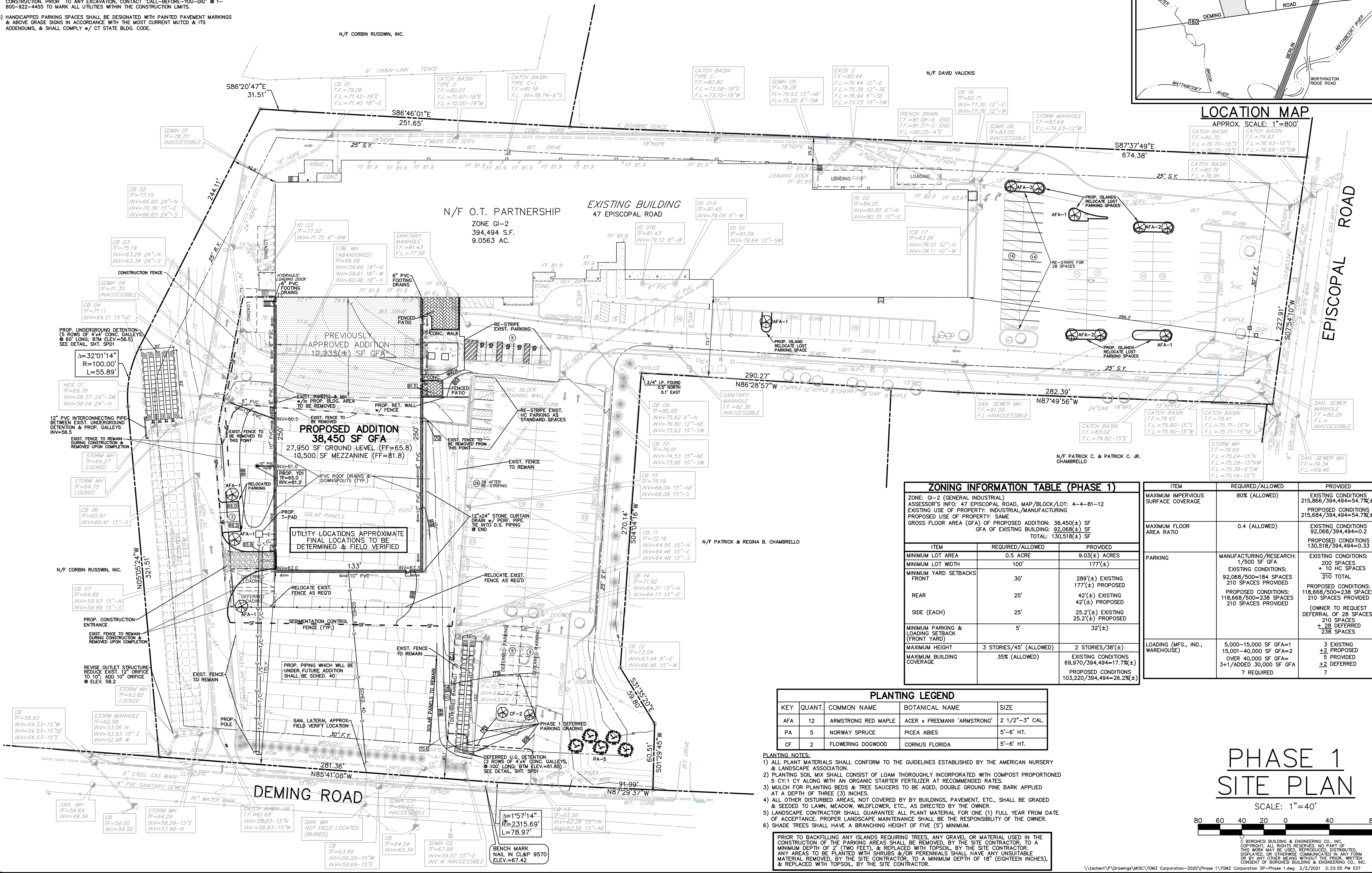
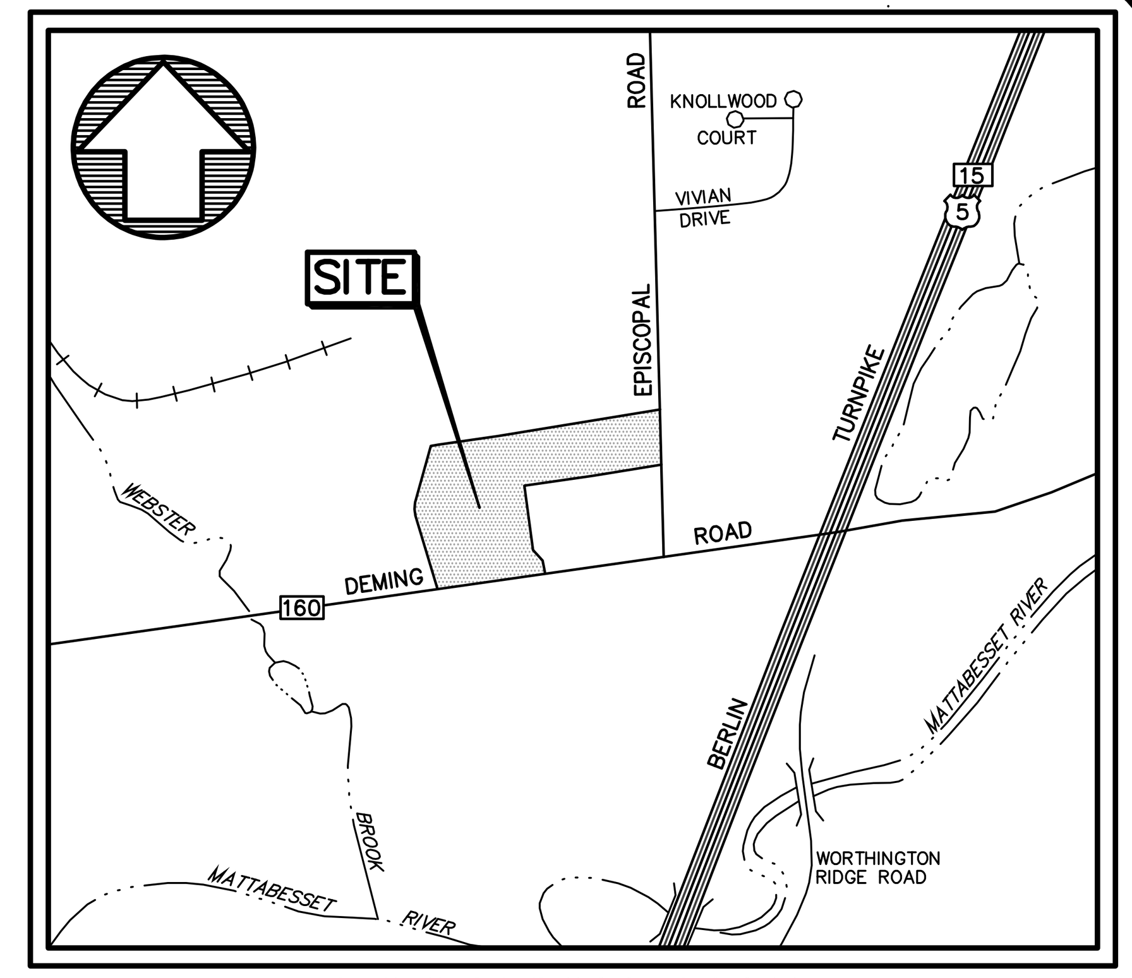
NOTES:

1) MAP REFERENCES:
   A) DRAWING ENTITLED "RESURVEY PREPARED FOR TOMZ CORPORATION, 47 EPISCOPAL ROAD, BERLIN, CONNECTICUT," IMPROVEMENT LOCATION SURVEY, SHEET 1 of 1, PREPARED BY THE BONGIOVANNI GROUP, INC., 170 PANE ROAD, NEWINGTON, CT, DATED 10–14–20 (REFERENCE 13100–TOPO–2020.DWG)
2) OWNER: O.T. PARTNERSHIP, 47 EPISCOPAL ROAD, BERLIN, CT 06037
   APPLICANT: BORGHESI BUILDING & ENGINEERING CO., INC, 2155 EAST MAIN STREET, TORRINGTON, CT 06790
3) REFER TO THE FOLLOWING DRAWINGS PREPARED BY BORGHESI BUILDING & ENGINEERING CO., INC. FOR OTHER PERTINENT INFORMATION:
   - SP1–1 PHASE 1 SITE PLAN (40 SCALE)
   - SP2–1 PHASE1 SITE PLAN (20 SCALE)
   - SPD1 SITE DETAILS
4) ALL EXISTING UTILITY LOCATIONS ARE FROM THE BEST AVAILABLE INFORMATION. CONTRACTOR TO FIELD VERIFY ALL LOCATIONS, DIMENSIONS, & ELEVATIONS PRIOR TO CONSTRUCTION. PRIOR TO ANY EXCAVATION, CONTACT "CALL–BEFORE–YOU–DIG" @ 1–800–922–4455 TO MARK ALL UTILITIES WITHIN THE CONSTRUCTION LIMITS.
5) HANDICAPPED PARKING SPACES SHALL BE DESIGNATED WITH PAINTED PAVEMENT MARKINGS & ABOVE GRADE SIGNS IN ACCORDANCE WITH THE MOST CURRENT MUTCD & ITS ADDENDUMS, & SHALL COMPLY w/ CT STATE BLDG. CODE.
6) ALL SIGNS, SIGN MOUNTINGS, & PAINTED MARKINGS SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE MOST CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) & ITS ADDENDUMS.
7) PRIOR TO BACKFILLING ANY ISLANDS REQUIRING TREES, ANY GRAVEL OR MATERIAL USED IN THE CONSTRUCTION OF THE PARKING AREAS SHALL BE REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 2' (TWO FEET), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR. ANY AREAS TO BE PLANTED WITH SHRUBS &/OR PERENNIALS SHALL HAVE ANY UNSUITABLE MATERIAL REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 18" (EIGHTEEN INCHES), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR.
8) ALL LIGHT FIXTURES SHALL BE FULL CUT–OFF FIXTURES.





LOCATION MAP

APPROX. SCALE: 1"=800'

ZONING INFORMATION TABLE (PHASE 1)		
ZONE: GI–2 (GENERAL INDUSTRIAL) ASSESSOR'S INFO: 47 EPISCOPAL ROAD, MAP/BLOCK/LOT: 4–4–81–12 EXISTING USE OF PROPERTY: INDUSTRIAL/MANUFACTURING PROPOSED USE OF PROPERTY: SAME GROSS FLOOR AREA (GFA) OF PROPOSED ADDITION: 38,450(±) SF GFA OF EXISTING BUILDING: 92,068(±) SF TOTAL: 130,518(±) SF		
ITEM	REQUIRED/ALLOWED	PROVIDED
MINIMUM LOT AREA	0.5 ACRE	9.03(±) ACRES
MINIMUM LOT WIDTH	100'	177'(±)
MINIMUM YARD SETBACKS FRONT	30'	289'(±) EXISTING 177'(±) PROPOSED
REAR	25'	42'(±) EXISTING 42'(±) PROPOSED
SIDE (EACH)	25'	25.2'(±) EXISTING 25.2'(±) PROPOSED
MINIMUM PARKING & LOADING SETBACK (FRONT YARD)	5'	32'(±)
MAXIMUM HEIGHT	3 STORIES/45' (ALLOWED)	2 STORIES/38'(±)
MAXIMUM BUILDING COVERAGE	35% (ALLOWED)	EXISTING CONDITIONS 69,970/394,494=17.7%(±) PROPOSED CONDITIONS 103,220/394,494=26.2%(±)

ITEM	REQUIRED/ALLOWED	PROVIDED
MAXIMUM IMPERVIOUS SURFACE COVERAGE	80% (ALLOWED)	EXISTING CONDITIONS 215,866/394,494=54.7%(±) PROPOSED CONDITIONS 215,684/394,494=54.7%(±)
MAXIMUM FLOOR AREA RATIO	0.4 (ALLOWED)	EXISTING CONDITIONS 92,068/394,494=0.2 PROPOSED CONDITIONS 130,518/394,494=0.33
PARKING	MANUFACTURING/RESEARCH: 1/500 SF GFA EXISTING CONDITIONS: 92,068/500=184 SPACES 210 SPACES PROVIDED PROPOSED CONDITIONS: 118,668/500=238 SPACES 210 SPACES PROVIDED	EXISTING CONDITIONS: 200 SPACES + 10 HC SPACES 210 TOTAL PROPOSED CONDITIONS: 118,668/500=238 SPACES 210 SPACES PROVIDED (OWNER TO REQUEST DEFERRAL OF 28 SPACES) 210 SPACES + 28 DEFERRED 238 SPACES
LOADING (MFG., IND., WAREHOUSE)	5,000–15,000 SF GFA=1 15,001–40,000 SF GFA=2 OVER 40,000 SF GFA= 3+1/ADDED 30,000 SF GFA 7 REQUIRED	3 EXISTING +2 PROPOSED 5 PROVIDED +2 DEFERRED 7

PLANTING LEGEND

KEY	QUANT.	COMMON NAME	BOTANICAL NAME	SIZE
AFA	12	ARMSTRONG RED MAPLE	ACER x FREEMANII 'ARMSTRONG'	2 1/2"–3" CAL.
PA	5	NORWAY SPRUCE	PICEA ABIES	5'–6' HT.
CF	2	FLOWERING DOGWOOD	CORNUS FLORIDA	5'–6' HT.

PLANTING NOTES:

1) ALL PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
2) PLANTING SOIL MIX SHALL CONSIST OF LOAM THOROUGHLY INCORPORATED WITH COMPOST PROPORTIONED 5 CY:1 CY ALONG WITH AN ORGANIC STARTER FERTILIZER AT RECOMMENDED RATES.
3) MULCH FOR PLANTING BEDS & TREE SAUCERS TO BE AGED, DOUBLE GROUND PINE BARK APPLIED AT A DEPTH OF THREE (3) INCHES.
4) ALL OTHER DISTURBED AREAS, NOT COVERED BY BY BUILDINGS, PAVEMENT, ETC., SHALL BE GRADED & SEEDED TO LAWN, MEADOW, WILDFLOWER, ETC., AS DIRECTED BY THE OWNER.
5) LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR ONE (1) FULL YEAR FROM DATE OF ACCEPTANCE. PROPER LANDSCAPE MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER.
6) SHADE TREES SHALL HAVE A BRANCHING HEIGHT OF FIVE (5') MINIMUM.

PRIOR TO BACKFILLING ANY ISLANDS REQUIRING TREES, ANY GRAVEL OR MATERIAL USED IN THE CONSTRUCTION OF THE PARKING AREAS SHALL BE REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 2' (TWO FEET), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR. ANY AREAS TO BE PLANTED WITH SHRUBS &/OR PERENNIALS SHALL HAVE ANY UNSUITABLE MATERIAL REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 18" (EIGHTEEN INCHES), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR.

PHASE 1 SITE PLAN

SCALE: 1"=40'

80 60 40 20 0 40 80

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Borghesi Building & Engineering Co., Inc.

SEAL

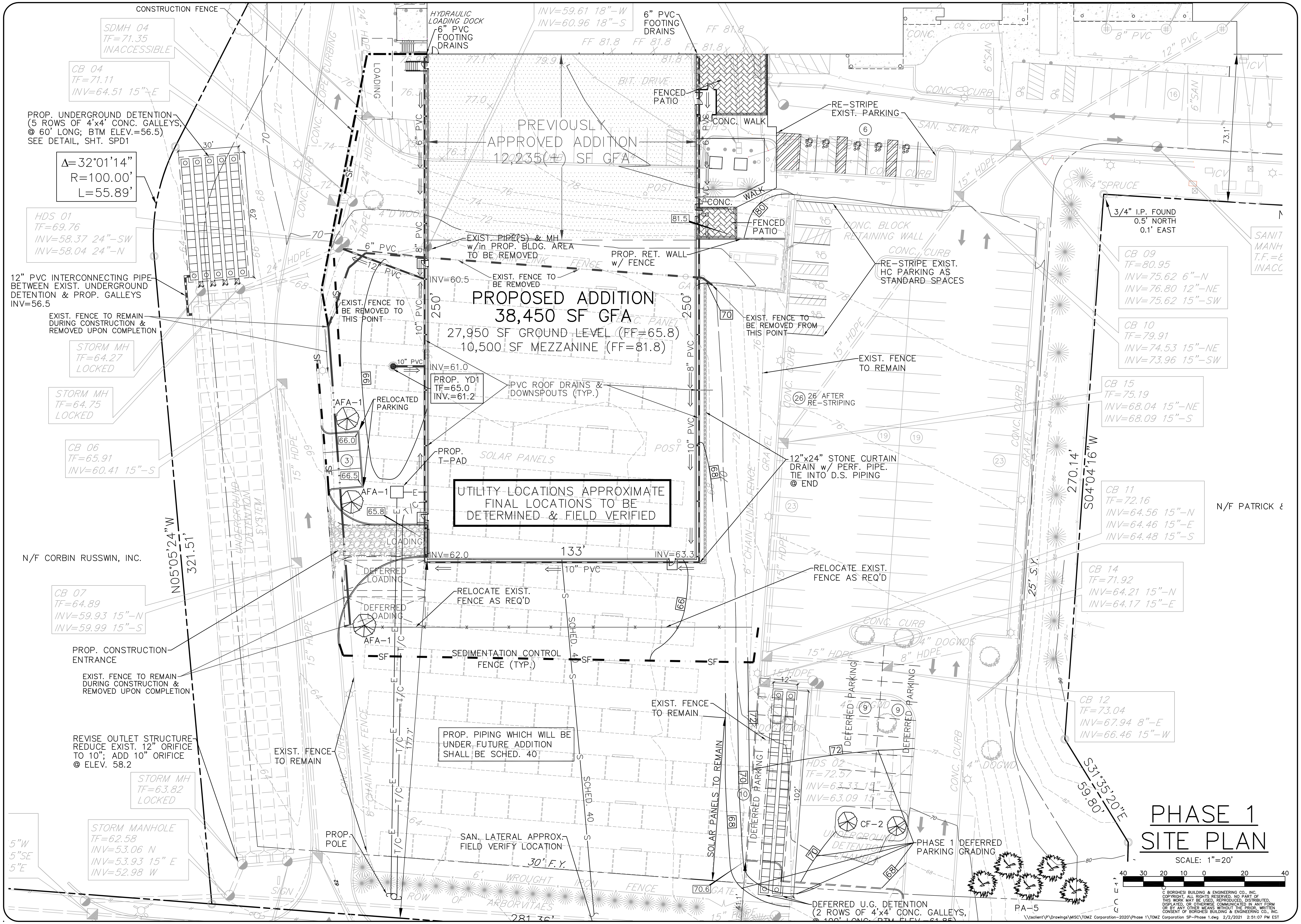
REVISIONS
01–21–21 REV. HC PARKING; ADD CURTAIN DRAIN (E. SIDE BLDG), YD W. SIDE BLDG; REV. GRADES E. & S. OF BLDG; REV. CALL–OUTS re: FENCING
02–02–21 REV. per P&Z MEETING (01–21–21); BREAKDOWN PROJECT INTO 2 PHASES, w/ SEPARATE DRAWINGS FOR EACH

PROJECT: TOMZ corporation, 47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY	G.R.W.	APPROVED BY	J.H.P.
DATE	12–11–20	SCALE	AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT 06790
860–482–7613/WEB: WWW.BORGHESIBUILDING.COM

SHEET NO. SP1–1


CONSTRUCTION FENCE
HYDRAULIC LOADING DOCK
6" PVC FOOTING DRAINS
PROP. UNDERGROUND DETENTION (5 ROWS OF 4'x4' CONC. GALLEYS, @ 60' LONG; BTM ELEV.=56.5) SEE DETAIL, SHT. SPD1
Δ=32°01'14"
R=100.00'
L=55.89'
12" PVC INTERCONNECTING PIPE BETWEEN EXIST. UNDERGROUND DETENTION & PROP. GALLEYS INV=56.5
EXIST. FENCE TO REMAIN DURING CONSTRUCTION & REMOVED UPON COMPLETION
PREVIOUSLY APPROVED ADDITION 12,235(±) SF GFA
PROPOSED ADDITION
38,450 SF GFA
27,950 SF GROUND LEVEL (FF=65.8)
10,500 SF MEZZANINE (FF=81.8)
EXIST. PIPE(S) & MH w/in PROP. BLDG. AREA TO BE REMOVED
EXIST. FENCE TO BE REMOVED
EXIST. FENCE TO BE REMOVED TO THIS POINT
PROP. RET. WALL w/ FENCE
FENCED PATIO
RE-STRIPE EXIST. PARKING
RE-STRIPE EXIST. HC PARKING AS STANDARD SPACES
EXIST. FENCE TO BE REMOVED FROM THIS POINT
EXIST. FENCE TO REMAIN
26 AFTER RE-STRIPING
PROP. YD1
TF=65.0
INV.=61.2
PVC ROOF DRAINS & DOWNSPOUTS (TYP.)
RELOCATED PARKING
PROP. T-PAD
12"x24" STONE CURTAIN DRAIN w/ PERF. PIPE. TIE INTO D.S. PIPING @ END
UTILITY LOCATIONS APPROXIMATE FINAL LOCATIONS TO BE DETERMINED & FIELD VERIFIED
N/F CORBIN RUSSWIN, INC.
N/F PATRICK &
N05°05'24"W 321.51'
S04°04'16"W 270.14'
S31°35'20"E 59.80'
3/4" I.P. FOUND 0.5' NORTH 0.1' EAST
RELOCATE EXIST. FENCE AS REQ'D
PROP. CONSTRUCTION ENTRANCE
SEDIMENTATION CONTROL FENCE (TYP.)
REVISE OUTLET STRUCTURE REDUCE EXIST. 12" ORIFICE TO 10"; ADD 10" ORIFICE @ ELEV. 58.2
PROP. PIPING WHICH WILL BE UNDER FUTURE ADDITION SHALL BE SCHED. 40
PROP POLE
SAN. LATERAL APPROX. FIELD VERIFY LOCATION
SOLAR PANELS TO REMAIN
DEFERRED U.G. DETENTION (2 ROWS OF 4'x4' CONC. GALLEYS, @ 100' LONG; BTM ELEV.=61.85)
PHASE 1 DEFERRED PARKING GRADING
6' WROUGHT IRON FENCE
ROW OF ARBORVITAES
CB 04 TF=71.11 INV=64.51 15"-E
SDMH 04 TF=71.35 INACCESSIBLE
HDS 01 TF=69.76 INV=58.37 24"-SW INV=58.04 24"-N
STORM MH TF=64.27 LOCKED
STORM MH TF=64.75 LOCKED
CB 06 TF=65.91 INV=60.41 15"-S
CB 07 TF=64.89 INV=59.93 15"-N INV=59.99 15"-S
STORM MH TF=63.82 LOCKED
STORM MANHOLE TF=62.58 INV=53.06 N INV=53.93 15" E INV=52.98 W
CB 09 TF=80.95 INV=75.62 6"-N INV=76.80 12"-NE INV=75.62 15"-SW
CB 10 TF=79.91 INV=74.53 15"-NE INV=73.96 15"-SW
CB 15 TF=75.19 INV=68.04 15"-NE INV=68.09 15"-S
CB 11 TF=72.16 INV=64.56 15"-N INV=64.46 15"-E INV=64.48 15"-S
CB 14 TF=71.92 INV=64.21 15"-N INV=64.17 15"-E
CB 12 TF=73.04 INV=67.94 8"-E INV=66.46 15"-W
HDS 02 TF=72.57 INV=63.33 15" INV=63.09 15"-S
PHASE 1 SITE PLAN
SCALE: 1"=20'

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SEAL

REVISIONS
01-21-21 REV. HC PARKING; ADD CURTAIN DRAIN (E. SIDE BLDG), YD W. SIDE BLDG; REV. GRADES E. & S. OF BLDG; REV. CALL-OUTS re: FENCING
02-02-21 REV. per P&Z MEETING (01-21-21); BREAKDOWN PROJECT INTO 2 PHASES, w/ SEPARATE DRAWINGS FOR EACH

PROJECT
TOMZ corporation
47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY	G.R.W.	APPROVED BY	J.H.P.
DATE	12-11-20	SCALE	AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT 06790
860-482-7613/WEB: WWW.BORGHESIBUILDING.COM

SHEET NO.
SP2-1

SOIL EROSION & SEDIMENT CONTROL PLAN NARRATIVE

INTRODUCTION:

PURSUANT TO CONNECTICUT P.A. 83–388, A SOIL EROSION AND SEDIMENT CONTROL PLAN AND NARRATIVE IS REQUIRED FOR THIS PROJECT.

THIS NARRATIVE DESCRIBES MEASURES REQUIRED TO CONTROL SOIL EROSION DURING AND AFTER CONSTRUCTION OF THE PROPOSED SITE WORK SHOWN ON THIS PLAN. THE SOIL EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THIS PLAN ARE DESIGNED IN ACCORDANCE WITH A DOCUMENT ENTITLED "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL," PUBLISHED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CT DEP.

THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION, STATE OFFICE BUILDING, HARTFORD, CONNECTICUT 06106 AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENT CONTROLS INDICATED ON THESE PLANS.

PROJECT DESCRIPTION:

THE APPLICANT PROPOSES TO CONSTRUCT A 33,250(±) SQUARE FOOT ADDITION. EXISTING PARKING WILL REMAIN, WITH MINOR RECONFIGURATION. THE BUILDING WILL BE SERVED BY PUBLIC SEWER AND WATER. THE SITE IS LOCATED AT 47 EPISCOPAL ROAD IN BERLIN, CT.

RUN OFF FROM THE DEVELOPED SITE WILL BE COLLECTED IN CATCH BASINS AND PIPED TO AN ON–SITE, UNDERGROUND DETENTION SYSTEM.

ANTICIPATED START OF CONSTRUCTION IS WINTER/SPRING OF 2021. SEDIMENT AND EROSION CONTROL MEASURES WILL BE IMPLEMENTED AND WILL BE IN PROPER WORKING ORDER BEFORE CONSTRUCTION BEGINS. SEDIMENT AND EROSION MEASURES WILL BE MAINTAINED IN PROPER WORKING ORDER THROUGH COMPLETION OF CONSTRUCTION AND WILL REMAIN IN PLACE AND CONTINUE TO BE MAINTAINED AFTER CONSTRUCTION HAS BEEN COMPLETED, UNTIL ALL DISTURBED AREAS ARE STABILIZED.

CONSTRUCTION SCHEDULE:

1. OBTAIN A COPY OF ALL PROJECT LAND–USE PERMITS. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL PERMIT REQUIREMENTS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. INSTALL SILTATION CONTROL FENCES AND FILTER FABRIC SILT BARRIERS AT EXISTING CATCH BASINS.
3. INSTALL CONSTRUCTION ENTRANCE.
4. REMOVE TREES, BRUSH, AND STUMPS IN AREAS TO BE CLEARED AS REQUIRED.
5. STRIP TOPSOIL FROM WORK AREAS, STOCKPILE AND INSTALL SILT FENCE AT TOE OF PILE.
6. ROUGH GRADE SITE, BEGIN CONSTRUCTION OF BUILDING.
7. INSTALL UTILITIES.
8. BACKFILL FOUNDATION.
9. GRADE, STABILIZE AND SEED ALL DISTURBED AREAS.
10. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL A DURABLE GRASS STAND IS ESTABLISHED IN ALL NON–PAVED AREAS.

LAND DISTURBANCE:

THE FOLLOWING PROCEDURES SHALL BE USED FOR ALL LAND DISTURBING ACTIVITIES:

1. ALL AREAS SHALL REMAIN UNDISTURBED UNTIL IMMEDIATELY PRIOR TO PROPOSED CONSTRUCTION ACTIVITIES.
2. LAND CLEARING SHALL PROCEED AT THE SAME RATE AS CONSTRUCTION.
3. REMOVAL OF VEGETATION SHALL BE RESTRICTED TO THOSE AREAS NECESSARY FOR CURRENT CONSTRUCTION ACTIVITIES.
4. DISTURBED AREAS SHALL BE LIMITED TO A MAXIMUM OF 20 FEET BEYOND THE PHYSICAL DIMENSIONS OF THE ROADS, DRIVEWAYS, UTILITY TRENCHES, SEPTIC SYSTEMS, AND AREAS TO BE GRADED.
5. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE CONFINED TO THE DISTURBED AREAS ONLY.
6. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE CLEANING OF NEARBY STREETS, AS ORDERED BY THE TOWN OR STATE, OF ANY DEBRIS FROM HIS CONSTRUCTION ACTIVITIES.
7. THE USE, STORAGE, OR DISPOSAL OF ANY MATERIAL NOT IN ACCORDANCE WITH WHAT IS SHOWN ON THE APPROVED PLAN OR REQUIRED BY THE REGULATORY AGENCY MAY RESULT IN THE IMMEDIATE REVOCATION OF ANY PERMIT/APPROVAL GRANTED BY THE COMMISSION.

GENERAL NOTES:

WHENEVER CONSTRUCTION SHALL TAKE PLACE IN AREAS DESIGNATED AS WETLANDS OR AS AREAS TO BE ECOLOGICALLY PROTECTED, THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING REGULATIONS:
THE DIVERSION OF WATERCOURSES SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT INJURY TO PERSONS OR PUBLIC HEALTH AND TO PREVENT FLOODING OF PUBLIC OR PRIVATE PROPERTY.
ALL EXISTING VEGETATION SHALL BE PROTECTED, AND ONLY THAT CLEARING AND CUTTING WHICH IS ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION OR TO CLEAR THE PERMANENT RIGHT–OF–WAY SHALL BE ALLOWED. CARE SHALL BE TAKEN TO PRESERVE ALL SPECIMEN TREES. THOSE TREES IDENTIFIED TO BE SAVED SHALL BE PROTECTED FROM DAMAGE BY CONSTRUCTION EQUIPMENT BY SUITABLE MEANS. ALL REGULATED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOURS.
EXCESS EXCAVATED MATERIAL, INCLUDING THAT RESULTING FROM CLEARING AND GRUBBING, SHALL NOT BE DEPOSITED WITHIN THE REGULATED AREA.

WORK WITHIN REGULATED AREAS:

IF WORK IS REQUIRED WITHIN A REGULATED WETLAND, WATER COURSE, OR ADJACENT AREA, SITE DISTURBANCE SHALL BE LIMITED TO THE AREA ABSOLUTELY NECESSARY FOR CONSTRUCTION. DISTURBED AREAS SHALL BE RESTORED AS CLOSELY AS POSSIBLE TO THEIR ORIGINAL NATURAL STATE. THE DEVELOPER SHALL OBTAIN THE NECESSARY PERMIT(S) FROM THE TOWN WETLANDS COMMISSION. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PERMIT, MAPS APPROVED BY THE TOWN INDICATING THE LIMITS OF INLAND WETLANDS, AND CONDITIONS FOR CONSTRUCTION WITHIN THESE REGULATED AREAS. THE CONTRACTOR SHALL BE REQUIRED TO STRICTLY ADHERE TO ALL REQUIREMENTS AND RESTRICTIONS IMPOSED BY THE WETLANDS PERMIT.

SOIL EROSION AND SEDIMENT CONTROL MEASURES:

ALL WATERCOURSES SHALL BE PROTECTED FROM SEDIMENTATION BOTH DURING AND AFTER CONSTRUCTION. THIS PROVISION APPLIES PARTICULARLY TO DEWATERING ACTIVITIES, STORAGE OF EXCAVATED OR STOCKPILED MATERIAL, AND TRENCH OR DITCH EXCAVATION.
HAYBALES OR SYNTHETIC FILTER BARRIER FENCE, AS SPECIFIED, IS TO BE INSTALLED AT ALL LOCATIONS AS INDICATED ON THE PLANS TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE DRAINAGE SYSTEM, WETLANDS, OR WATER COURSES. HAYBALES OR SILT FENCE SHALL BE STAKED AS SHOWN ON THE PLAN, AND ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE HAYBALES OR SILT FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR TO BE USED AS FILL IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT UPON. HAYBALES AND SILT FENCES ARE TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCES ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
DURING CONSTRUCTION, EXPOSE AS SMALL AN AREA AS POSSIBLE FOR AS SHORT A TIME AS POSSIBLE.
DURING CONSTRUCTION, ANY ADDITIONAL SEDIMENT/EROSION CONTROL MEASURES DEEMED NECESSARY BY THE TOWN SHALL BE IMPLEMENTED BY THE DEVELOPER. IN ADDITION, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE REPAIR, REPLACEMENT, AND MAINTENANCE OF ALL SEDIMENT/EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE TOWN.

STRIPPING AND STOCKPILING:

STOCKPILES THAT CONSIST OF ERODIBLE MATERIAL, SUCH AS STRIPPED TOPSOIL, ROAD FILL, SOILS EXCAVATED FROM ROAD CUTS AND FOUNDATION HOLES, ETC., SHALL CONFORM TO THE FOLLOWING CRITERIA:

1. LOCATION–ALL STOCKPILES SHALL BE LOCATED WITHIN THE AREA OF THE PROPOSED DISTURBANCE AND AWAY FROM THE FOLLOWING:
   –WETLANDS
   –WATER CONVEYANCE CHANNELS
   –STORM DRAINAGE SYSTEM INLETS
   –TOP OF STEEP SLOPES
2. SEDIMENT CONTROL–ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT BARRIERS, EITHER GEOTEXTILE SILT FENCE OR HAY BALE BARRIERS, PLACED APPROXIMATELY TEN FEET (10') FROM THE TOE OF SLOPE. THE SIDE SLOPES OF ERODIBLE STOCKPILED MATERIAL SHOULD BE NO STEEPER THAN 2:1. STOCKPILED MATERIAL NOT TO BE USED WITHIN THIRTY DAYS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER FORMATION OF THE STOCKPILE.

THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATERIAL PRIOR TO TRENCHING OPERATIONS, AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. IN AREAS DESIGNATED AS INLAND WETLANDS, THE UPPER STRATA, TO A DEPTH OF 2 FEET, SHALL BE STRIPPED AND STORED SEPARATELY. DURING BACKFILLING, THESE MATERIALS SHALL BE REPLACED AND FINISHED AS THEY EXISTED PRIOR TO THE START OF CONSTRUCTION.
THE CONTRACTOR SHALL NOT INTRODUCE ANY FILL MATERIALS INTO ANY AREAS DESIGNATED AS INLAND WETLANDS WITHOUT FIRST OBTAINING A PERMIT(S) FROM THE TOWN WETLANDS COMMISSION.
THE CONTRACTOR SHALL MAINTAIN ALL BACKFILLED EXCAVATION IN PROPER CONDITION UNTIL EXPIRATION OF THE MAINTENANCE PERIOD. ALL DEPRESSIONS APPEARING IN THE BACKFILLED EXCAVATION SHALL BE PROPERLY FILLED AND RESEEDED IF NECESSARY.

RIPRAP:

RIPRAP, IF SPECIFIED, IS TO BE INSTALLED FOR ENERGY DISSIPATION AND TO CONTROL EROSION. THE RIPRAP IS TO BE INSTALLED BEFORE THE OUTLET STRUCTURES ARE WORKING, AND ALL ADJACENT AREAS ARE TO BE IMMEDIATELY SEEDED, IF IN SEASON, OR THE SOIL IS TO BE STABILIZED BY OTHER METHODS. THIS MAY REQUIRE SODDING, MULCHING, OR OTHER METHODS AS DEFINED IN THE "GUIDELINES".
RIPRAP SHALL BE INSPECTED PERIODICALLY TO DETERMINE IF HIGH FLOWS HAVE CAUSED SCOUR BENEATH THE RIPRAP OR FILTER BLANKET, OR DISLODGED ANY OF THE RIPRAP OR FILTER BLANKET MATERIALS. REPAIR IMMEDIATELY UPON OBSERVED FAILURE.

DISPOSAL OF TREES AND BRUSH:

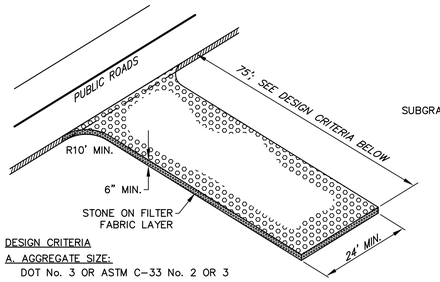
ALL VEGETATION REQUIRING REMOVAL FOR CONSTRUCTION OF THE PROJECT SHALL BE DISPOSED OF OFF–SITE. NO TREES, BRUSH, OR STUMPS SHALL BE BURIED OR OTHERWISE DISPOSED OF ON–SITE.

TRENCH EXCAVATION AND BACKFILL:

CARE SHALL BE TAKEN TO EXCAVATE TO THE CORRECT LINE AND GRADE AND WIDTH AT ALL POINTS. THE METHODS AND EQUIPMENT USED FOR EXCAVATION MUST BE ADAPTED TO THE CONDITIONS AT THE SITE AND THE DIMENSIONS OF THE REQUIRED TRENCH. THE WIDTH OF THE GROUND OR STREET SURFACE, CUT OR DISTURBED, SHALL BE KEPT AS SMALL AS PRACTICABLE TO ACCOMMODATE THE WORK.
TRENCH EXCAVATION, BELOW THE TWO FOOT DEPTH WHICH IS TO BE STRIPPED AND STORED SEPARATELY, SHALL BE STOCKPILED AND USED AS THE TRENCH BACKFILL MATERIAL, UNLESS THE ENGINEER DECLARES IT UNSUITABLE FOR BACKFILL MATERIAL. EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR.

ESTABLISH VEGETATION COVER ON DISTURBED AREAS:

1. SCARIFY SURFACE OF ALL AREAS TO BE TOPSOILED; PLACE A MINIMUM OF 4" TOPSOIL ON ALL AREAS TO BE SEEDED.
2. FERTILIZE AT THE FOLLOWING RATES:
   a) FOR SPRING SEEDING, APPLY 19–19–19 FERTILIZER AT A RATE OF 10 LB.s/1000 SF AND WORK INTO SOIL. SIX TO EIGHT WEEKS LATER AN ADDITIONAL 10 LB.s/1000 SF IS TO BE APPLIED.
   b) FOR FALL SEEDING, APPLY 19–19–19 FERTILIZER AT A RATE OF 10 LB.s/1000 SF AND WORK INTO SOIL.
3. SMOOTH AND FIRM SEEDBED; APPLY SEED AT THE RATE(S) SPECIFIED BELOW. COVER SEED WITH NOT MORE THAN 1/4" OF SOIL.
   APPLY APPROPRIATE SEED MIXTURE PER THE FOLLOWING:
   PERMANENT SEEDING
   30% CREEPING RED FESCUE
   35% SHAMROCK KENTUCKY BLUEGRASS — TEMPORARY SEEDING (WINTER SOIL PROTECTION)
   35% ALL–SPORT PERENNIAL RYE — ANNUAL RYE OR PERENNIAL RYE
   APPLICATION RATE: 5 LB.s/1000 SF — APPLICATION RATE: 2 LB.s/1000 SF
4. MULCH IMMEDIATELY WITH HAY FREE FROM WEED SEEDS AT A RATE OF 3 BALES/1000 SF.



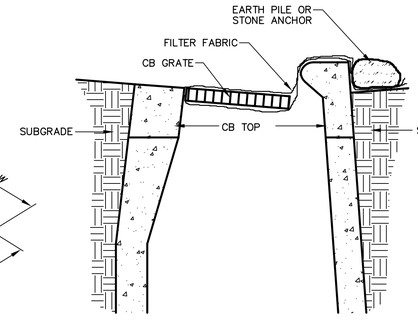
DESIGN CRITERIA

A. AGGREGATE SIZE:
DOT No. 3 OR ASTM C–33 No. 2 OR 3

B. ENTRANCE DIMENSIONS:
THICKNESS–NOT LESS THAN SIX (6) INCHES OF STONE ON FILTER FABRIC.
WIDTH=TWENTY–FOUR FT. (24') MIN., w/ POINTS OF INGRESS/EGRESS FLARED SUFFICIENTLY TO ACCOMMODATE CONSTRUCTION VEHICLES USED ON SITE
LENGTH–50 FEET MINIMUM WHERE THE SOILS ARE SANDS OR GRAVELS, OR 100 FEET MINIMUM WHERE SOILS ARE CLAYS OR SILTS, EXCEPT WHERE THE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY
AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE SHOULD BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE

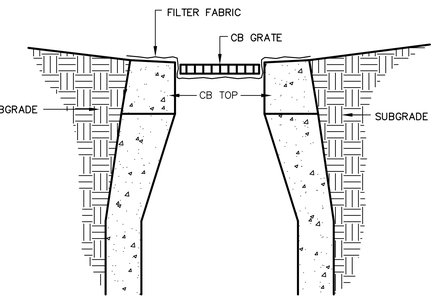
CONSTRUCTION ENTRANCE

N.T.S.



NOTE:
REMOVE CB GRATE; PLACE FILTER FABRIC; REPLACE GRATE, TAKING CARE NOT TO DAMAGE FILTER FABRIC. ANCHOR w/ STONE OR EARTH PILE

TYPE "C"

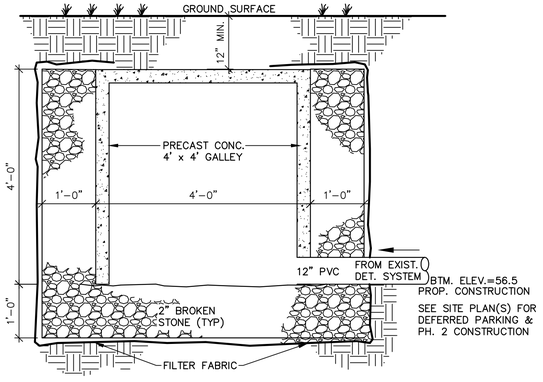


NOTE:
REMOVE CB GRATE; PLACE FILTER FABRIC; REPLACE GRATE, TAKING CARE NOT TO DAMAGE FILTER FABRIC.

TYPE "CL"

FILTER FABRIC SILT BARRIER AT CATCH BASIN

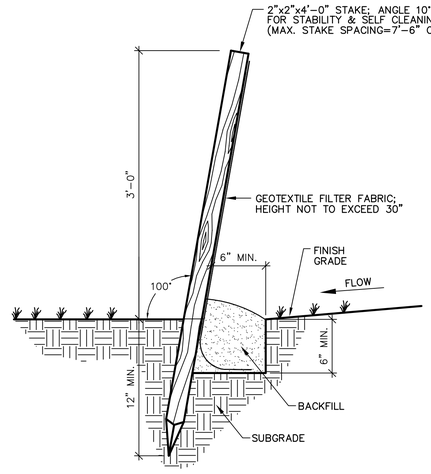
N.T.S.

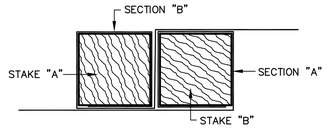


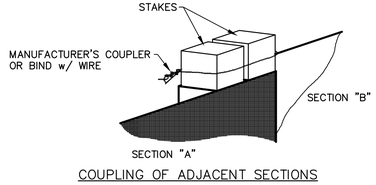
NOTES:
1) PROVIDE 2' OF BROKEN STONE BETWEEN EACH ROW OF GALLEYS & 1' AROUND PERIMETER OF SYSTEM.
2) PROVIDE CLEAN OUT IN EACH END GALLEY.

GALLEY SECTION

N.T.S.



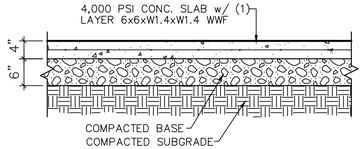




COUPLING OF ADJACENT SECTIONS

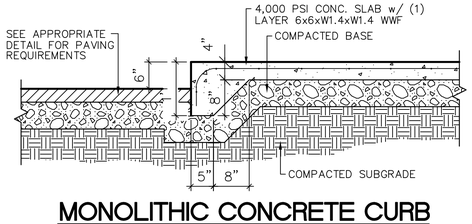
SILTATION CONTROL FENCE

N.T.S.



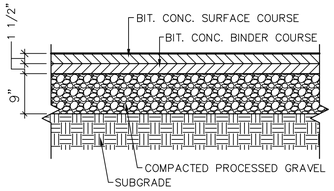
CONCRETE WALK PAVEMENT

N.T.S.



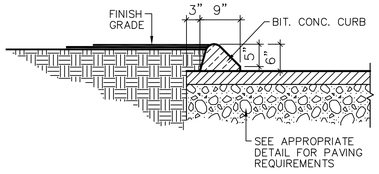
MONOLITHIC CONCRETE CURB

N.T.S.



BITUMINOUS CONCRETE PAVEMENT

N.T.S.



BITUMINOUS CONCRETE CURB

N.T.S.

\\tsclient\P\Drawings\MISC\TOMZ Corporation–2020\TOMZ SPD.dwg 2/3/2021 11:09:31 AM EST

Borghesi Building & Engineering Co., Inc.

SEAL

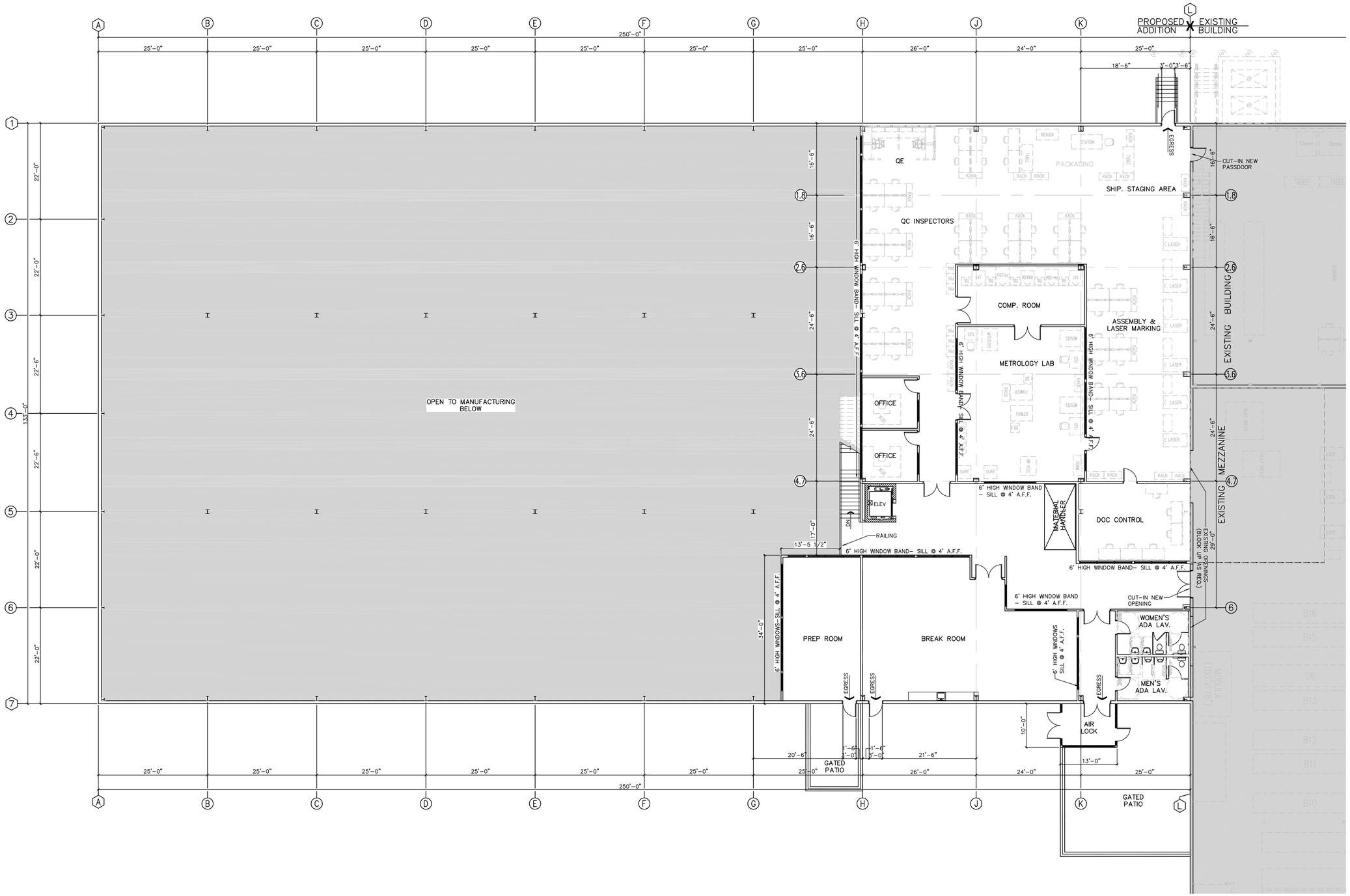
REVISIONS
02–03–21: REV. GALLEY DETAIL (ADD NOTE re: BTM. ELEV.)

PROJECT
TOMZ CORPORATION
47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY G.R.W. | APPROVED BY J.H.P.
DATE 12–07–20 | SCALE AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT 06790
860–482–7613/WEB: WWW.BORGHESIBUILDING.COM

SHEET NO.
SPD1



UPPER LEVEL FLOOR PLAN

SCALE: 3/32"=1'-0"

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Borghesi Building & Engineering Co., Inc.

