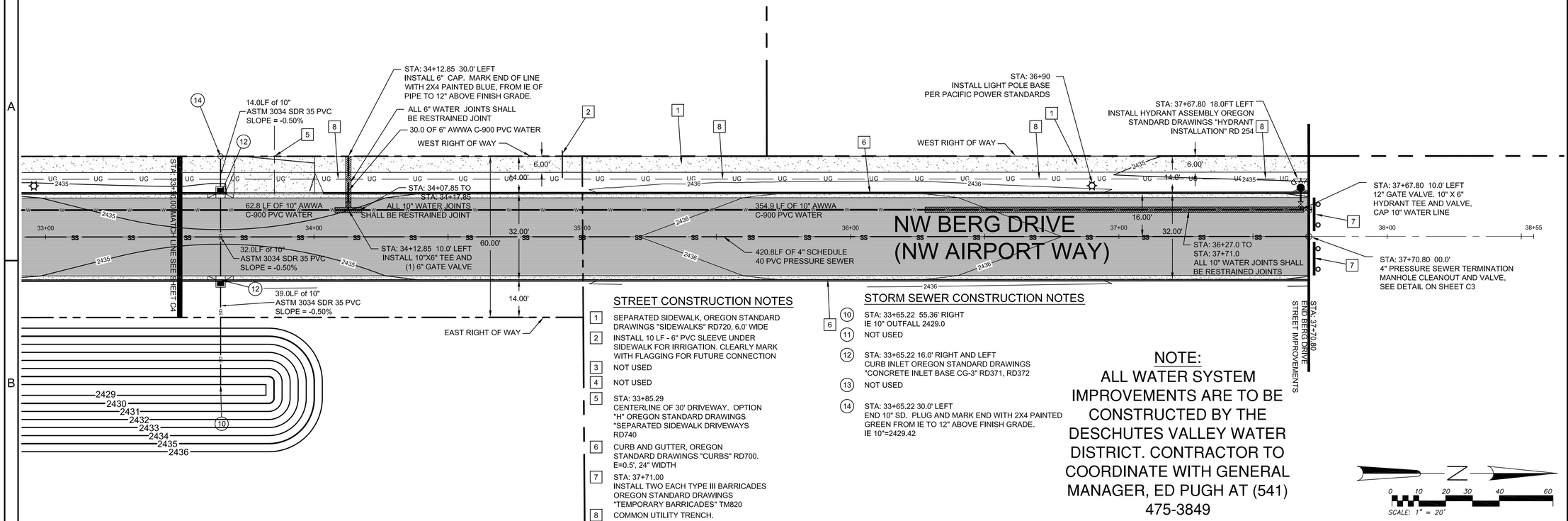


STREET CONSTRUCTION NOTES

1. SEPARATED SIDEWALK, OREGON STANDARD DRAWINGS "SIDEWALKS" RD720, 6.0' WIDE
2. INSTALL 10 LF - 6" PVC SLEEVE UNDER SIDEWALK FOR IRRIGATION. CLEARLY MARK WITH FLAGGING FOR FUTURE CONNECTION
3. NOT USED
4. NOT USED
5. STA: 33+85.29 CENTERLINE OF 30' DRIVEWAY. OPTION "H" OREGON STANDARD DRAWINGS "SEPARATED SIDEWALK DRIVEWAYS RD740
6. CURB AND GUTTER, OREGON STANDARD DRAWINGS "CURBS" RD700. E=0.5', 24" WIDTH
7. STA: 37+71.00 INSTALL TWO EACH TYPE III BARRICADES OREGON STANDARD DRAWINGS "TEMPORARY BARRICADES" TM820
8. COMMON UTILITY TRENCH. SEE DETAIL ON SHEET C3