PLAN NORTH

SEAL

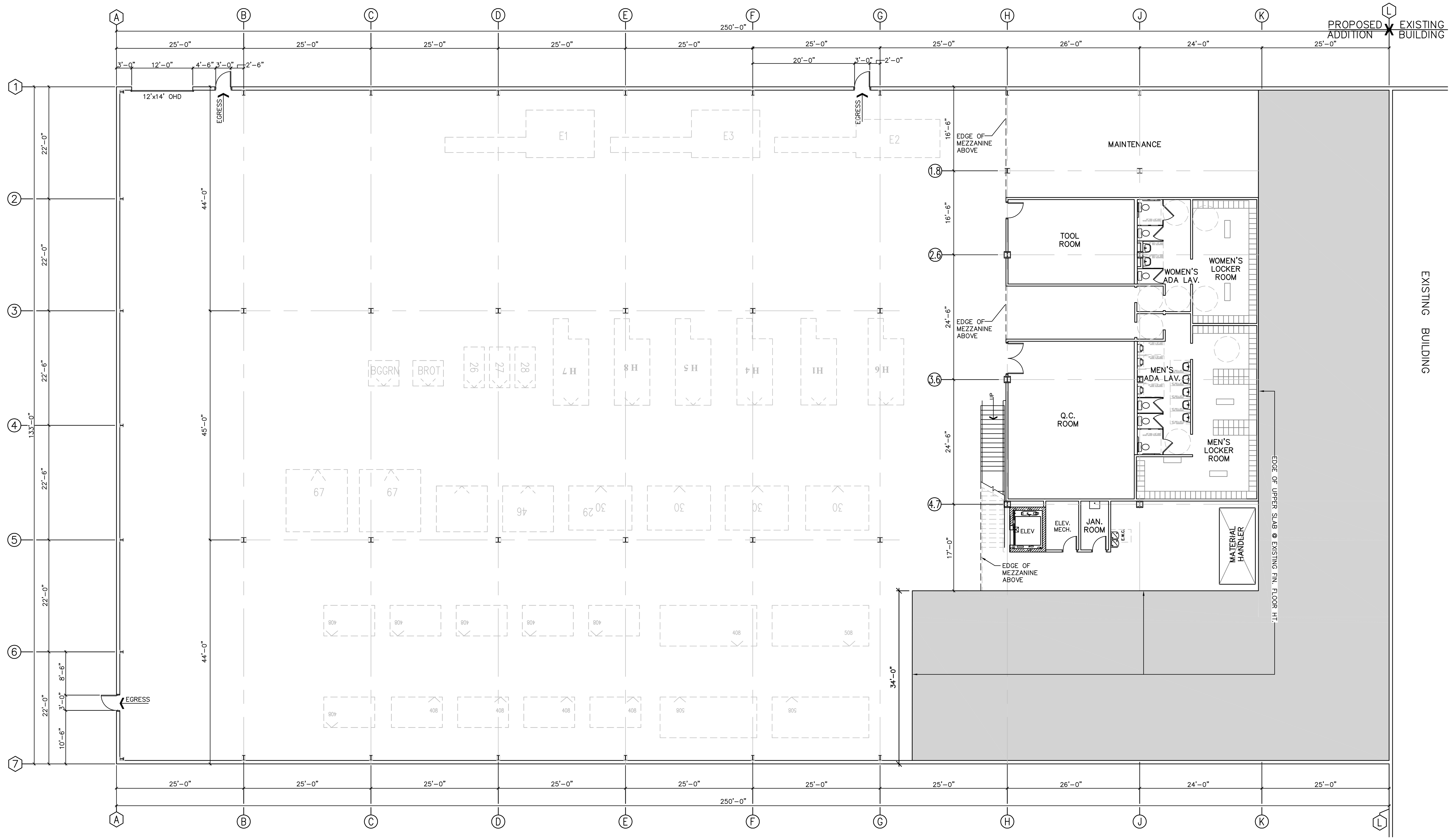
REVISIONS

PROJECT
TOMZ CORPORATION
LARGE ADDITION
#47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY J.B.M.
DATE 01/19/21
APPROVED BY C.C.
SCALE AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT. 06790
860-482-7613 / WEB SITE: www.borghesibuilding.com

SHEET NO.
A1



LOWER LEVEL FLOOR PLAN
SCALE: 3/32"=1'-0"

Borghesi Building & Engineering Co., Inc.

PLAN NORTH

SEAL

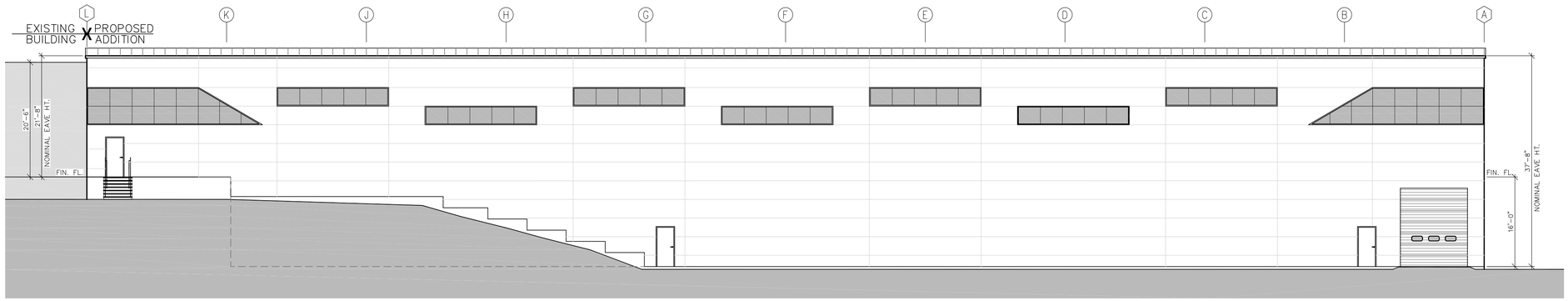
REVISIONS

PROJECT
TOMZ CORPORATION
LARGE ADDITION
#47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY J.B.M.	APPROVED BY C.C.
DATE 01/19/21	SCALE AS NOTED

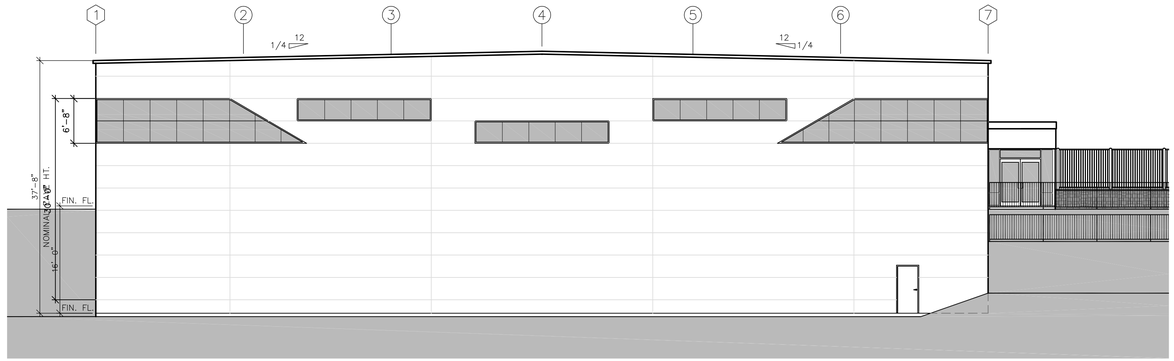
2155 EAST MAIN STREET, TORRINGTON, CT. 06790
860-482-7613 / WEB SITE: www.borghesibuilding.com

SHEET NO.
A1A



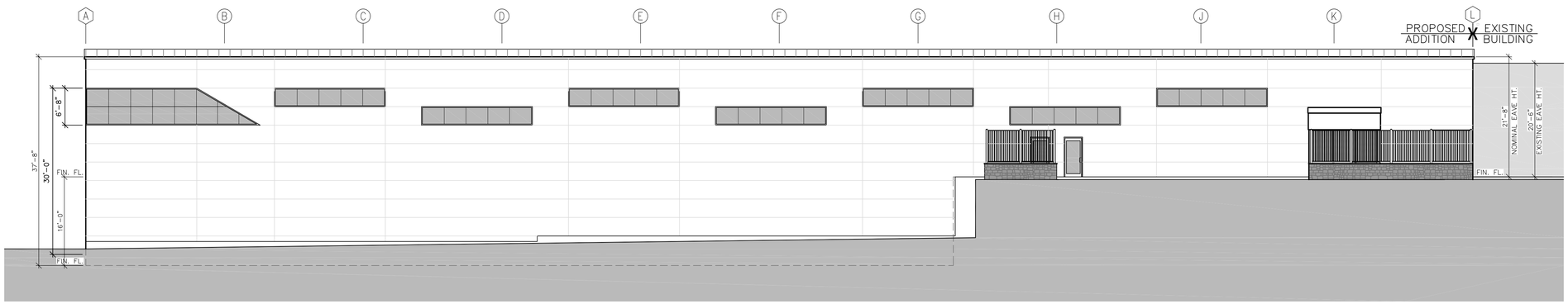
WEST ELEVATION

SCALE: 3/32"= 1'-0"



SOUTH ELEVATION

SCALE: 3/32"= 1'-0"



EAST ELEVATION

SCALE: 3/32"= 1'-0"

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Borghesi Building & Engineering Co., Inc.

SEAL

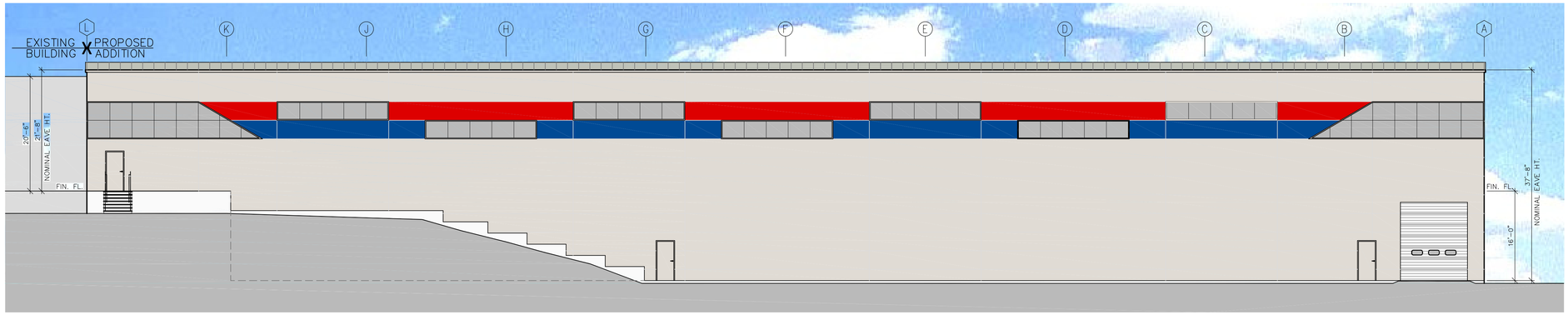
REVISIONS

PROJECT
TOMZ CORPORATION
LARGE ADDITION
#47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY J.B.M.
DATE 01/21/21
APPROVED BY C.C.
SCALE AS NOTED

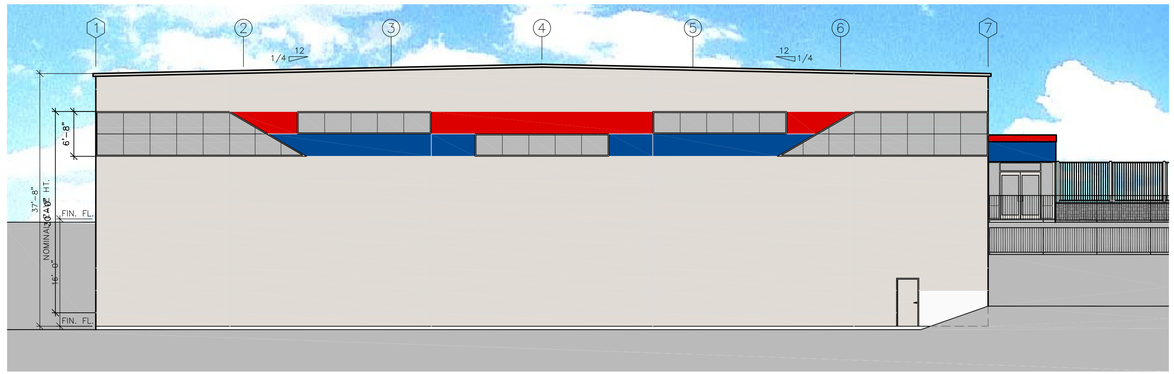
2155 EAST MAIN STREET TORRINGTON, CT 06790
860-482-7613 / WEB SITE: www.borghesibuilding.com

SHEET NO.
A2



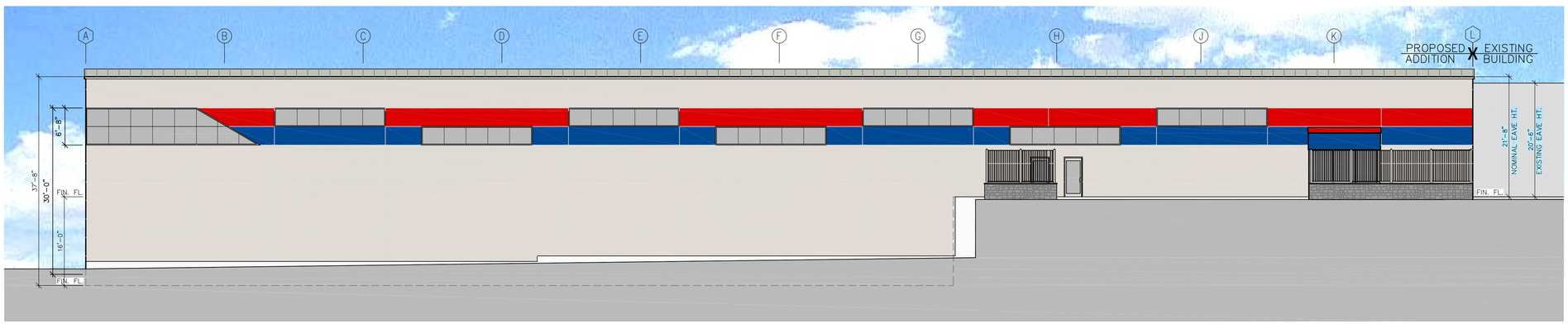
WEST ELEVATION

SCALE: 3/32"= 1'-0"



SOUTH ELEVATION

SCALE: 3/32"= 1'-0"



EAST ELEVATION

SCALE: 3/32"= 1'-0"

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Borghesi Building & Engineering Co., Inc.

SEAL

REVISIONS

PROJECT
TOMZ CORPORATION
LARGE ADDITION
#47 EPISCOPAL ROAD, BERLIN, CT

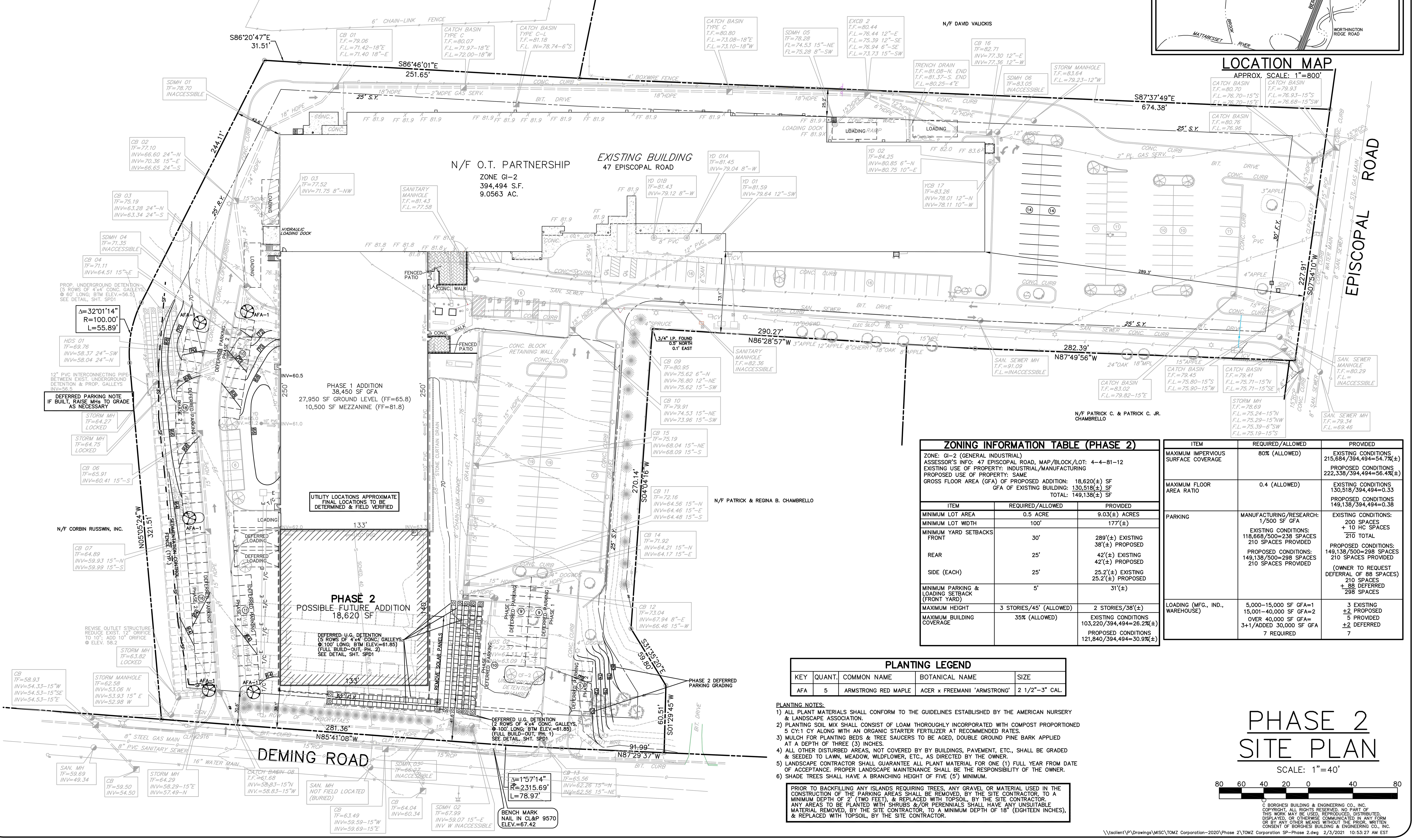
DRAWN BY J.B.M.
APPROVED BY C.C.
DATE 01/21/21
SCALE AS NOTED

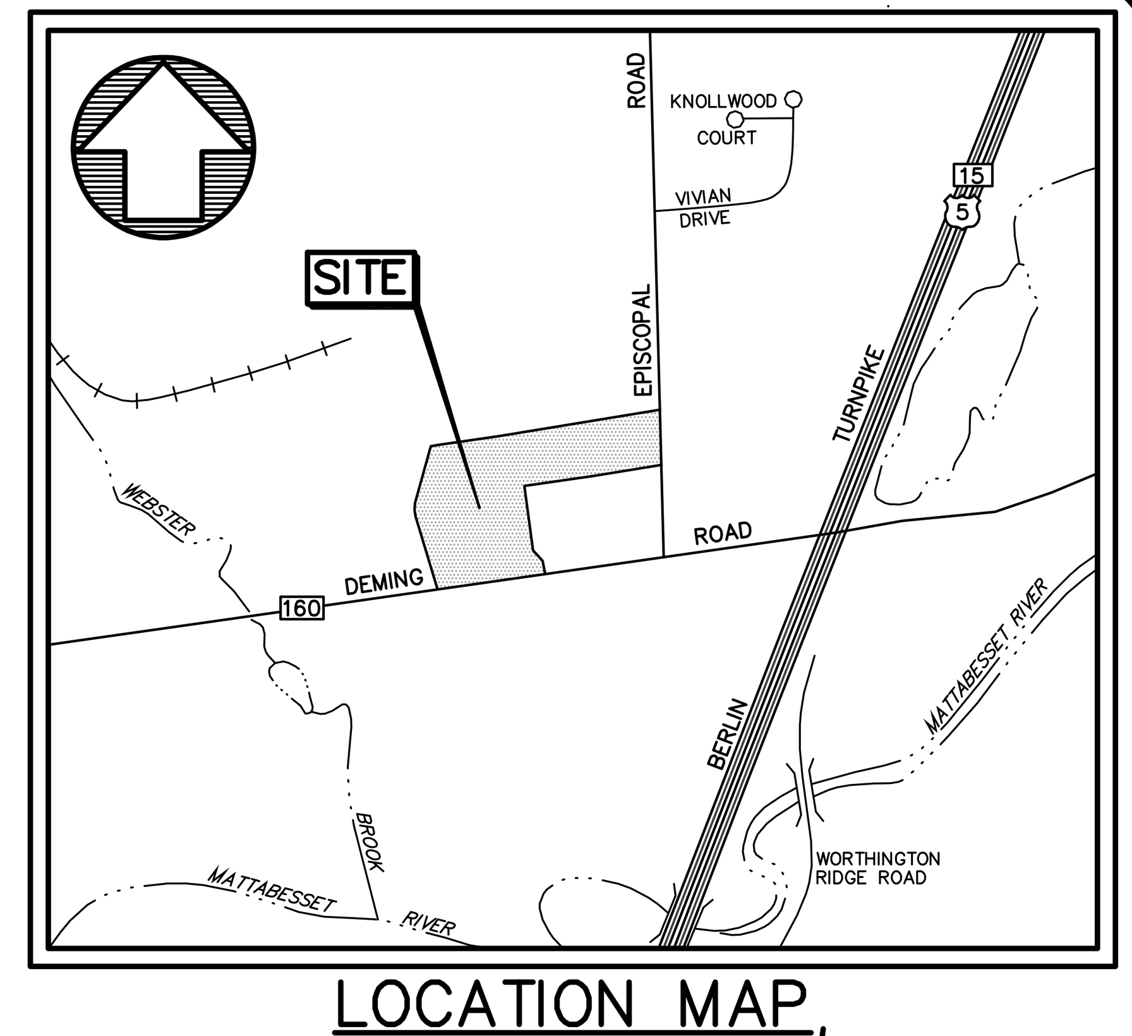
2155 EAST MAIN STREET TORRINGTON, CT 06790
860-482-7613 / WEB SITE: www.borghesibuilding.com

SHEET NO.
A2

NOTES:

1) MAP REFERENCES:
   A) DRAWING ENTITLED "RESURVEY PREPARED FOR TOMZ CORPORATION, 47 EPISCOPAL ROAD, BERLIN, CONNECTICUT," IMPROVEMENT LOCATION SURVEY, SHEET 1 of 1, PREPARED BY THE BONGIOVANNI GROUP, INC., 170 PANE ROAD, NEWINGTON, CT, DATED 10-14-20 (REFERENCE 13100-TOPO-2020.DWG)
2) OWNER: O.T. PARTNERSHIP, 47 EPISCOPAL ROAD, BERLIN, CT 06037
   APPLICANT: BORGHESI BUILDING & ENGINEERING CO., INC, 2155 EAST MAIN STREET, TORRINGTON, CT 06790
3) REFER TO THE FOLLOWING DRAWINGS PREPARED BY BORGHESI BUILDING & ENGINEERING CO., INC. FOR OTHER PERTINENT INFORMATION:
   - SP1-1 PHASE 1 SITE PLAN (40 SCALE)
   - SP2-1 PHASE1 SITE PLAN (20 SCALE)
   - SPD1 SITE DETAILS
4) ALL EXISTING UTILITY LOCATIONS ARE FROM THE BEST AVAILABLE INFORMATION. CONTRACTOR TO FIELD VERIFY ALL LOCATIONS, DIMENSIONS, & ELEVATIONS PRIOR TO CONSTRUCTION. PRIOR TO ANY EXCAVATION, CONTACT "CALL-BEFORE-YOU-DIG" @ 1-800-922-4455 TO MARK ALL UTILITIES WITHIN THE CONSTRUCTION LIMITS.
5) HANDICAPPED PARKING SPACES SHALL BE DESIGNATED WITH PAINTED PAVEMENT MARKINGS & ABOVE GRADE SIGNS IN ACCORDANCE WITH THE MOST CURRENT MUTCD & ITS ADDENDUMS, & SHALL COMPLY w/ CT STATE BLDG. CODE.
6) ALL SIGNS, SIGN MOUNTINGS, & PAINTED MARKINGS SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE MOST CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) & ITS ADDENDUMS.
7) PRIOR TO BACKFILLING ANY ISLANDS REQUIRING TREES, ANY GRAVEL OR MATERIAL USED IN THE CONSTRUCTION OF THE PARKING AREAS SHALL BE REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 2' (TWO FEET), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR. ANY AREAS TO BE PLANTED WITH SHRUBS &/OR PERENNIALS SHALL HAVE ANY UNSUITABLE MATERIAL REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 18" (EIGHTEEN INCHES), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR.
8) ALL LIGHT FIXTURES SHALL BE FULL CUT-OFF FIXTURES.





LOCATION MAP
APPROX. SCALE: 1"=800'

ZONING INFORMATION TABLE (PHASE 2)		
ZONE: GI-2 (GENERAL INDUSTRIAL) ASSESSOR'S INFO: 47 EPISCOPAL ROAD, MAP/BLOCK/LOT: 4-4-81-12 EXISTING USE OF PROPERTY: INDUSTRIAL/MANUFACTURING PROPOSED USE OF PROPERTY: SAME GROSS FLOOR AREA (GFA) OF PROPOSED ADDITION: 18,620(±) SF GFA OF EXISTING BUILDING: 130,518(±) SF TOTAL: 149,138(±) SF		
ITEM	REQUIRED/ALLOWED	PROVIDED
MINIMUM LOT AREA	0.5 ACRE	9.03(±) ACRES
MINIMUM LOT WIDTH	100'	177'(±)
MINIMUM YARD SETBACKS FRONT	30'	289'(±) EXISTING 38'(±) PROPOSED
REAR	25'	42'(±) EXISTING 42'(±) PROPOSED
SIDE (EACH)	25'	25.2'(±) EXISTING 25.2'(±) PROPOSED
MINIMUM PARKING & LOADING SETBACK (FRONT YARD)	5'	31'(±)
MAXIMUM HEIGHT	3 STORIES/45' (ALLOWED)	2 STORIES/38'(±)
MAXIMUM BUILDING COVERAGE	35% (ALLOWED)	EXISTING CONDITIONS 103,220/394,494=26.2%(±) PROPOSED CONDITIONS 121,840/394,494=30.9%(±)

ITEM	REQUIRED/ALLOWED	PROVIDED
MAXIMUM IMPERVIOUS SURFACE COVERAGE	80% (ALLOWED)	EXISTING CONDITIONS 215,684/394,494=54.7%(±) PROPOSED CONDITIONS 222,338/394,494=56.4%(±)
MAXIMUM FLOOR AREA RATIO	0.4 (ALLOWED)	EXISTING CONDITIONS 130,518/394,494=0.33 PROPOSED CONDITIONS 149,138/394,494=0.38
PARKING	MANUFACTURING/RESEARCH: 1/500 SF GFA EXISTING CONDITIONS: 118,668/500=238 SPACES 210 SPACES PROVIDED PROPOSED CONDITIONS: 149,138/500=298 SPACES 210 SPACES PROVIDED	EXISTING CONDITIONS: 200 SPACES + 10 HC SPACES 210 TOTAL PROPOSED CONDITIONS: 149,138/500=298 SPACES 210 SPACES PROVIDED (OWNER TO REQUEST DEFERRAL OF 88 SPACES) 210 SPACES + 88 DEFERRED 298 SPACES
LOADING (MFG., IND., WAREHOUSE)	5,000-15,000 SF GFA=1 15,001-40,000 SF GFA=2 OVER 40,000 SF GFA= 3+1/ADDED 30,000 SF GFA 7 REQUIRED	3 EXISTING +2 PROPOSED 5 PROVIDED +2 DEFERRED 7

PLANTING LEGEND				
KEY	QUANT.	COMMON NAME	BOTANICAL NAME	SIZE
AFA	5	ARMSTRONG RED MAPLE	ACER x FREEMANII 'ARMSTRONG'	2 1/2"-3" CAL.

PLANTING NOTES:
1) ALL PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
2) PLANTING SOIL MIX SHALL CONSIST OF LOAM THOROUGHLY INCORPORATED WITH COMPOST PROPORTIONED 5 CY:1 CY ALONG WITH AN ORGANIC STARTER FERTILIZER AT RECOMMENDED RATES.
3) MULCH FOR PLANTING BEDS & TREE SAUCERS TO BE AGED, DOUBLE GROUND PINE BARK APPLIED AT A DEPTH OF THREE (3) INCHES.
4) ALL OTHER DISTURBED AREAS, NOT COVERED BY BY BUILDINGS, PAVEMENT, ETC., SHALL BE GRADED & SEEDED TO LAWN, MEADOW, WILDFLOWER, ETC., AS DIRECTED BY THE OWNER.
5) LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR ONE (1) FULL YEAR FROM DATE OF ACCEPTANCE. PROPER LANDSCAPE MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER.
6) SHADE TREES SHALL HAVE A BRANCHING HEIGHT OF FIVE (5') MINIMUM.

PRIOR TO BACKFILLING ANY ISLANDS REQUIRING TREES, ANY GRAVEL OR MATERIAL USED IN THE CONSTRUCTION OF THE PARKING AREAS SHALL BE REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 2' (TWO FEET), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR. ANY AREAS TO BE PLANTED WITH SHRUBS &/OR PERENNIALS SHALL HAVE ANY UNSUITABLE MATERIAL REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 18" (EIGHTEEN INCHES), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR.

PHASE 2 SITE PLAN

SCALE: 1"=40'

80 60 40 20 0 40 80

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Borghesi Building & Engineering Co., Inc.

N E S W

SEAL

REVISIONS
01-21-21 REV. HC PARKING; ADD CURTAIN DRAIN (E. SIDE BLDG), YD W. SIDE BLDG; REV. GRADES E. & S. OF BLDG; REV. CALL-OUTS re: FENCING
02-03-21 REV. per P&Z MEETING (01-21-21); BREAKDOWN PROJECT INTO 2 PHASES, w/ SEPARATE DRAWINGS FOR EACH

PROJECT: TOMZ corporation, 47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY: G.R.W. | APPROVED BY: J.H.P.
DATE: 12-11-20 | SCALE: AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT 06790
860-482-7613/WEB: WWW.BORGHESIBUILDING.COM

SHEET NO.
SP1-2

NOTES:

1) MAP REFERENCES:
   A) DRAWING ENTITLED "RESURVEY PREPARED FOR TOMZ CORPORATION, 47 EPISCOPAL ROAD, BERLIN, CONNECTICUT," IMPROVEMENT LOCATION SURVEY, SHEET 1 of 1, PREPARED BY THE BONGIOVANNI GROUP, INC., 170 PANE ROAD, NEWINGTON, CT, DATED 10–14–20 (REFERENCE 13100–TOPO–2020.DWG)
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   SP2–1 PHASE1 SITE PLAN (20 SCALE)
   SPD1 SITE DETAILS
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5) HANDICAPPED PARKING SPACES SHALL BE DESIGNATED WITH PAINTED PAVEMENT MARKINGS & ABOVE GRADE SIGNS IN ACCORDANCE WITH THE MOST CURRENT MUTCD & ITS ADDENDUMS, & SHALL COMPLY w/ CT STATE BLDG. CODE.
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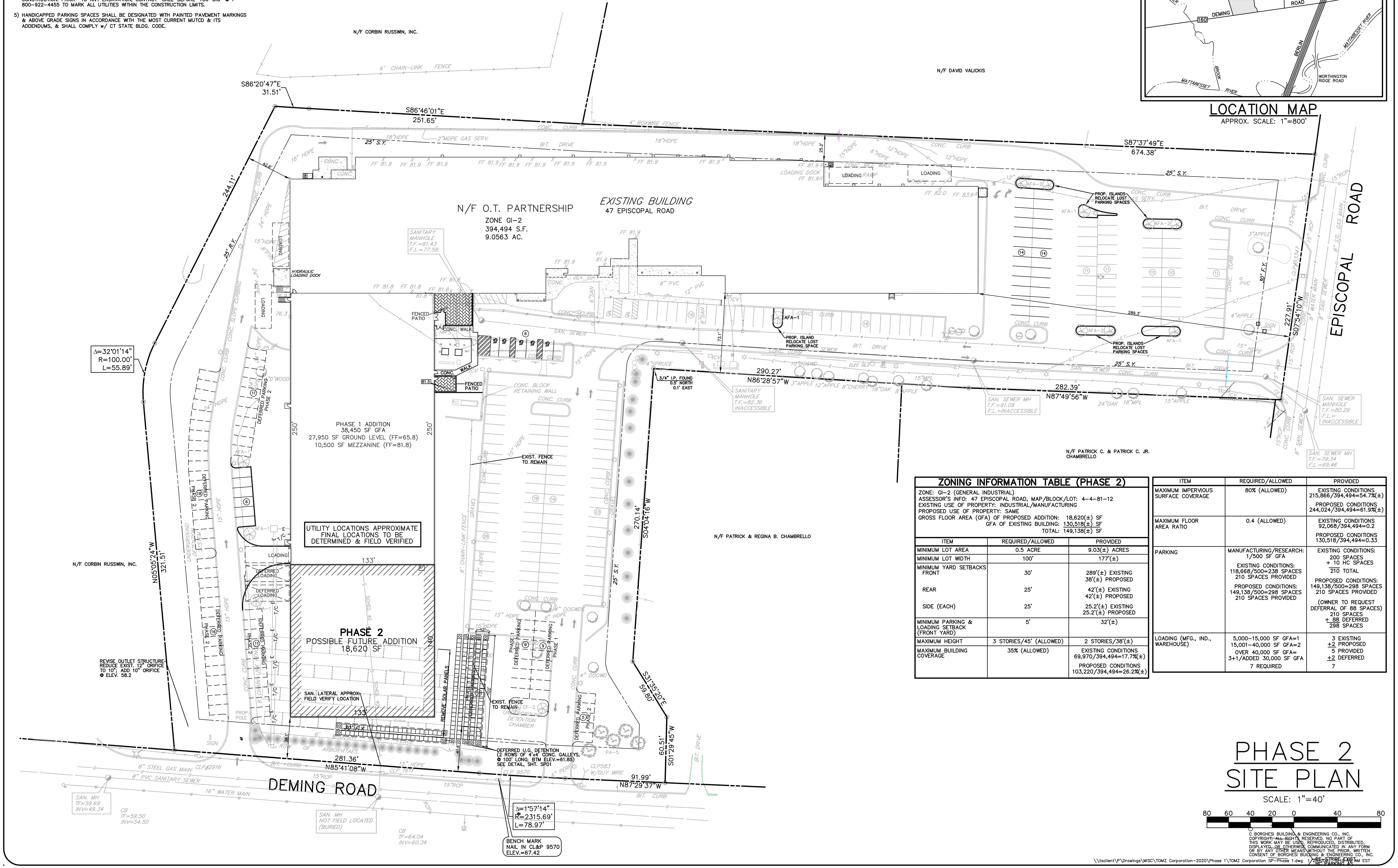
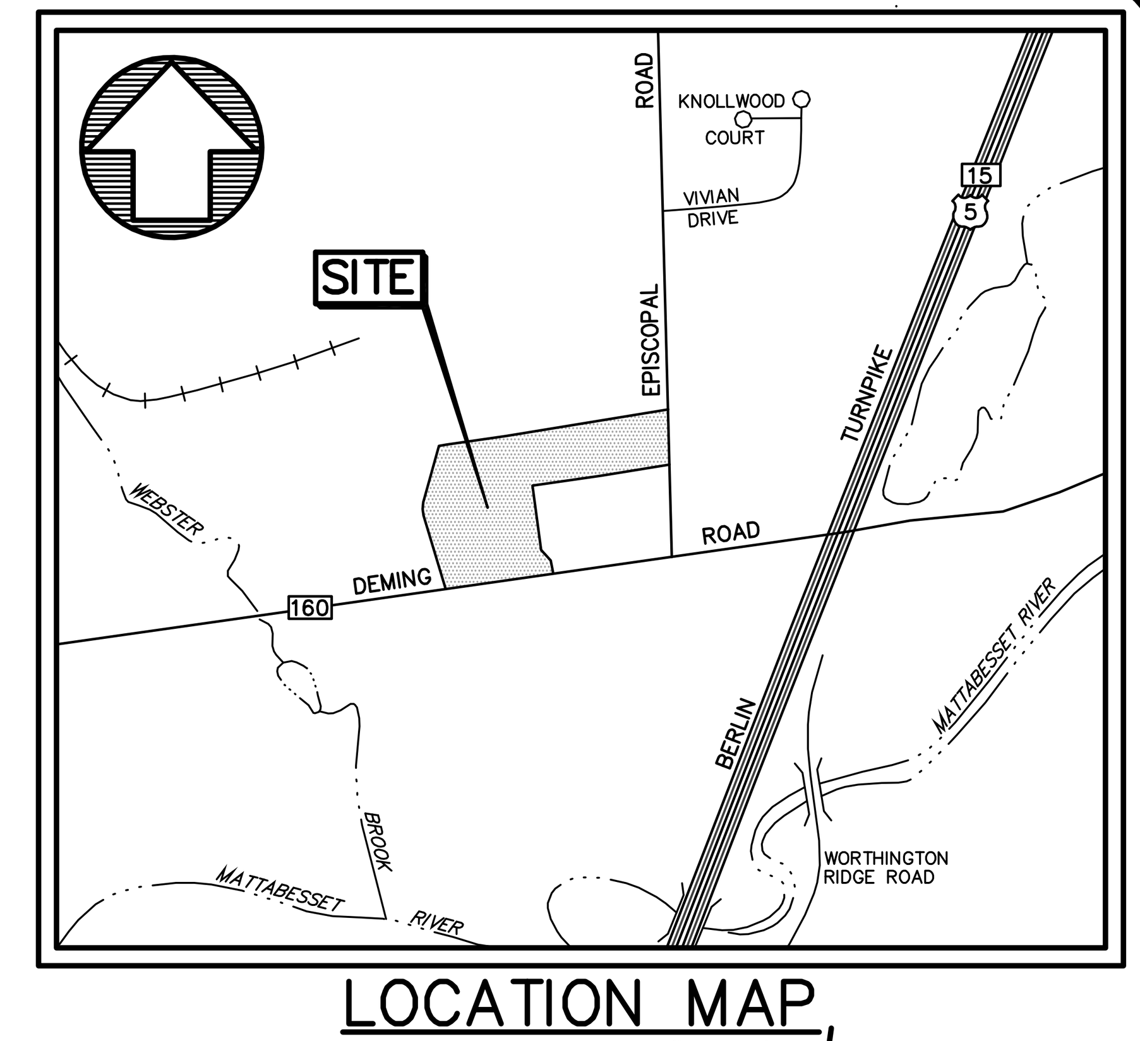
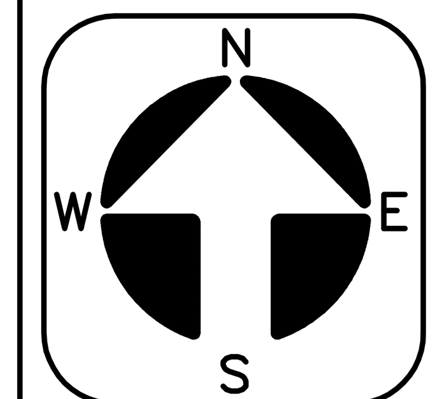




LOCATION MAP

APPROX. SCALE: 1"=800'



ZONING INFORMATION TABLE (PHASE 2)		
ZONE: GI–2 (GENERAL INDUSTRIAL) ASSESSOR'S INFO: 47 EPISCOPAL ROAD, MAP/BLOCK/LOT: 4–4–81–12 EXISTING USE OF PROPERTY: INDUSTRIAL/MANUFACTURING PROPOSED USE OF PROPERTY: SAME GROSS FLOOR AREA (GFA) OF PROPOSED ADDITION: 18,620(±) SF GFA OF EXISTING BUILDING: 130,518(±) SF TOTAL: 149,138(±) SF		
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MAXIMUM HEIGHT	3 STORIES/45' (ALLOWED)	2 STORIES/38'(±)
MAXIMUM BUILDING COVERAGE	35% (ALLOWED)	EXISTING CONDITIONS 69,970/394,494=17.7%(±) PROPOSED CONDITIONS 103,220/394,494=26.2%(±)

ITEM	REQUIRED/ALLOWED	PROVIDED
MAXIMUM IMPERVIOUS SURFACE COVERAGE	80% (ALLOWED)	EXISTING CONDITIONS 215,866/394,494=54.7%(±) PROPOSED CONDITIONS 244,024/394,494=61.9%(±)
MAXIMUM FLOOR AREA RATIO	0.4 (ALLOWED)	EXISTING CONDITIONS 92,068/394,494=0.2 PROPOSED CONDITIONS 130,518/394,494=0.33
PARKING	MANUFACTURING/RESEARCH: 1/500 SF GFA EXISTING CONDITIONS: 118,668/500=238 SPACES 210 SPACES PROVIDED PROPOSED CONDITIONS: 149,138/500=298 SPACES 210 SPACES PROVIDED	EXISTING CONDITIONS: 200 SPACES + 10 HC SPACES 210 TOTAL PROPOSED CONDITIONS: 149,138/500=298 SPACES 210 SPACES PROVIDED (OWNER TO REQUEST DEFERRAL OF 88 SPACES) 210 SPACES + 88 DEFERRED 298 SPACES
LOADING (MFG., IND., WAREHOUSE)	5,000–15,000 SF GFA=1 15,001–40,000 SF GFA=2 OVER 40,000 SF GFA= 3+1/ADDED 30,000 SF GFA 7 REQUIRED	3 EXISTING +2 PROPOSED 5 PROVIDED +2 DEFERRED 7

PHASE 2 SITE PLAN

SCALE: 1"=40'

80 60 40 20 0 40 80

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Borghesi Building & Engineering Co., Inc.

SEAL

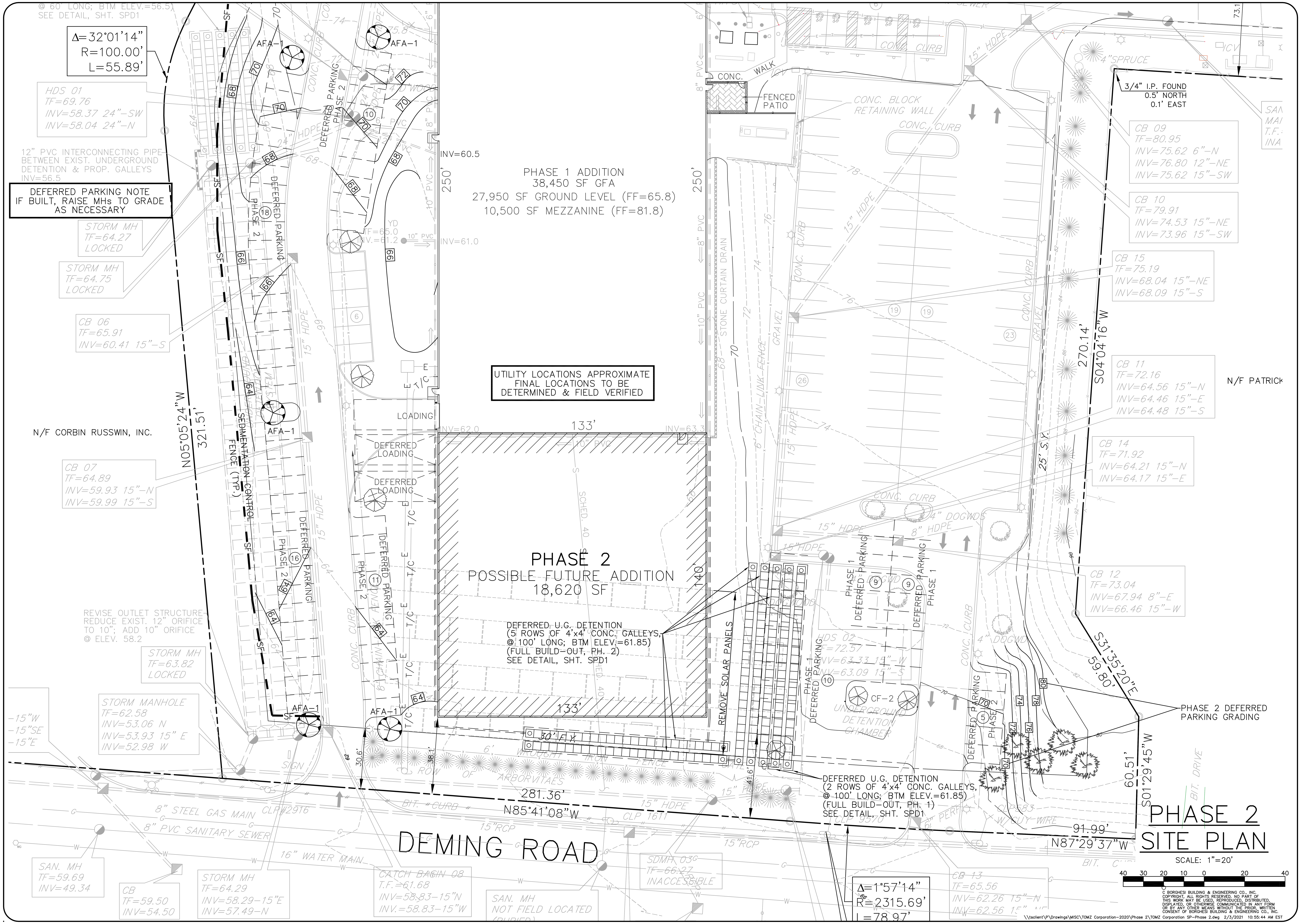
REVISIONS
01–21–21 REV. HC PARKING; ADD CURTAIN DRAIN (E. SIDE BLDG), YD W. SIDE BLDG; REV. GRADES E. & S. OF BLDG; REV. CALL–OUTS re: FENCING
01–28–21 REV. per P&Z MEETING (01–21–21); BREAKDOWN PROJECT INTO 2 PHASES, w/ SEPARATE DRAWINGS FOR EACH

PROJECT
TOMZ corporation
47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY	G.R.W.	APPROVED BY	J.H.P.
DATE	12–11–20	SCALE	AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT 06790
860–482–7613/WEB: WWW.BORGHESIBUILDING.COM

SHEET NO.
SP1–2


Δ=32°01'14"
R=100.00'
L=55.89'
HDS 01
TF=69.76
INV=58.37 24"-SW
INV=58.04 24"-N
12" PVC INTERCONNECTING PIPE BETWEEN EXIST. UNDERGROUND DETENTION & PROP. GALLEYS INV=56.5
DEFERRED PARKING NOTE
IF BUILT, RAISE MHs TO GRADE AS NECESSARY
STORM MH
TF=64.27
LOCKED
STORM MH
TF=64.75
LOCKED
CB 06
TF=65.91
INV=60.41 15"-S
N/F CORBIN RUSSWIN, INC.
N05°05'24"W
321.51'
SEDIMENTATION CONTROL FENCE (TYP.)
CB 07
TF=64.89
INV=59.93 15"-N
INV=59.99 15"-S
REVISE OUTLET STRUCTURE
REDUCE EXIST. 12" ORIFICE TO 10"; ADD 10" ORIFICE @ ELEV. 58.2
STORM MH
TF=63.82
LOCKED
STORM MANHOLE
TF=62.58
INV=53.06 N
INV=53.93 15" E
INV=52.98 W
SAN. MH
TF=59.69
INV=49.34
CB
TF=59.50
INV=54.50
STORM MH
TF=64.29
INV=58.29-15"E
INV=57.49-N
CATCH BASIN 08
T.F.=61.68
INV.=58.83-15"N
INV.=58.83-15"W
SAN. MH
NOT FIELD LOCATED
SDMH 03
TF=66.27
INACCESSIBLE
DEFERRED PARKING
PHASE 2
AFA-1
INV=60.5
250'
PHASE 1 ADDITION
38,450 SF GFA
27,950 SF GROUND LEVEL (FF=65.8)
10,500 SF MEZZANINE (FF=81.8)
UTILITY LOCATIONS APPROXIMATE
FINAL LOCATIONS TO BE
DETERMINED & FIELD VERIFIED
LOADING
DEFERRED LOADING
133'
PHASE 2
POSSIBLE FUTURE ADDITION
18,620 SF
140'
DEFERRED U.G. DETENTION
(5 ROWS OF 4'x4' CONC. GALLEYS, @ 100' LONG; BTM ELEV.=61.85)
(FULL BUILD-OUT, PH. 2)
SEE DETAIL, SHT. SPD1
REMOVE SOLAR PANELS
30' FLX
ROW OF ARBORVITAES
WROUGHT IRON FENCE
281.36'
N85°41'08"W
8" STEEL GAS MAIN
8" PVC SANITARY SEWER
16" WATER MAIN
15"RCP
DEMING ROAD
CONC. WALK
FENCED PATIO
CONC. BLOCK RETAINING WALL
CONC. CURB
STONE CURTAIN DRAIN
6' CHAIN-LINK FENCE
GRAVEL
15" HDPE
CB 09
TF=80.95
INV=75.62 6"-N
INV=76.80 12"-NE
INV=75.62 15"-SW
CB 10
TF=79.91
INV=74.53 15"-NE
INV=73.96 15"-SW
CB 15
TF=75.19
INV=68.04 15"-NE
INV=68.09 15"-S
CB 11
TF=72.16
INV=64.56 15"-N
INV=64.46 15"-E
INV=64.48 15"-S
CB 14
TF=71.92
INV=64.21 15"-N
INV=64.17 15"-E
CB 12
TF=73.04
INV=67.94 8"-E
INV=66.46 15"-W
3/4" I.P. FOUND
0.5' NORTH
0.1' EAST
4"SPRUCE
270.14'
S04°04'16"W
N/F PATRICK
25' S.Y.
4" DOGWDS
PHASE 1 DEFERRED PARKING
HDS 02
TF=72.57
INV=63.33 15"-W
INV=63.09 15"-S
CF-2
UNDERGROUND DETENTION CHAMBER
S31°35'20"E
59.80'
PHASE 2 DEFERRED PARKING GRADING
60.51'
S01°29'45"W
DEFERRED U.G. DETENTION
(2 ROWS OF 4'x4' CONC. GALLEYS, @ 100' LONG; BTM ELEV.=61.85)
(FULL BUILD-OUT, PH. 1)
SEE DETAIL, SHT. SPD1
91.99'
N87°29'37"W
BIT. DRIVE
CB 13
TF=65.56
INV=62.26 15"-N
INV=62.56 15"
Δ=1°57'14"
R=2315.69'
L=78.97'