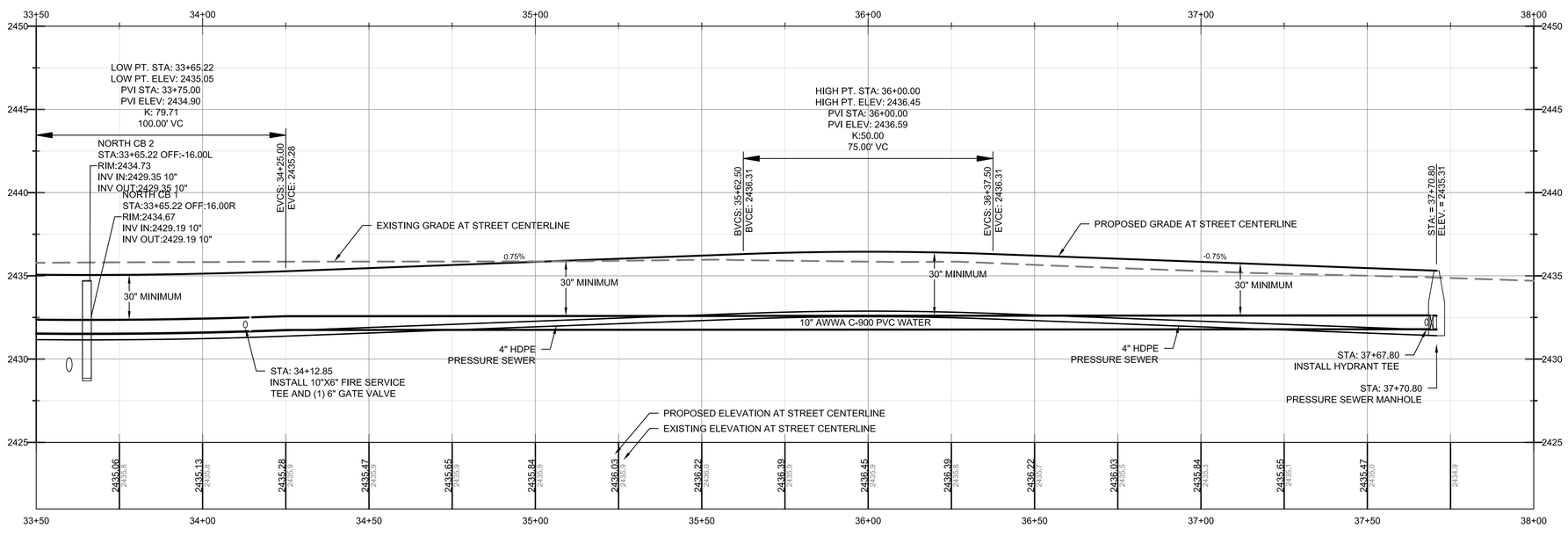
STORM SEWER CONSTRUCTION NOTES

10. STA: 33+65.22 55.36' RIGHT IE 10" OUTFALL 2429.0
11. NOT USED
12. STA: 33+65.22 16.0' RIGHT AND LEFT CURB INLET OREGON STANDARD DRAWINGS "CONCRETE INLET BASE CG-3" RD371, RD372
13. NOT USED
14. STA: 33+65.22 30.0' LEFT END 10" SD. PLUG AND MARK END WITH 2X4 PAINTED GREEN FROM IE TO 12" ABOVE FINISH GRADE. IE 10"=2429.42

NOTE:

ALL WATER SYSTEM IMPROVEMENTS ARE TO BE CONSTRUCTED BY THE DESCHUTES VALLEY WATER DISTRICT. CONTRACTOR TO COORDINATE WITH GENERAL MANAGER, ED PUGH AT (541) 475-3849

SCALE: 1" = 20'



Profile View of Berg Drive

SCALE:
VERTICAL 1"=4'
HORIZONTAL 1"=20'

REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1988 GRANT HARDGRAVE

EXPIRES: 30 JUNE, 2015

CITY OF MADRAS
NW BERG DRIVE AND NW CHERRY LANE
NW BERG DRIVE PLAN AND PROFILE
JEFFERSON COUNTY, OREGON

REVISIONS:

HWA ENGINEERS, SURVEYORS & PLANNERS
HICKMAN, WILLIAMS & ASSOCIATES, INC
62730 O.B. RILEY ROAD, SUITE 100
BEND, OREGON 97701
PHONE: 541-383-3337 FAX: 541-388.5416
WWW.HWA-INC.ORG