PHASE 2 SITE PLAN

SCALE: 1"=20'

40 30 20 10 0 20 40

\\tclient\P\Drawings\MISC\TOMZ Corporation-2020\Phase 2\TOMZ Corporation SP-Phase 2.dwg 2/3/2021 10:55:44 AM EST

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2155 EAST MAIN STREET TORRINGTON, CT 06790
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SEAL

REVISIONS
01-21-21 REV. INC PARKING, ADD CURTAIN DRAIN (E. SIDE BLDG), YD W. SIDE BLDG, REV. GRADES
02-03-21 REV. PH. 2 BLDG; REV. CALL-OUTS; BREAKDOWN PROJECT INTO 2 PHASES, w/ SEPARATE DRAWINGS FOR EACH

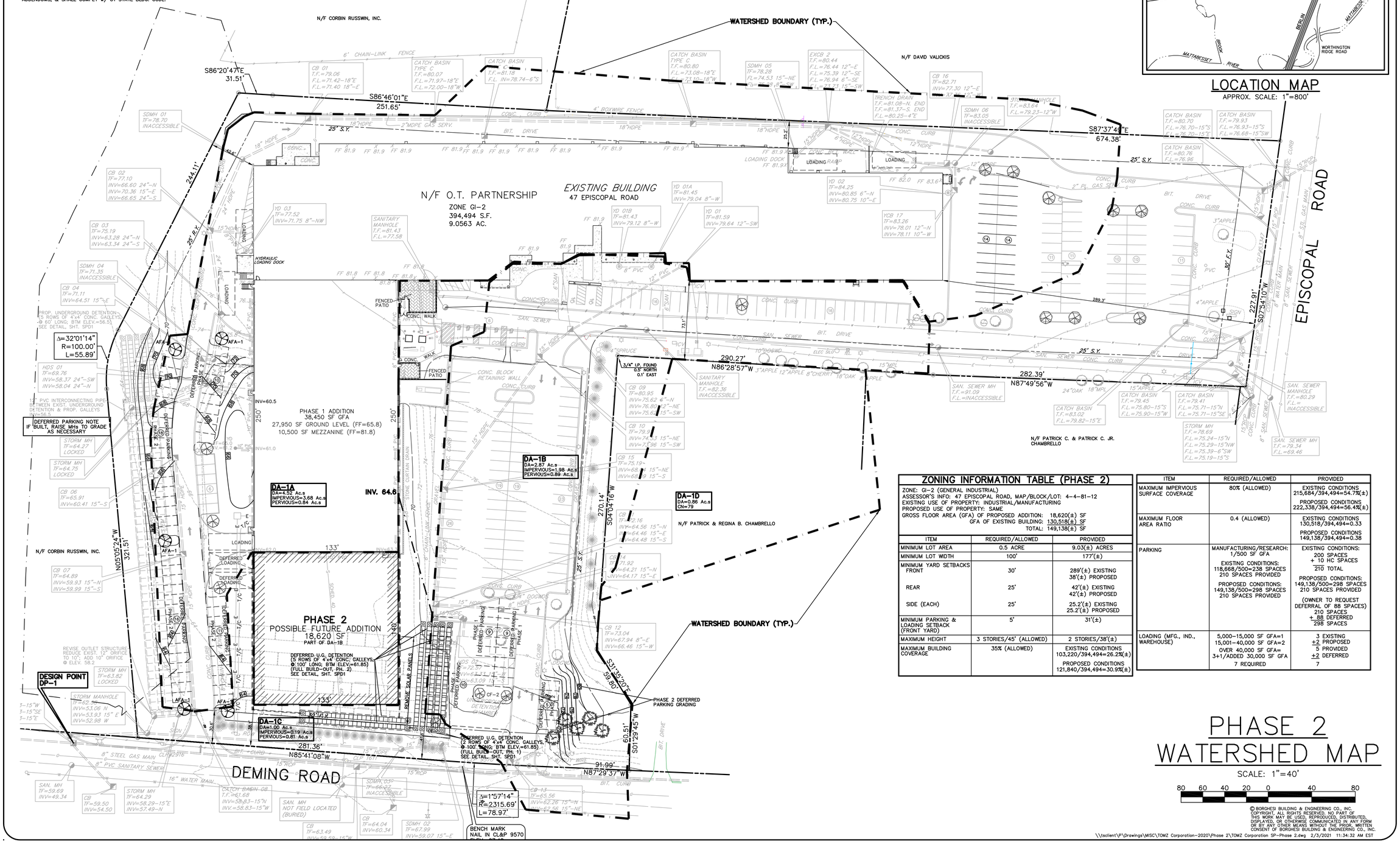
PROJECT: TOMZ Corporation, 47 EPISCOPAL ROAD, BERLIN, CT

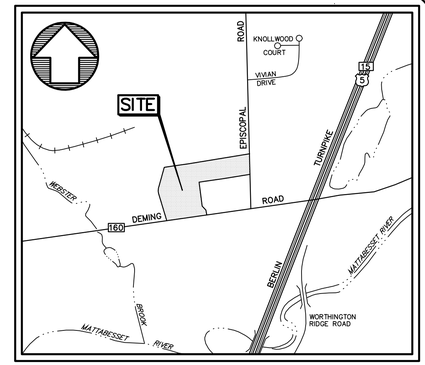
DRAWN BY	G.R.W.	APPROVED BY	J.H.P.
DATE	12-11-20	SCALE	AS NOTED

SHEET NO.
SP2-2

NOTES:

1) MAP REFERENCES:
   A) DRAWING ENTITLED "RESURVEY PREPARED FOR TOMZ CORPORATION, 47 EPISCOPAL ROAD, BERLIN, CONNECTICUT," IMPROVEMENT LOCATION SURVEY, SHEET 1 of 1, PREPARED BY THE BONGIOVANNI GROUP, INC., 170 PANE ROAD, NEWINGTON, CT, DATED 10-14-20 (REFERENCE 13100-TOPO-2020.DWG)
2) OWNER: O.T. PARTNERSHIP, 47 EPISCOPAL ROAD, BERLIN, CT 06037
   APPLICANT: BORGHESI BUILDING & ENGINEERING CO., INC, 2155 EAST MAIN STREET, TORRINGTON, CT 06790
3) REFER TO THE FOLLOWING DRAWINGS PREPARED BY BORGHESI BUILDING & ENGINEERING CO., INC. FOR OTHER PERTINENT INFORMATION:
   SP1 SITE PLAN (40 SCALE)
   SP2 SITE PLAN (20 SCALE)
   SPD1 SITE DETAILS
4) ALL EXISTING UTILITY LOCATIONS ARE FROM THE BEST AVAILABLE INFORMATION. CONTRACTOR TO FIELD VERIFY ALL LOCATIONS, DIMENSIONS, & ELEVATIONS PRIOR TO CONSTRUCTION. PRIOR TO ANY EXCAVATION, CONTACT "CALL-BEFORE-YOU-DIG" @ 1-800-922-4455 TO MARK ALL UTILITIES WITHIN THE CONSTRUCTION LIMITS.
5) HANDICAPPED PARKING SPACES SHALL BE DESIGNATED WITH PAINTED PAVEMENT MARKINGS & ABOVE GRADE SIGNS IN ACCORDANCE WITH THE MOST CURRENT MUTCD & ITS ADDENDUMS, & SHALL COMPLY w/ CT STATE BLDG. CODE.
6) ALL SIGNS, SIGN MOUNTINGS, & PAINTED MARKINGS SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE MOST CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) & ITS ADDENDUMS.
7) PRIOR TO BACKFILLING ANY ISLANDS REQUIRING TREES, ANY GRAVEL OR MATERIAL USED IN THE CONSTRUCTION OF THE PARKING AREAS SHALL BE REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 2' (TWO FEET), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR. ANY AREAS TO BE PLANTED WITH SHRUBS &/OR PERENNIALS SHALL HAVE ANY UNSUITABLE MATERIAL REMOVED, BY THE SITE CONTRACTOR, TO A MINIMUM DEPTH OF 18" (EIGHTEEN INCHES), & REPLACED WITH TOPSOIL, BY THE SITE CONTRACTOR.
8) ALL LIGHT FIXTURES SHALL BE FULL CUT-OFF FIXTURES.





LOCATION MAP
APPROX. SCALE: 1"=800'

ZONING INFORMATION TABLE (PHASE 2)

ZONE: GI-2 (GENERAL INDUSTRIAL)
ASSESSOR'S INFO: 47 EPISCOPAL ROAD, MAP/BLOCK/LOT: 4-4-81-12
EXISTING USE OF PROPERTY: INDUSTRIAL/MANUFACTURING
PROPOSED USE OF PROPERTY: SAME
GROSS FLOOR AREA (GFA) OF PROPOSED ADDITION: 18,620(±) SF
GFA OF EXISTING BUILDING: 130,518(±) SF
TOTAL: 149,138(±) SF

ITEM	REQUIRED/ALLOWED	PROVIDED
MINIMUM LOT AREA	0.5 ACRE	9.03(±) ACRES
MINIMUM LOT WIDTH	100'	177'(±)
MINIMUM YARD SETBACKS FRONT	30'	289'(±) EXISTING 38'(±) PROPOSED
REAR	25'	42'(±) EXISTING 42'(±) PROPOSED
SIDE (EACH)	25'	25.2'(±) EXISTING 25.2'(±) PROPOSED
MINIMUM PARKING & LOADING SETBACK (FRONT YARD)	5'	31'(±)
MAXIMUM HEIGHT	3 STORIES/45' (ALLOWED)	2 STORIES/38'(±)
MAXIMUM BUILDING COVERAGE	35% (ALLOWED)	EXISTING CONDITIONS 103,220/394,494=26.2%(±) PROPOSED CONDITIONS 121,840/394,494=30.9%(±)

ITEM	REQUIRED/ALLOWED	PROVIDED
MAXIMUM IMPERVIOUS SURFACE COVERAGE	80% (ALLOWED)	EXISTING CONDITIONS 215,684/394,494=54.7%(±) PROPOSED CONDITIONS 222,338/394,494=56.4%(±)
MAXIMUM FLOOR AREA RATIO	0.4 (ALLOWED)	EXISTING CONDITIONS 130,518/394,494=0.33 PROPOSED CONDITIONS 149,138/394,494=0.38
PARKING	MANUFACTURING/RESEARCH: 1/500 SF GFA EXISTING CONDITIONS: 118,668/500=238 SPACES 210 SPACES PROVIDED PROPOSED CONDITIONS: 149,138/500=298 SPACES 210 SPACES PROVIDED	EXISTING CONDITIONS: 200 SPACES + 10 HC SPACES 210 TOTAL PROPOSED CONDITIONS: 149,138/500=298 SPACES 210 SPACES PROVIDED (OWNER TO REQUEST DEFERRAL OF 88 SPACES) 210 SPACES + 88 DEFERRED 298 SPACES
LOADING (MFG., IND., WAREHOUSE)	5,000-15,000 SF GFA=1 15,001-40,000 SF GFA=2 OVER 40,000 SF GFA= 3+1/ADDED 30,000 SF GFA 7 REQUIRED	3 EXISTING +2 PROPOSED 5 PROVIDED +2 DEFERRED 7

PHASE 2
WATERSHED MAP
SCALE: 1"=40'

80 60 40 20 0 40 80

\\tsclient\P\Drawings\MISC\TOMZ Corporation-2020\Phase 2\TOMZ Corporation SP-Phase 2.dwg 2/3/2021 11:34:32 AM EST

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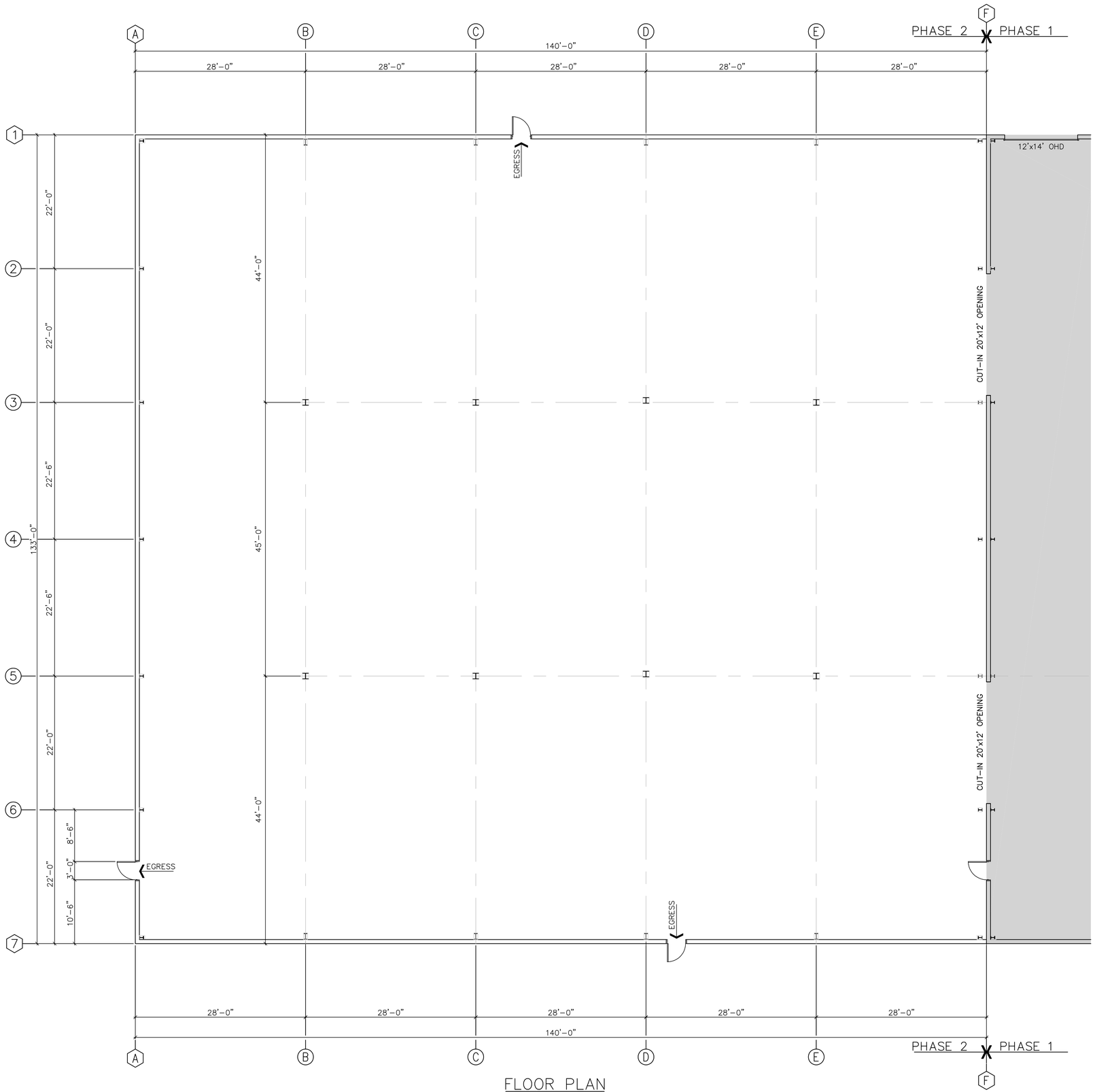
N W E S

SEAL

REVISIONS

PROJECT: TOMZ corporation, 47 EPISCOPAL ROAD, BERLIN, CT
DRAWN BY: G.R.W. | APPROVED BY: J.H.P.
DATE: 12-11-20 | SCALE: AS NOTED
2155 EAST MAIN STREET, TORRINGTON, CT 06790
860-482-7813/WEB: WWW.BORGHESIBUILDING.COM

SHEET NO. WM1



FLOOR PLAN

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

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Building & Engineering Co., Inc.

PLAN NORTH

SEAL

REVISIONS

PROJECT
TOMZ CORPORATION
PHASE 2 ADDITION
#47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY: J.B.M.
APPROVED BY: C.C.
DATE: 01/28/21
SCALE: AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT. 06790
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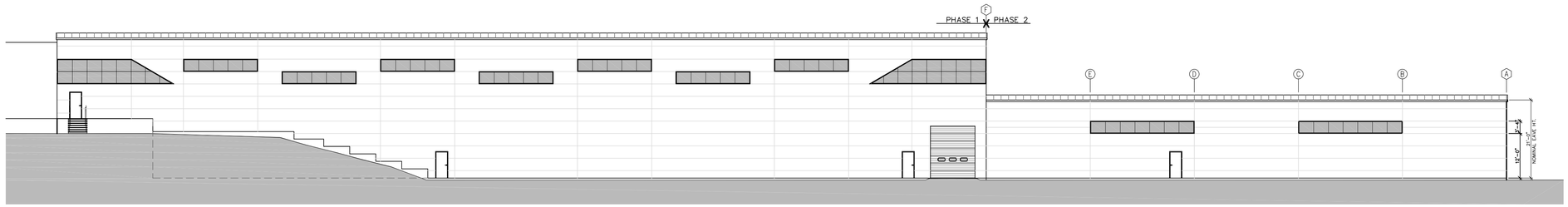
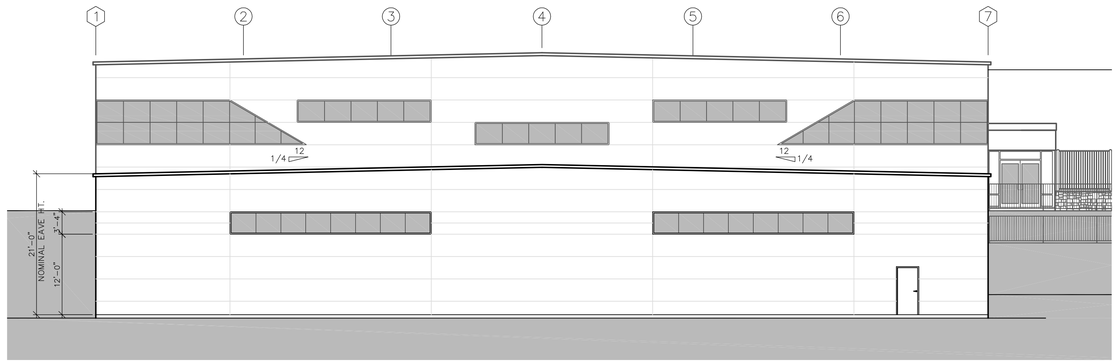
SHEET NO.
A1



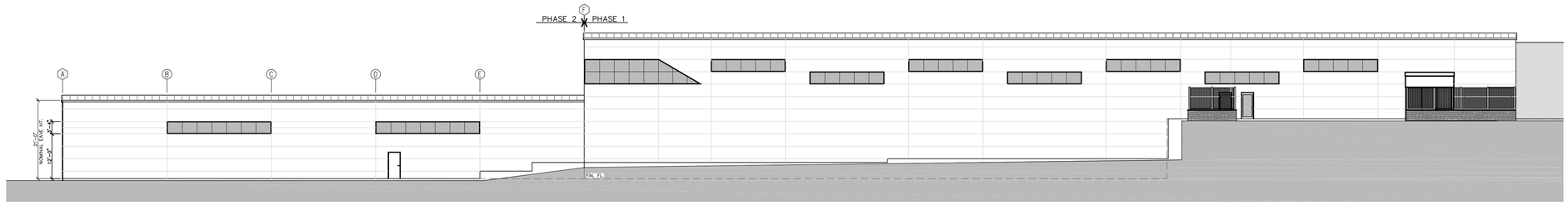
WEST ELEVATION

SCALE: 1/16"= 1'-0"



SOUTH ELEVATION

SCALE: 3/32"= 1'-0"



EAST ELEVATION

SCALE: 1/16"= 1'-0"

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Building & Engineering Co., Inc.

SEAL

REVISIONS

PROJECT
TOMZ CORPORATION
PHASE 2 ADDITION
#47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY J.B.M.
DATE 01/28/21
APPROVED BY C.C.
SCALE AS NOTED

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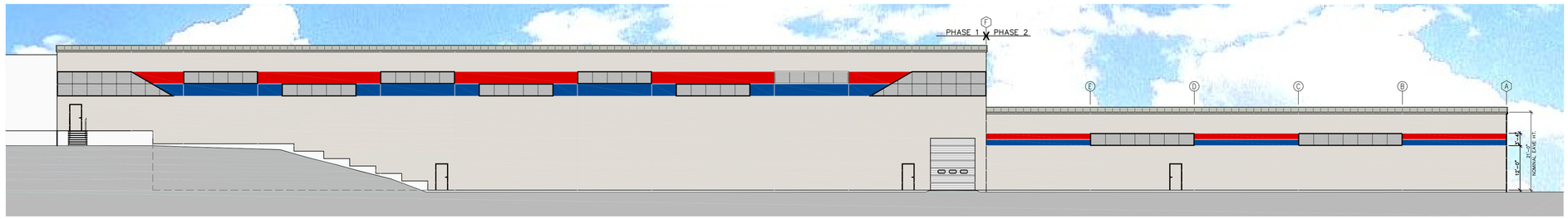
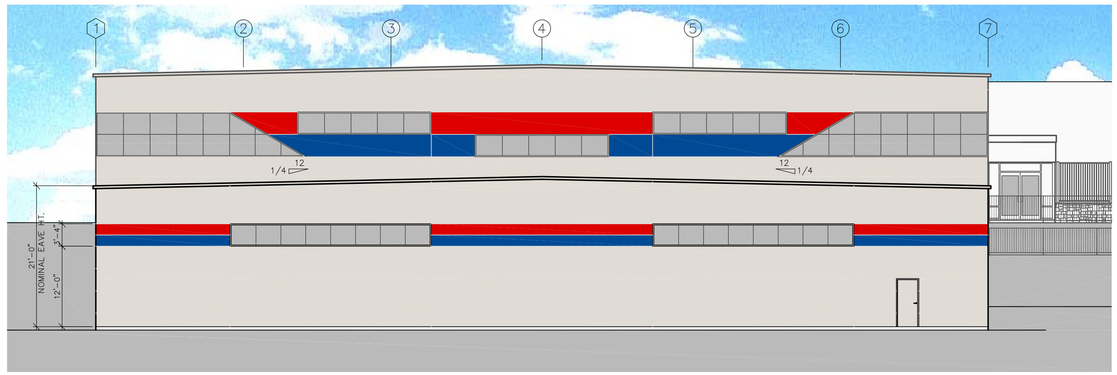
860-482-7613 / WEB SITE: www.borghesibuilding.com

SHEET NO.
A2



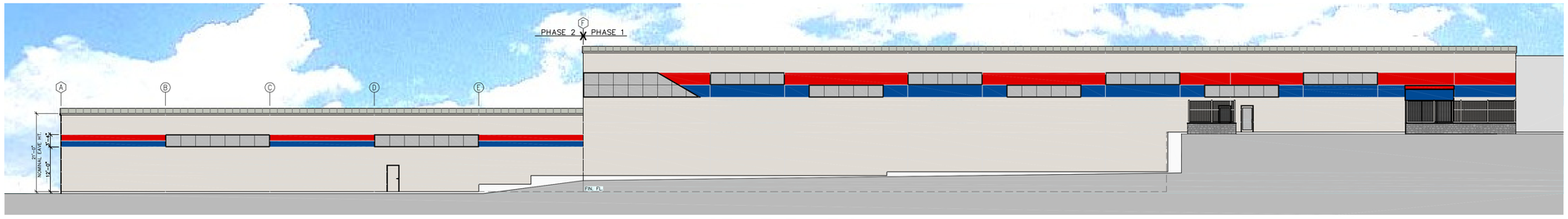
WEST ELEVATION

SCALE: 1/16"= 1'-0"



SOUTH ELEVATION

SCALE: 3/32"= 1'-0"



EAST ELEVATION

SCALE: 1/16"= 1'-0"

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Borghesi Building & Engineering Co., Inc.

SEAL

REVISIONS

PROJECT
TOMZ CORPORATION
PHASE 2 ADDITION
#47 EPISCOPAL ROAD, BERLIN, CT

DRAWN BY J.B.M.
DATE 01/28/21
APPROVED BY C.C.
SCALE AS NOTED

2155 EAST MAIN STREET TORRINGTON, CT 06790
860-482-7613 / WEB SITE: www.borghesibuilding.com

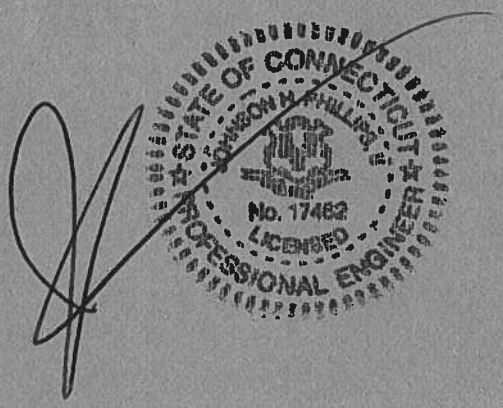
SHEET NO.
A2

DRAINAGE REPORT

Tomz

47 Episcopal Rd.
Berlin, CT

December 7, 2020
Revised February 2, 2021



PREPARED BY:

BORGHESI BUILDING & ENGINEERING CO.
2155 EAST MAIN STREET
TORRINGTON, CT 06790
(860) 482-7613

TABLE OF CONTENTS

SUMMARY

The report is revised to include calculations for the deferred parking and the phase 2 building addition.

The applicant proposes to construct a 38,450 gfa (33,250 sf footprint) addition to their 92,068sf industrial building located at 47 Episcopal Road, Berlin site. No additional parking required by the applicant for this project, however, deferred parking spaces are shown. The only proposed pavement is a 48' long driveway connecting an overhead door to an existing driveway. The proposed drainage system is designed with an expansion to an existing underground detention basin to reduce post -development flows to pre-development levels for the 2-yr, 5-yr,10-yr, 25-yr, 50-yr, and 100-year storms.

The existing condition (pre-2018 construction) flows were taken from "Storm Drainage Report, .. Tomz Corporation, .. May 31, 2018", prepared by BVH. Excerpts from the BVH report is found in Appendix A The proposed condition utilizes the existing condition model as a basis, then is modified to reflect the additional impervious area, see Appendix B for details. A summary of the watershed analysis is found on the next page. Hydraflow Hydrographs software is used to evaluate the pre- and post- development conditions.

A watershed map is presented in Appendix C.

BORGHESI BUILDING & ENGINEERING CO.
2155 EAST MAIN ST., TORRINGTON, CT

Tomz
47 Episcopal Rd., Berlin, CT

SUMMARY OF DISCHARGES

STORM (YEAR)	EXISTING (CFS)	PROPOSED (CFS)	CHANGE (CFS)
Phase 1 as proposed			
2	5.10	4.31	-0.79
5	7.20	4.52	-2.68
10	8.79	8.19	-0.60
25	11.15	10.94	-0.21
50	18.68	16.08	-2.60
100	23.88	22.96	-0.92
Phase 1 with deferred parking and deferred detention installed			
2	5.10	4.51	-0.59
5	7.20	4.72	-2.48
10	8.79	8.31	-0.48
25	11.15	10.06	-1.09
50	18.68	15.52	-3.16
100	23.88	23.22	-0.66
Phase 2 with deferred parking and deferred detention installed			
2	5.10	4.74	-0.36
5	7.20	4.97	-2.23
10	8.79	8.41	-0.38
25	11.15	10.03	-1.12
50	18.68	14.83	-3.85
100	23.88	22.99	-0.89

APPENDIX A:

HYDROLOGIC CALCULATIONS: EXISTING CONDITIONS

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	11.79	-------	15.80	18.45	21.97	25.03	28.08	DA-1A (on-site to existing galleries)
2	SCS Runoff	------	-------	1.250	-------	1.935	2.411	3.059	3.635	4.216	DA-1B (off-site to existing galleries)
3	Combine	1, 2	-------	12.99	-------	17.65	20.76	24.90	28.53	32.15	Add together areas to existing gallerie
4	SCS Runoff	------	-------	0.561	-------	1.699	2.731	4.313	5.838	7.485	DA-1C (does not go through galleries)
5	Reservoir	3	-------	4.538	-------	5.585	6.262	7.795	13.00	16.42	Existing Detention
6	Combine	4, 5	-------	5.098	-------	7.197	8.792	11.15	18.68	23.88	To DP-1

Existing Conditions

FILE COPY

BVH integrated services

Civil

Structural

Mechanical

Electrical

Technology

Commissioning

STORM DRAINAGE REPORT

Town of Berlin
240 Kensington Road
Berlin, Connecticut 06037
Phone: 860-828-7008

TOMZ Corporation
47 Episcopal Road
Berlin, Connecticut

May 31, 2018

TOWN OF BERLIN
2018 MAY 30 P 3:27

206 West Newberry Road
Bloomfield, CT 06002
T: 860-286-9171
F: 860-242-0236
start@bvhis.com
www.bvhis.com

CONTENTS

Executive Summary

Introduction

The proposed project includes the construction of four additions totaling about 24,000 square feet onto the existing TOMZ Corporation facility, and the addition of new parking on the south side of the building, two new driveways connecting to Deming Road, and associated walks, site walls, and stairs. The site is bordered by Deming Road to the south and Episcopal Road to the east. An existing parking lot along with existing driveways on the north and south sides of the buildings will remain, with changes only at the building where they are affected by the additions. The north and south driveways will both connect to the new parking lot and driveways. Existing driveway access from Episcopal Road will remain. Refer to USGS map included in Appendix A for location.

Hydrology - Pre-Development Conditions

The existing site is divided into three areas with three distinct off-site drainage discharge design points. Design Point (DP)-1 is to the Deming Road storm system to the south and receives stormwater from the existing building roof, the surrounding TOMZ impervious area except the far eastern end of the parking lot by Episcopal Road, and a grass hillside on the southern part of the site which is occupied by solar panels.

Also discharging to DP-1 through the TOMZ property is runoff from an abutting property (DA-1B) southeast of the TOMZ building. For use in stormwater modeling, BVH was provided with a report entitled "Drainage Calculations TOMZ Corp. Deming Road" prepared by Torres Engineering, Inc. of Wethersfield, CT, on February 17, 2014. As part of this report, Torres Engineering provided hydrologic data on off-site properties which was used for modeling in the current project.

DP-1 drainage area is further divided into an area (DA-1A) that is received by an on-site underground detention system with outlet pipe connecting to the Deming Road system, and an area (DA-1C) that sheet flows directly to Deming Road. DA-1A consists of the existing building and surrounding parking lot/driveways. The building's roof runoff either sheet flows to the surrounding impervious area or to roof leaders that connect to surrounding on-site drainage. The parking lot/driveways generally slope to the west at slopes of 4 to 5 percent. All drainage in the DA-1A area is collected in on-site catch basins which discharge to the detention system located near Deming Road. Also discharging to the detention system is DA-1B, which sheet flows onto the TOMZ driveways and is collected by DA-1A catch basins. The Torres report provided design information on the existing detention system, which was used in this analysis.

DA-1C consists of the grassy hillside on the south part of the site, currently occupied by solar panels, with some woods on the eastern end. The northern part of the hillside is steep, about 3:1 slope, with the southern part relatively flat before sheet flow into Deming Road.

Design Point (DP)-2 consists of the far western end of the southern grassy area which flows west into wetlands west of the TOMZ property. Slopes are relatively flat until near the western property line where slopes are about 3:1.

The third design point is to the Episcopal Road drainage system. Drainage area to this design point consists of the eastern half of the existing parking lot. This area is not being impacted by the project, so its analysis is not part of this report.

Refer to drawing SD-1 in Appendix B for design points and drainage areas.

NRCS soil maps indicate the site is a mixture of hydrologic soil group Types A, B, and C soils. The western half of DA-1A is Type B while the eastern half of DA-1A and the northern half of DA-1C is Type C. The remainder of areas discharging to DP-1 and DP-2 are Type A.

The FEMA FIRM map indicates the site is not within any flood zones, refer to Appendix A for soil map and FEMA FIRM map.

Post-Development Conditions

The proposed development will increase impervious area on the site by approximately one acre and will also increase total area to DP-1 because of the new western driveway cutting off flow to DP-2 from the central area of the TOMZ grassy hillside. To mitigate the increase in peak flows caused by the increased areas and to avoid surcharging the existing at-capacity detention system, a new underground detention system will be constructed in the southeastern area of the site generally underneath the new eastern driveway. The new western driveway and the central grassy hillside will be added to the existing detention system while the southeastern impervious area of existing DA-1A, existing DA-1B, and the new parking lot/eastern driveway will be collected by the new detention system.

The new detention system will consist of Stormtech MC-3500 detention chambers (or equal) which will be surrounded in stone and will also consist of header pipes, inspection ports, and outlet control structures with weirs and orifices. Stone will be wrapped in non-woven geotextile to prevent sediments from accumulating in the void spaces. Flows entering the detention systems will be treated through the use of deep sump catch basins and hydrodynamic separators to minimize the amount of sediment entering the systems. Cleanouts and access covers will also be strategically located to allow maintenance of the systems.

The areas draining to Deming Road (DP-1) are labeled as DA-1A (to existing detention), DA-1B (to new detention), DA-1C (directly to Deming Road), and DA-1D (off-site properties to new detention). The area draining to DP-2 (western wetlands) will continue to be labeled DA-2.

Refer to drawing SD-2 in Appendix C for the post-development drainage mapping.

Hydrology Calculations

Hydrological analysis was conducted using Autodesk Hydrographs TR-55 Method. Peak flow analysis was performed for the 2, 5, 10, 25, 50, and 100 year storm events; refer to Appendices B and C for detailed calculations.

The hydrographs from each watershed were routed to the downstream analysis points DP-1 and DP-2. Peak flow discharge values to each design point are shown in the tables below.

DP-1 (Deming Road storm system)		
Return Frequency (yr)	Pre-Development (cfs)	Post-Development (cfs)
2	5.098	5.047
5	7.197	6.812
10	8.792	8.015
25	11.15	10.06
50	18.68	15.41
100	23.88	21.41

DP-2 (Wetlands west of site)		
Return Frequency (yr)	Pre-Development (cfs)	Post-Development (cfs)
2	0.058	0.046
5	0.367	0.308
10	0.716	0.607
25	1.356	1.157
50	2.033	1.742
100	2.788	2.394

Hydraulic Analysis

Hydraulic calculations were completed using Bentley SewerGEMS version V8i (SELECTseries 5) Rational Method. Post development piping design was performed for the 25 year storm event. The rational method runoff coefficients of 0.95 for impervious, and 0.17 for pervious areas were used for this analysis. Refer to Appendix D for hydraulic calculations, mapping and profiles.

For use in stormwater modeling, BVH was provided with a report entitled "Drainage Calculations TOMZ Corp. Deming Road" prepared by Torres Engineering, Inc. of Wethersfield, CT, on February 17, 2014. As part of this report, Torres Engineering prepared a hydraulic model of the existing Deming Road storm system. When modeling Deming Road for this system, BVH made use of recent

survey to capture upgrades to the Deming Road system that were constructed since the Torres report was prepared. For areas further east and also going north on Episcopal Road, BVH used data from the Torres report to model the Deming Road system. Information from the Torres report was also used to model existing piping that serves the existing detention system.

When modeling the existing and new detention systems, the tailwater elevation at the entry point was assumed to be the peak depth in the 25-year storm given in the Hydraflow hydrologic analysis. The outgoing flow from each detention system into the Deming Road system was assumed to be the peak flow in the 25-year storm given in the Hydraflow hydrologic analysis. The tailwater elevation at the final discharge point into an 84-inch culvert in Deming Road was assumed to be free outfall.

This analysis indicates that all of the proposed stormwater piping system has adequate capacity to convey runoff from the 25 year storm event with a minimum of 1'-0" freeboard in drainage structures. The structures and 30-inch pipes at the western end of the Deming Road system also have adequate capacity and freeboard to accept flow from the new detention system.

Stormwater Treatment

Stormwater runoff will be treated using multiple measures in a "treatment train" approach. First, deep sump catch basins will be utilized which will allow sediments to settle out of runoff. Second, on the downstream end of each piping system a hydrodynamic separator water quality structure will be installed prior to discharge to the detention systems. This separator is sized in accordance with the 2004 Connecticut Stormwater Quality Manual by The Connecticut Department of Environmental Protection, and water quality flow calculations are included in the Appendix E.

Routine maintenance as detailed below should be performed on catch basins, water quality structures and underground detention.

Catch Basins/Inlet Structures

- Trash and debris shall be removed from catch basin grate as often as necessary to ensure system can collect/intercept runoff.
- Structures shall be cleaned twice per year, removing all sediment from sumps and disposing of material in accordance with local regulations.
- Visual inspection of basin integrity and associated components shall be performed during cleaning and replaced or repaired as necessary.
- During dry flow periods, wash out drain pipes and clean catch basins to minimize future re-suspension.
- A maintenance log should be kept with amount of sediment removed, the date it was removed and a brief description of the condition of the structure.

Hydrodynamic Separator Water Quality Structure

- Structures shall be inspected for accumulated sediment on a quarterly basis and cleaned when the depth of sediment is in excess of one foot. Collected sediment shall be disposed of in accordance with local regulations.

- A maintenance log should be kept with amount of sediment removed, the date it was removed and a brief description of the condition of the structure.

Underground Stormwater Detention Structures

- Structures shall be cleaned twice per year, removing all sediment and disposing of material in accordance with local regulations.
- The system will incorporate inspection ports and access ports for cleaning.
- A maintenance log should be kept with amount of sediment removed, the date it was removed and a brief description of the condition of the structure

Sedimentation and Erosion Control

Throughout the site, engineering controls such as inlet protection and silt fence shall be utilized to manage soil erosion and sedimentation during the project phase. Erosion and sediment control details and procedures are consistent with the CT 2002 Guidelines for Soil Erosion and Sediment Control and City requirements. The construction will be required to comply with the recently revised "Stormwater and Dewatering Wastewaters from Construction Activities" general permit. The permit will require routine inspections of the site by a qualified inspector during construction and turbidity monitoring of runoff leaving the site, among other very stringent requirements.

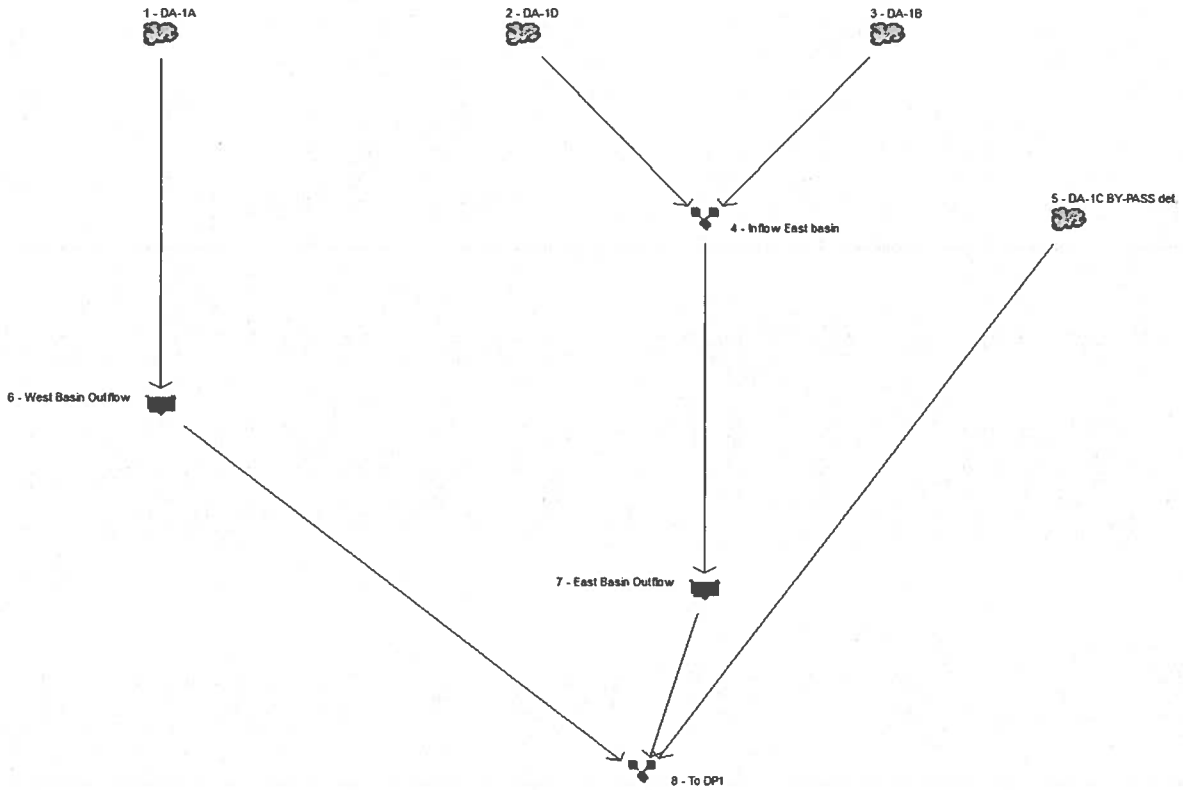
Conclusion

Based on the analysis and the results of an overall decrease in peak flow runoff rates without hydraulic impact to the existing detention system and Deming Road system, it is our opinion that the site modifications at TOMZ Corporation will not cause any adverse impacts to the existing storm drainage system.

APPENDIX B:

HYDROLOGIC CALCULATIONS: PROPOSED CONDITIONS

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	DA-1A
2	SCS Runoff	DA-1D
3	SCS Runoff	DA-1B
4	Combine	Inflow East basin
5	SCS Runoff	DA-1C BY-PASS det.
6	Reservoir	West Basin Outflow
7	Reservoir	East Basin Outflow
8	Combine	To DP1

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	-------	11.75	-------	12.23	18.79	22.52	25.76	28.99	DA-1A
2	SCS Runoff	-------	-------	1.250	-------	1.324	2.411	3.059	3.635	4.216	DA-1D
3	SCS Runoff	-------	-------	4.534	-------	4.768	8.146	10.12	11.86	13.61	DA-1B
4	Combine	2, 3	-------	5.769	-------	6.077	10.55	13.17	15.48	17.80	Inflow East basin
5	SCS Runoff	-------	-------	0.303	-------	0.367	1.591	2.475	3.328	4.234	DA-1C BY-PASS det.
6	Reservoir	1	-------	3.157	-------	3.300	5.936	7.122	8.166	11.54	West Basin Outflow
7	Reservoir	4	-------	0.954	-------	0.996	1.525	3.130	6.367	10.38	East Basin Outflow
8	Combine	5, 6, 7	-------	4.310	-------	4.520	8.185	10.94	16.08	22.96	To DP1

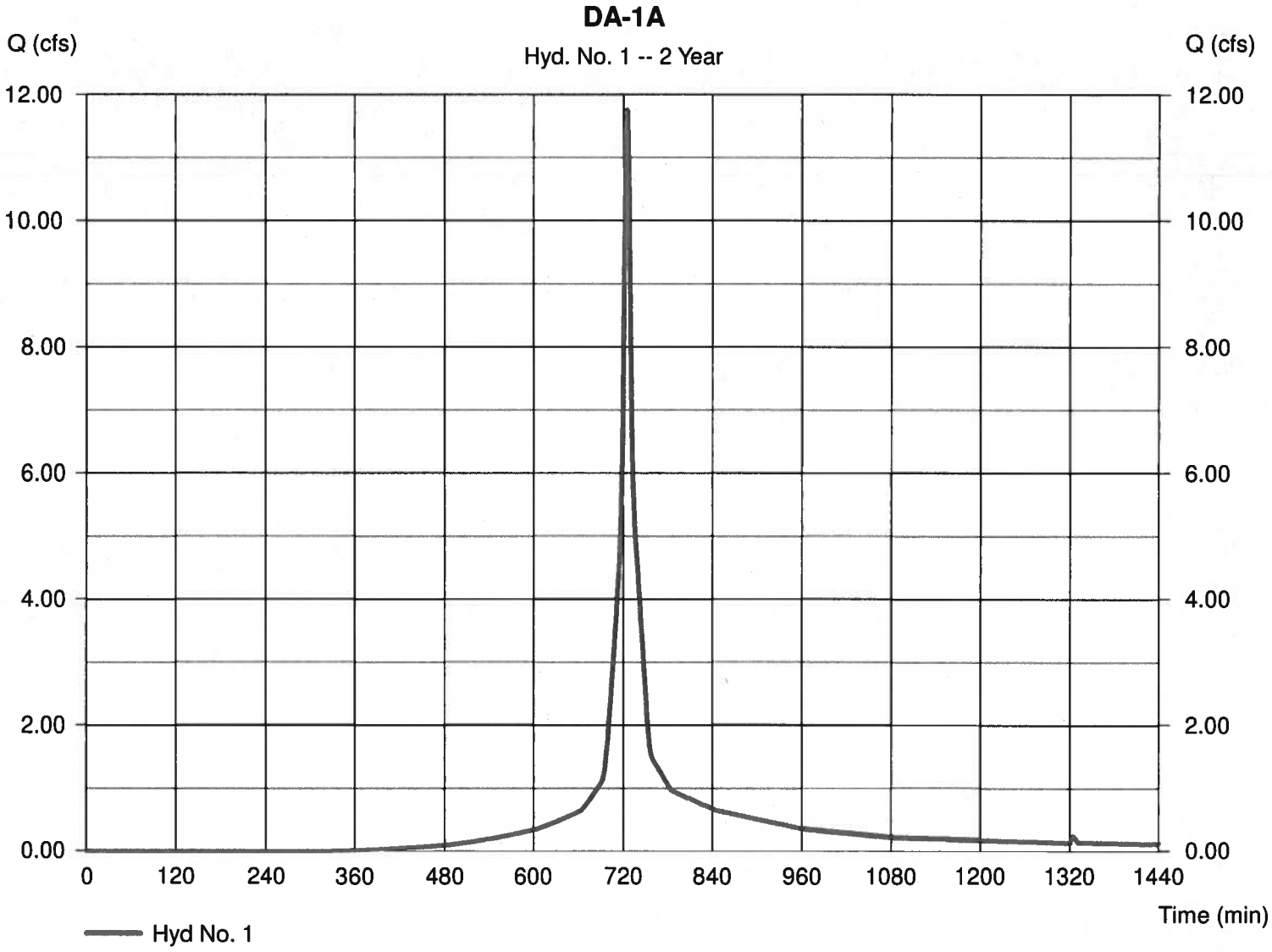
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 11.75 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 36,942 cuft
Drainage area	= 4.370 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.430 x 98) + (0.940 x 68)] / 4.370

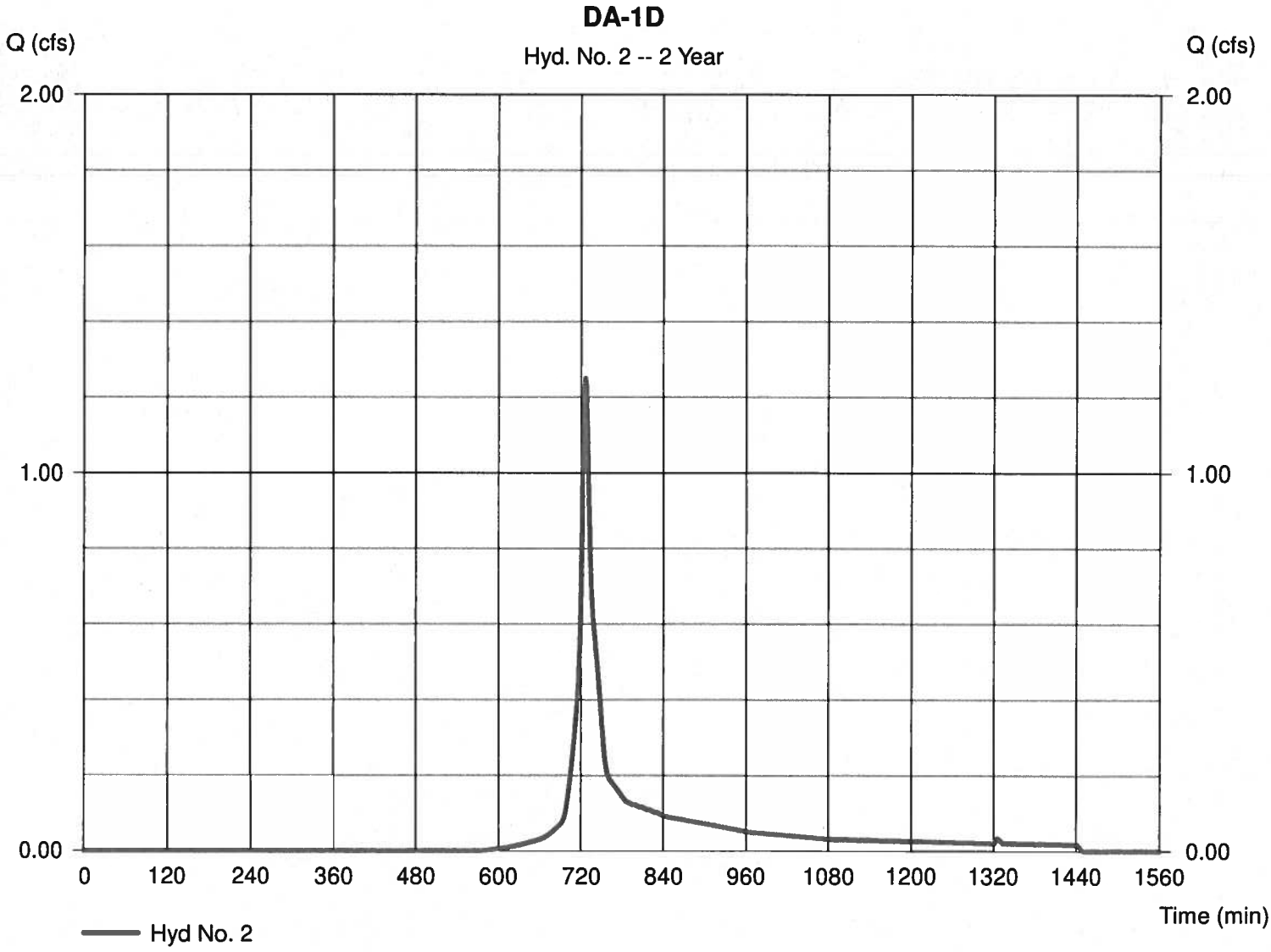


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 1.250 cfs
Storm frequency	= 2 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 4,069 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



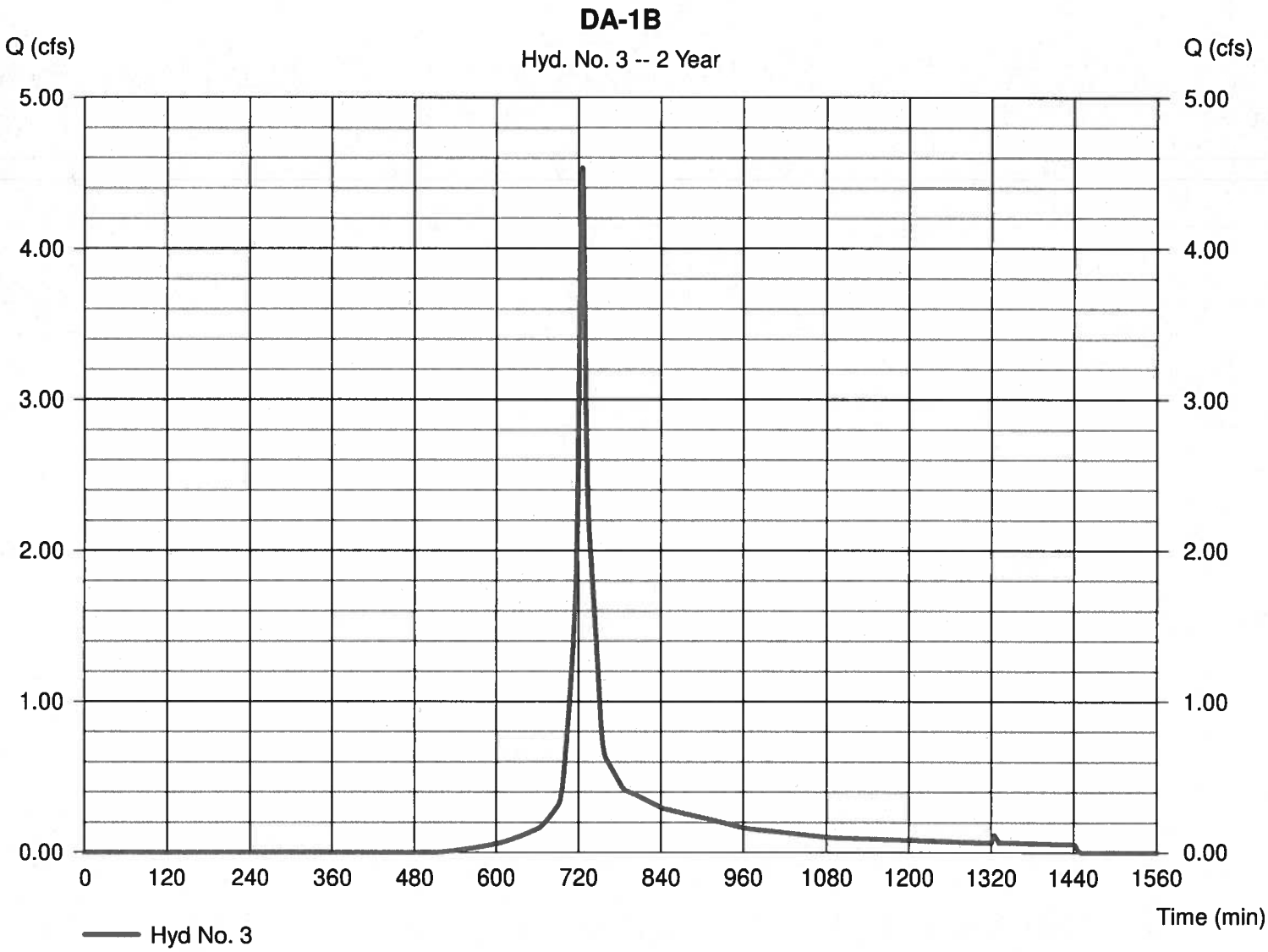
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 4.534 cfs
Storm frequency	= 2 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 13,975 cuft
Drainage area	= 2.320 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.380 x 98) + (0.940 x 60)] / 2.320

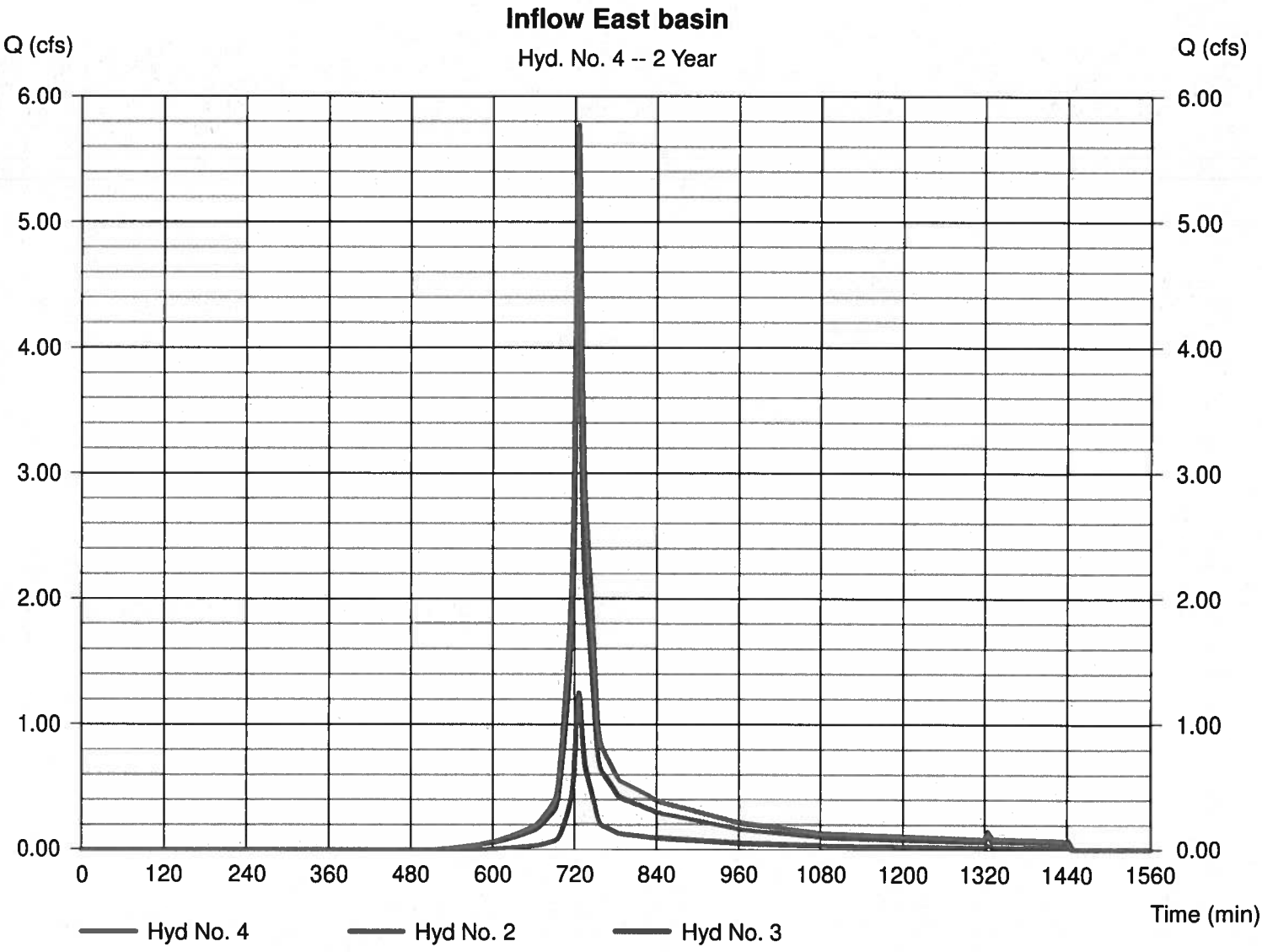


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 5.769 cfs
Storm frequency	= 2 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 18,044 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.180 ac



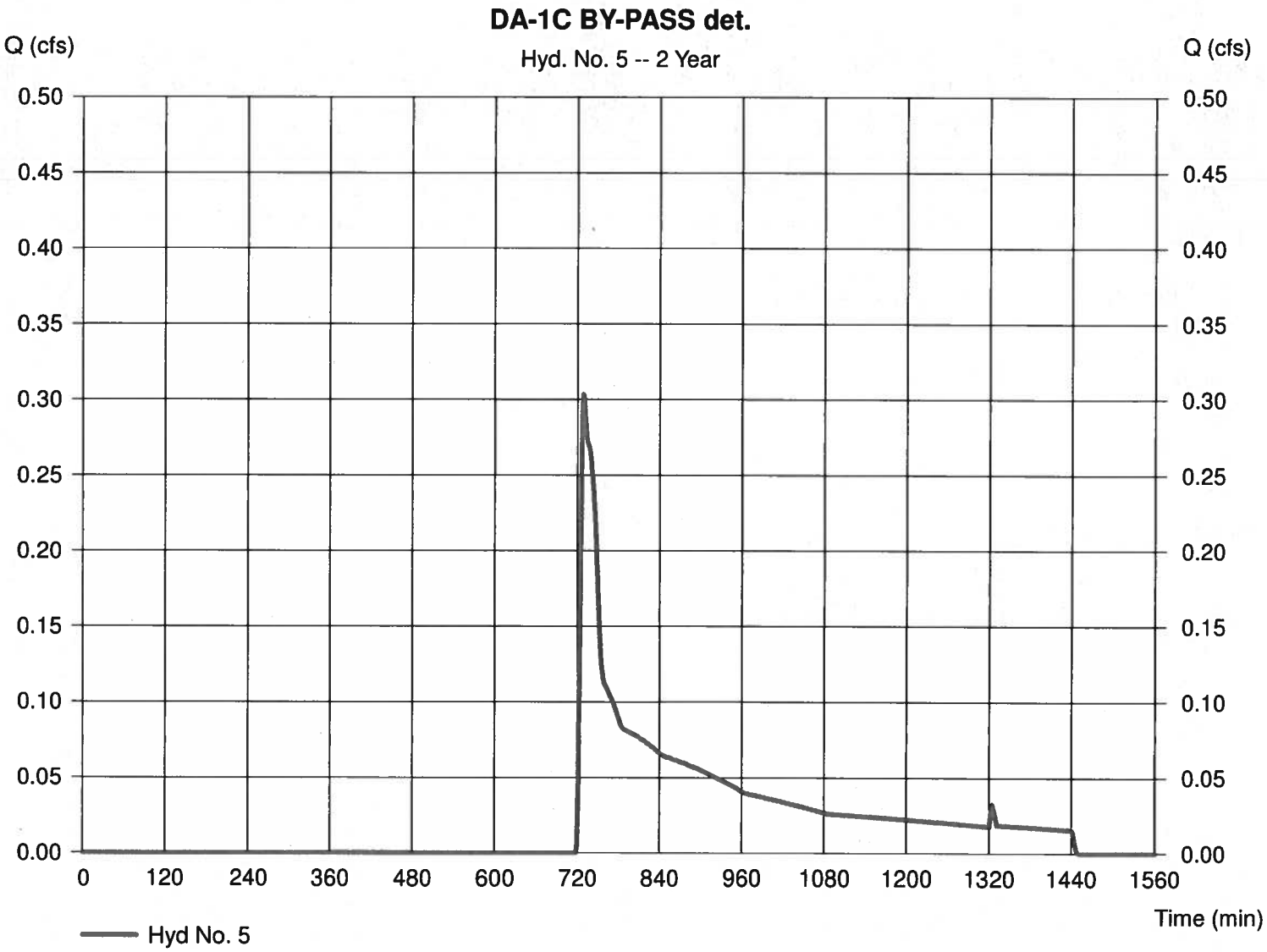
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 0.303 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 1,980 cuft
Drainage area	= 1.550 ac	Curve number	= 58*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.360 x 53)] / 1.550



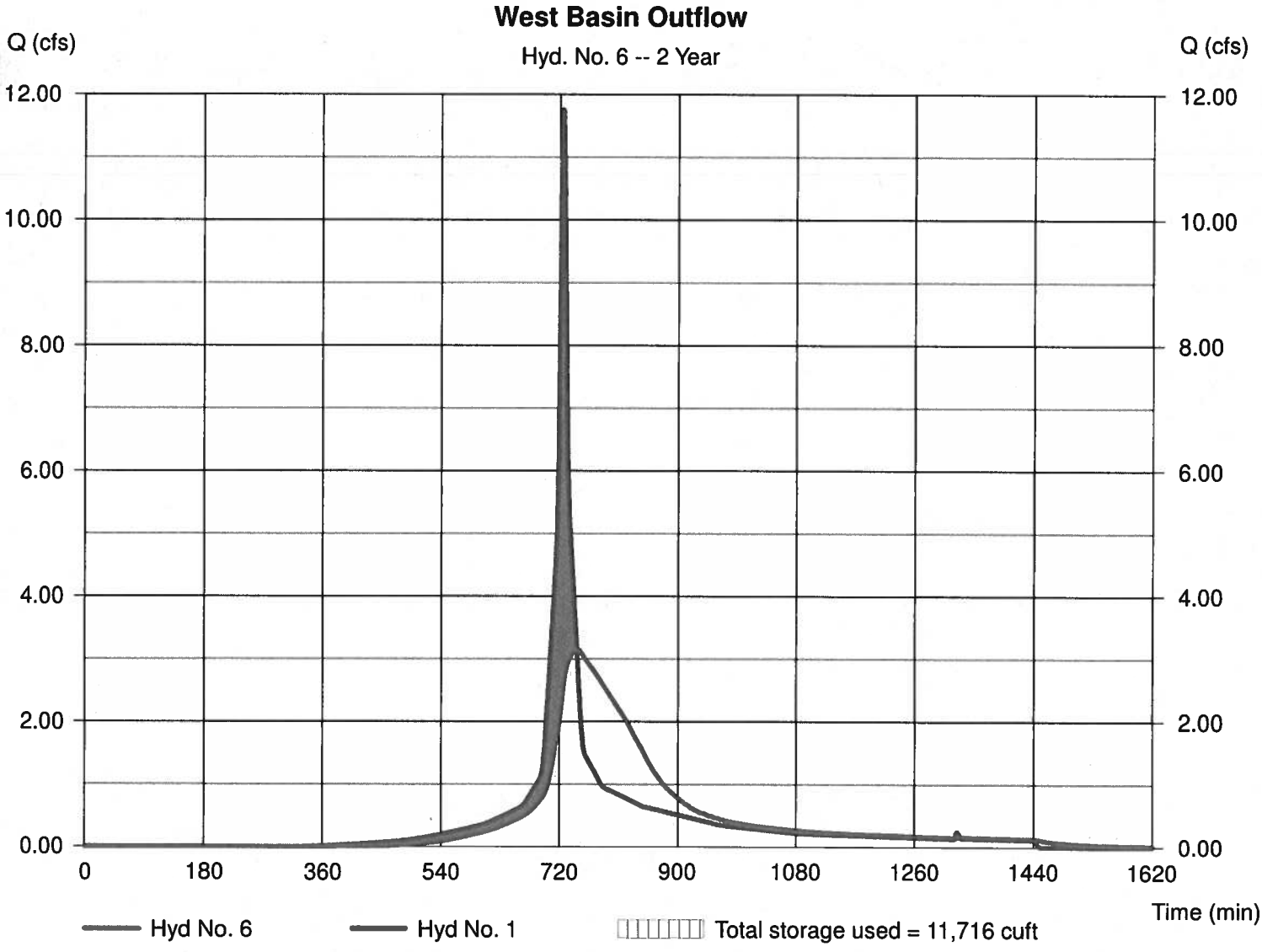
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 3.157 cfs
Storm frequency	= 2 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 36,922 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 58.31 ft
Reservoir name	= West Basin	Max. Storage	= 11,716 cuft

Storage Indication method used.



Pond No. 1 - West Basin

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	56.50	n/a	0	0
0.50	57.00	n/a	2,162	2,162
1.00	57.50	n/a	3,106	5,268
1.50	58.00	n/a	3,998	9,266
2.00	58.50	n/a	3,912	13,178
2.50	59.00	n/a	3,792	16,970
3.00	59.50	n/a	3,628	20,598
3.50	60.00	n/a	3,406	24,004
4.00	60.50	n/a	2,467	26,471
4.50	61.00	n/a	1,897	28,368
5.00	61.50	n/a	1,512	29,880

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	10.00	10.00	0.00
Span (in)	= 24.00	10.00	10.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 53.26	56.50	58.20	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

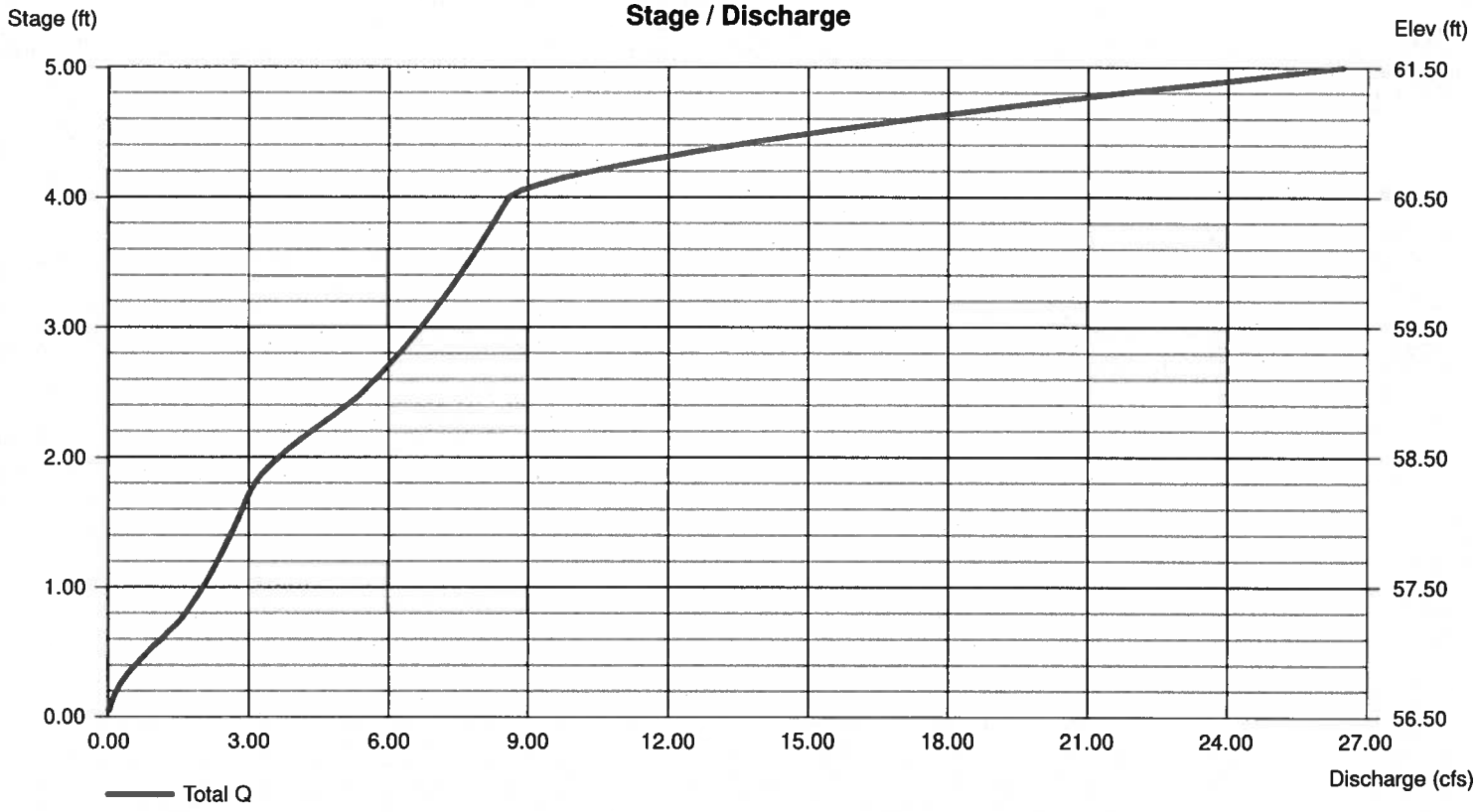
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 60.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



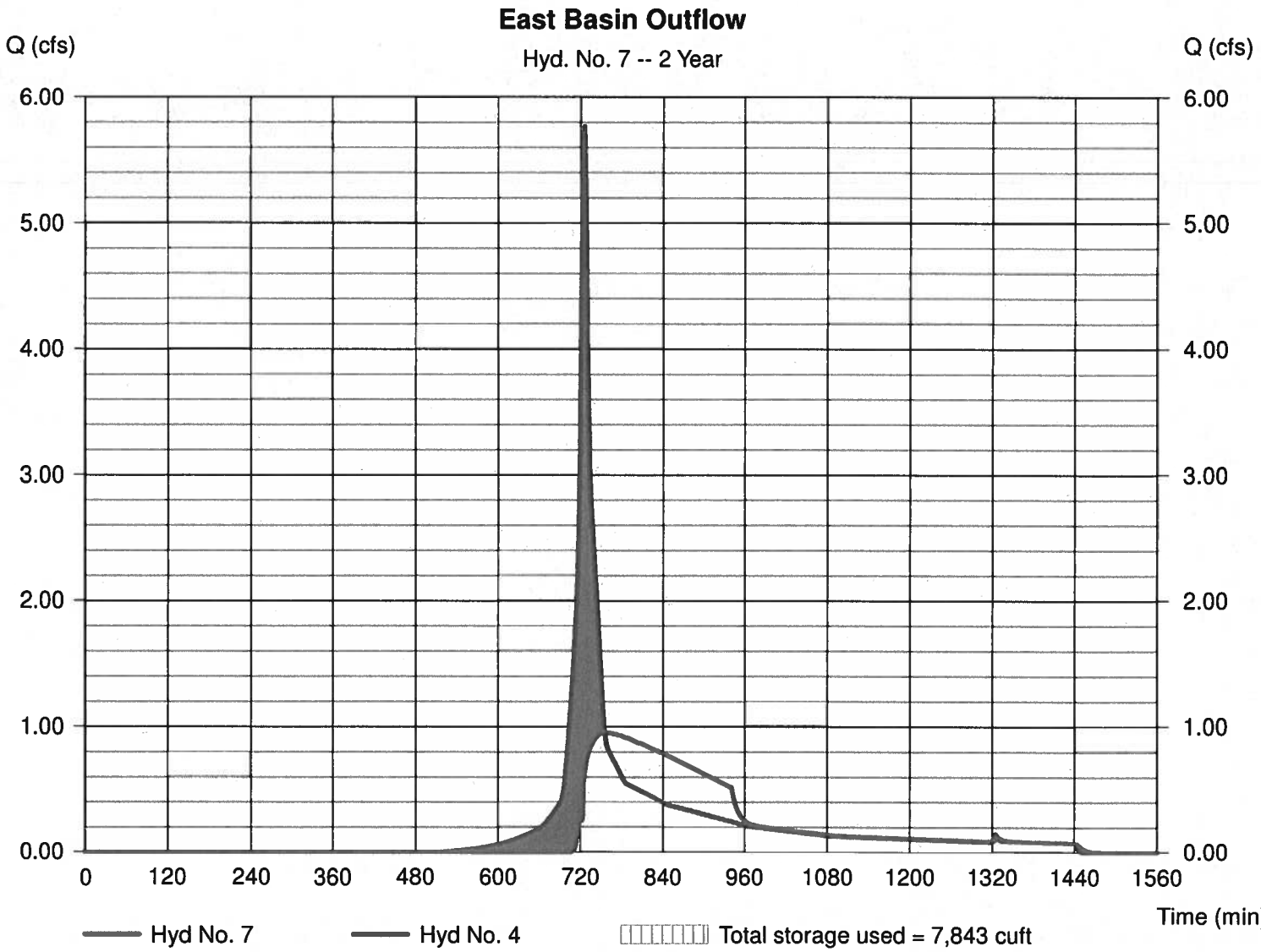
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 0.954 cfs
Storm frequency	= 2 yrs	Time to peak	= 755 min
Time interval	= 1 min	Hyd. volume	= 14,130 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 61.77 ft
Reservoir name	= East Basin	Max. Storage	= 7,843 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1

Monday, Dec 7, 2020

Pond No. 2 - East Basin

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	59.85	n/a	0	0
0.50	60.35	n/a	1,211	1,211
1.00	60.85	n/a	1,924	3,135
1.50	61.35	n/a	2,595	5,730
2.00	61.85	n/a	2,524	8,254
2.50	62.35	n/a	2,430	10,684
3.00	62.85	n/a	2,302	12,986
3.50	63.35	n/a	2,127	15,113
4.00	63.85	n/a	1,866	16,979
4.50	64.35	n/a	1,390	18,369
5.00	64.85	n/a	1,211	19,580
5.50	65.35	n/a	1,211	20,791

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	6.00	0.00	0.00
Span (in)	= 15.00	6.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 59.10	60.50	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

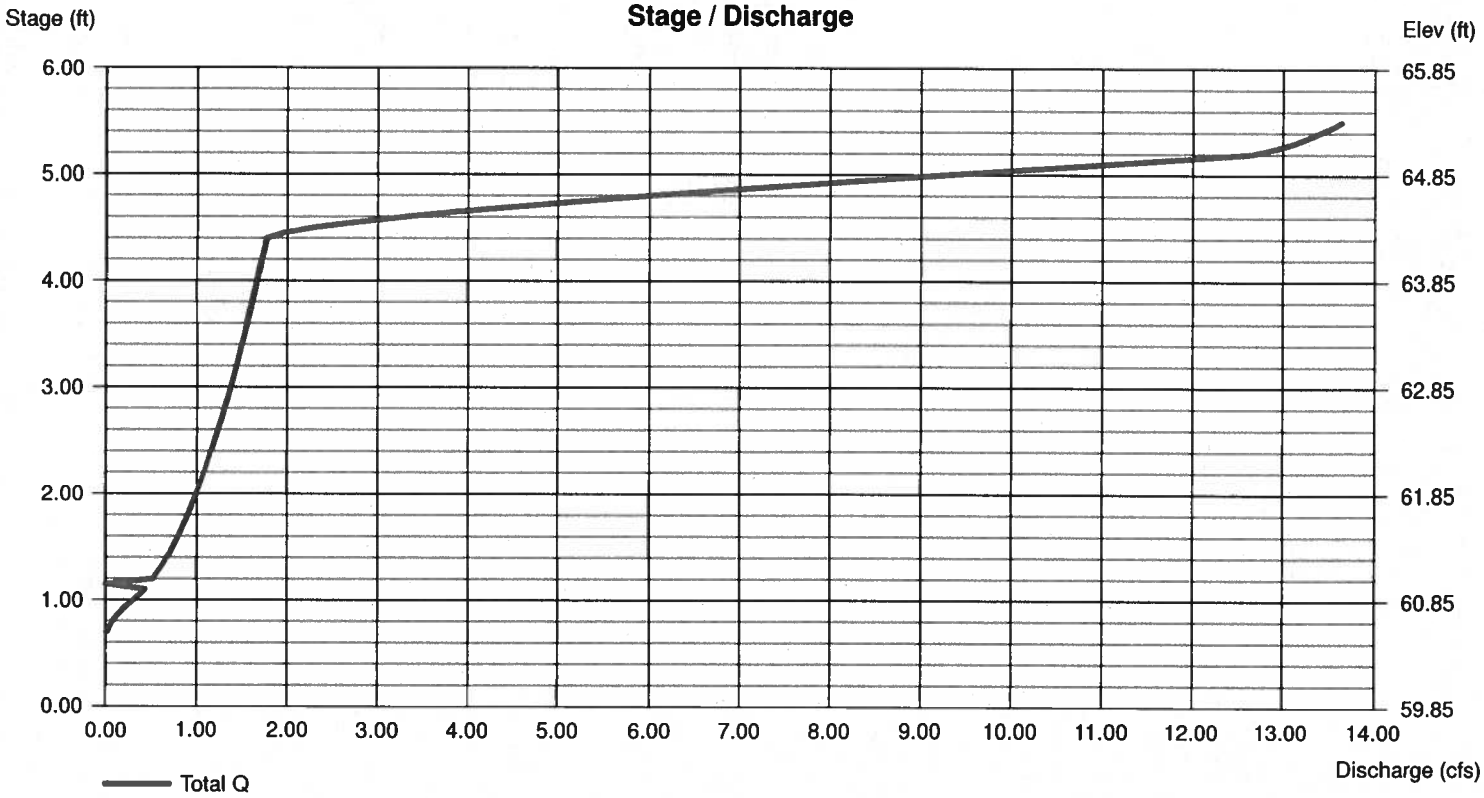
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 64.25	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

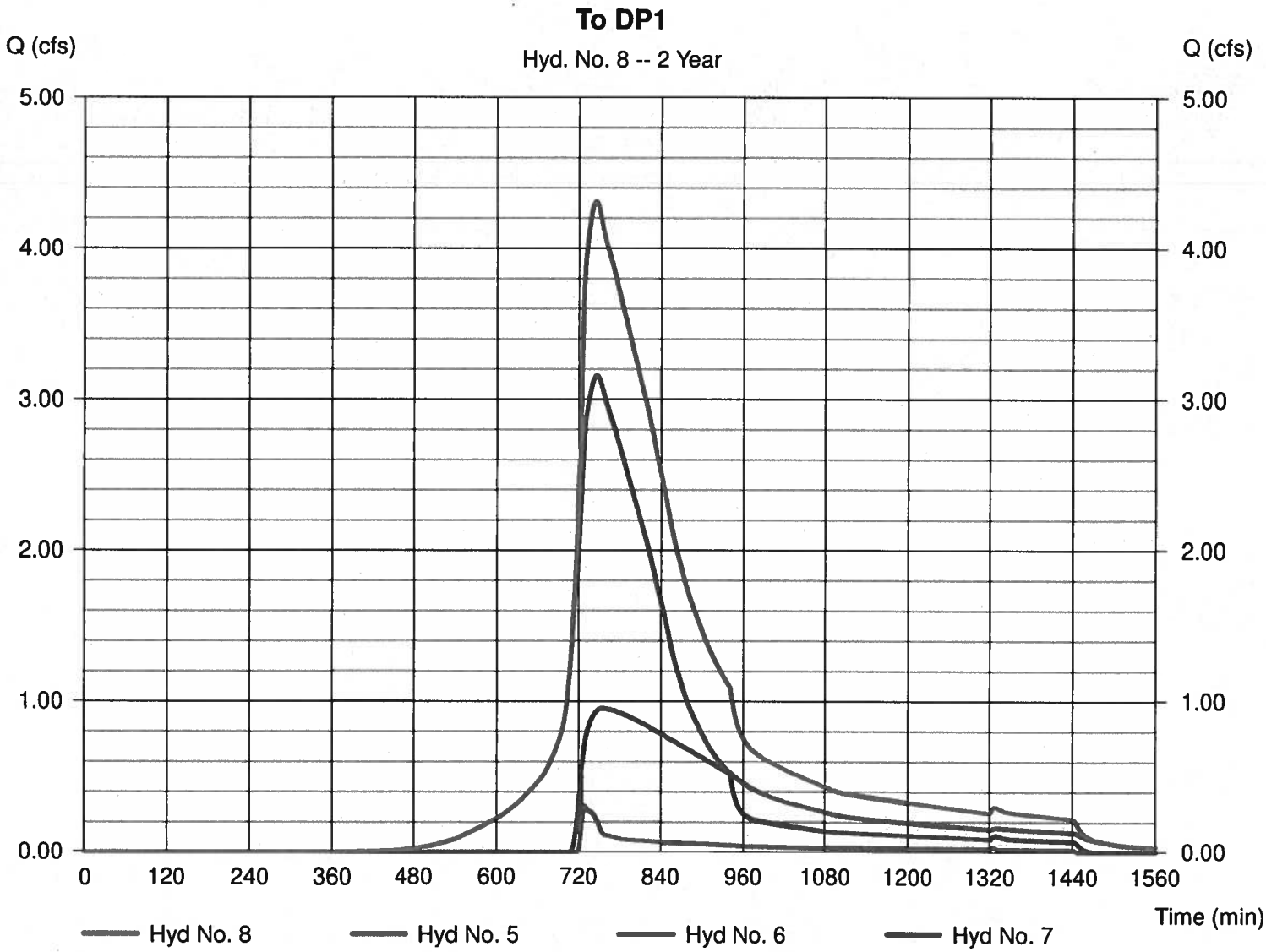


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 4.310 cfs
Storm frequency	= 2 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 53,032 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.550 ac



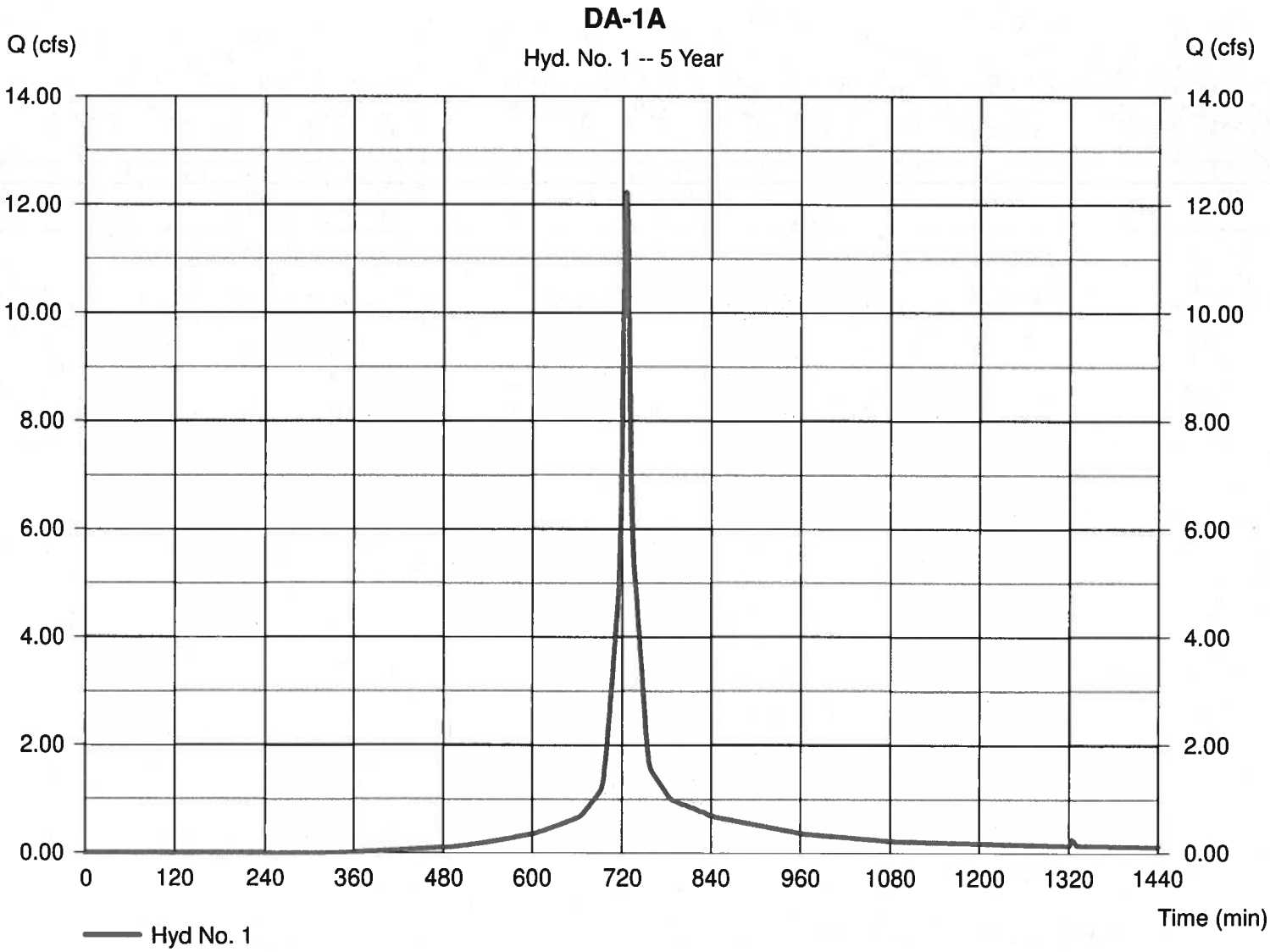
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 12.23 cfs
Storm frequency	= 5 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 38,480 cuft
Drainage area	= 4.370 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.430 x 98) + (0.940 x 68)] / 4.370

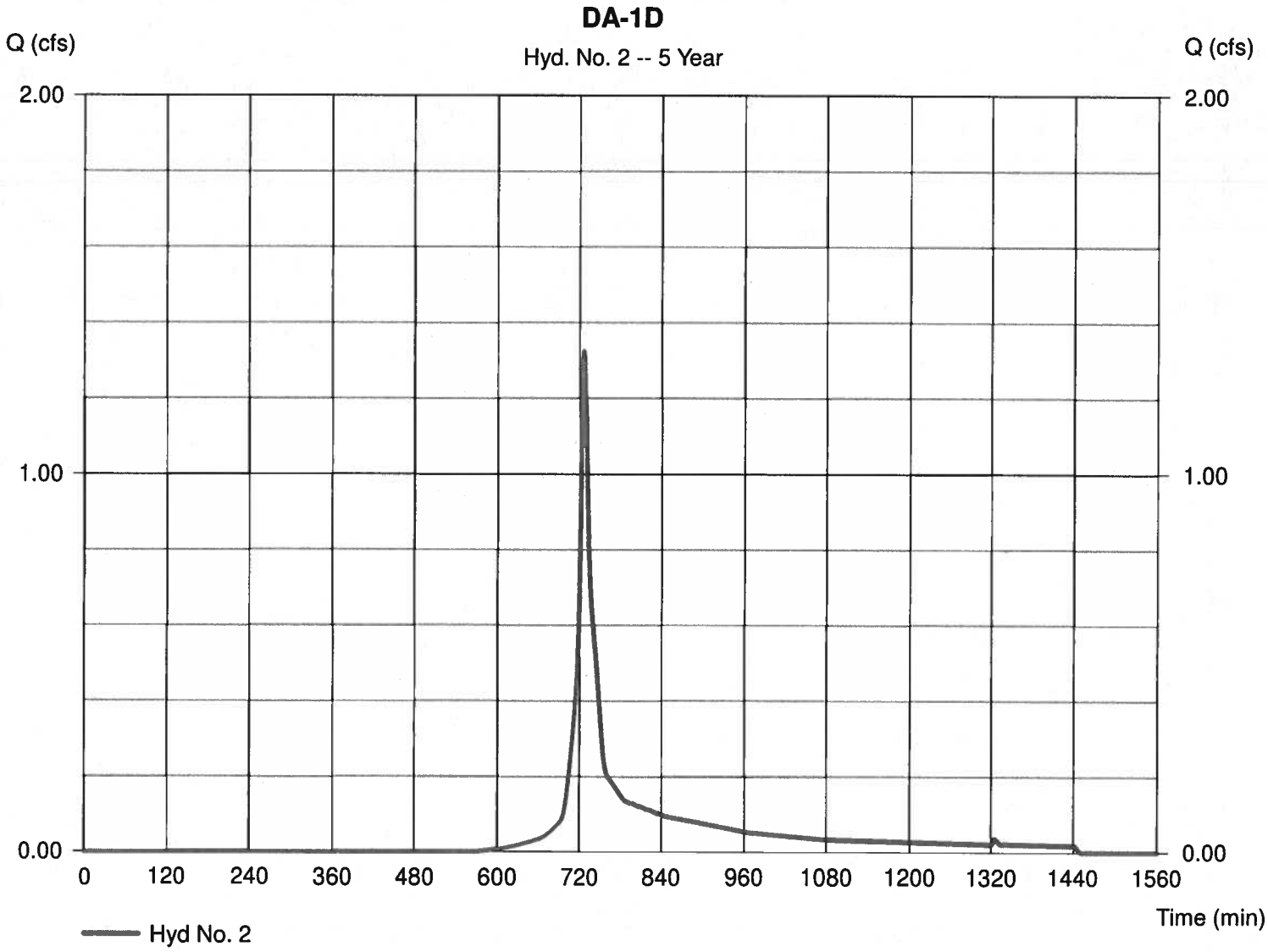


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 1.324 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 4,299 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



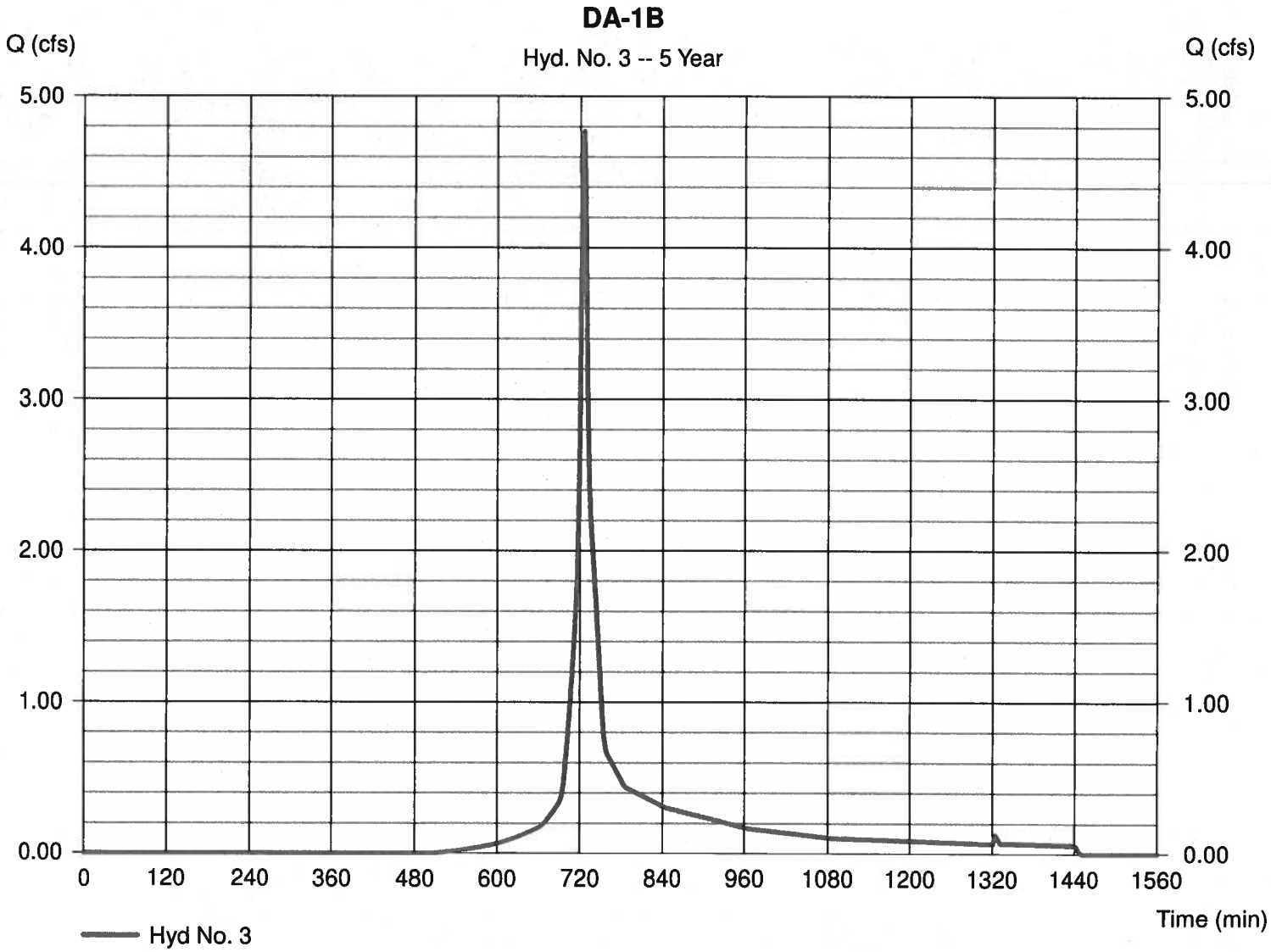
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 4.768 cfs
Storm frequency	= 5 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 14,691 cuft
Drainage area	= 2.320 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.380 x 98) + (0.940 x 60)] / 2.320

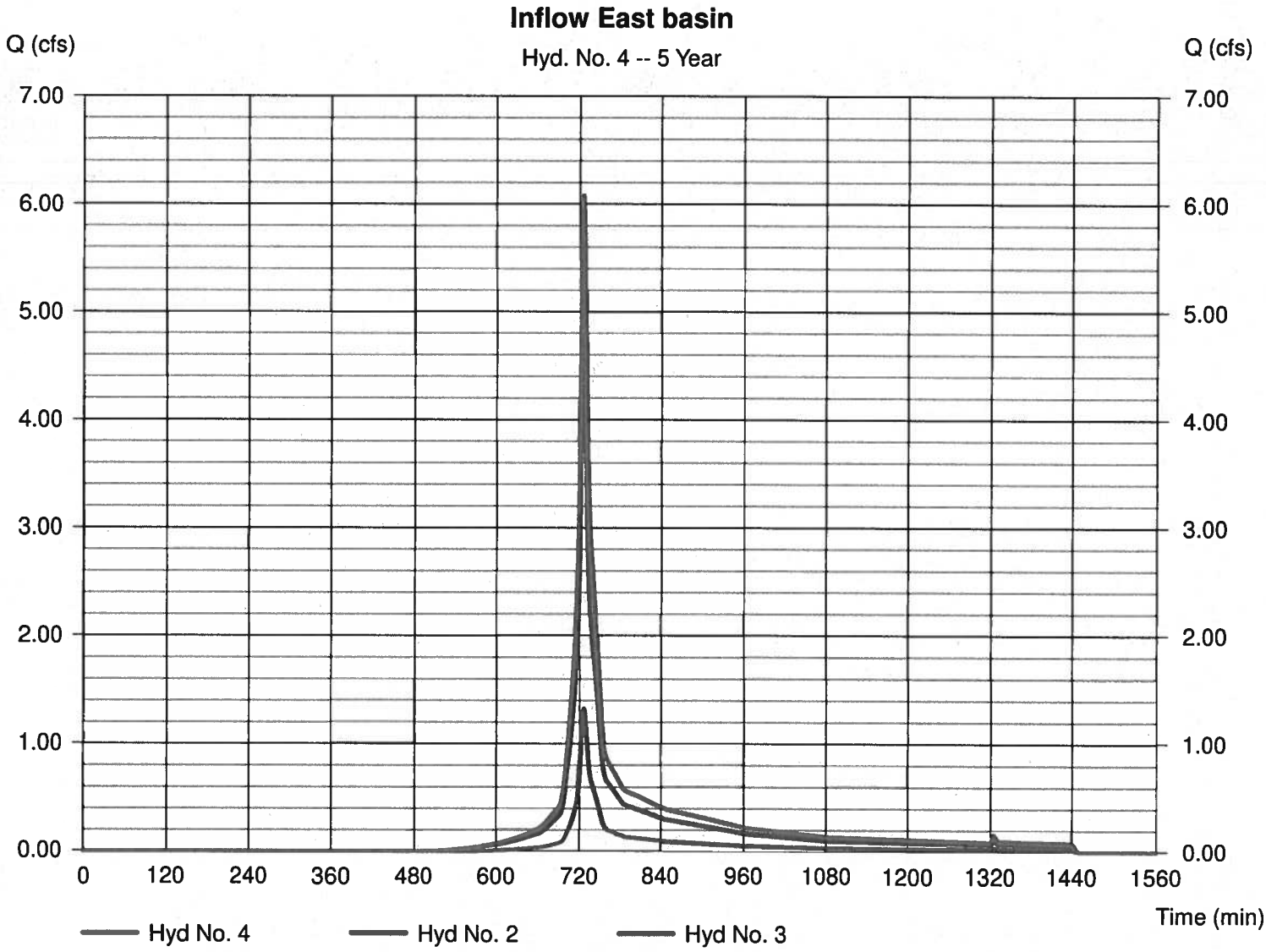


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 6.077 cfs
Storm frequency	= 5 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 18,990 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.180 ac