DESIGNED BY:
DRAWN BY: J CLAY
CHECKED BY: G. HARDGRAVE
SCALE: AS NOTED
FILE: 130406-CD.DWG
DATE: 9/12/2013

VERIFY SCALES
0 1"
BAR EQUALS ONE INCH ON ORIGINAL DRAWING

SHEET: C6

HWA # 130406

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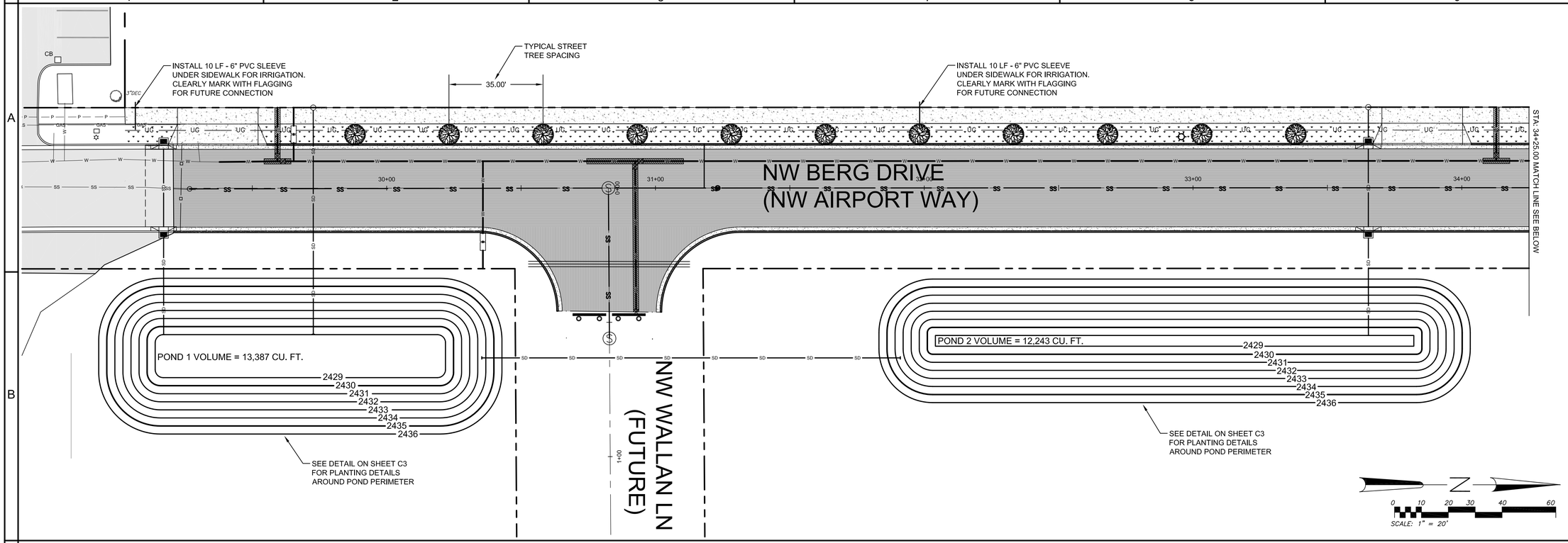
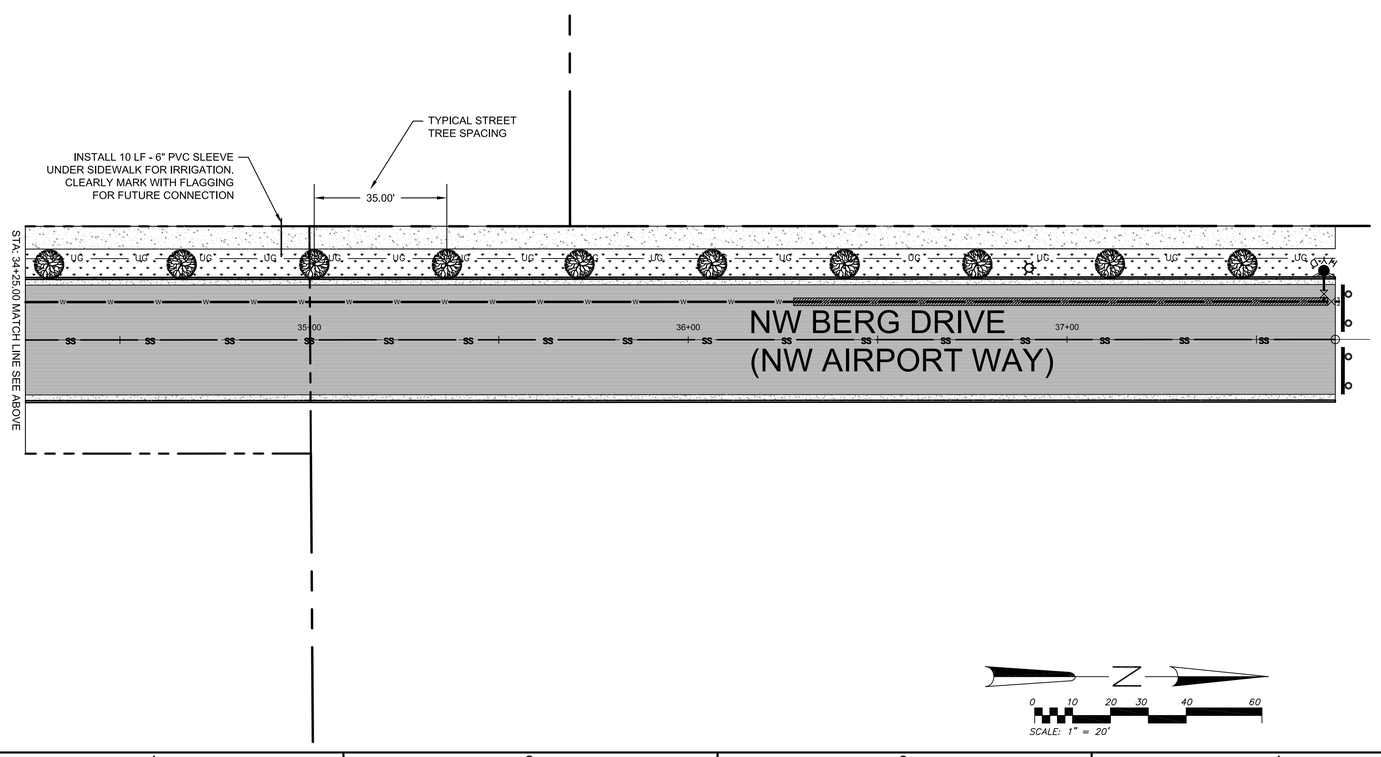
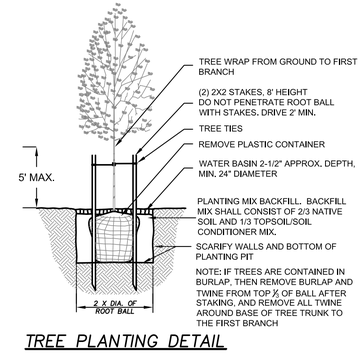
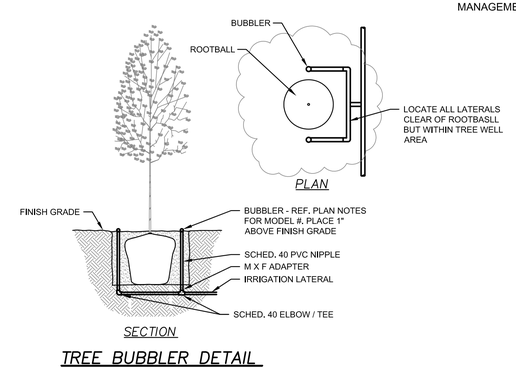