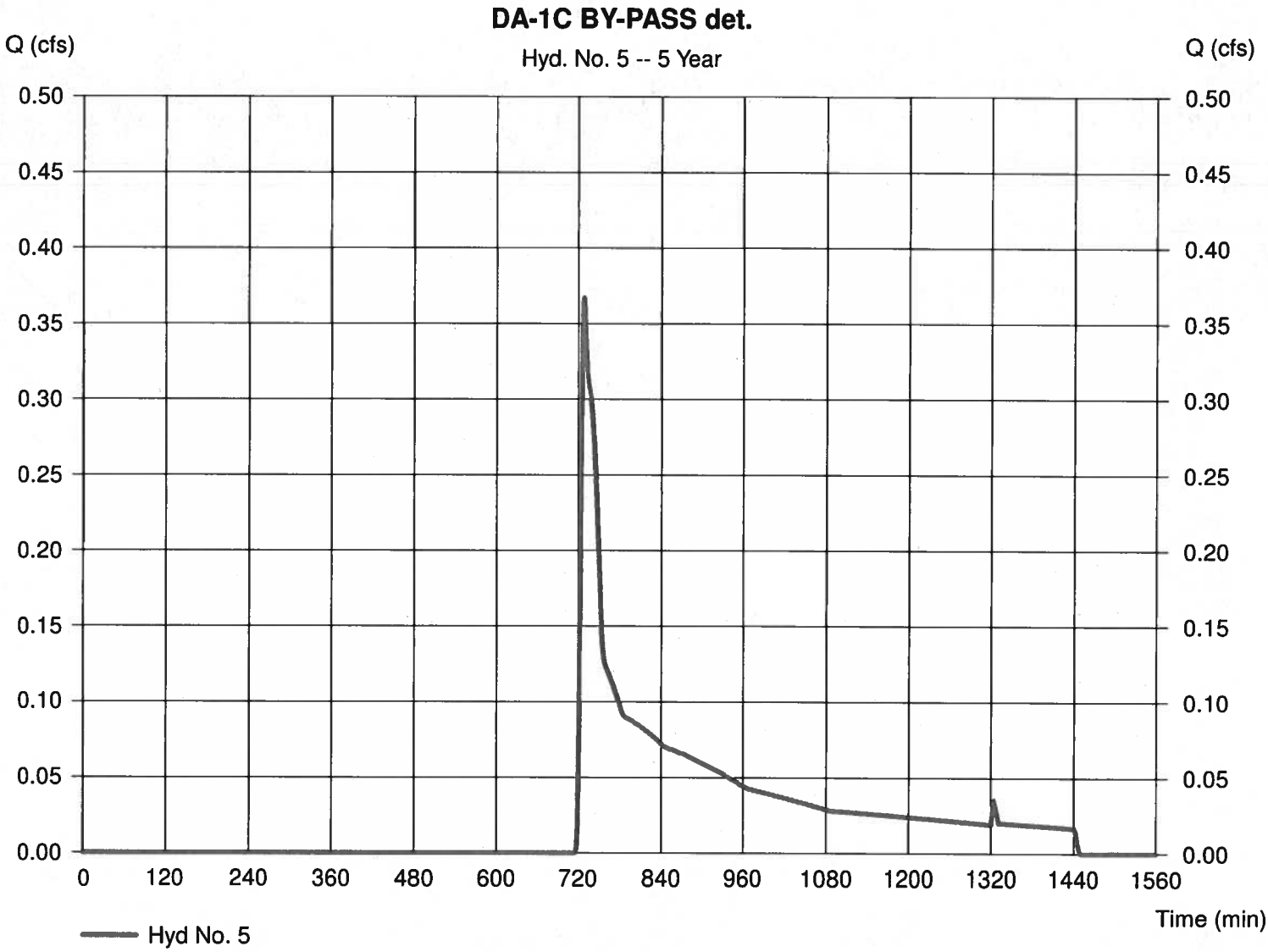
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 0.367 cfs
Storm frequency	= 5 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 2,188 cuft
Drainage area	= 1.550 ac	Curve number	= 58*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.360 x 53)] / 1.550



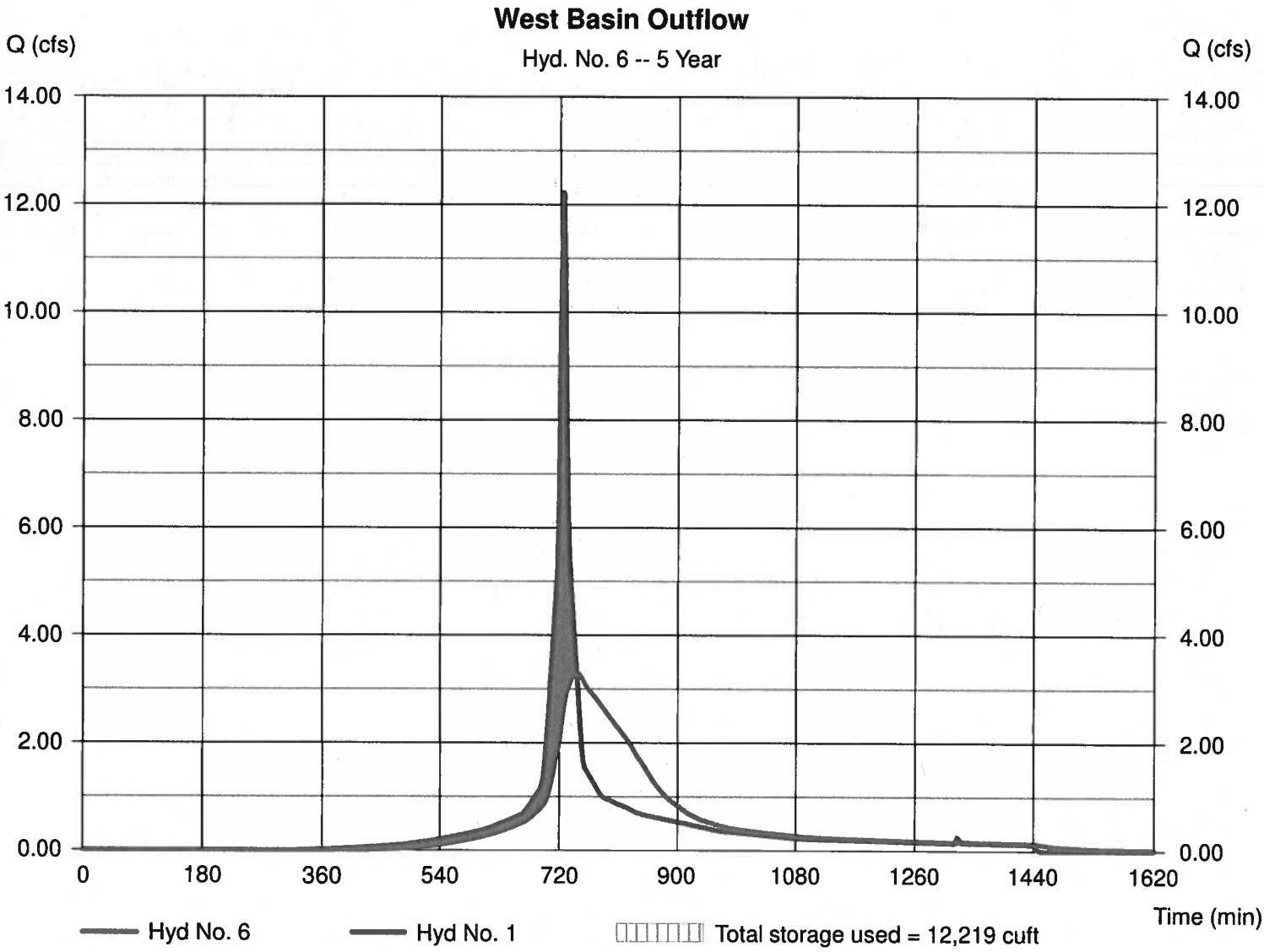
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 3.300 cfs
Storm frequency	= 5 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 38,460 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 58.38 ft
Reservoir name	= West Basin	Max. Storage	= 12,219 cuft

Storage Indication method used.



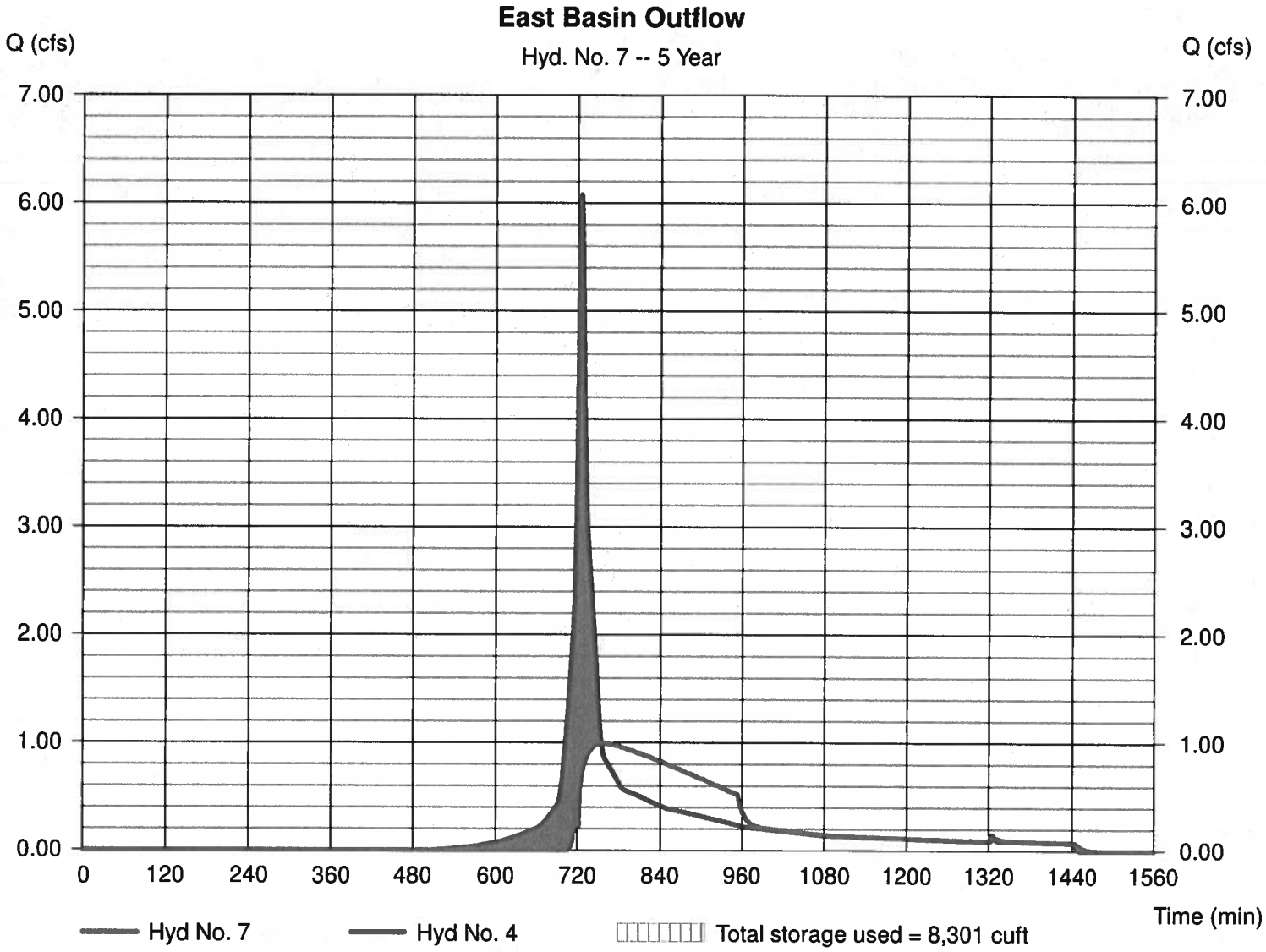
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 0.996 cfs
Storm frequency	= 5 yrs	Time to peak	= 755 min
Time interval	= 1 min	Hyd. volume	= 15,076 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 61.86 ft
Reservoir name	= East Basin	Max. Storage	= 8,301 cuft

Storage Indication method used.

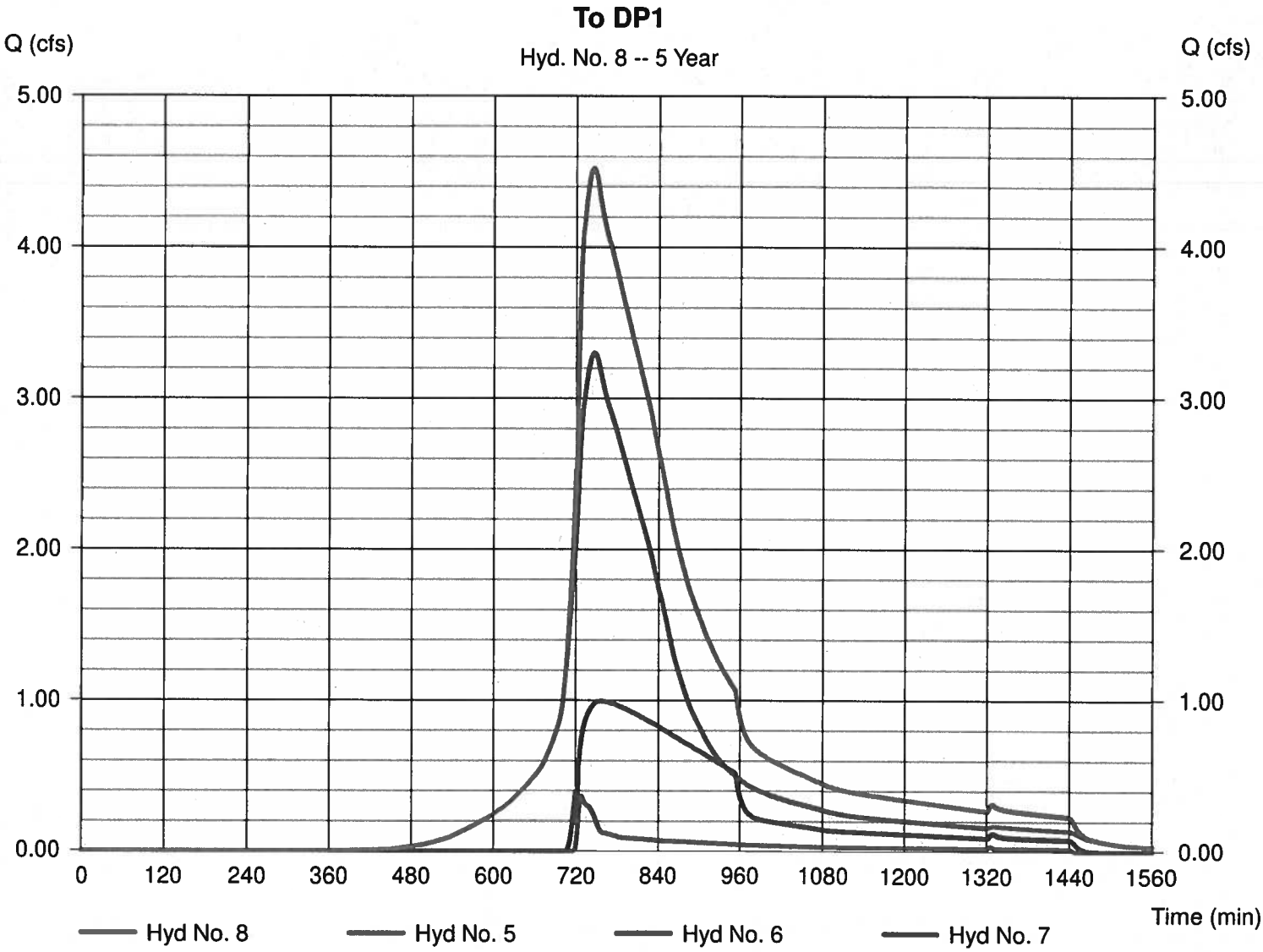


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 4.520 cfs
Storm frequency	= 5 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 55,724 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.550 ac



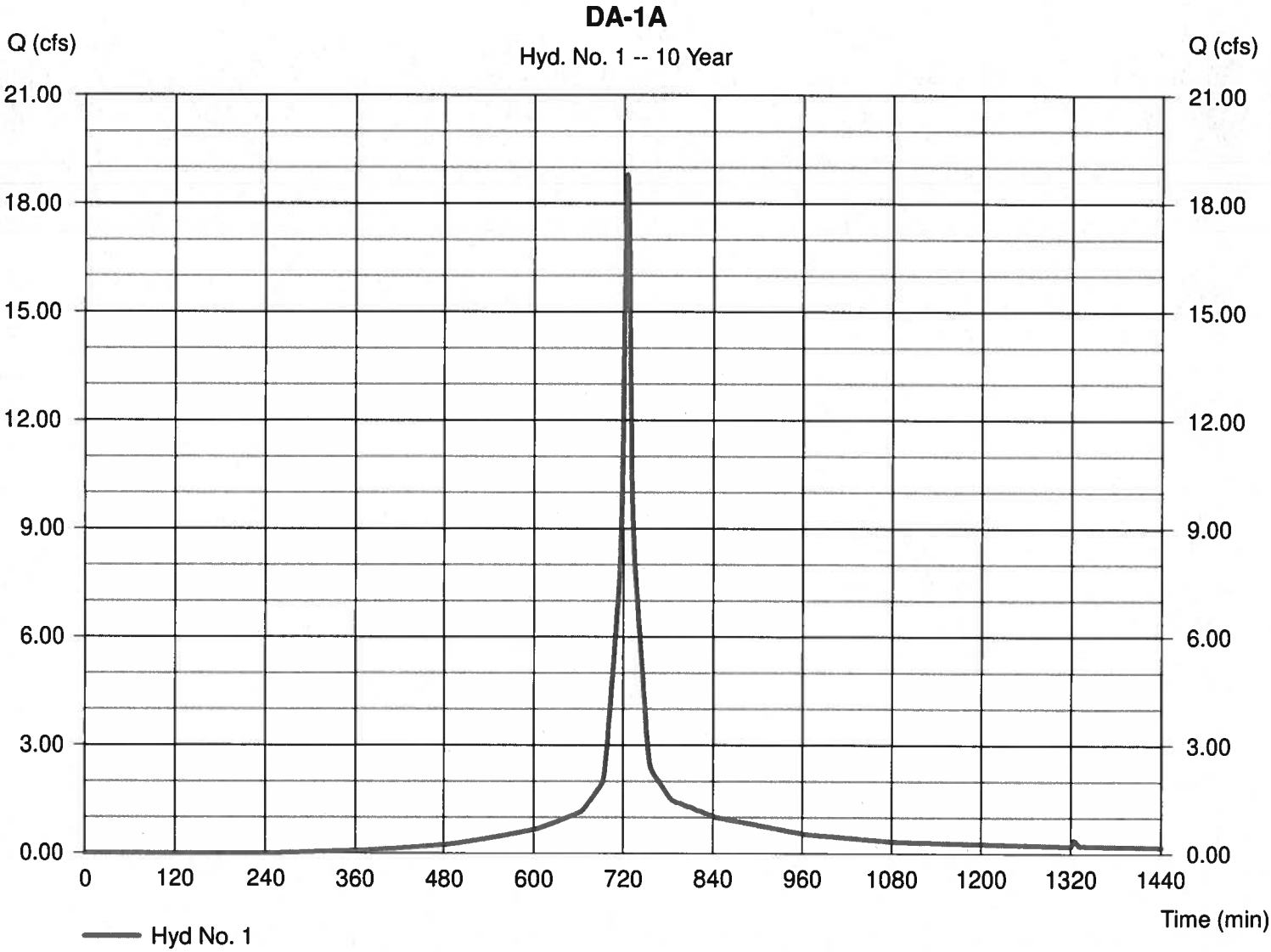
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 18.79 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 60,386 cuft
Drainage area	= 4.370 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.430 x 98) + (0.940 x 68)] / 4.370

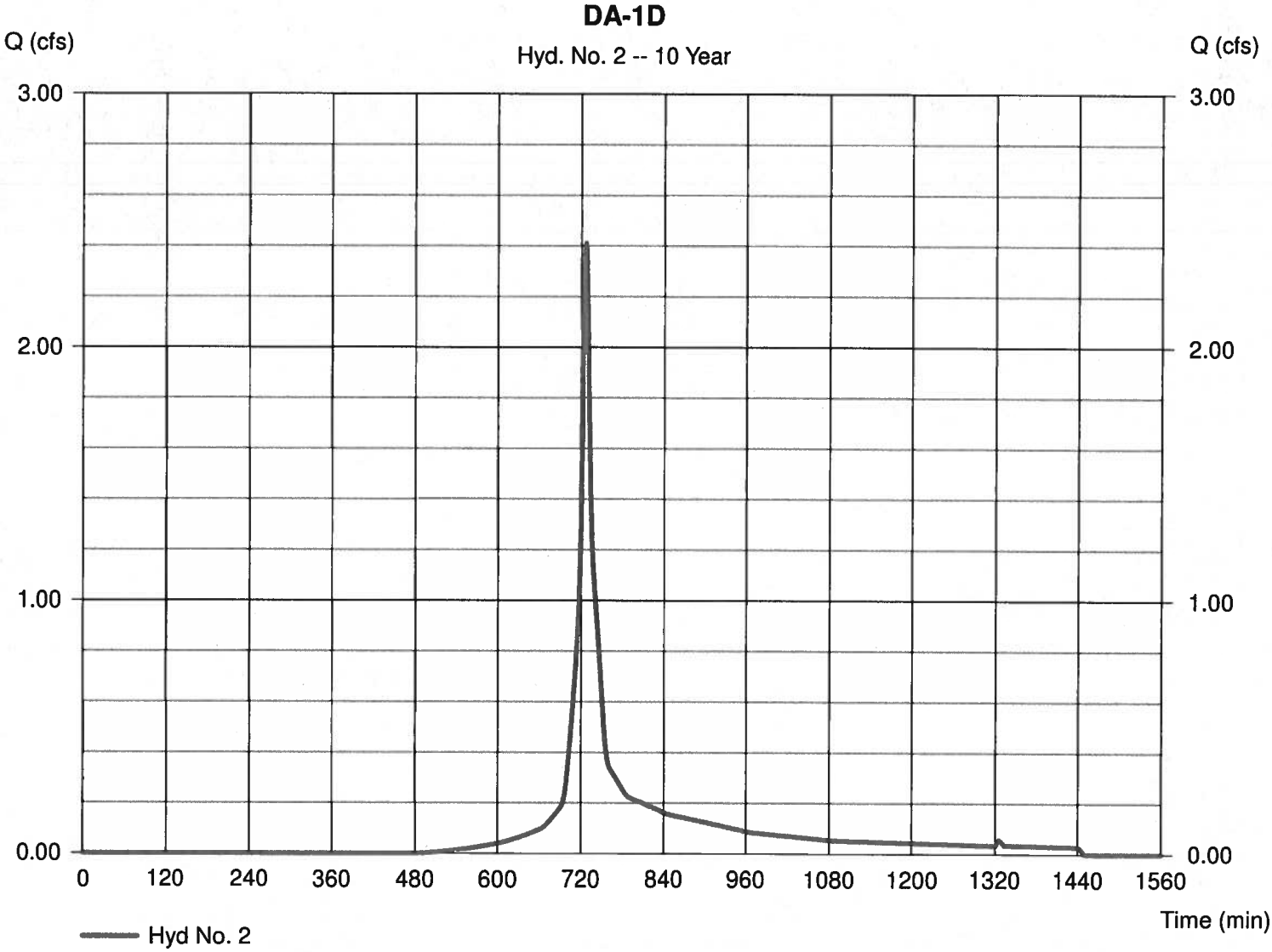


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 2.411 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 7,747 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



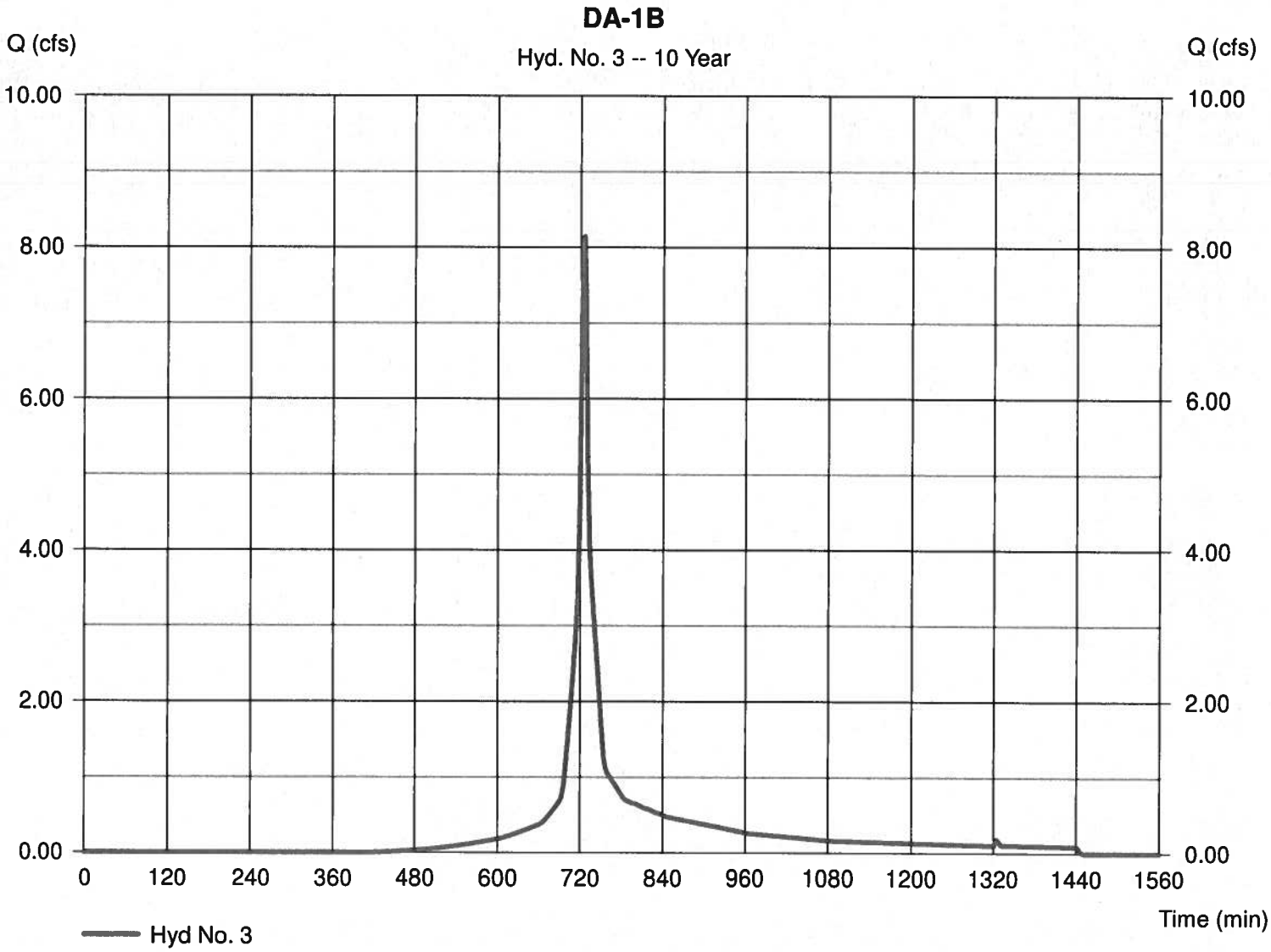
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 8.146 cfs
Storm frequency	= 10 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 25,221 cuft
Drainage area	= 2.320 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.380 x 98) + (0.940 x 60)] / 2.320

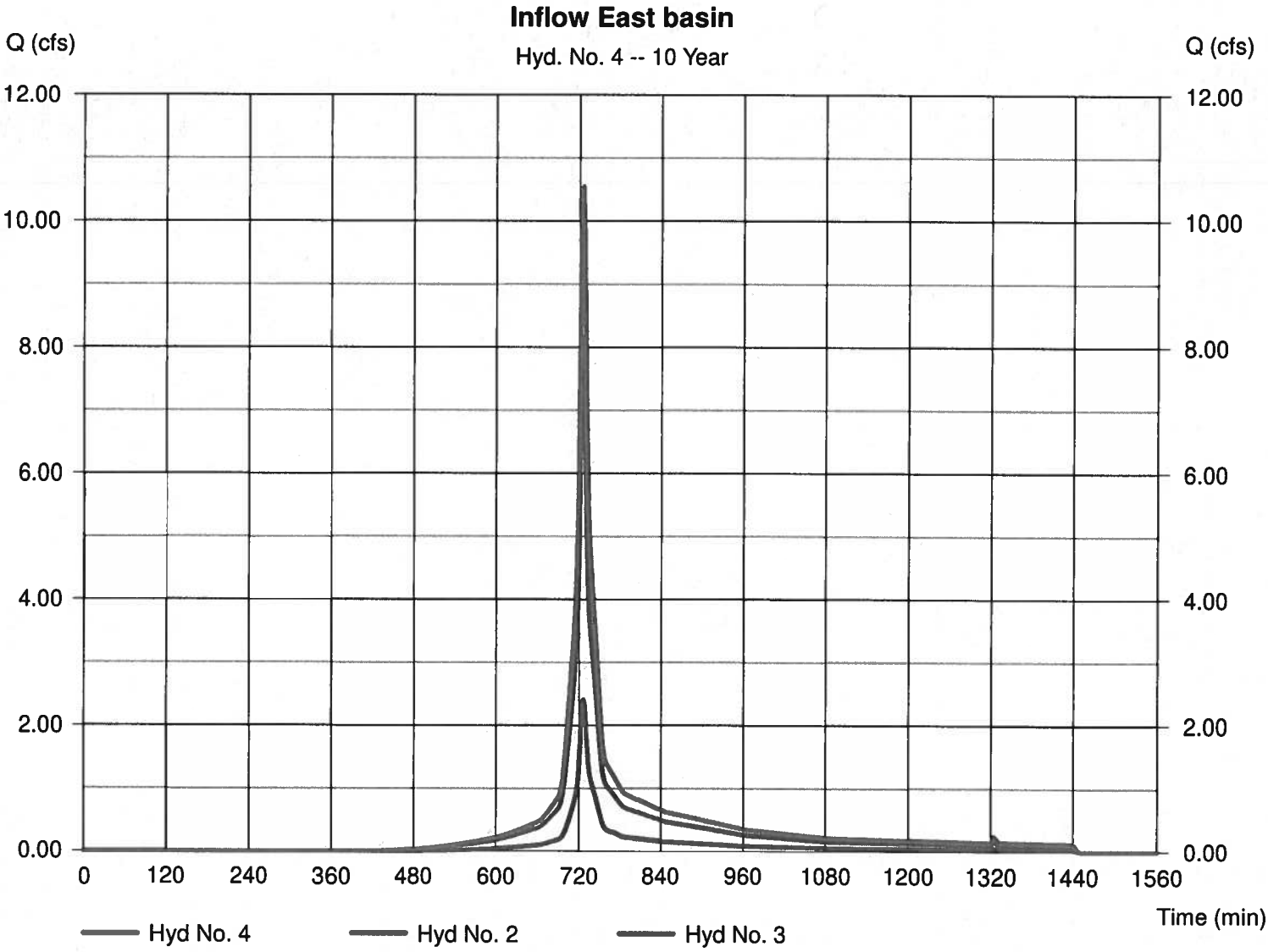


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 10.55 cfs
Storm frequency	= 10 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 32,968 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.180 ac



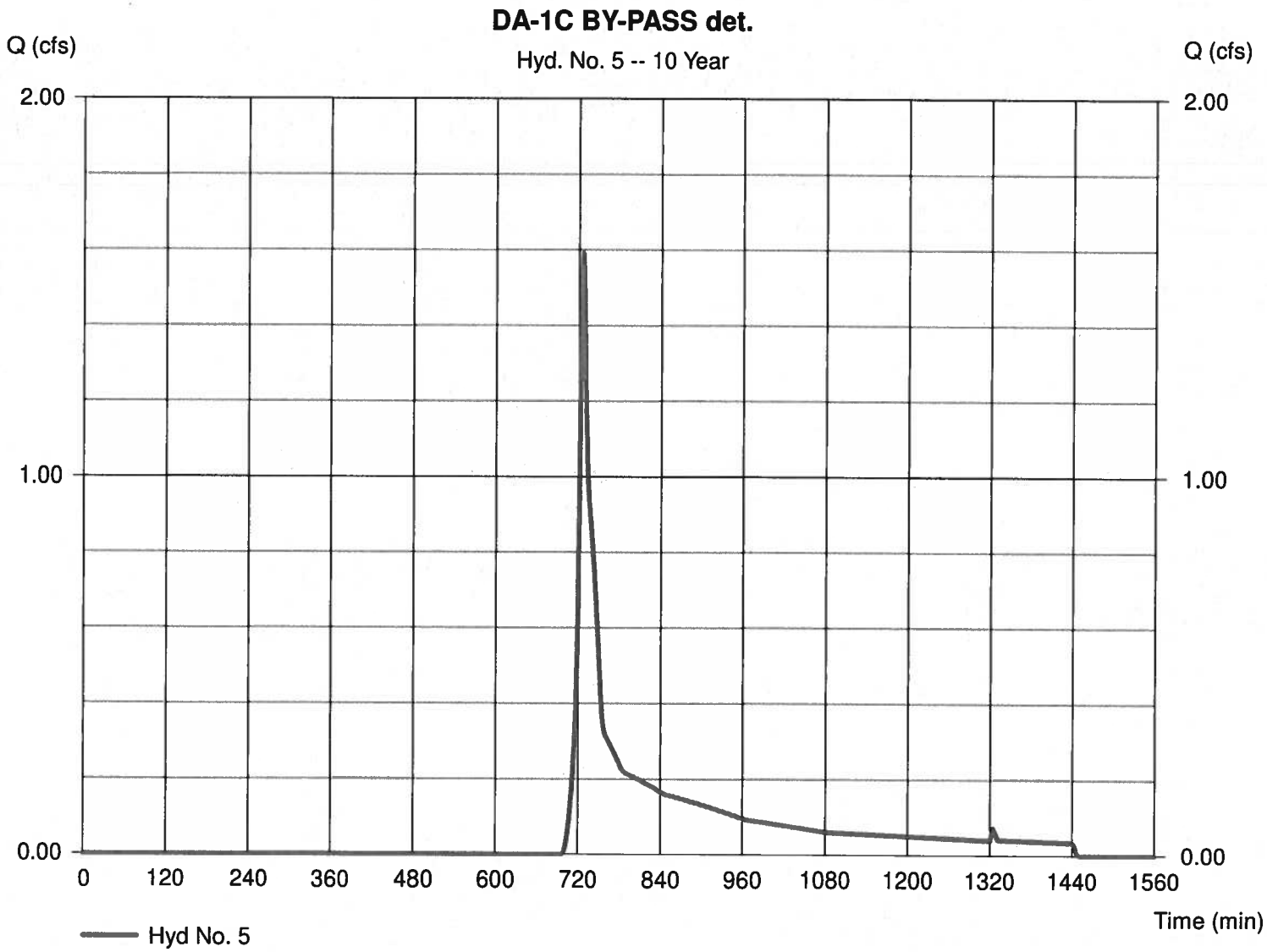
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 1.591 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 5,847 cuft
Drainage area	= 1.550 ac	Curve number	= 58*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.360 x 53)] / 1.550



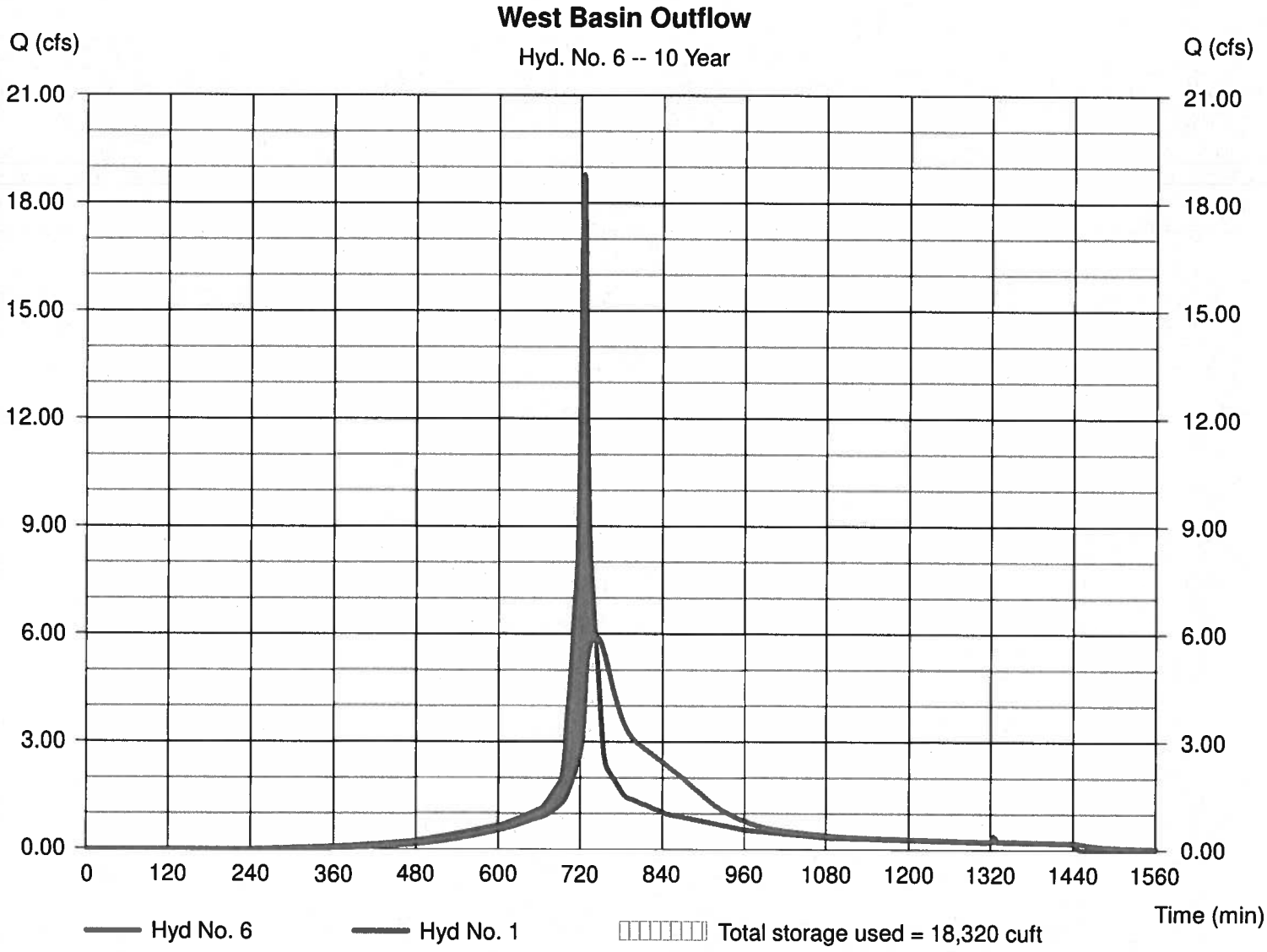
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 5.936 cfs
Storm frequency	= 10 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 60,365 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 59.19 ft
Reservoir name	= West Basin	Max. Storage	= 18,320 cuft

Storage Indication method used.



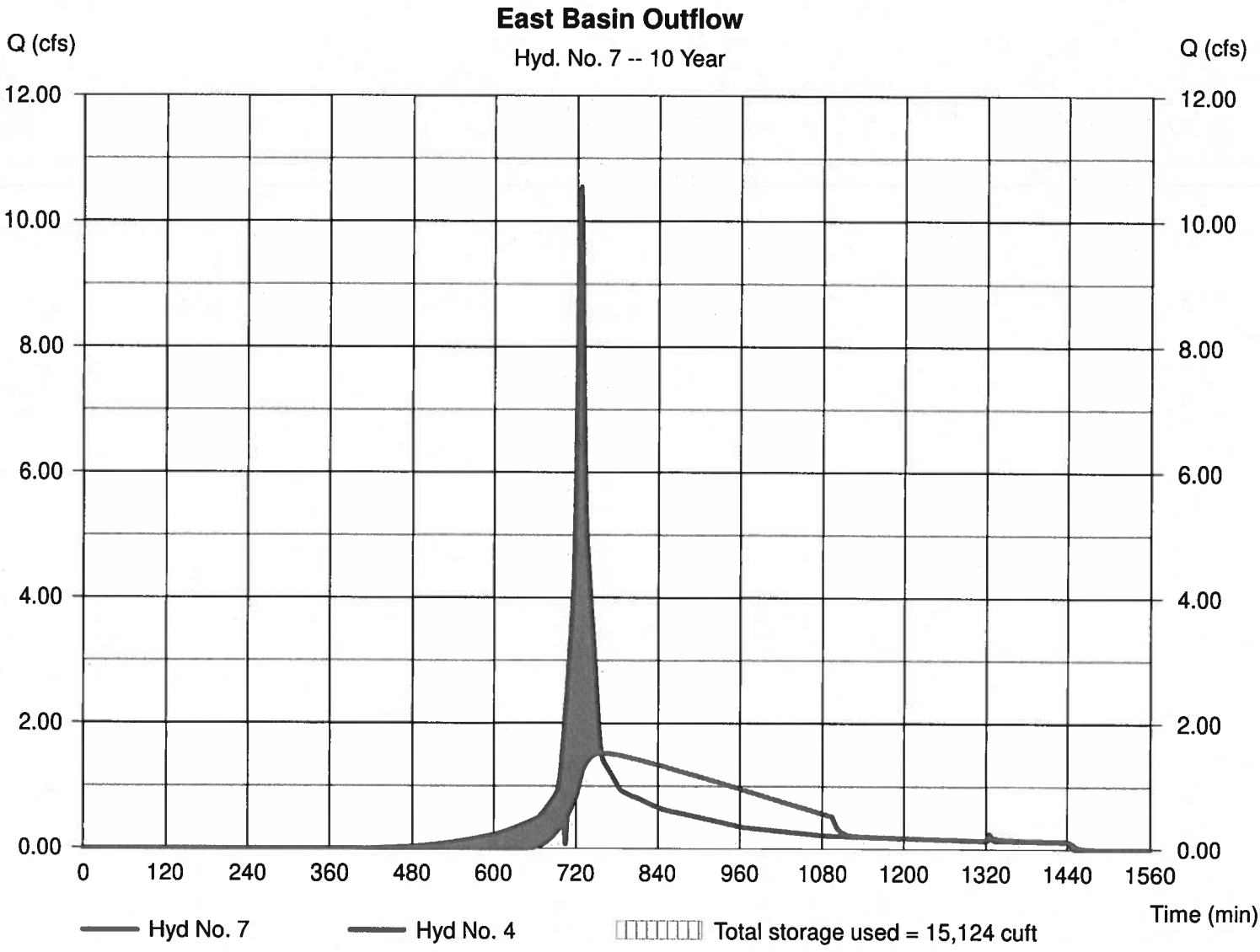
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.525 cfs
Storm frequency	= 10 yrs	Time to peak	= 756 min
Time interval	= 1 min	Hyd. volume	= 29,054 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 63.35 ft
Reservoir name	= East Basin	Max. Storage	= 15,124 cuft

Storage Indication method used.

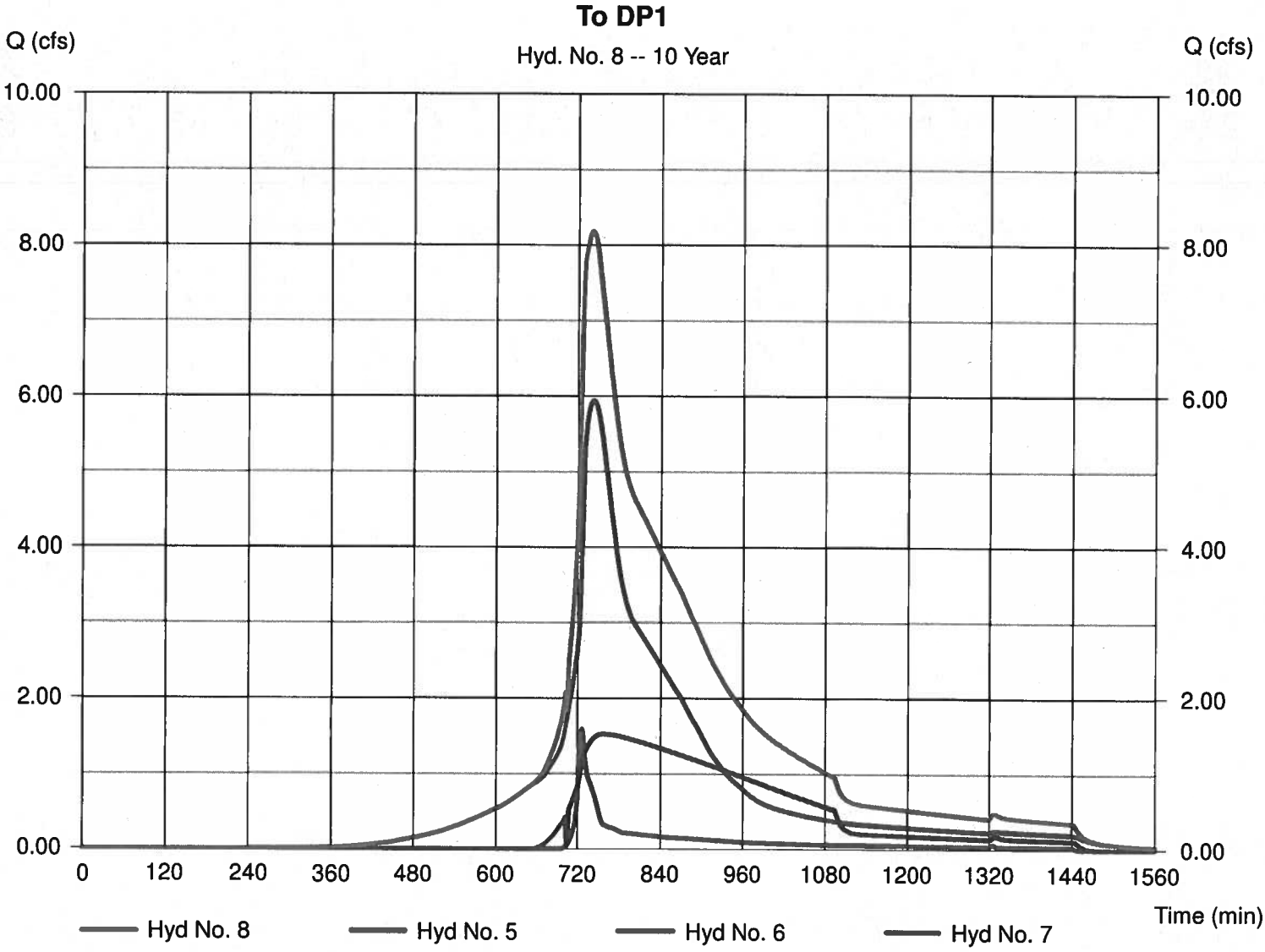


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 8.185 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 95,266 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.550 ac



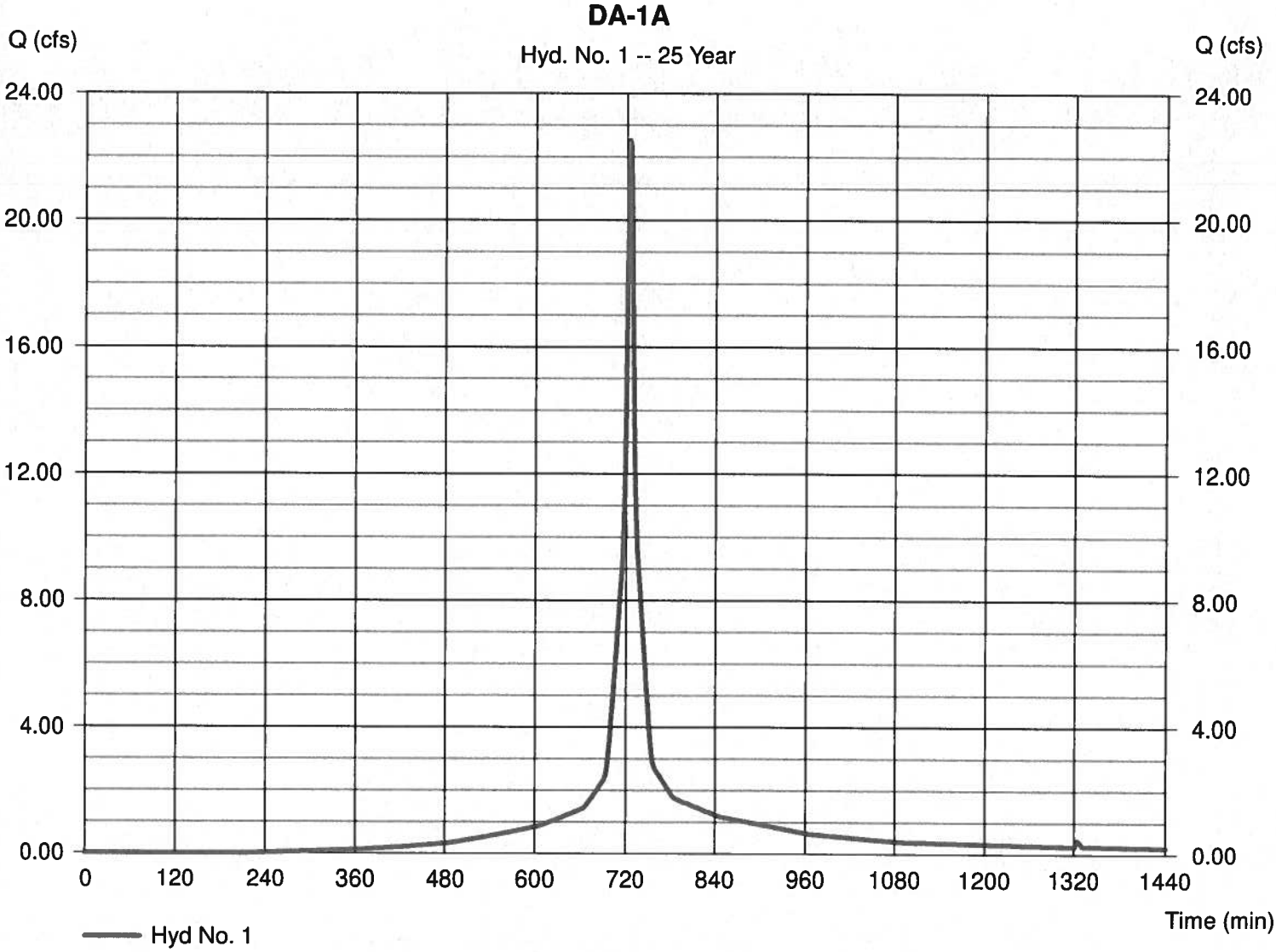
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 22.52 cfs
Storm frequency	= 25 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 73,102 cuft
Drainage area	= 4.370 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.430 x 98) + (0.940 x 68)] / 4.370

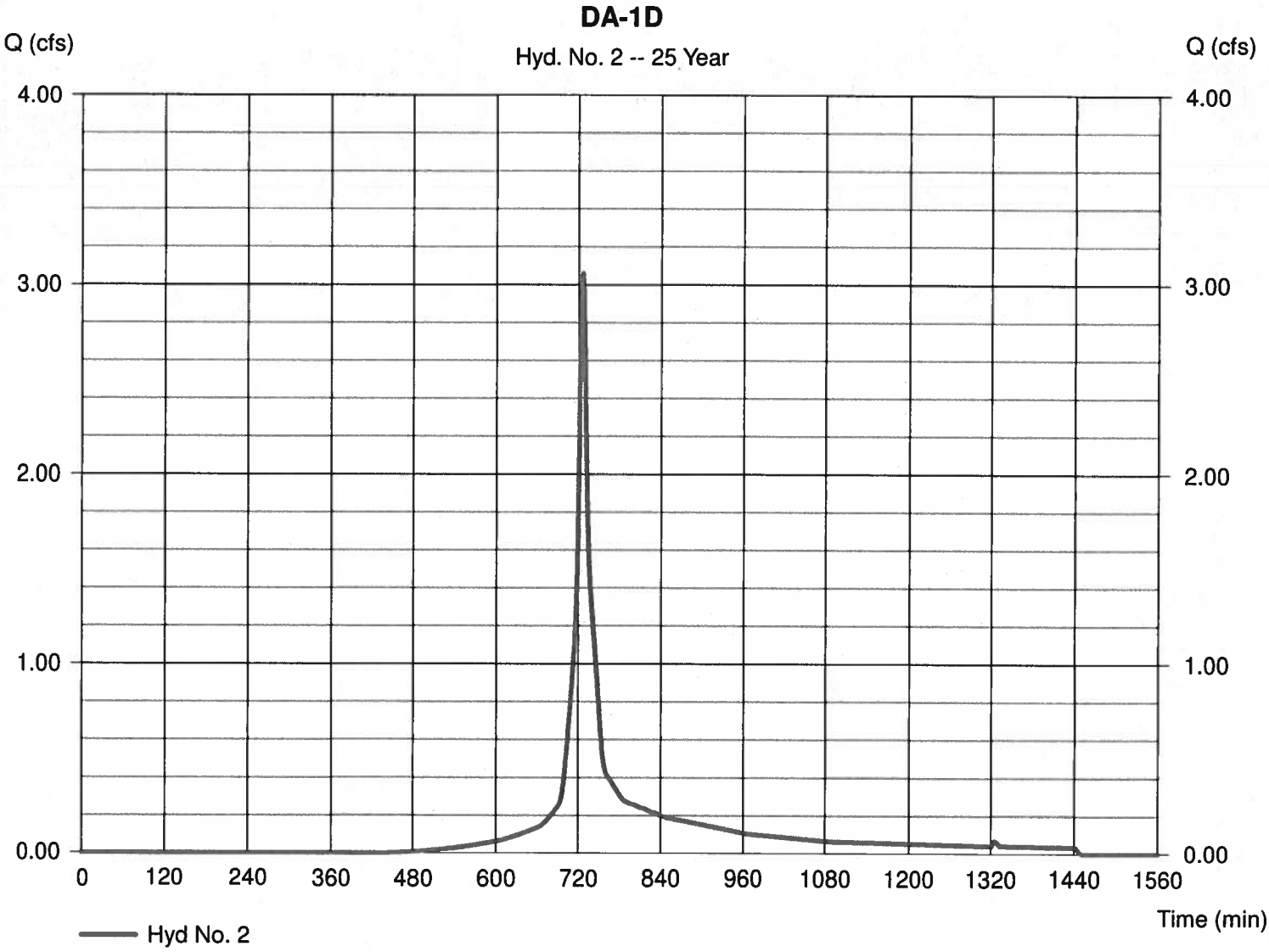


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 3.059 cfs
Storm frequency	= 25 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 9,852 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



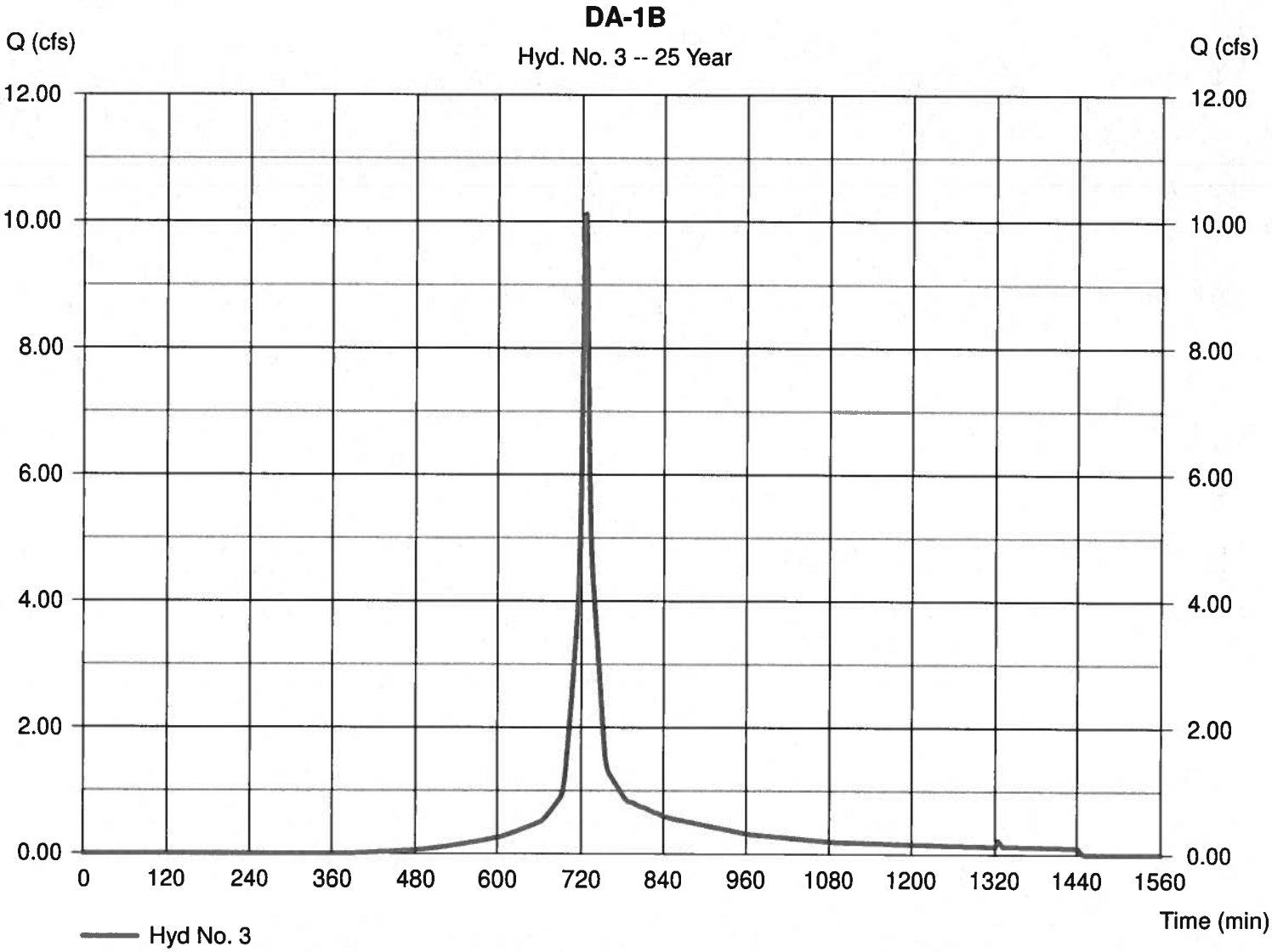
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 10.12 cfs
Storm frequency	= 25 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 31,524 cuft
Drainage area	= 2.320 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.380 x 98) + (0.940 x 60)] / 2.320

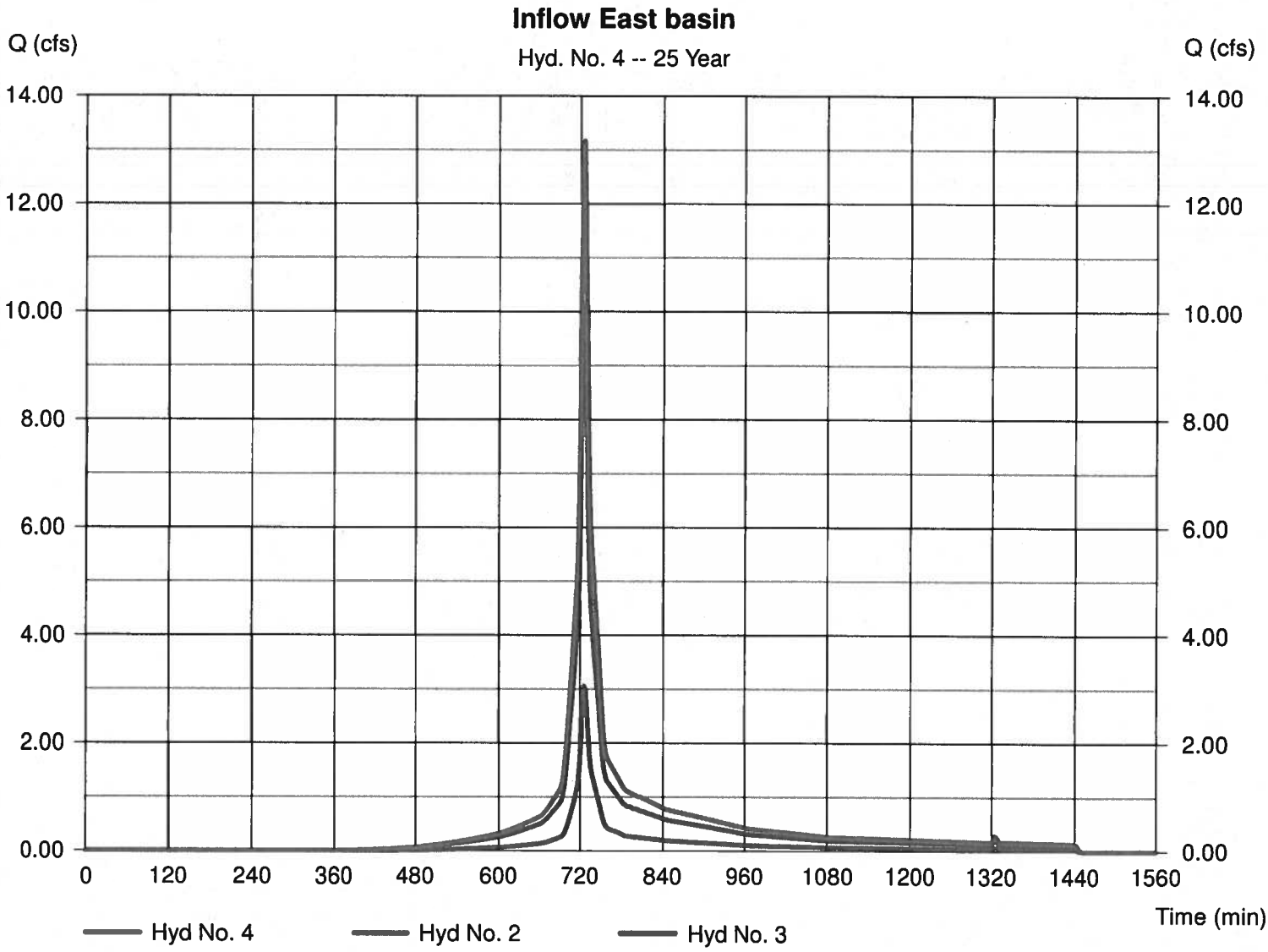


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 13.17 cfs
Storm frequency	= 25 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 41,376 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.180 ac



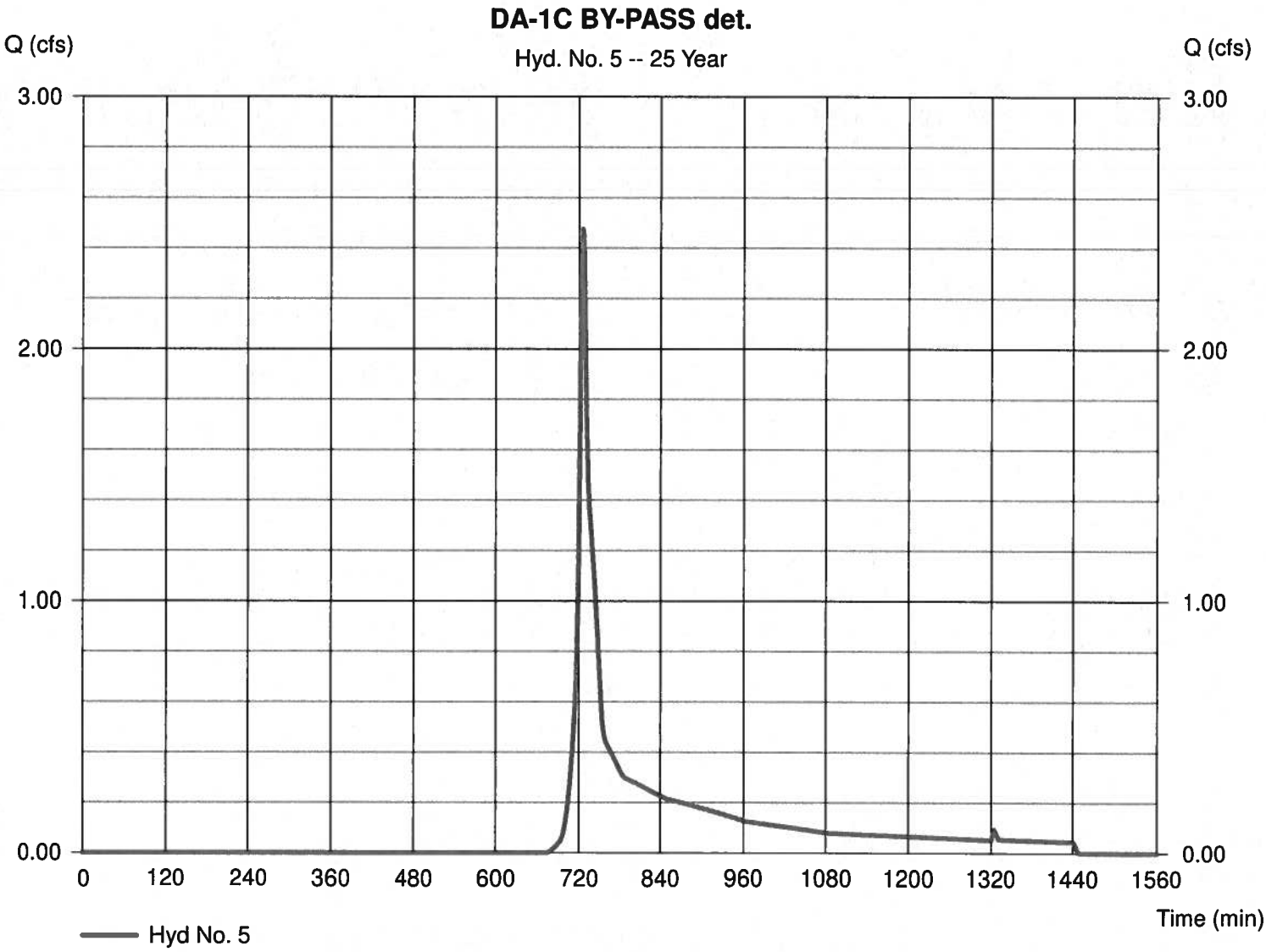
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 2.475 cfs
Storm frequency	= 25 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 8,435 cuft
Drainage area	= 1.550 ac	Curve number	= 58*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.360 x 53)] / 1.550



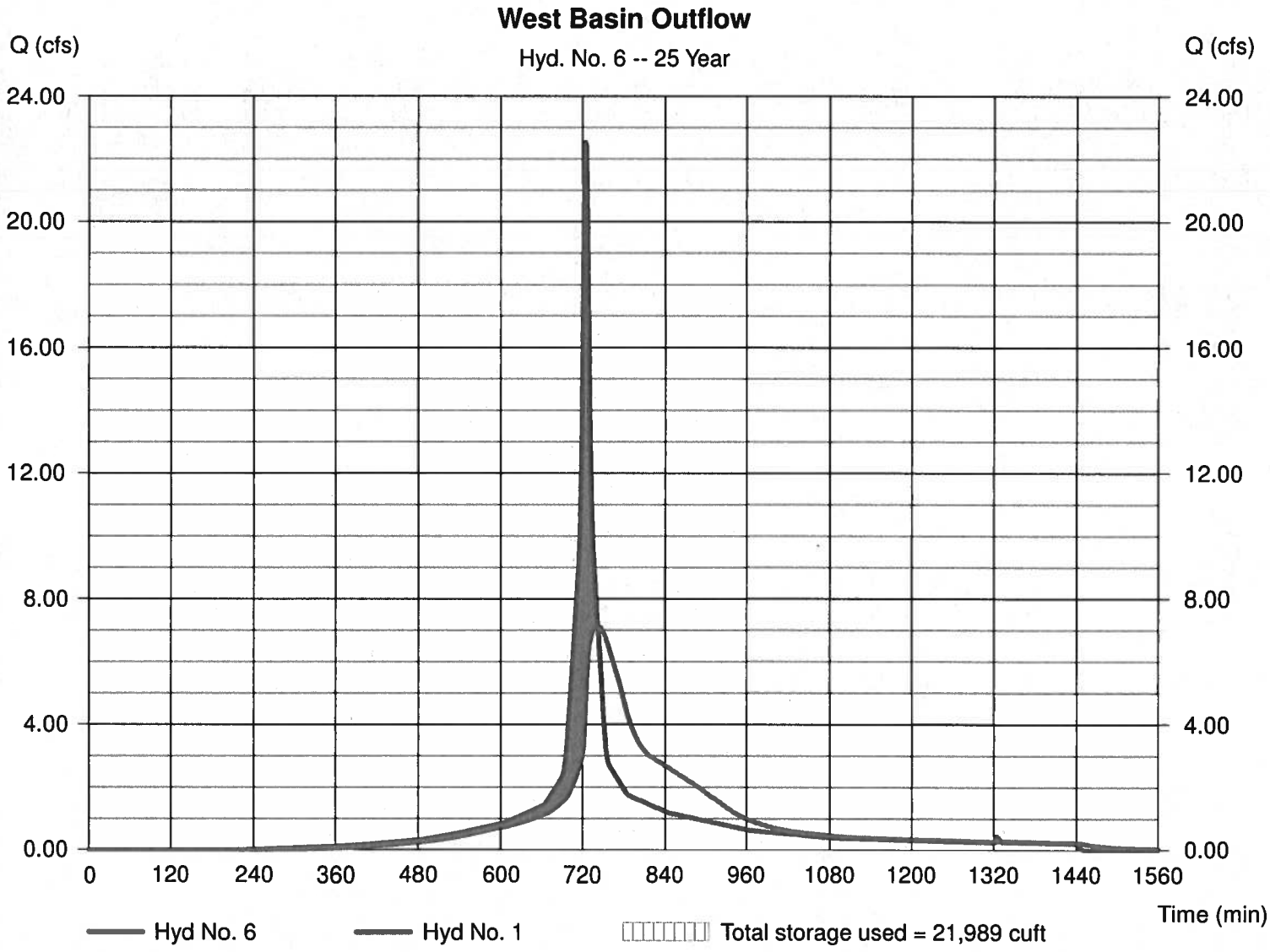
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 7.122 cfs
Storm frequency	= 25 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 73,082 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 59.70 ft
Reservoir name	= West Basin	Max. Storage	= 21,989 cuft

Storage Indication method used.



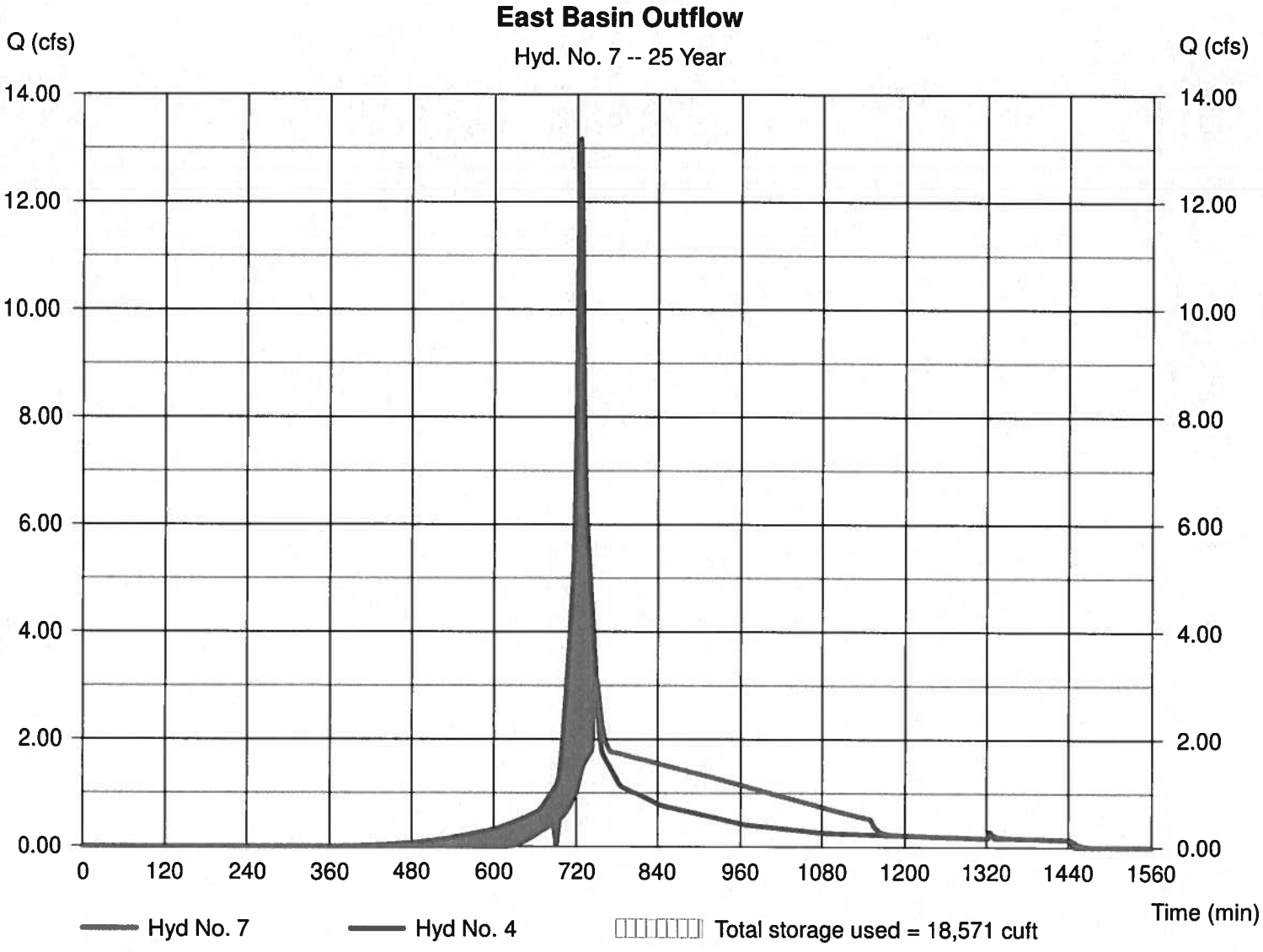
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	3.130 cfs
Storm frequency	=	25 yrs	Time to peak	=	749 min
Time interval	=	1 min	Hyd. volume	=	37,462 cuft
Inflow hyd. No.	=	4 - Inflow East basin	Max. Elevation	=	64.43 ft
Reservoir name	=	East Basin	Max. Storage	=	18,571 cuft

Storage Indication method used.

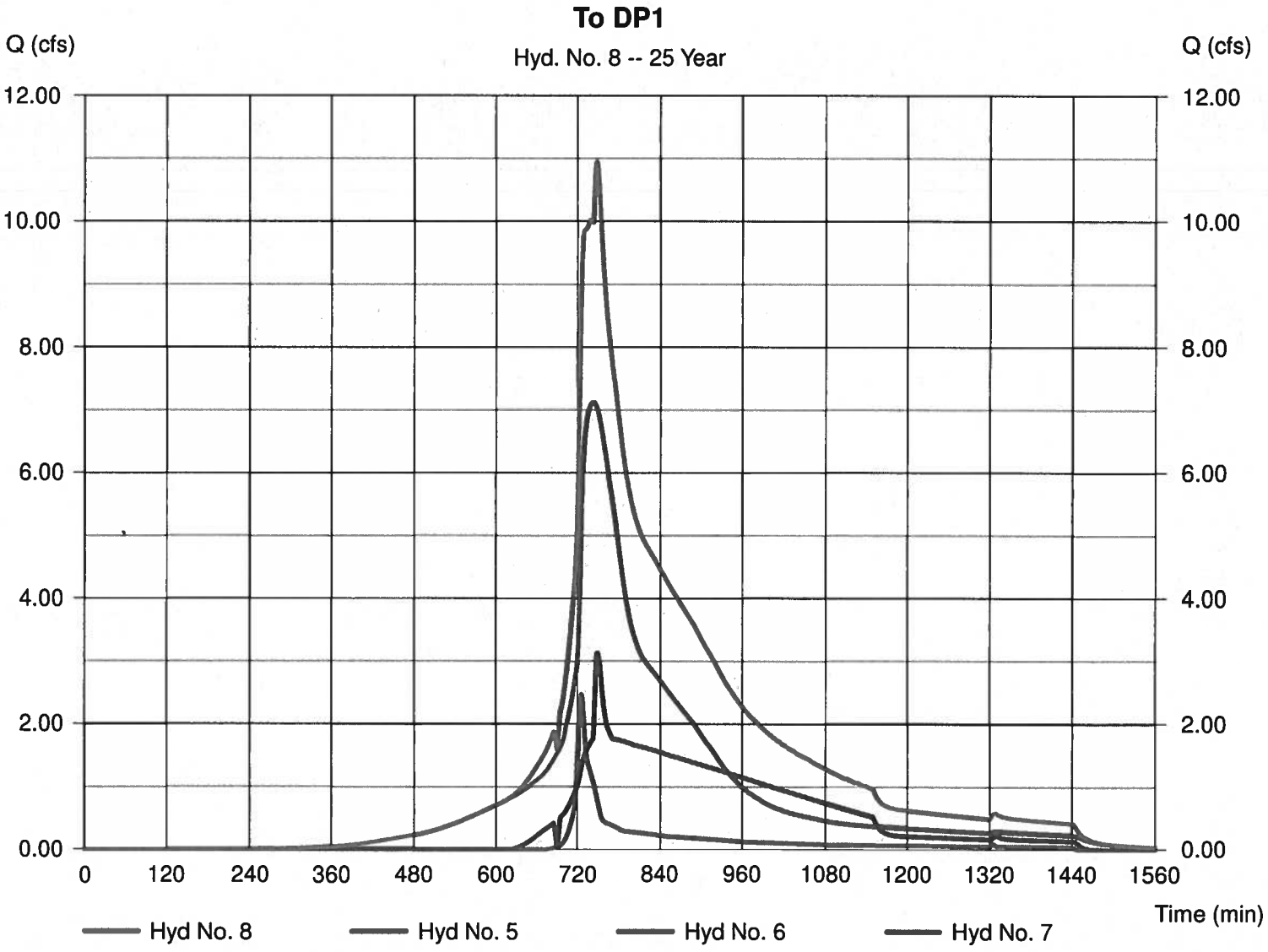


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 10.94 cfs
Storm frequency	= 25 yrs	Time to peak	= 747 min
Time interval	= 1 min	Hyd. volume	= 118,978 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.550 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

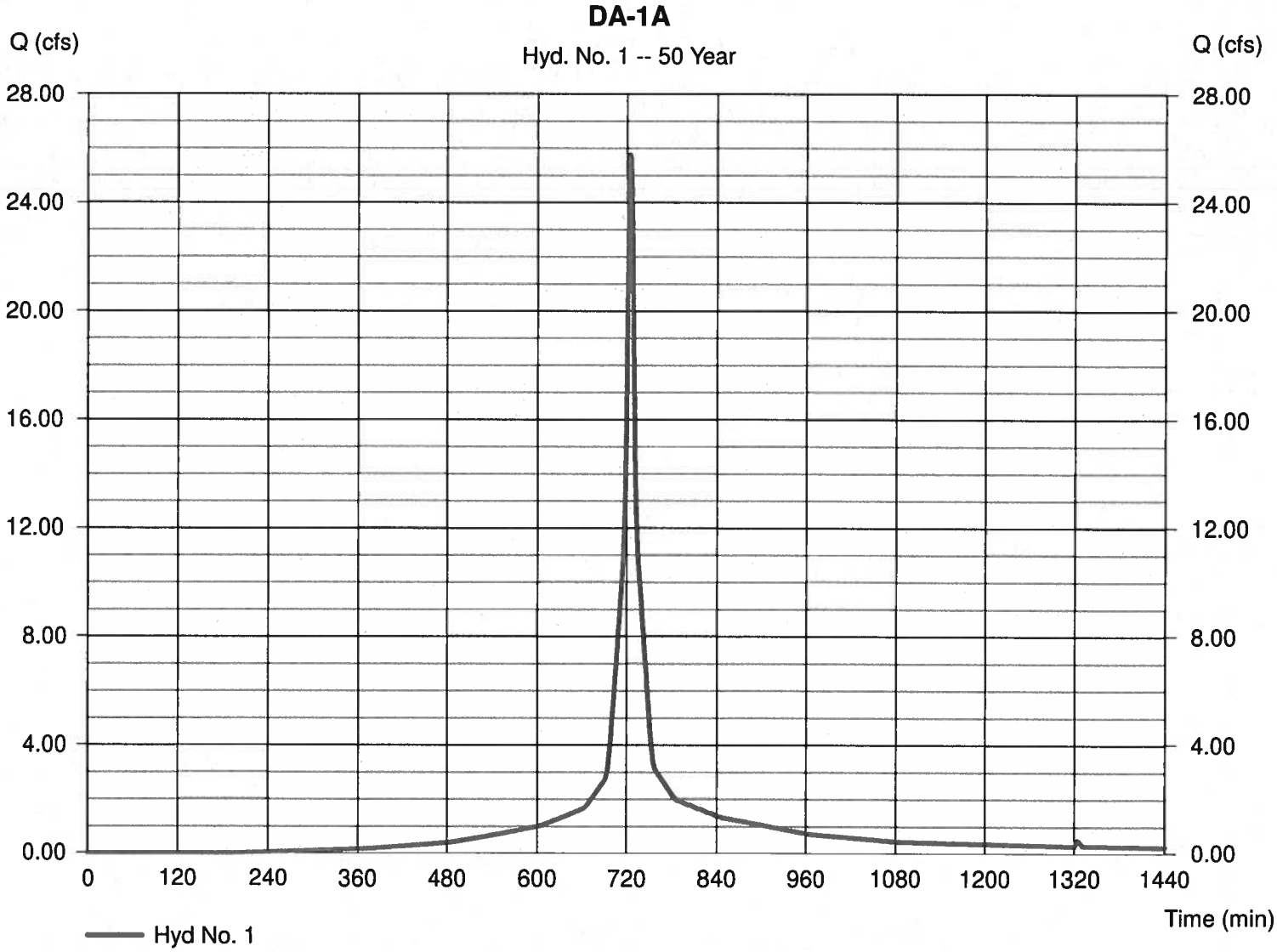
Monday, Dec 7, 2020

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 25.76 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 84,299 cuft
Drainage area	= 4.370 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.430 x 98) + (0.940 x 68)] / 4.370

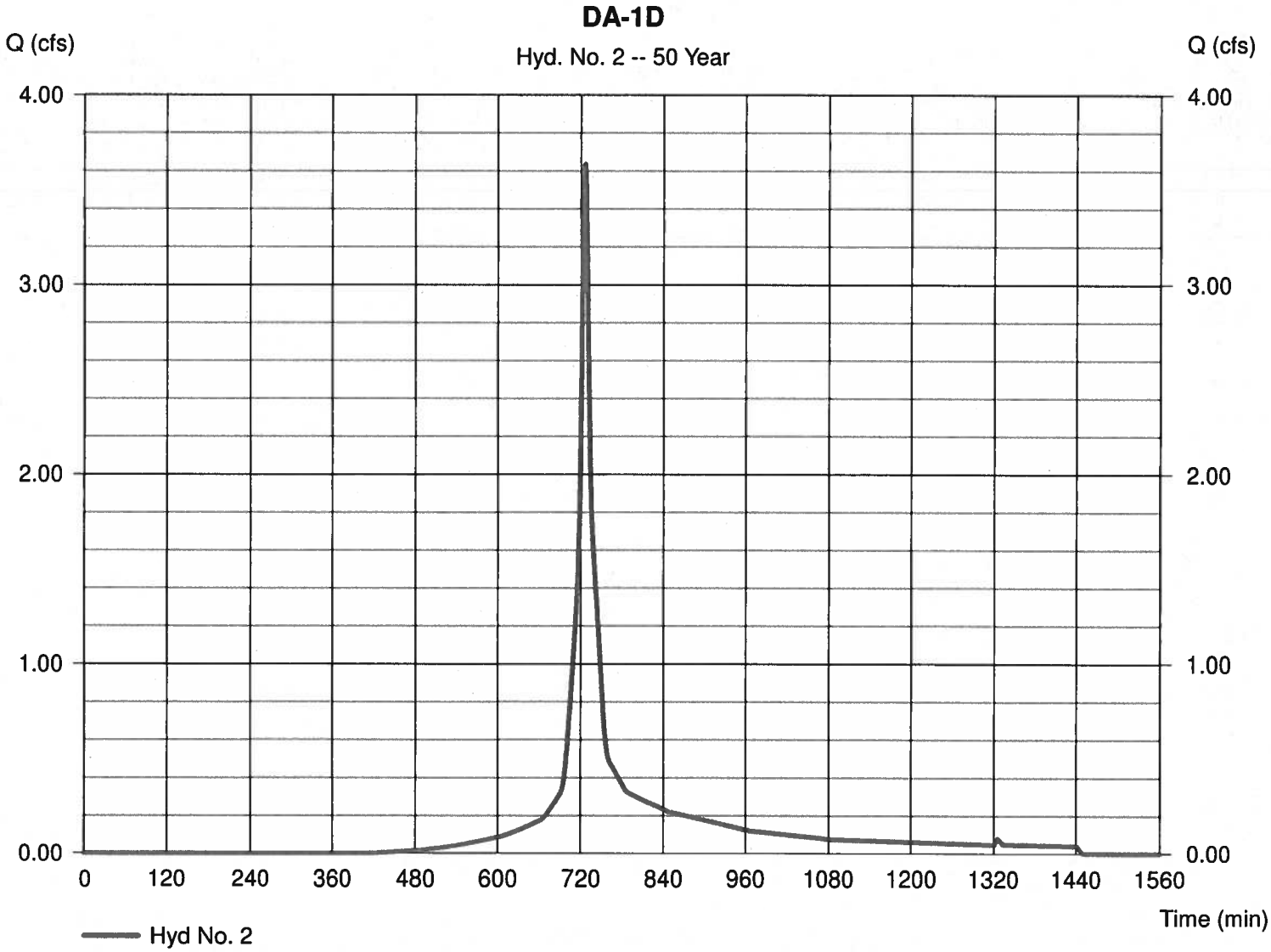


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 3.635 cfs
Storm frequency	= 50 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 11,745 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



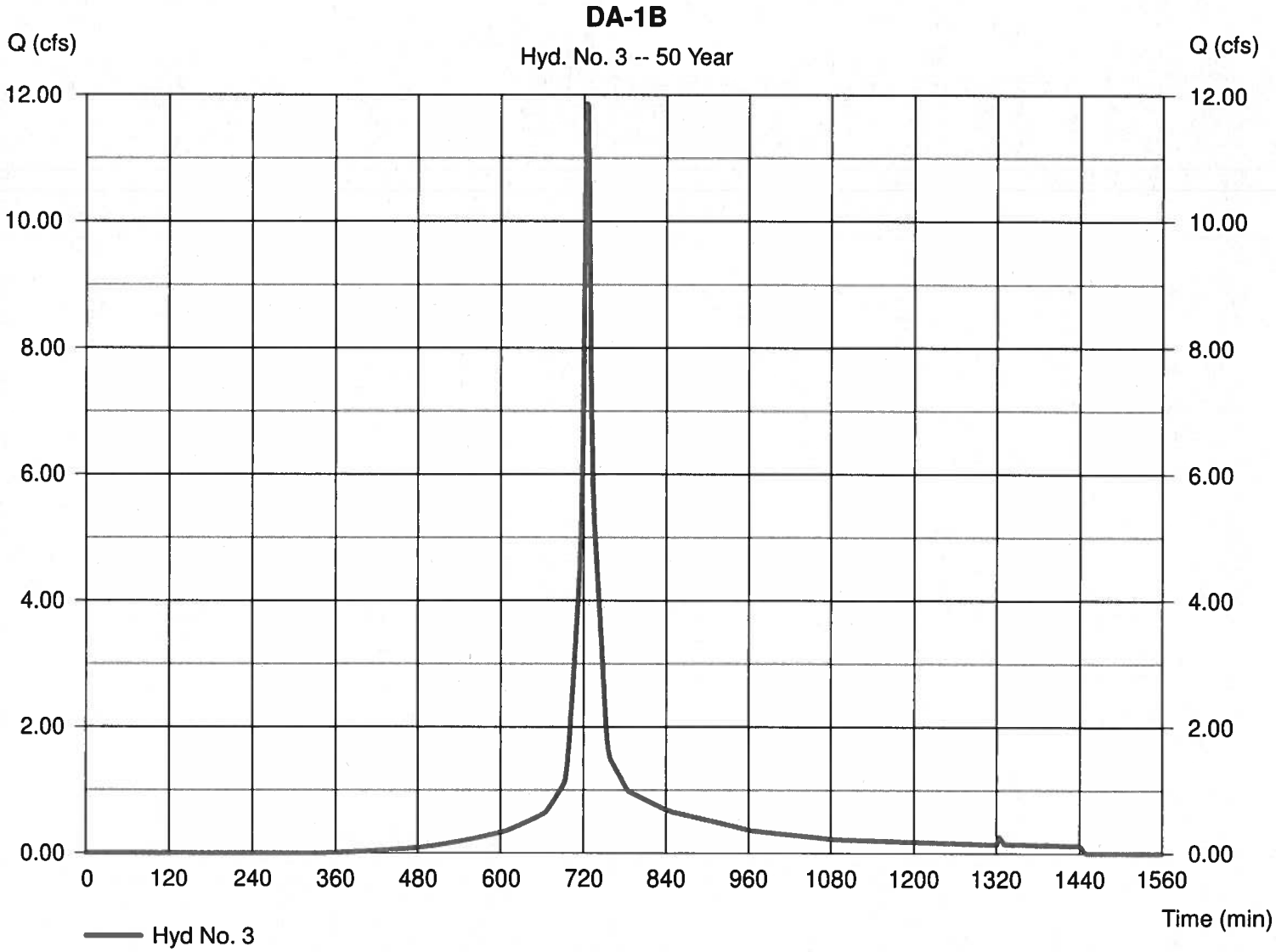
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 11.86 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 37,148 cuft
Drainage area	= 2.320 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.380 x 98) + (0.940 x 60)] / 2.320

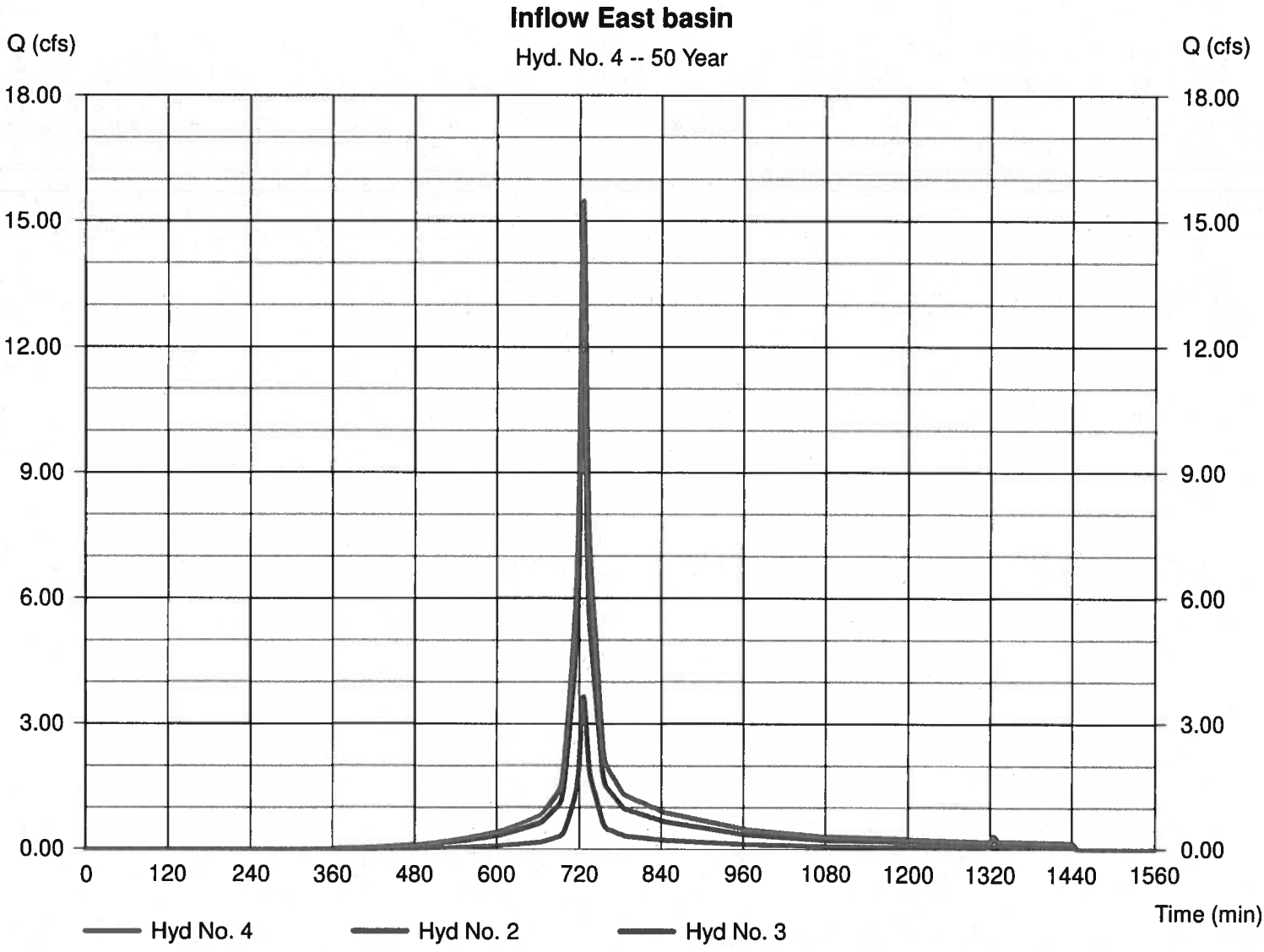


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 15.48 cfs
Storm frequency	= 50 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 48,893 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.180 ac



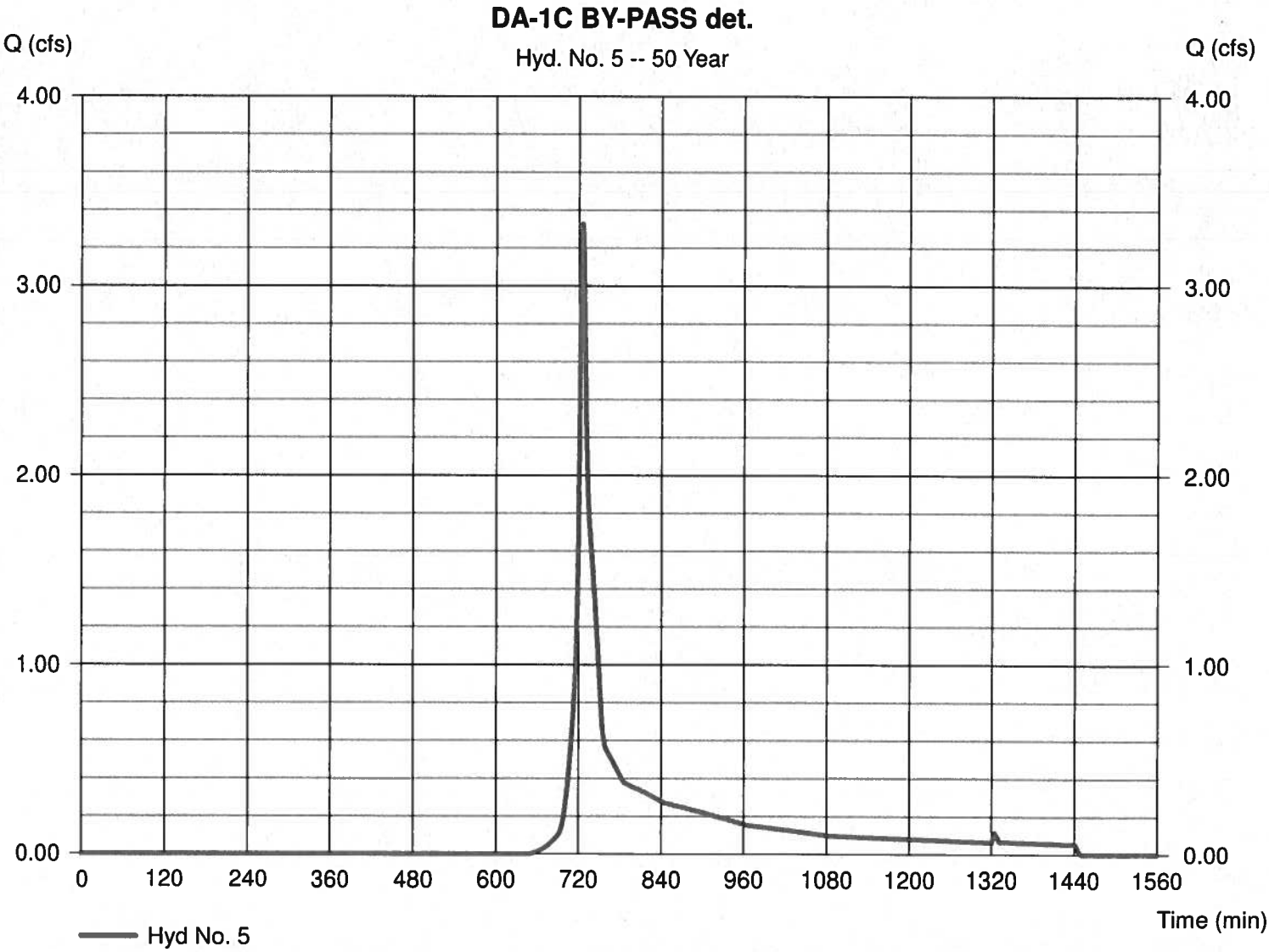
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 3.328 cfs
Storm frequency	= 50 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 10,924 cuft
Drainage area	= 1.550 ac	Curve number	= 58*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.360 x 53)] / 1.550



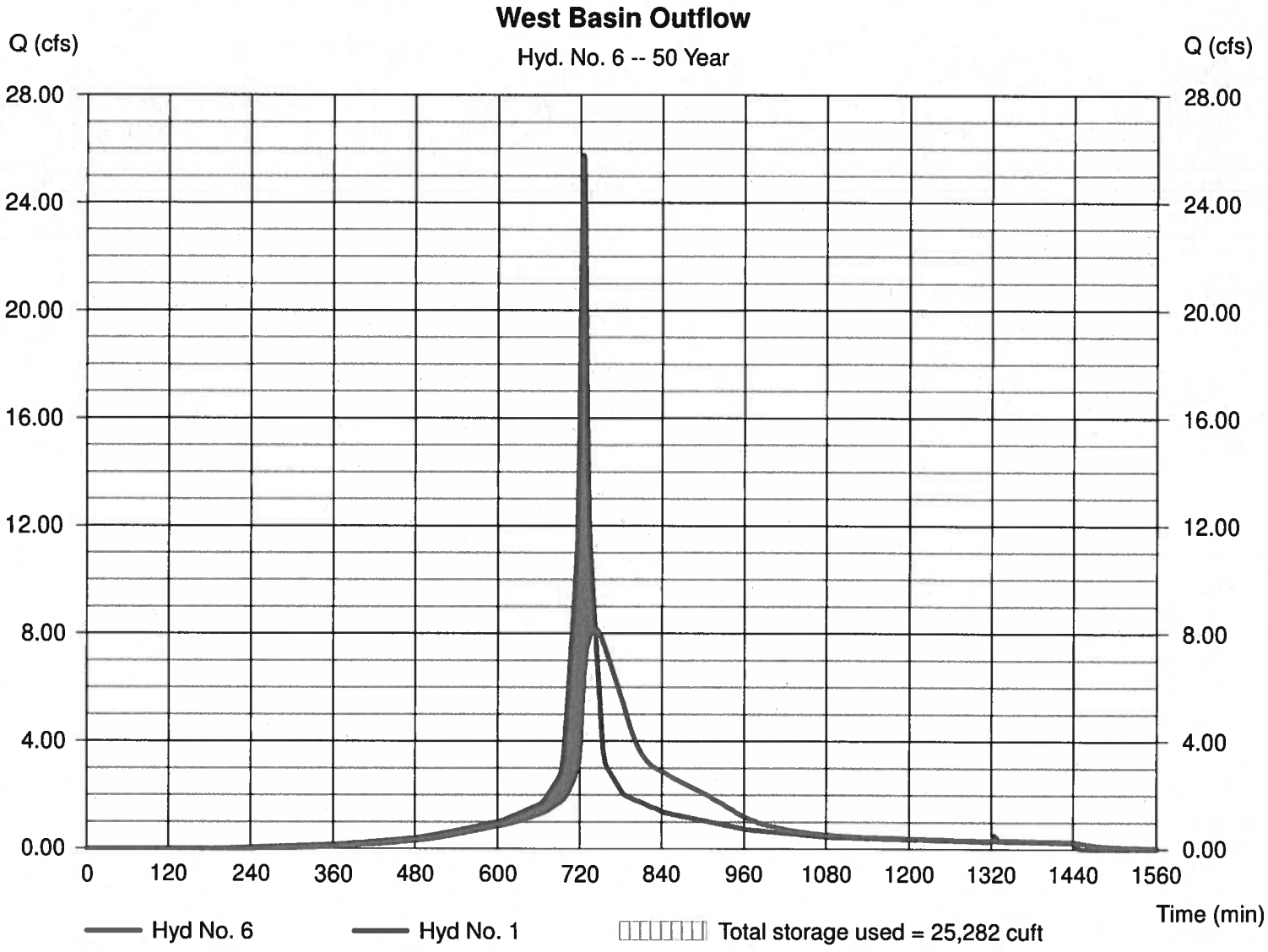
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 8.166 cfs
Storm frequency	= 50 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 84,278 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 60.26 ft
Reservoir name	= West Basin	Max. Storage	= 25,282 cuft

Storage Indication method used.