TREE PLANTING DETAIL



TREE BUBBLER DETAIL

LEGEND:

STREET TREE - ACER PLATANOIDES 'CLEVELAND'
2-1/2" CAL CLEVELAND NORWAY MAPLE
B&B, SPACING AS SHOWN - TYP. 21

IRRIGATED SOD

NOTES:

1. IRRIGATION SYSTEM TO BE DESIGN-BUILT. CONTRACTOR TO VERIFY POINT OF CONNECTION WITH OWNER FOR TIE-IN TO WATER SERVICE NEAR BUILDING.
2. IRRIGATION SYSTEM TO INCLUDE TWO (2) BUBBLERS PER STREET TREE (RAINBIRD 1401 SERIES OR APPROVED EQUAL). SEE DETAIL, THIS SHEET.
3. SOD LANDSCAPE STRIP TO BE IRRIGATED WITH POP-UP SPRAY HEADS (RAINBIRD 1800 SERIES OR APPROVED EQUAL)
4. LANDSCAPING AND IRRIGATION SYSTEM TO COMPLY WITH THE CITY OF MADRAS URBAN FORESTRY MANAGEMENT PLAN, LATEST EDITION.

REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1988 GRANT HARDGRAVE
EXPIRES: 30 JUNE, 2015

CITY OF MADRAS
NW BERG DRIVE AND NW CHERRY LANE
NW BERG DRIVE LANDSCAPE PLAN
JEFFERSON COUNTY, OREGON

REVISIONS:

HWA ENGINEERS, SURVEYORS & PLANNERS
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SCALE: AS NOTED
FILE: 130406-CD.DWG
DATE: 9/12/2013

VERIFY SCALES
0 1"
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SHEET: C7

HWA # 130406

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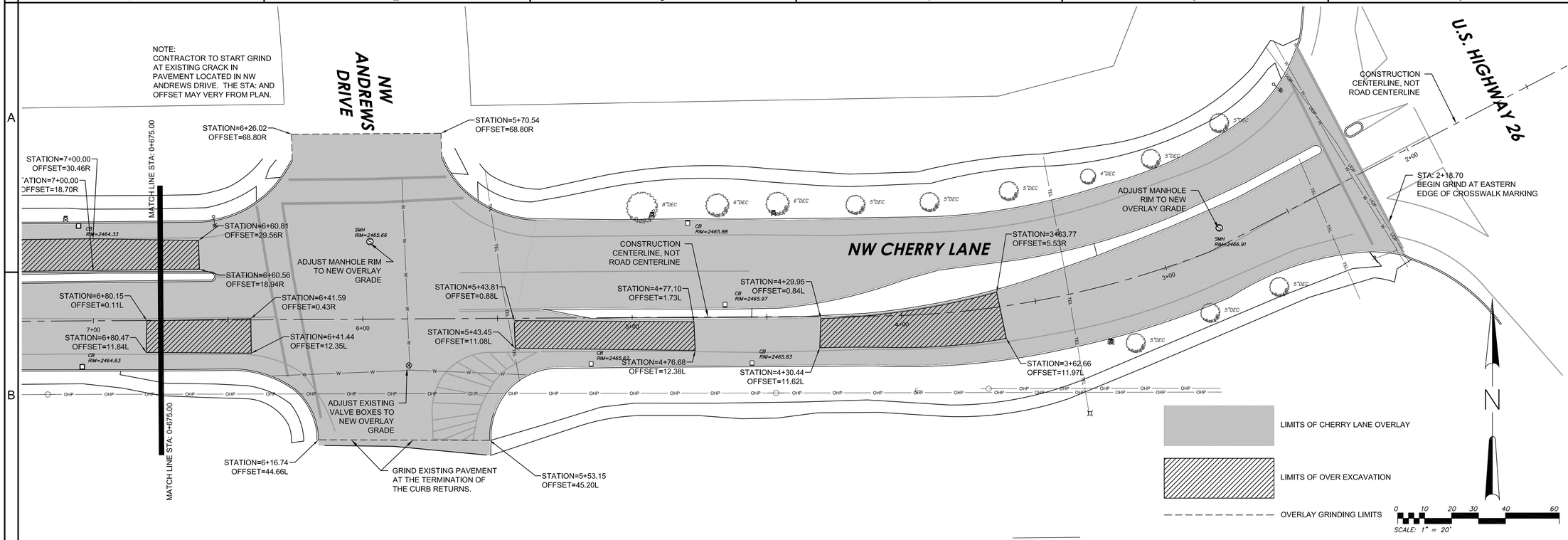
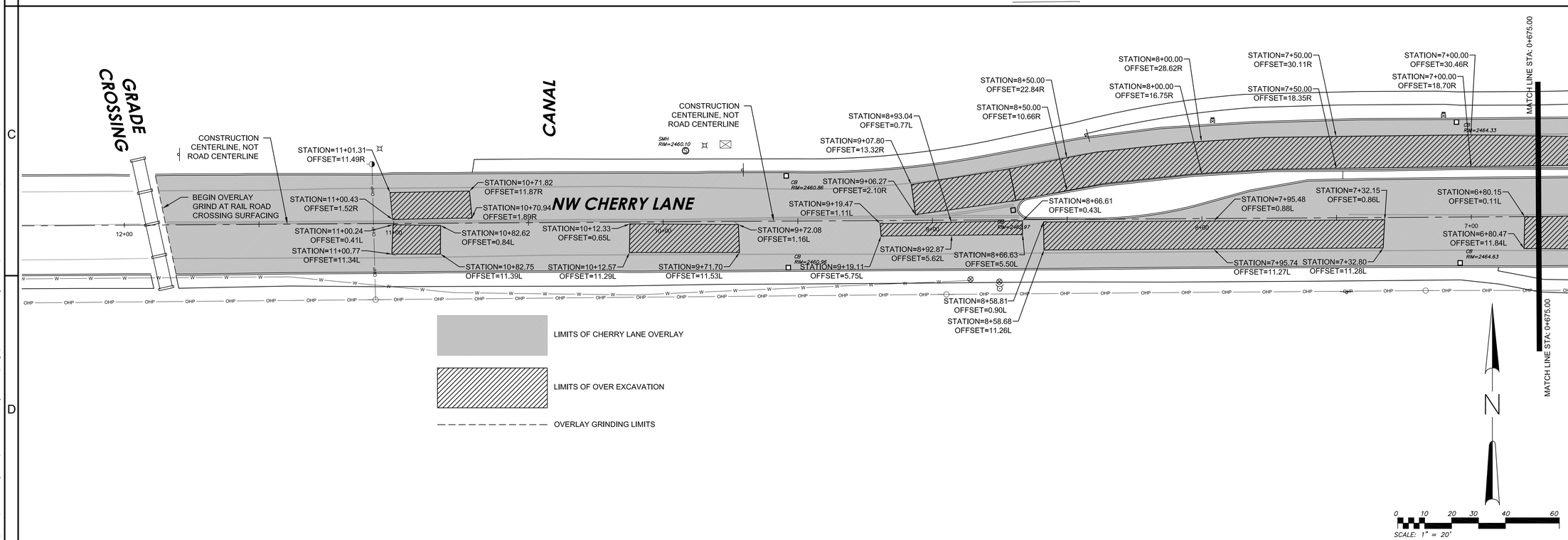
NOTE:
CONTRACTOR TO START GRIND AT EXISTING CRACK IN PAVEMENT LOCATED IN NW ANDREWS DRIVE. THE STA: AND OFFSET MAY VERY FROM PLAN.





REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1990 GRANT HARDGRAVE
EXPIRES: 30 JUNE, 2015

CITY OF MADRAS
NW BERG DRIVE AND NW CHERRY LANE
NW CHERRY LANE PLAN
JEFFERSON COUNTY, OREGON

REVISIONS:

HWA ENGINEERS, SURVEYORS & PLANNERS
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DESIGNED BY:
DRAWN BY: J.CLAY
CHECKED BY: G. HARDGRAVE
SCALE: AS NOTED
FILE: 130406-CD.DWG
DATE: 9/12/2013

VERIFY SCALES
0 1"
BAR EQUALS ONE INCH ON ORIGINAL DRAWING

SHEET:
C8

HWA # 130406

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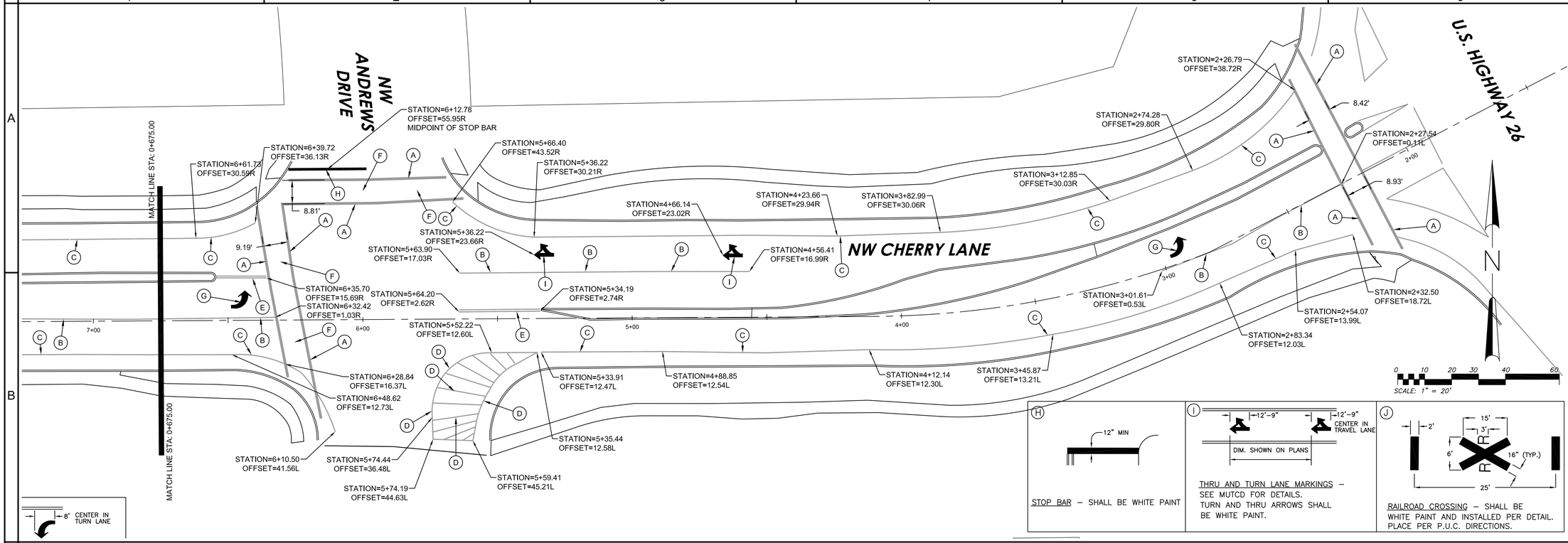

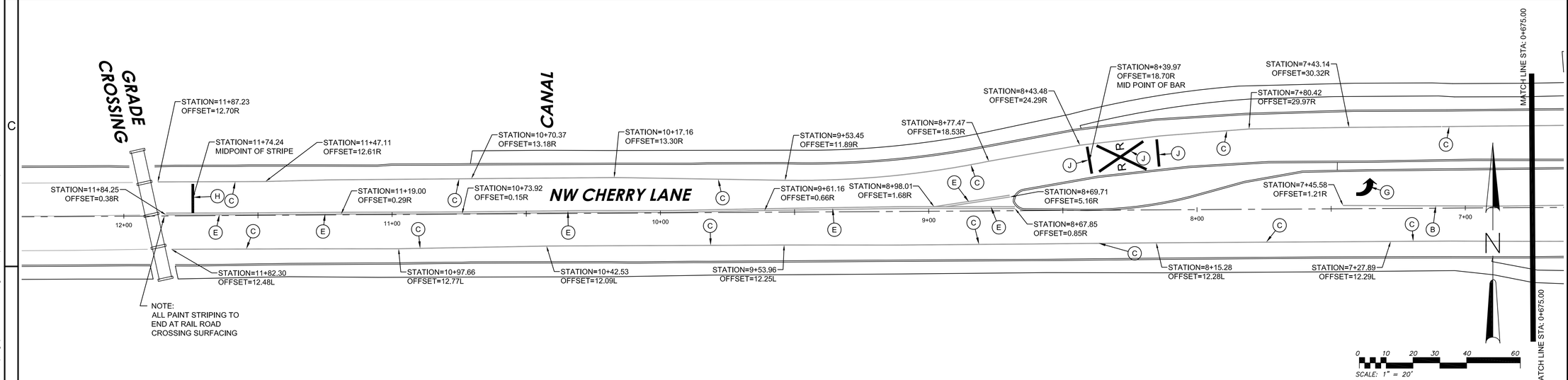

REGISTERED PROFESSIONAL ENGINEER 52977PE OREGON JULY 13, 1988 GRANT HARDGRAVE

EXPIRES: 30 JUNE, 2015

CITY OF MADRAS
NW BERG DRIVE AND NW CHERRY LANE
NW CHERRY LANE STRIPING PLAN
JEFFERSON COUNTY, OREGON

REVISIONS:

HWA ENGINEERS, SURVEYORS & PLANNERS
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DESIGNED BY:
DRAWN BY: J CLAY
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SCALE: AS NOTED
FILE: 130406-CD.DWG
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VERIFY SCALES
0 1"
BAR EQUALS ONE INCH ON ORIGINAL DRAWING

SHEET:
C9

HWA # 130406

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