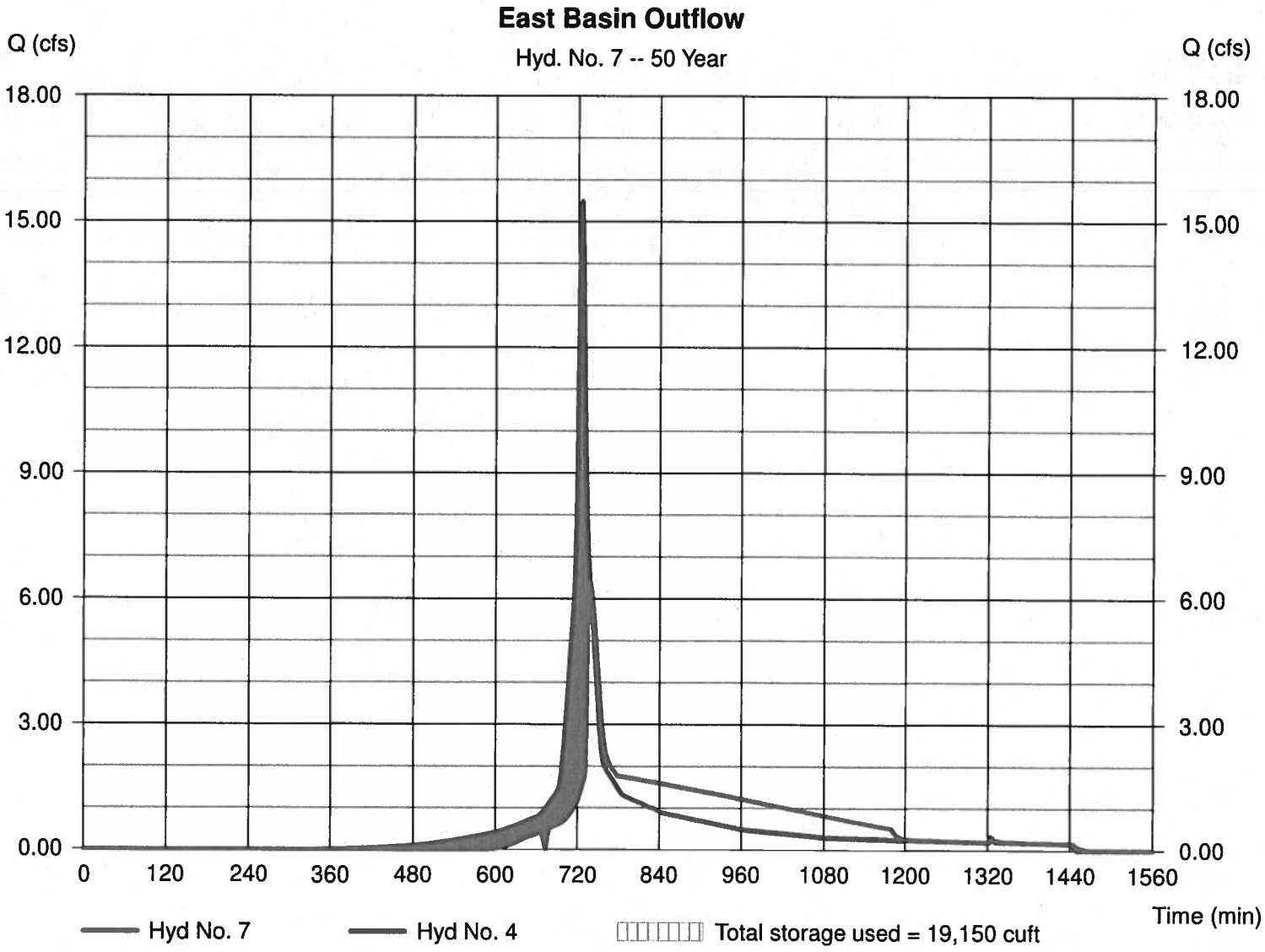
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 6.367 cfs
Storm frequency	= 50 yrs	Time to peak	= 738 min
Time interval	= 1 min	Hyd. volume	= 44,979 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.67 ft
Reservoir name	= East Basin	Max. Storage	= 19,150 cuft

Storage Indication method used.

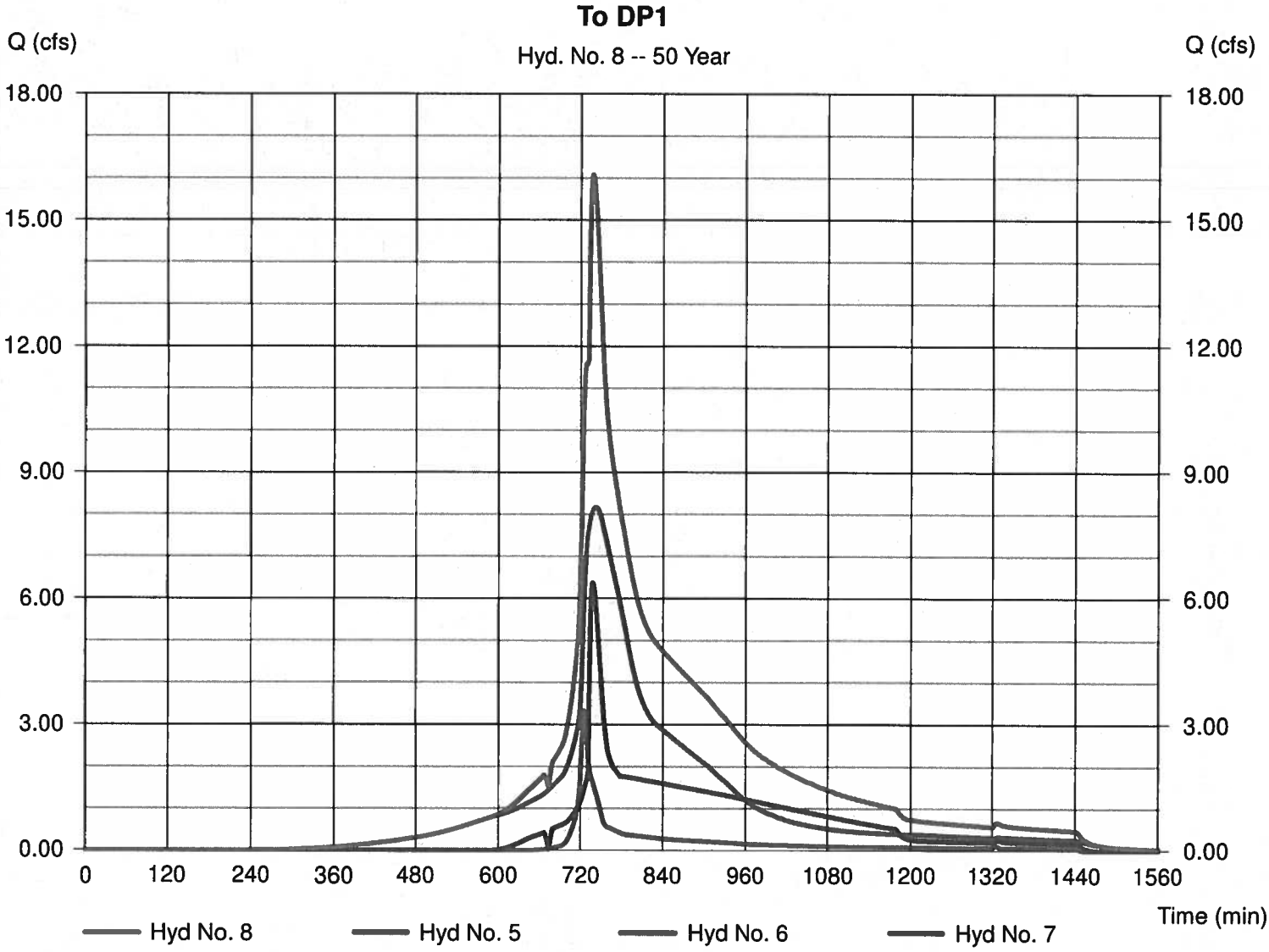


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 16.08 cfs
Storm frequency	= 50 yrs	Time to peak	= 737 min
Time interval	= 1 min	Hyd. volume	= 140,181 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.550 ac



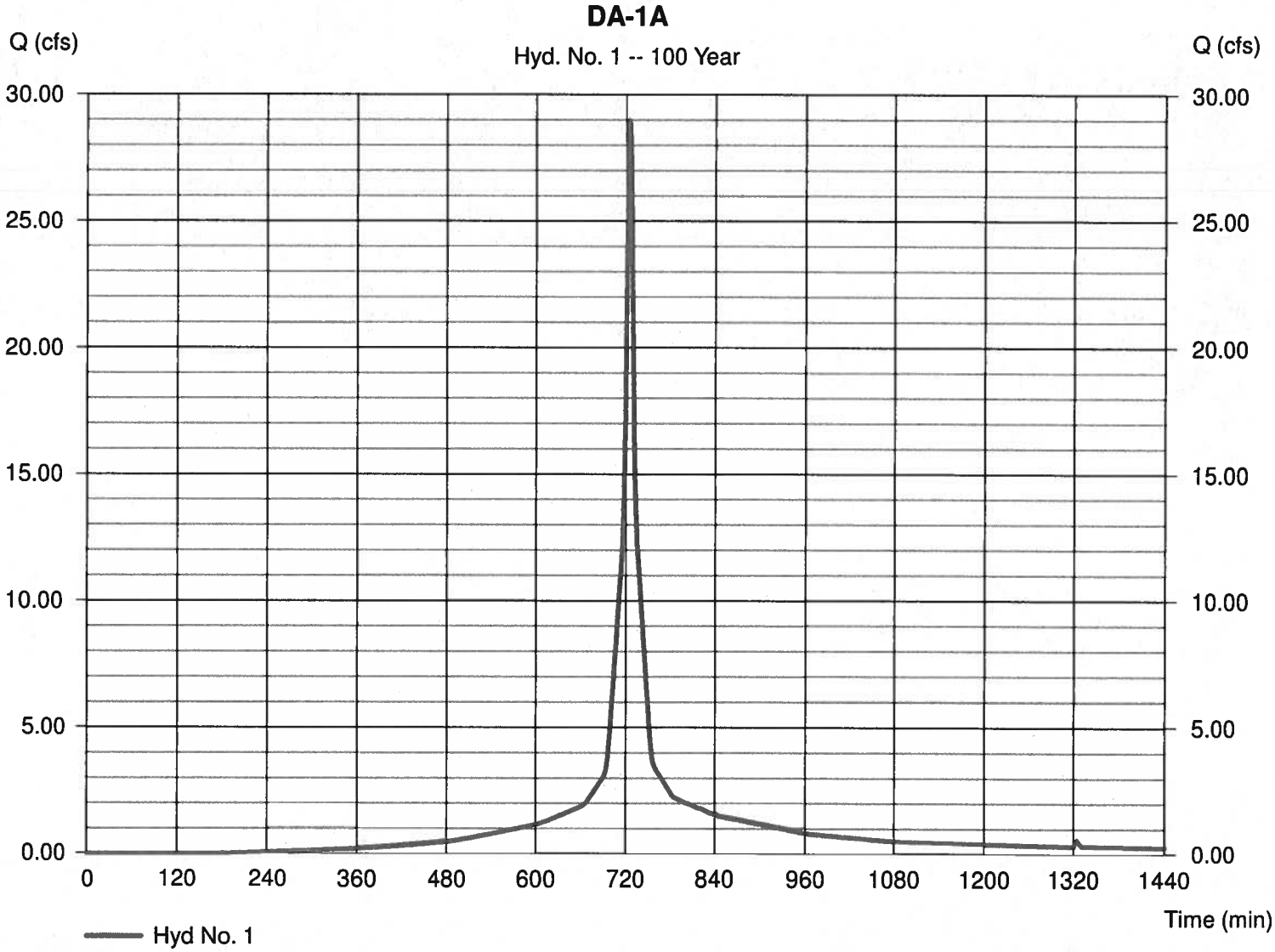
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 28.99 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 95,541 cuft
Drainage area	= 4.370 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.430 x 98) + (0.940 x 68)] / 4.370

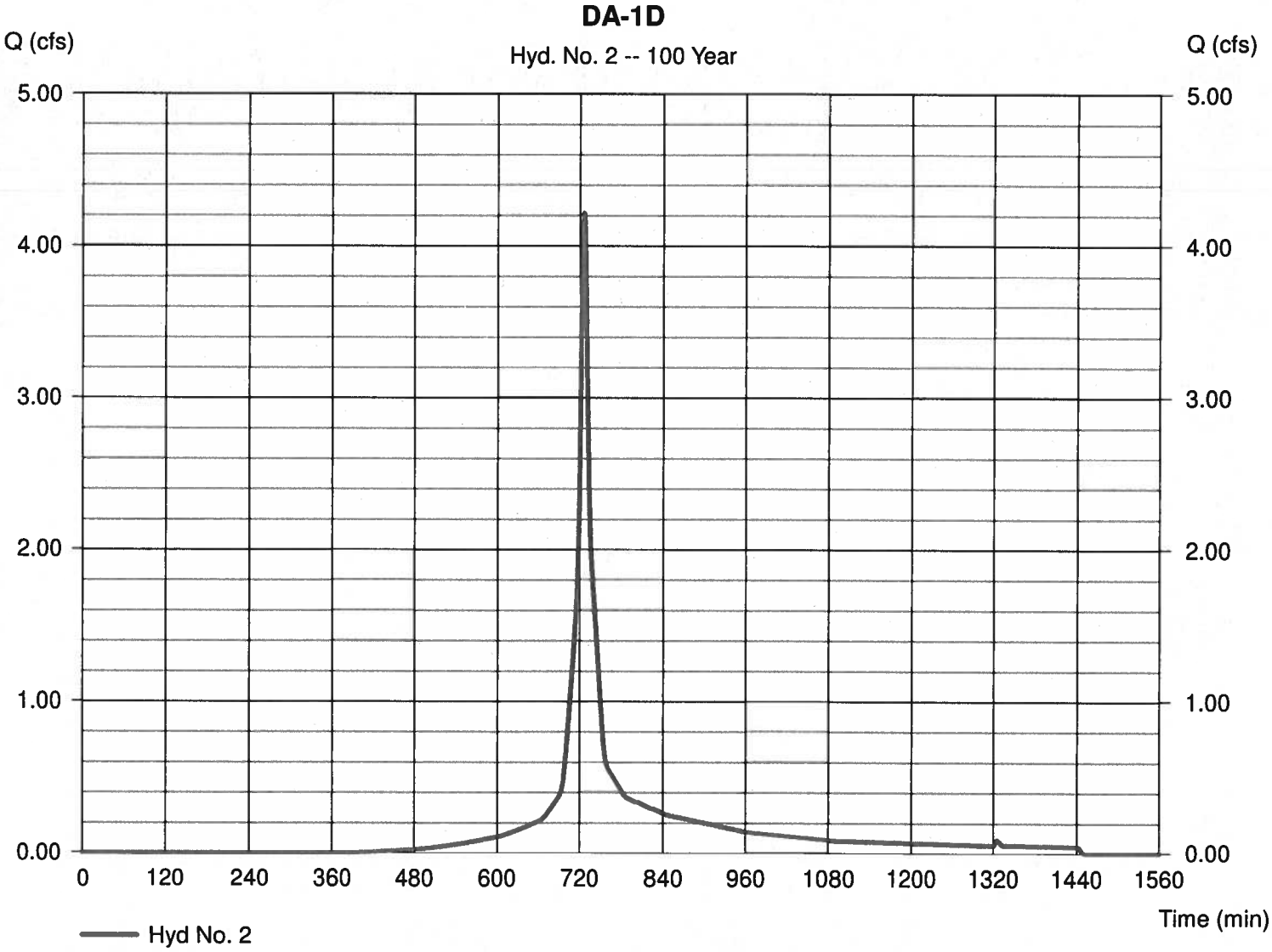


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 4.216 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 13,675 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



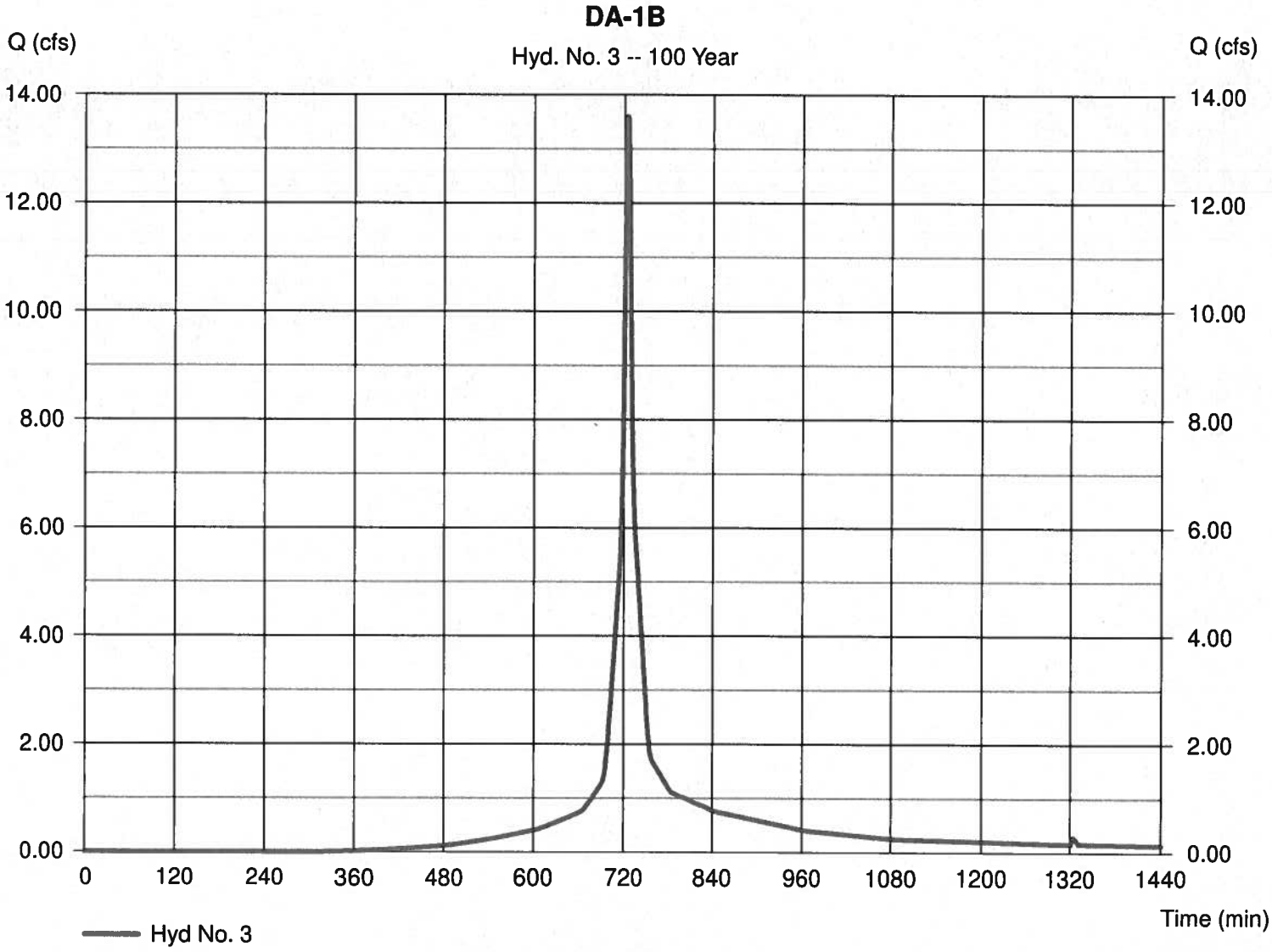
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 13.61 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 42,846 cuft
Drainage area	= 2.320 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.380 x 98) + (0.940 x 60)] / 2.320

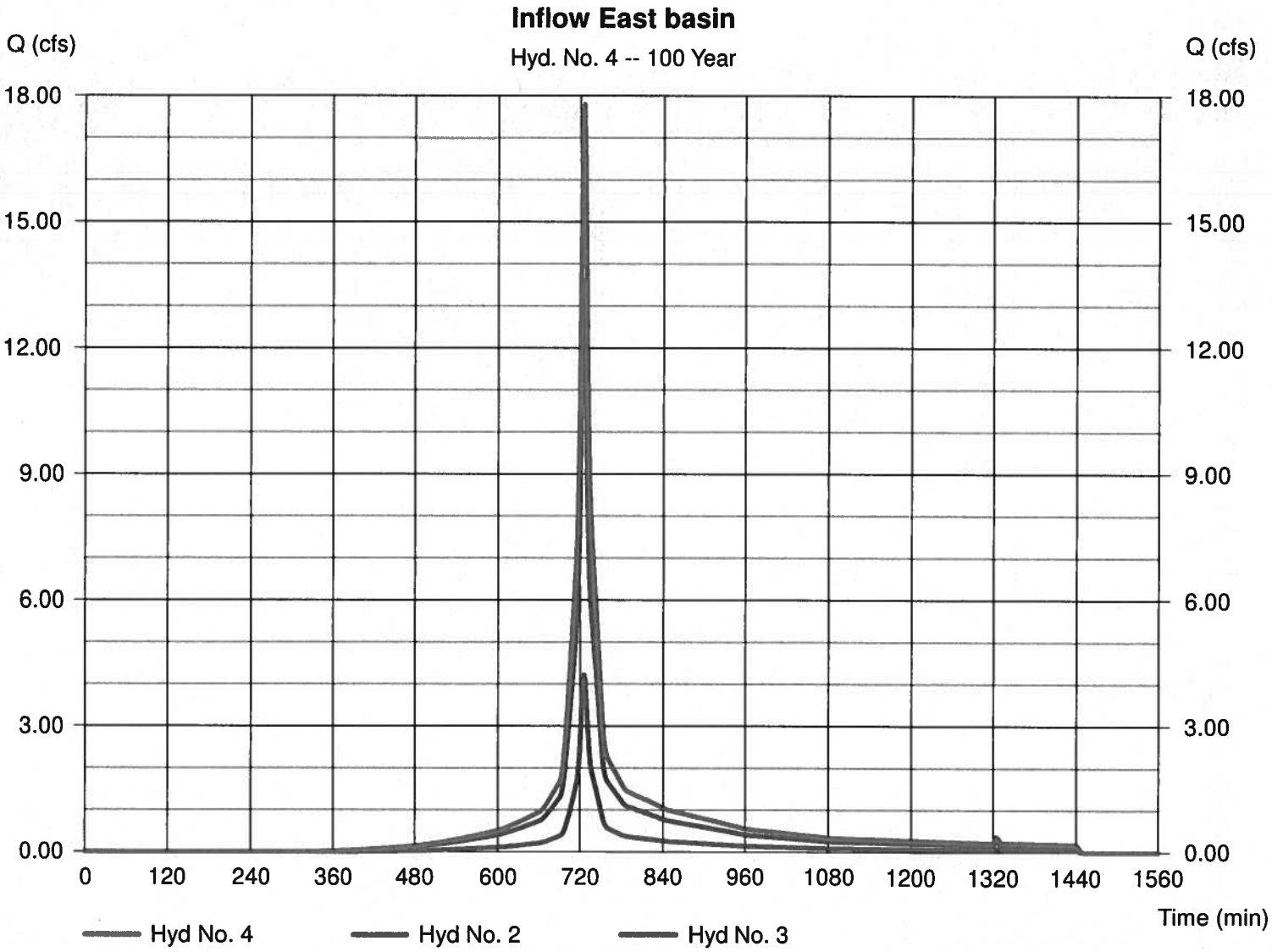


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 17.80 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 56,522 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.180 ac



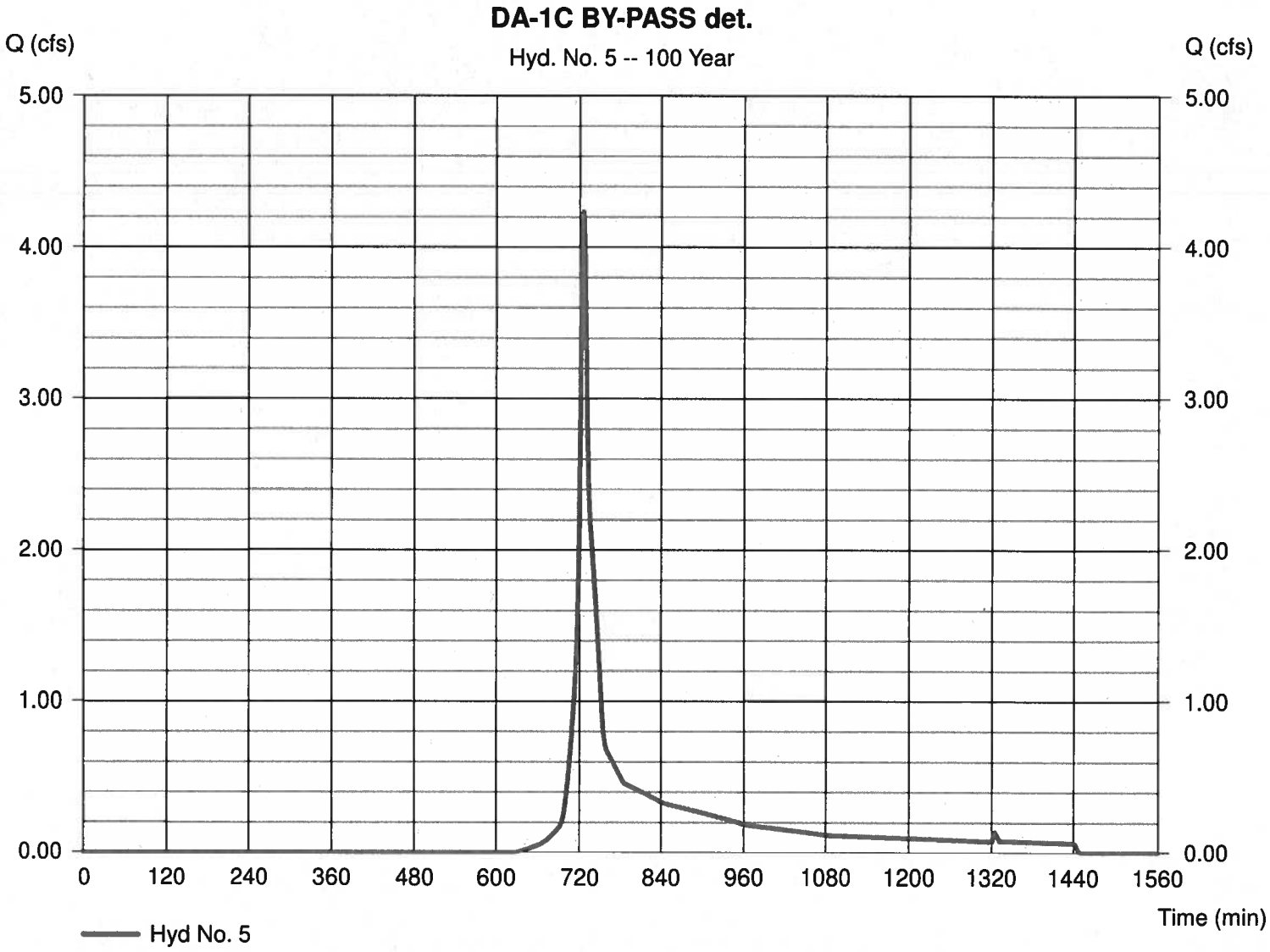
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 4.234 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 13,586 cuft
Drainage area	= 1.550 ac	Curve number	= 58*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.360 x 53)] / 1.550



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

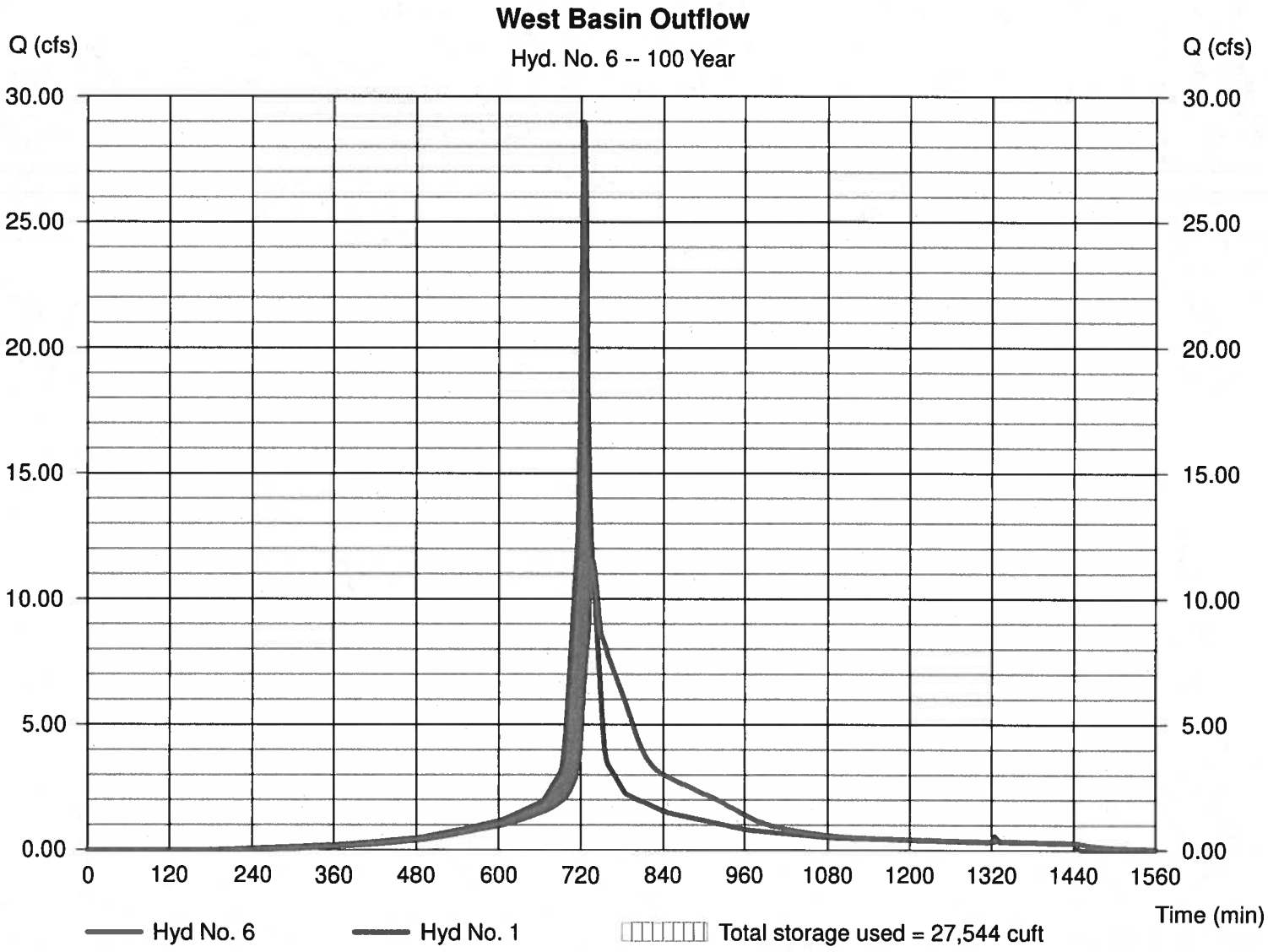
Monday, Dec 7, 2020

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 11.54 cfs
Storm frequency	= 100 yrs	Time to peak	= 737 min
Time interval	= 1 min	Hyd. volume	= 95,521 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 60.78 ft
Reservoir name	= West Basin	Max. Storage	= 27,544 cuft

Storage Indication method used.



Hydrograph Report

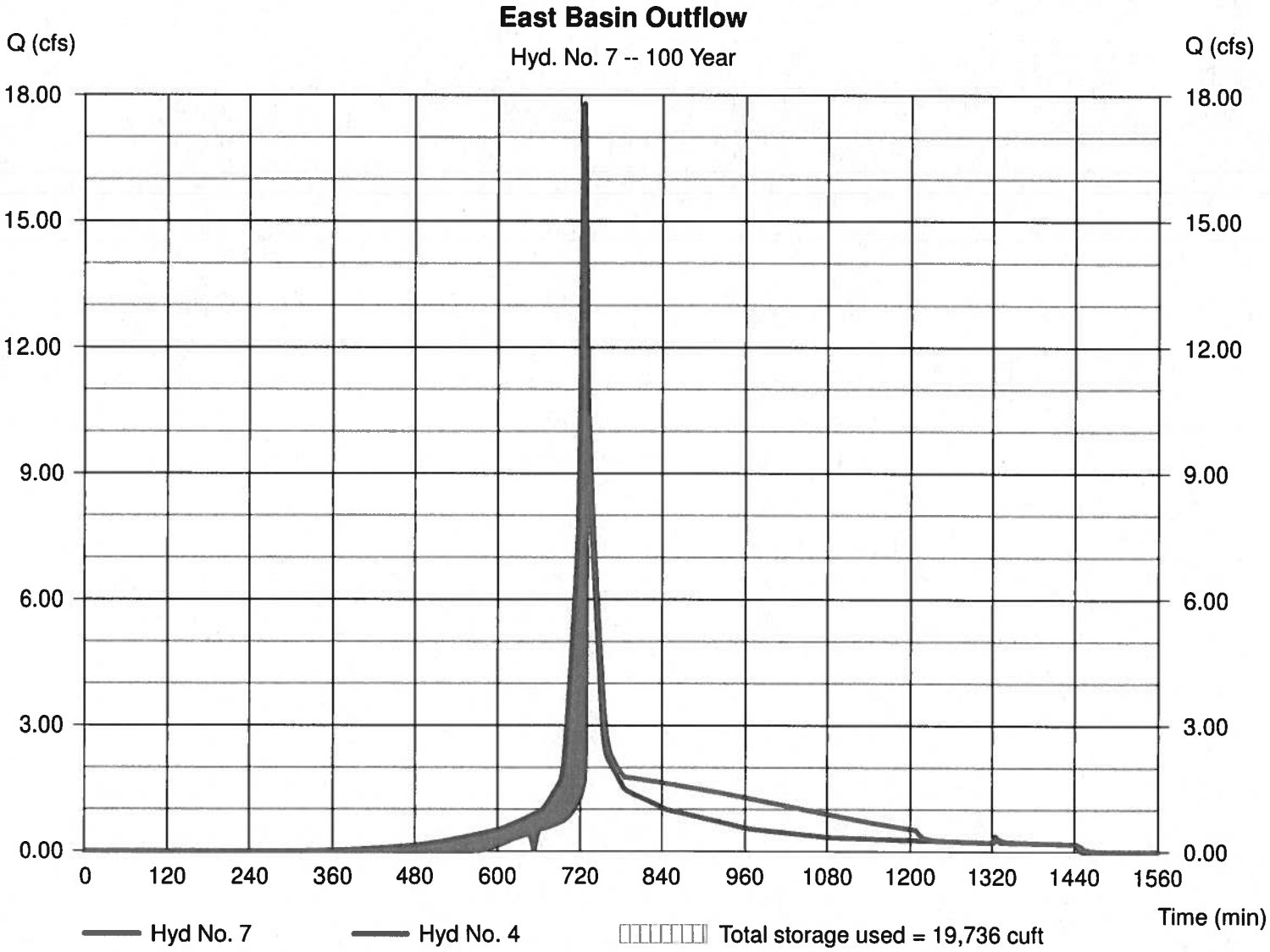
Hydraflow Hydrographs by Intelisolve v9.1 — Monday, Dec 7, 2020

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 10.38 cfs
Storm frequency	= 100 yrs	Time to peak	= 731 min
Time interval	= 1 min	Hyd. volume	= 52,608 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.92 ft
Reservoir name	= East Basin	Max. Storage	= 19,736 cuft

Storage Indication method used.

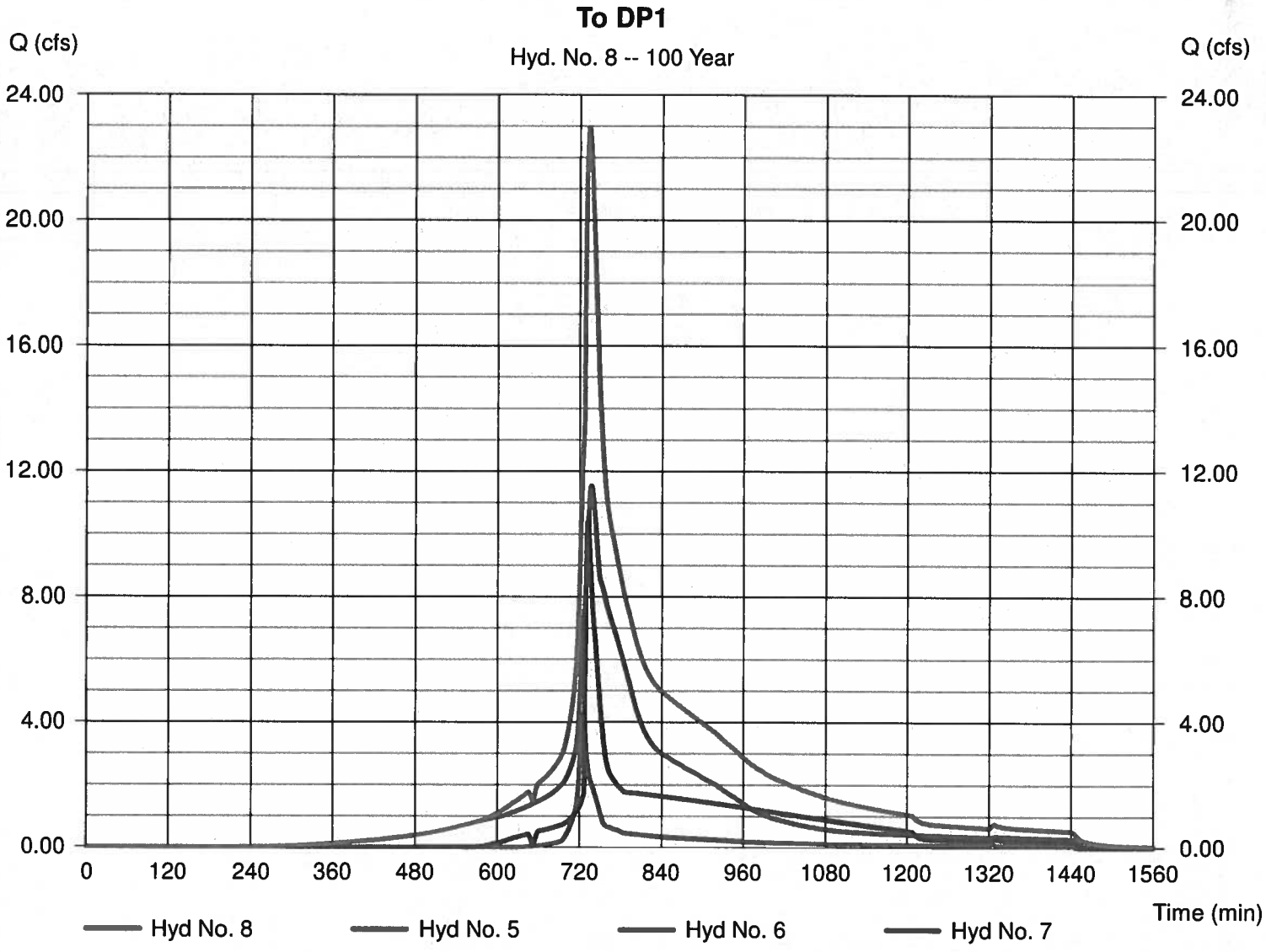


Hydrograph Report

Hyd. No. 8

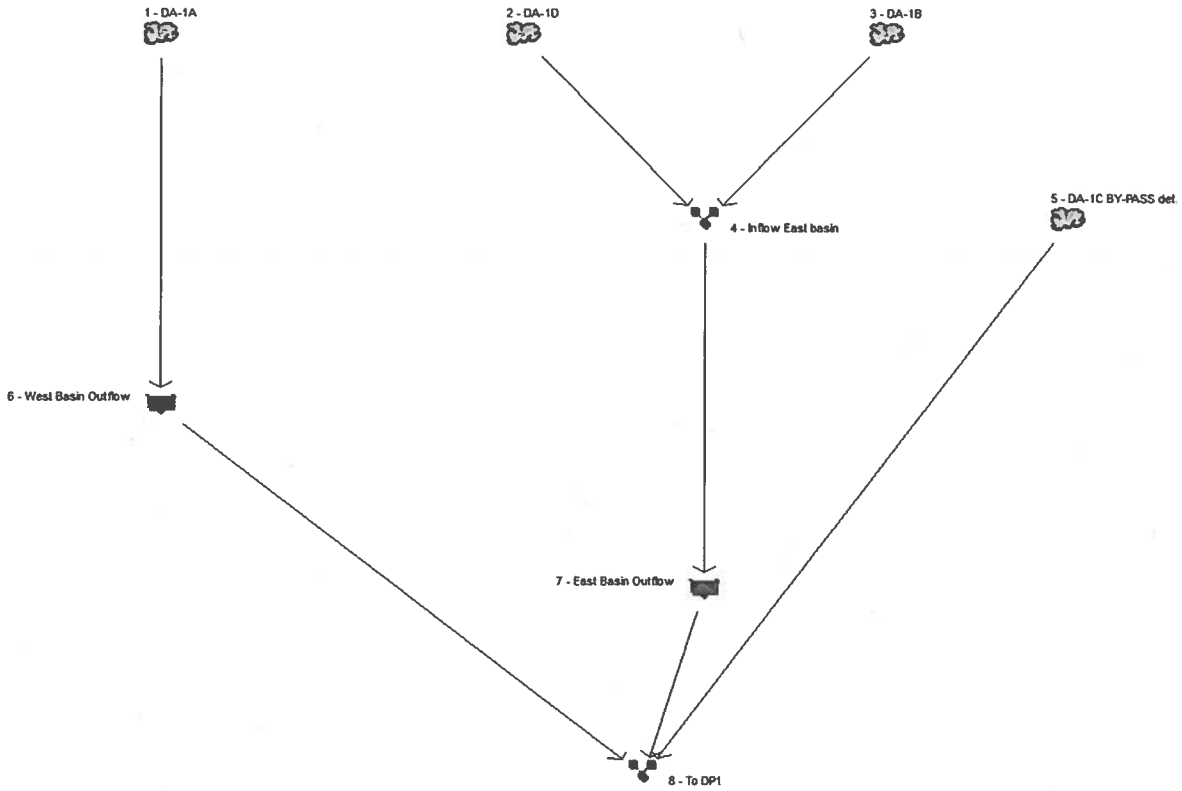
To DP1

Hydrograph type	= Combine	Peak discharge	= 22.96 cfs
Storm frequency	= 100 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 161,715 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.550 ac



APPENDIX C: WATERSHED MAP

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	DA-1A
2	SCS Runoff	DA-1D
3	SCS Runoff	DA-1B
4	Combine	Inflow East basin
5	SCS Runoff	DA-1C BY-PASS det.
6	Reservoir	West Basin Outflow
7	Reservoir	East Basin Outflow
8	Combine	To DP1

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	-------	12.15	-------	12.62	19.17	22.88	26.10	29.32	DA-1A
2	SCS Runoff	-------	-------	1.250	-------	1.324	2.411	3.059	3.635	4.216	DA-1D
3	SCS Runoff	-------	-------	4.989	-------	5.238	8.819	10.90	12.74	14.58	DA-1B
4	Combine	2, 3	-------	6.224	-------	6.547	11.22	13.95	16.35	18.76	Inflow East basin
5	SCS Runoff	-------	-------	0.345	-------	0.409	1.591	2.435	3.240	4.093	DA-1C BY-PASS det.
6	Reservoir	1	-------	3.284	-------	3.443	6.078	7.245	8.304	12.13	West Basin Outflow
7	Reservoir	4	-------	1.014	-------	1.051	1.522	2.286	5.820	9.082	East Basin Outflow
8	Combine	5, 6, 7	-------	4.505	-------	4.728	8.311	10.06	15.52	23.22	To DP1

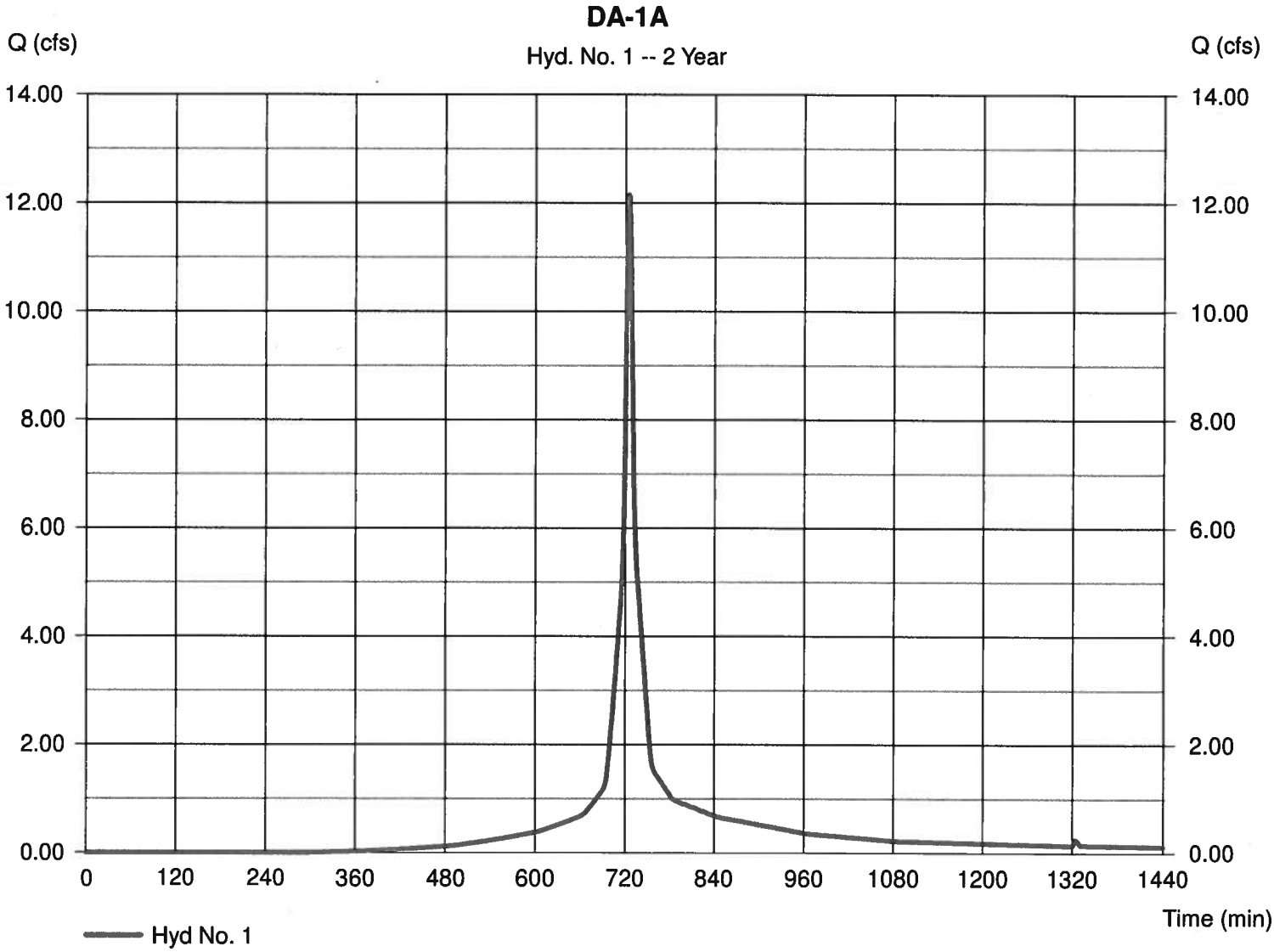
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 12.15 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 38,453 cuft
Drainage area	= 4.370 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.460 x 98) + (0.910 x 68)] / 4.370

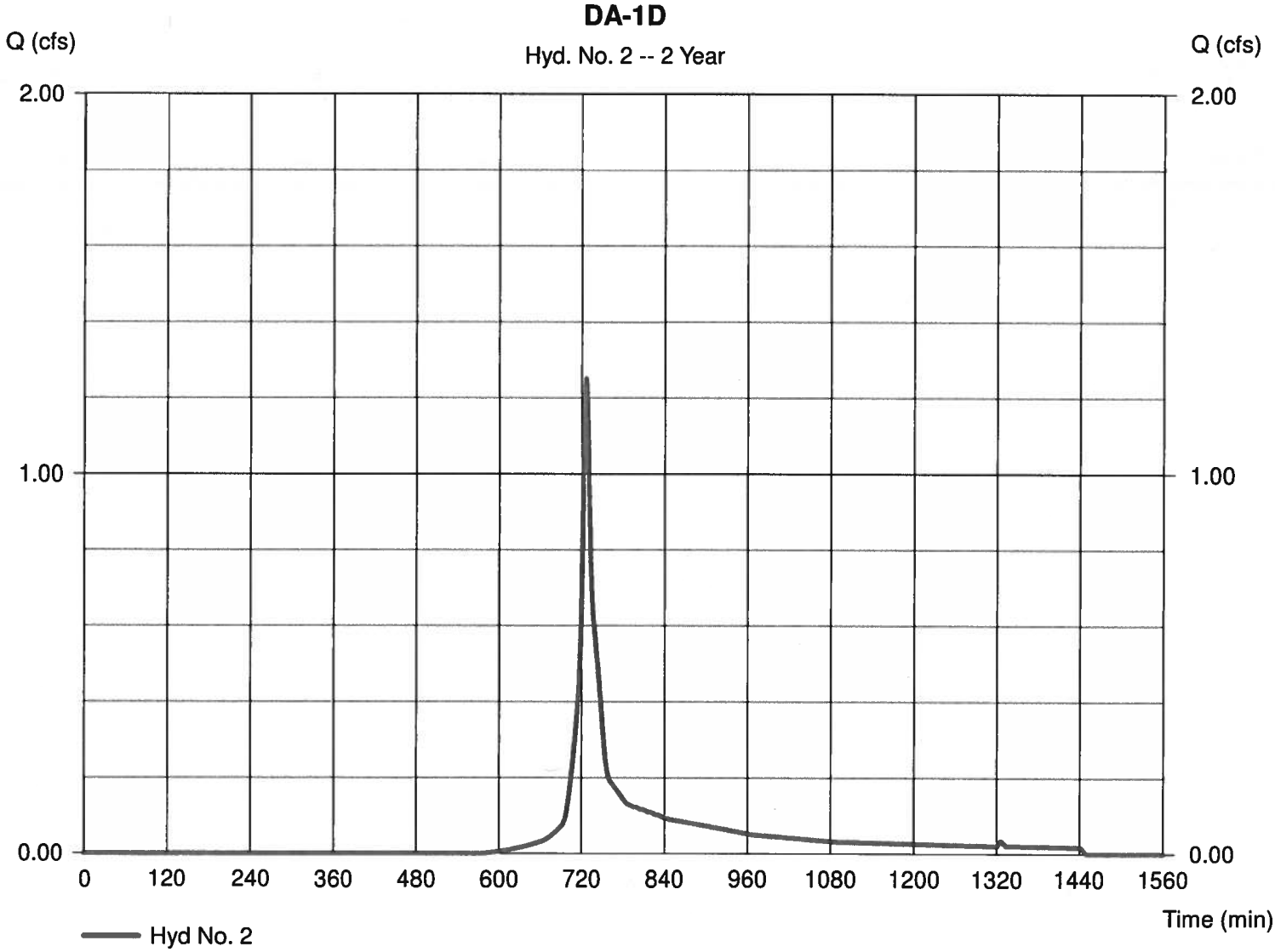


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 1.250 cfs
Storm frequency	= 2 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 4,069 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



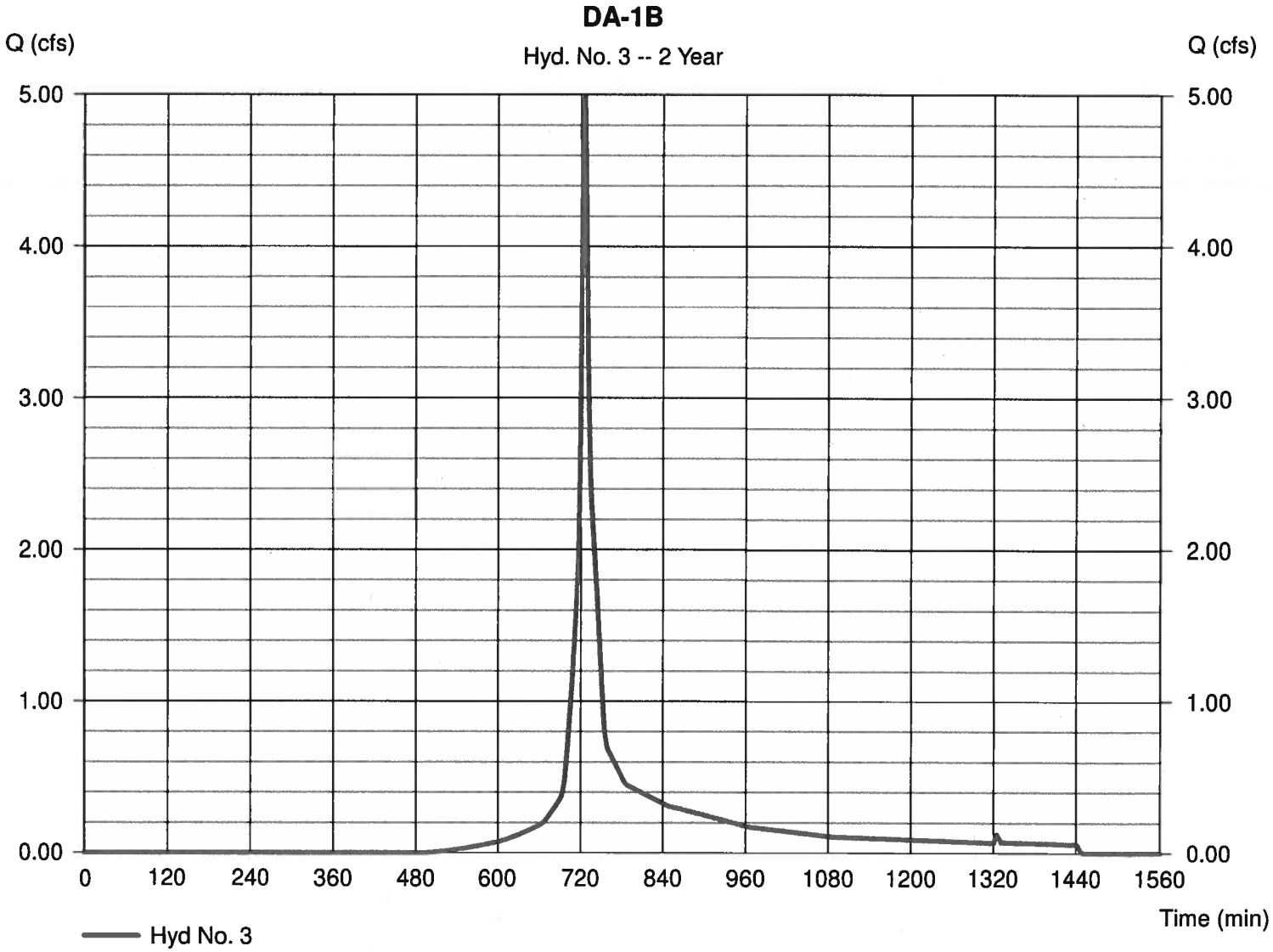
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 4.989 cfs
Storm frequency	= 2 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 15,366 cuft
Drainage area	= 2.440 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.530 x 98) + (0.910 x 60)] / 2.440

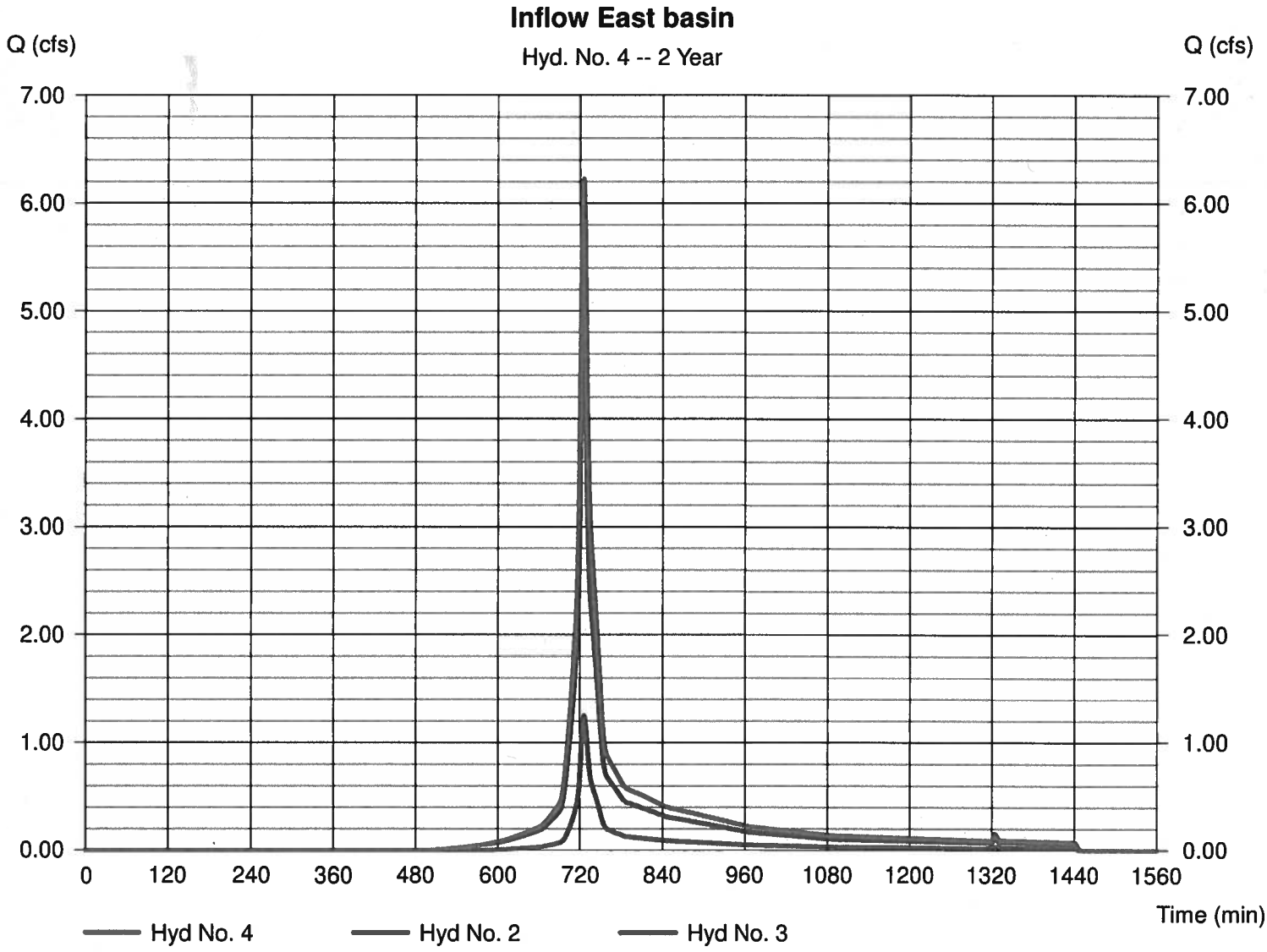


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 6.224 cfs
Storm frequency	= 2 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 19,435 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.300 ac



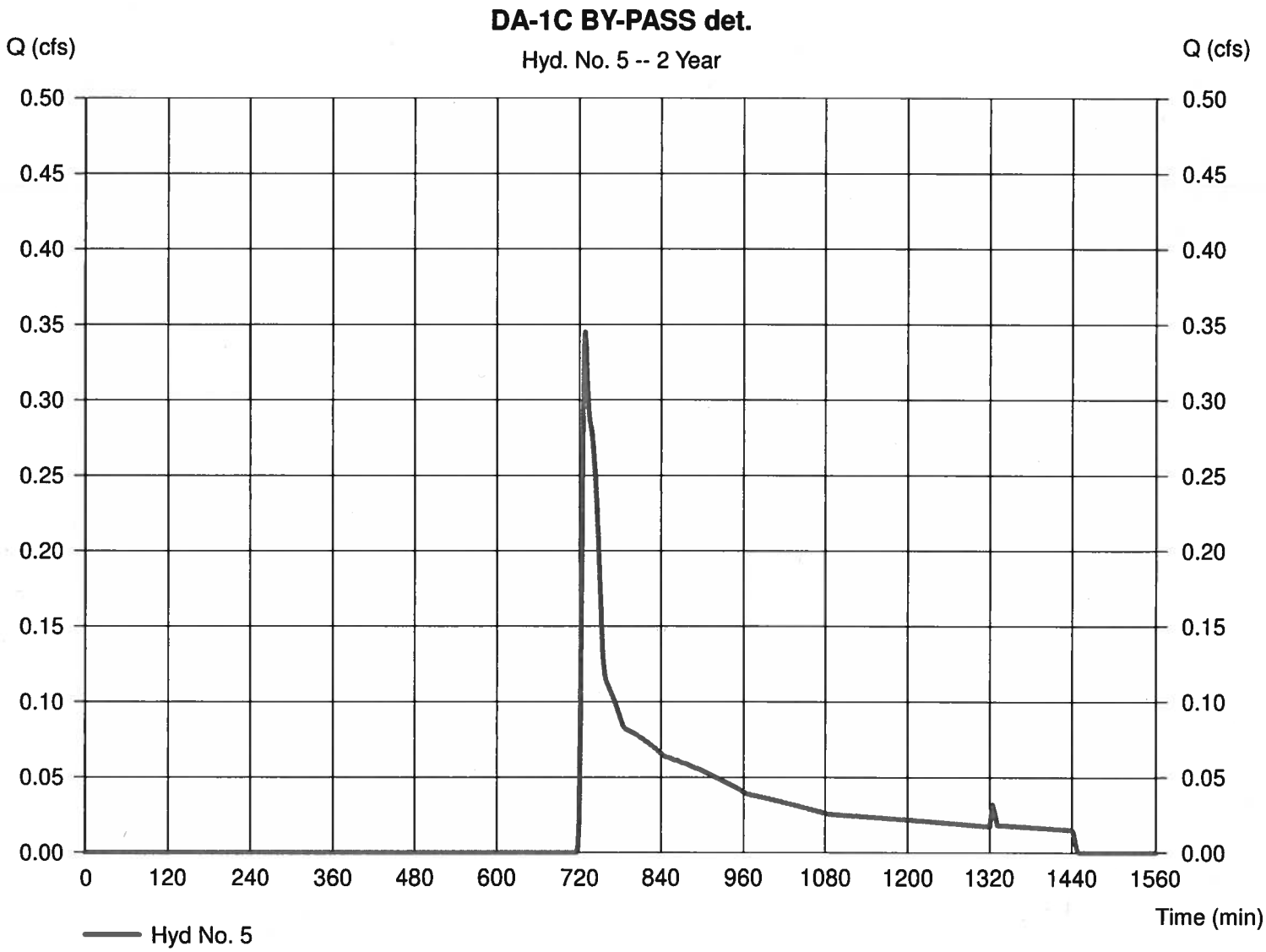
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 0.345 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 2,002 cuft
Drainage area	= 1.430 ac	Curve number	= 59*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.240 x 53)] / 1.430



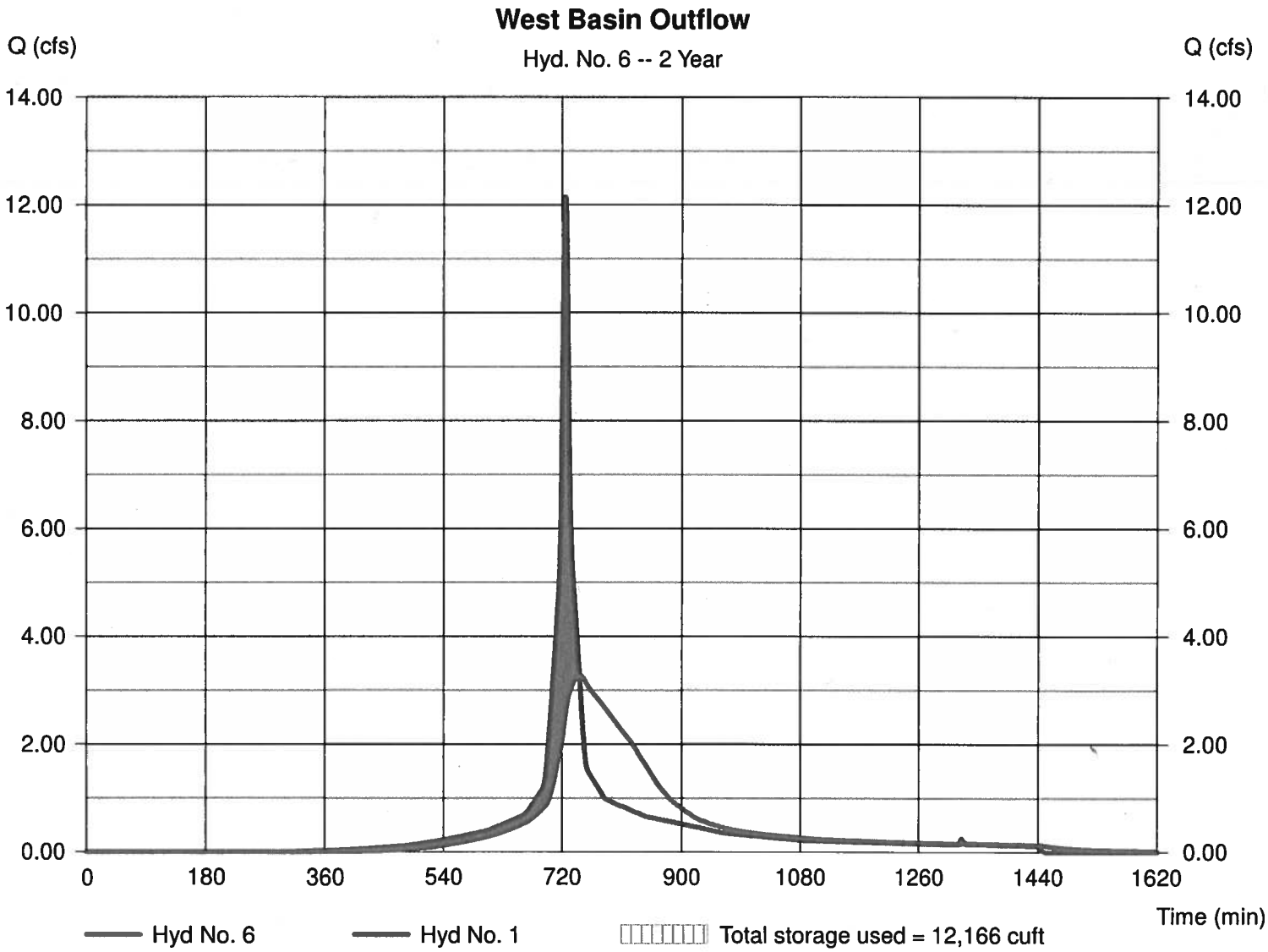
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 3.284 cfs
Storm frequency	= 2 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 38,433 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 58.37 ft
Reservoir name	= West Basin	Max. Storage	= 12,166 cuft

Storage Indication method used.



Pond No. 1 - West Basin

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	56.50	n/a	0	0
0.50	57.00	n/a	2,162	2,162
1.00	57.50	n/a	3,106	5,268
1.50	58.00	n/a	3,998	9,266
2.00	58.50	n/a	3,912	13,178
2.50	59.00	n/a	3,792	16,970
3.00	59.50	n/a	3,628	20,598
3.50	60.00	n/a	3,406	24,004
4.00	60.50	n/a	2,467	26,471
4.50	61.00	n/a	1,897	28,368
5.00	61.50	n/a	1,512	29,880

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	10.00	10.00	0.00
Span (in)	= 24.00	10.00	10.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 53.26	56.50	58.20	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

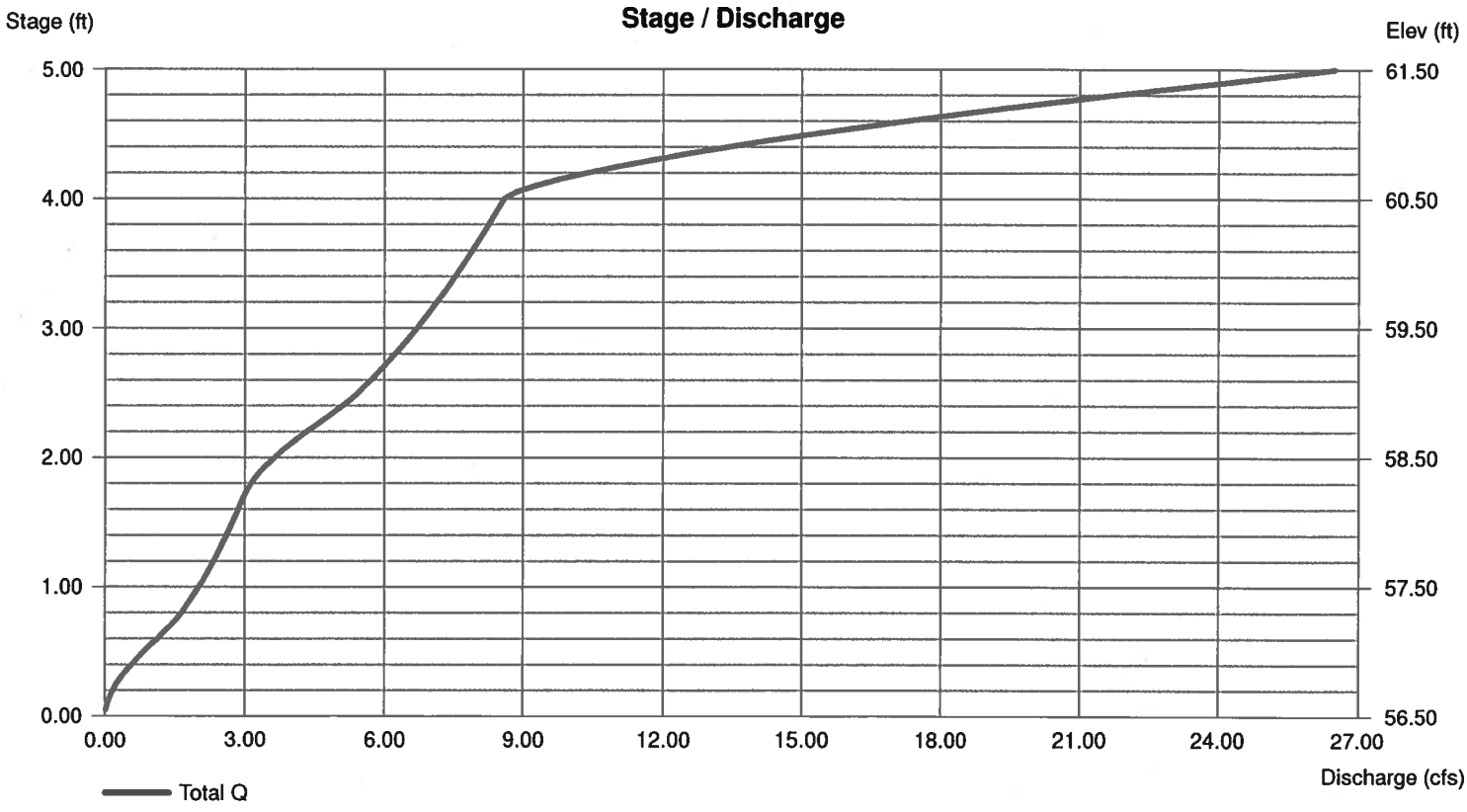
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 60.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



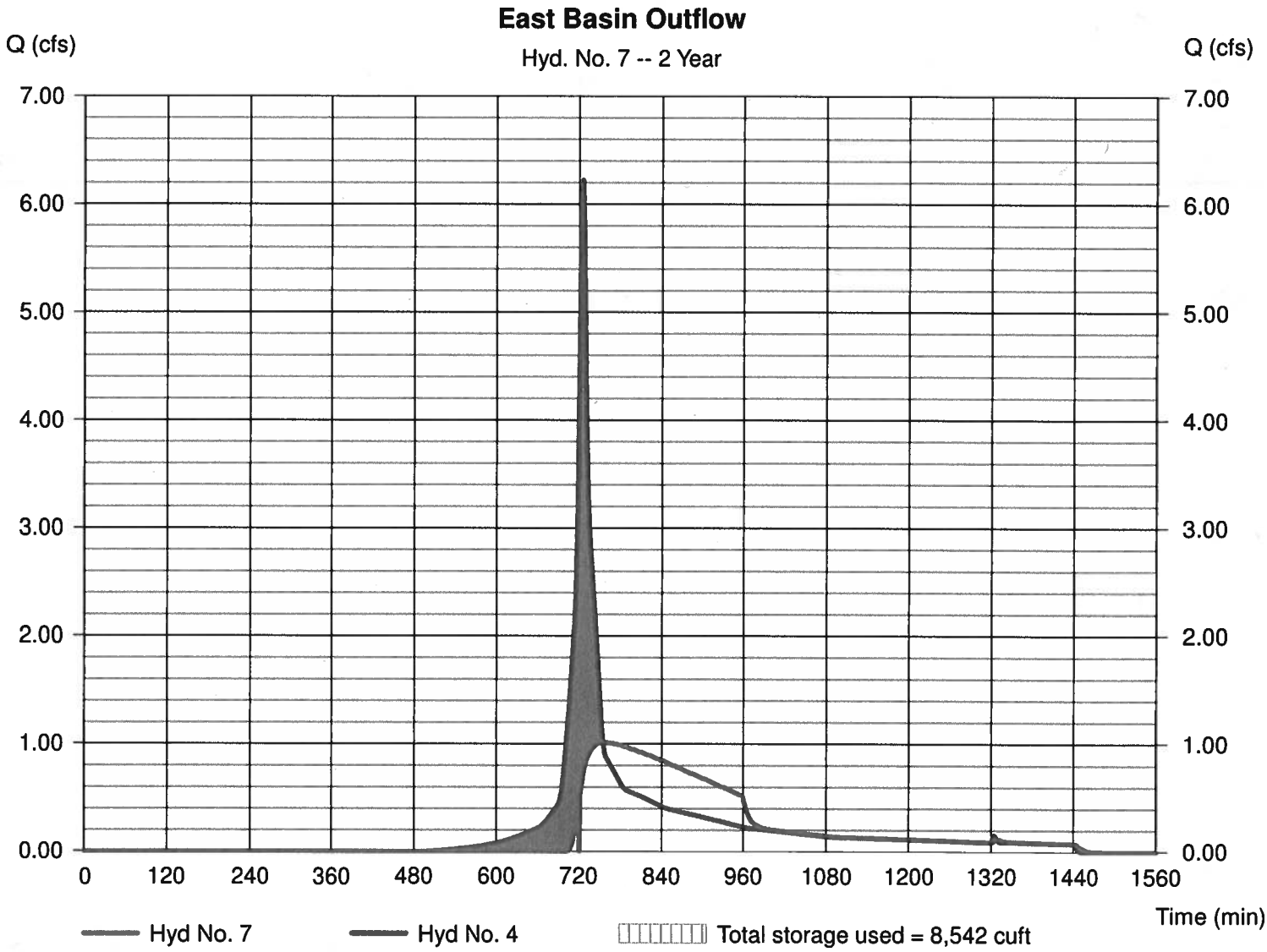
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.014 cfs
Storm frequency	= 2 yrs	Time to peak	= 755 min
Time interval	= 1 min	Hyd. volume	= 15,521 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 61.90 ft
Reservoir name	= East Basin	Max. Storage	= 8,542 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - East Basin

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	59.85	n/a	0	0
0.50	60.35	n/a	1,211	1,211
1.00	60.85	n/a	1,924	3,135
1.50	61.35	n/a	2,595	5,730
2.00	61.85	n/a	2,524	8,254
2.50	62.35	n/a	2,840	11,094
3.00	62.85	n/a	2,712	13,806
3.50	63.35	n/a	2,537	16,343
4.00	63.85	n/a	2,276	18,619
4.50	64.35	n/a	1,800	20,419
5.00	64.85	n/a	1,621	22,040
5.50	65.35	n/a	1,621	23,661

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	6.00	0.00	0.00
Span (in)	= 15.00	6.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 59.10	60.50	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

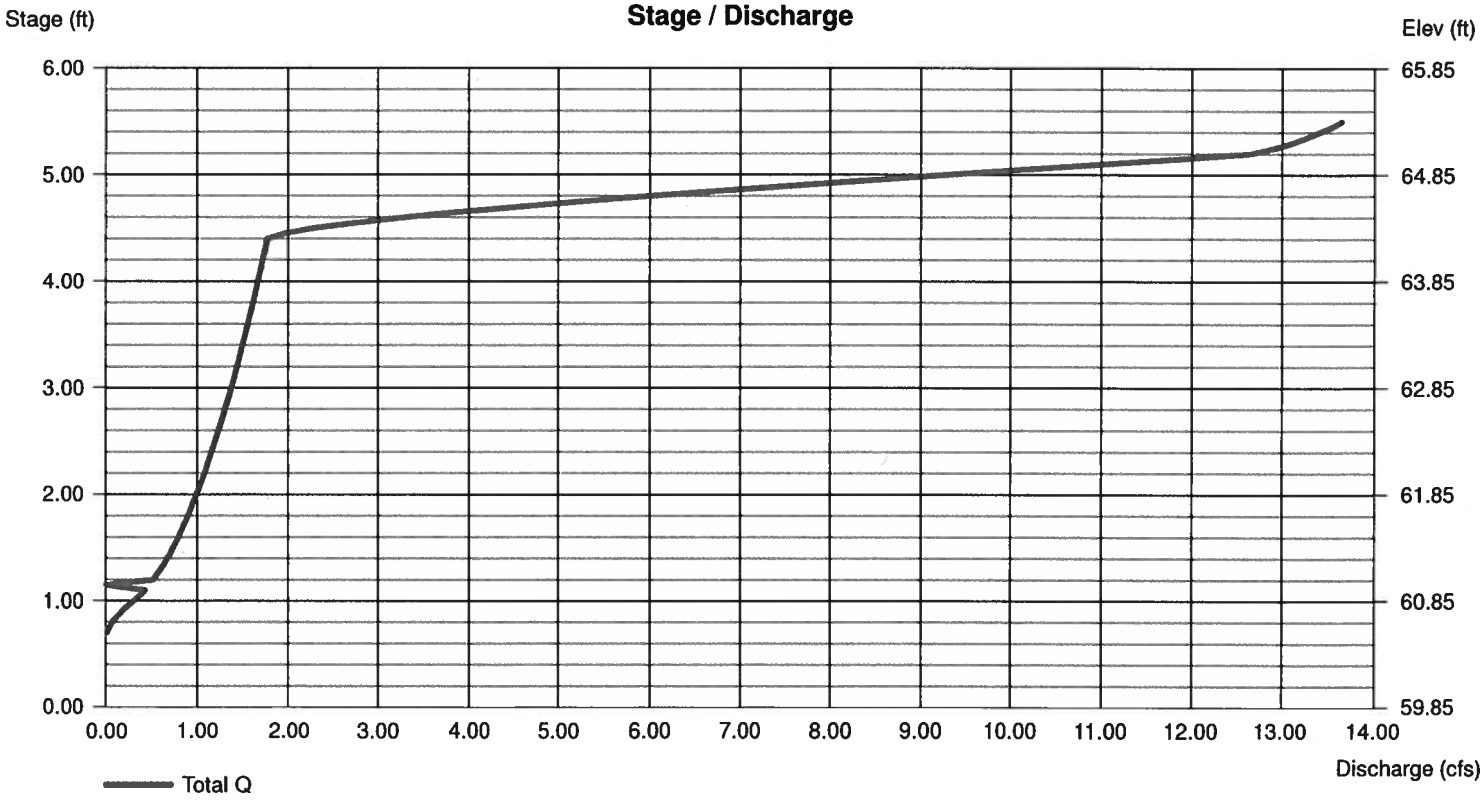
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 64.25	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

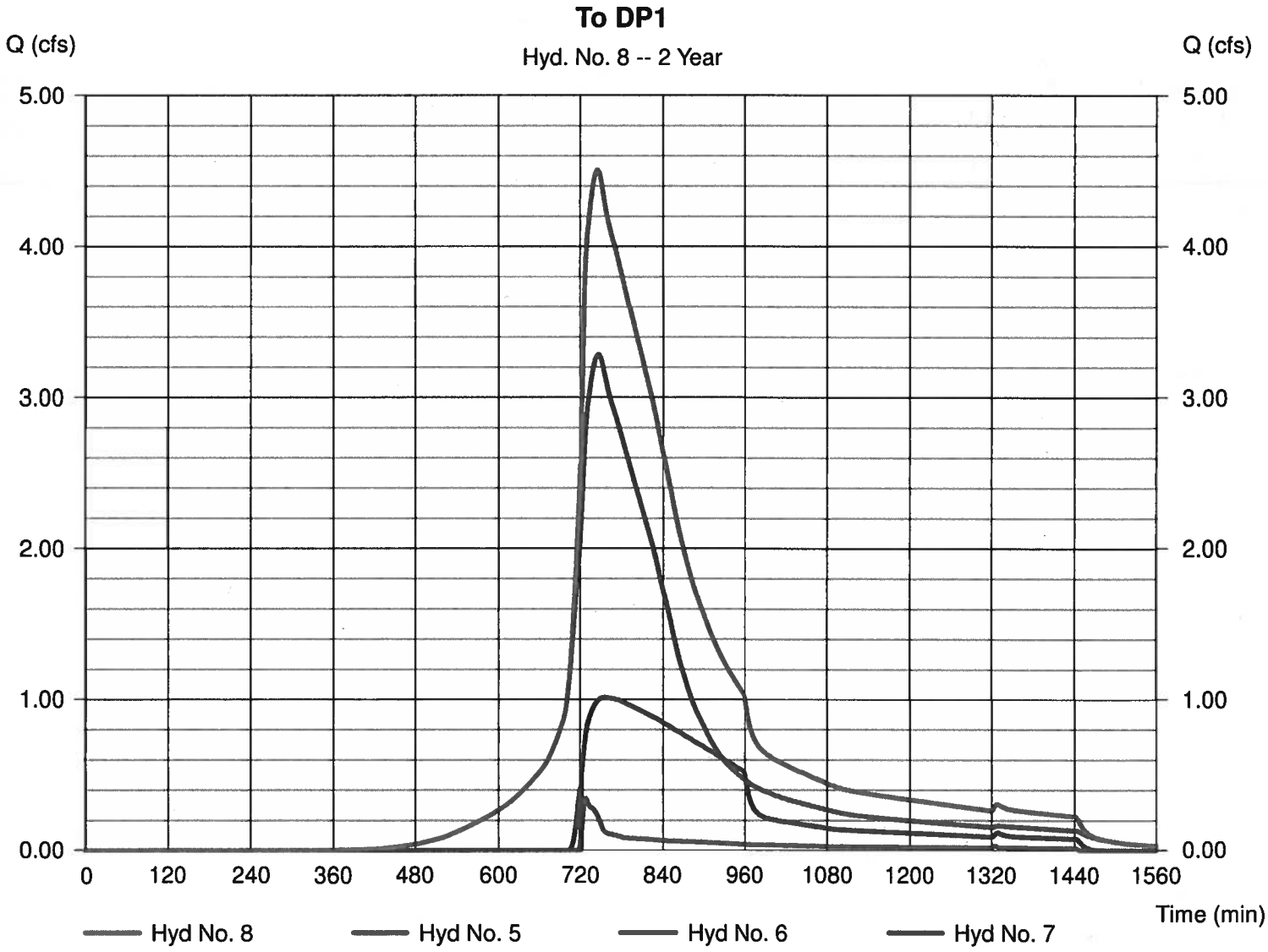


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 4.505 cfs
Storm frequency	= 2 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 55,957 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.430 ac



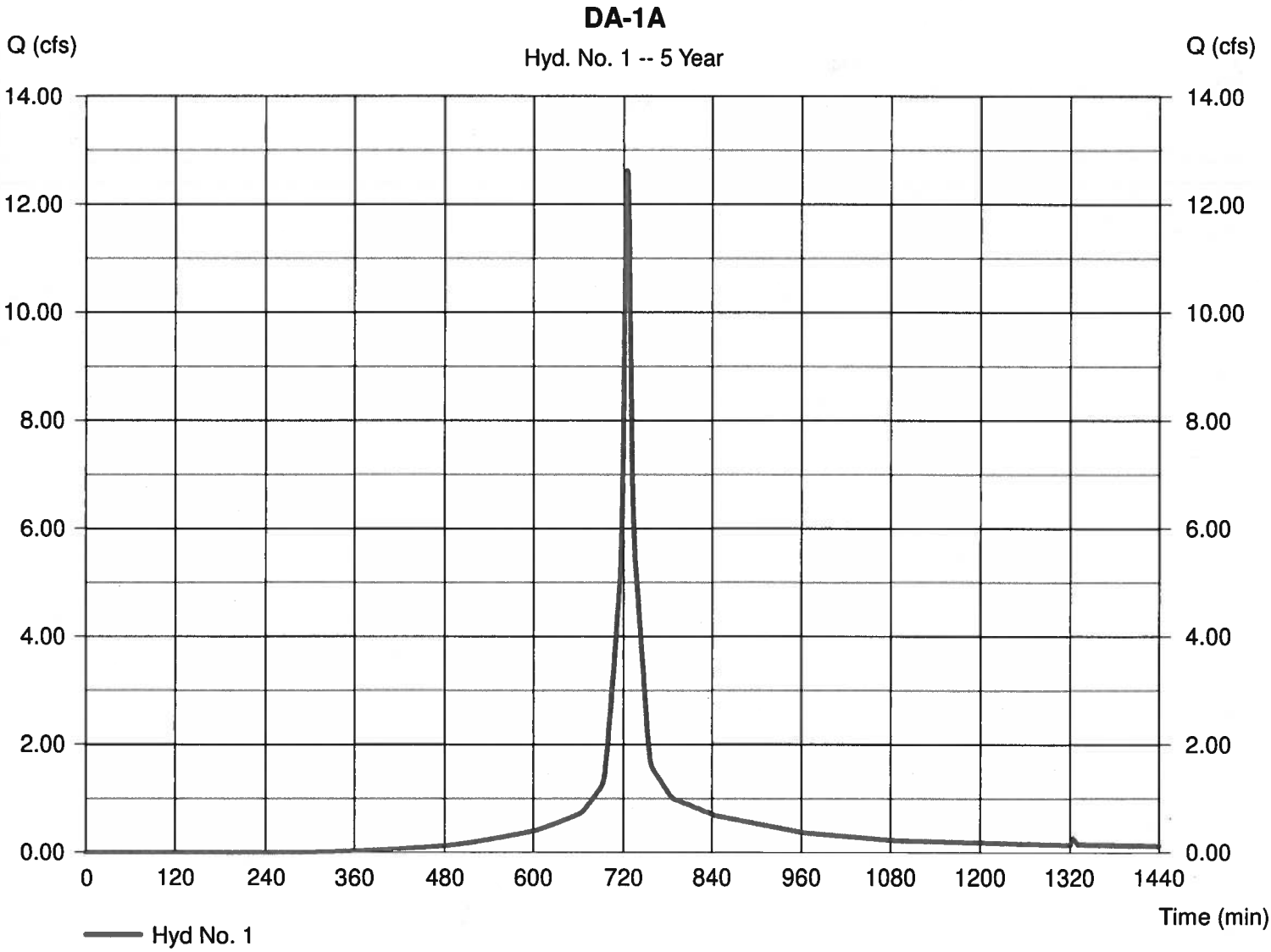
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 12.62 cfs
Storm frequency	= 5 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 40,010 cuft
Drainage area	= 4.370 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.460 x 98) + (0.910 x 68)] / 4.370

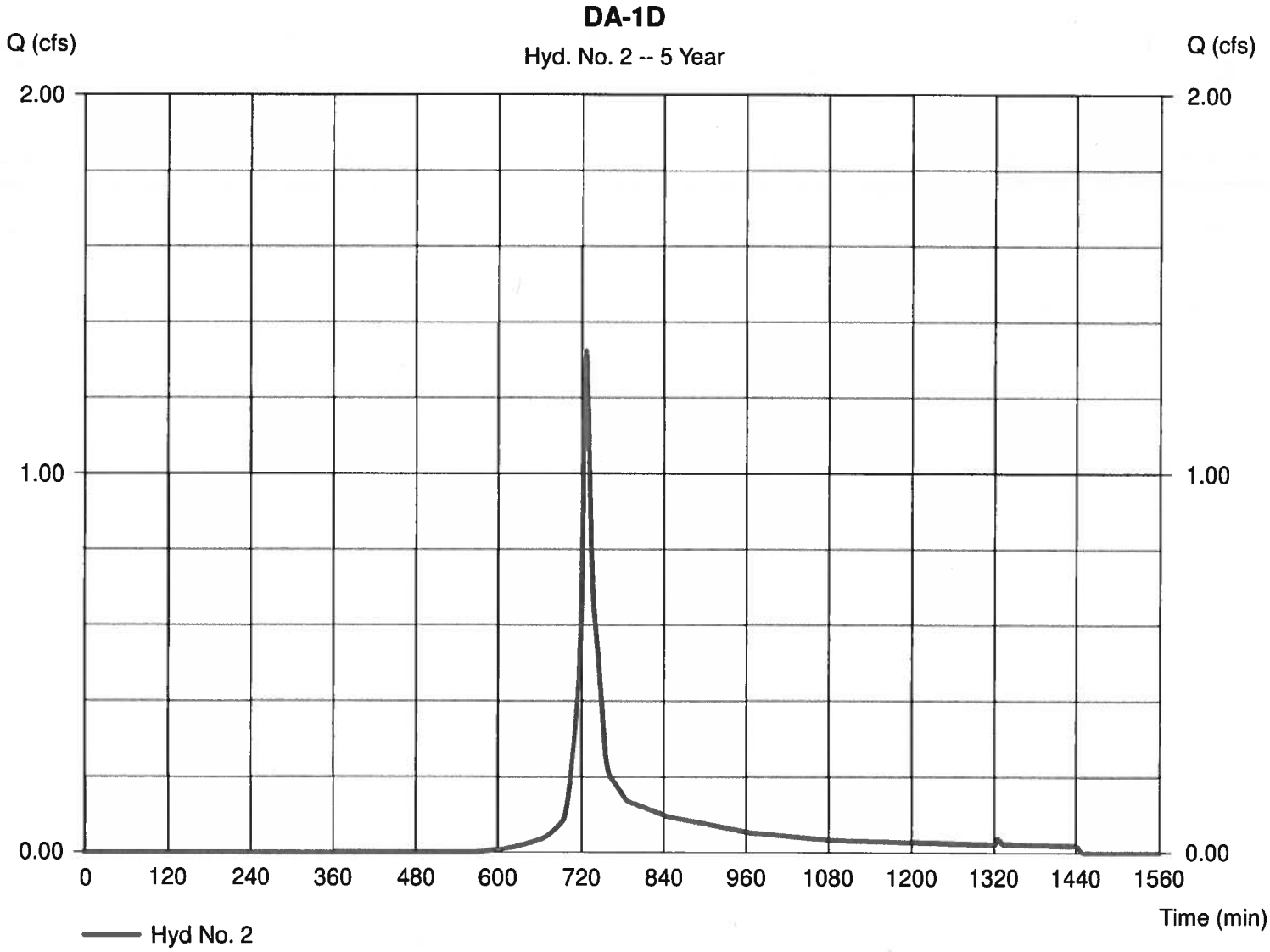


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 1.324 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 4,299 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



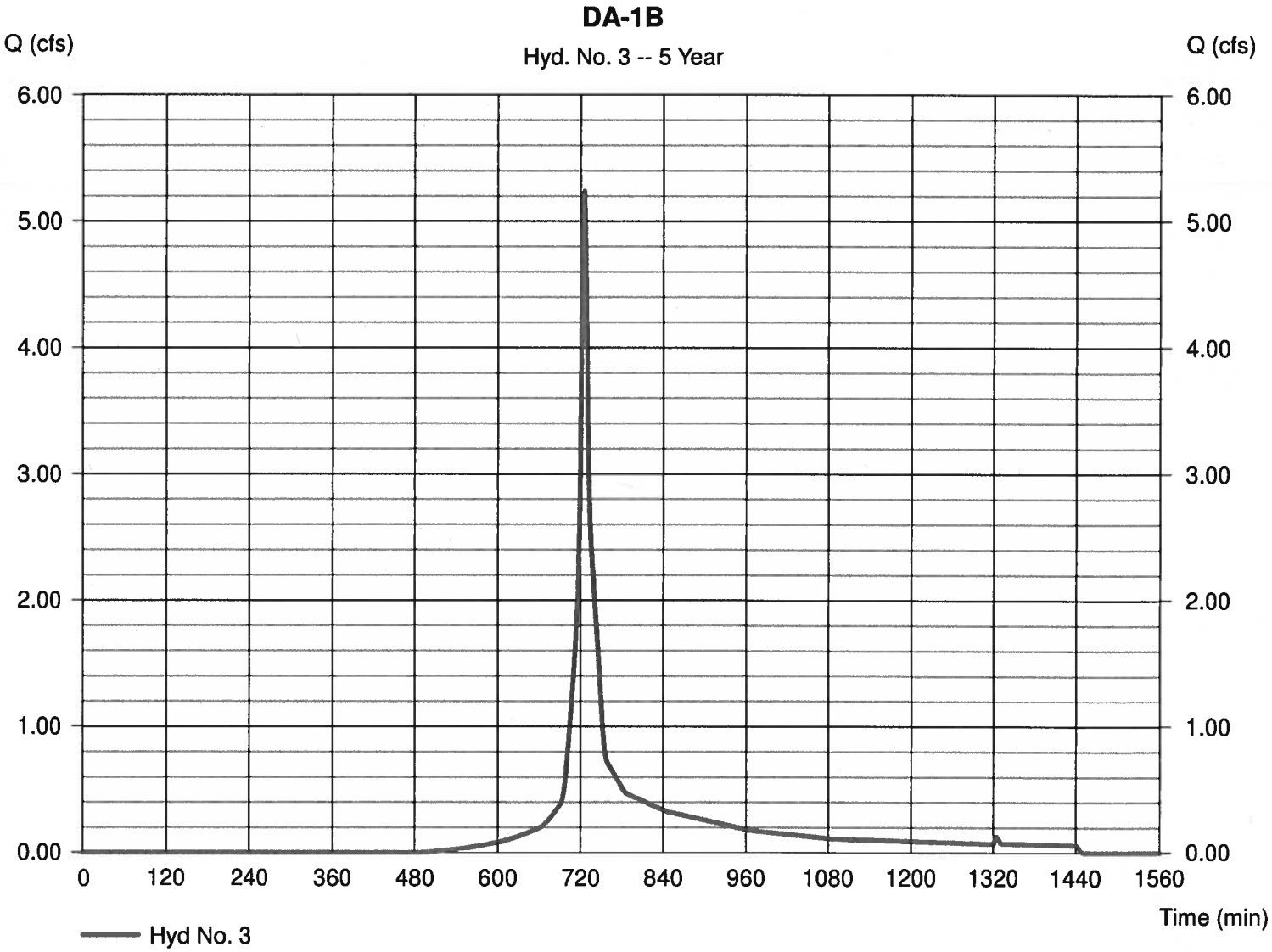
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 5.238 cfs
Storm frequency	= 5 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 16,134 cuft
Drainage area	= 2.440 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.530 x 98) + (0.910 x 60)] / 2.440

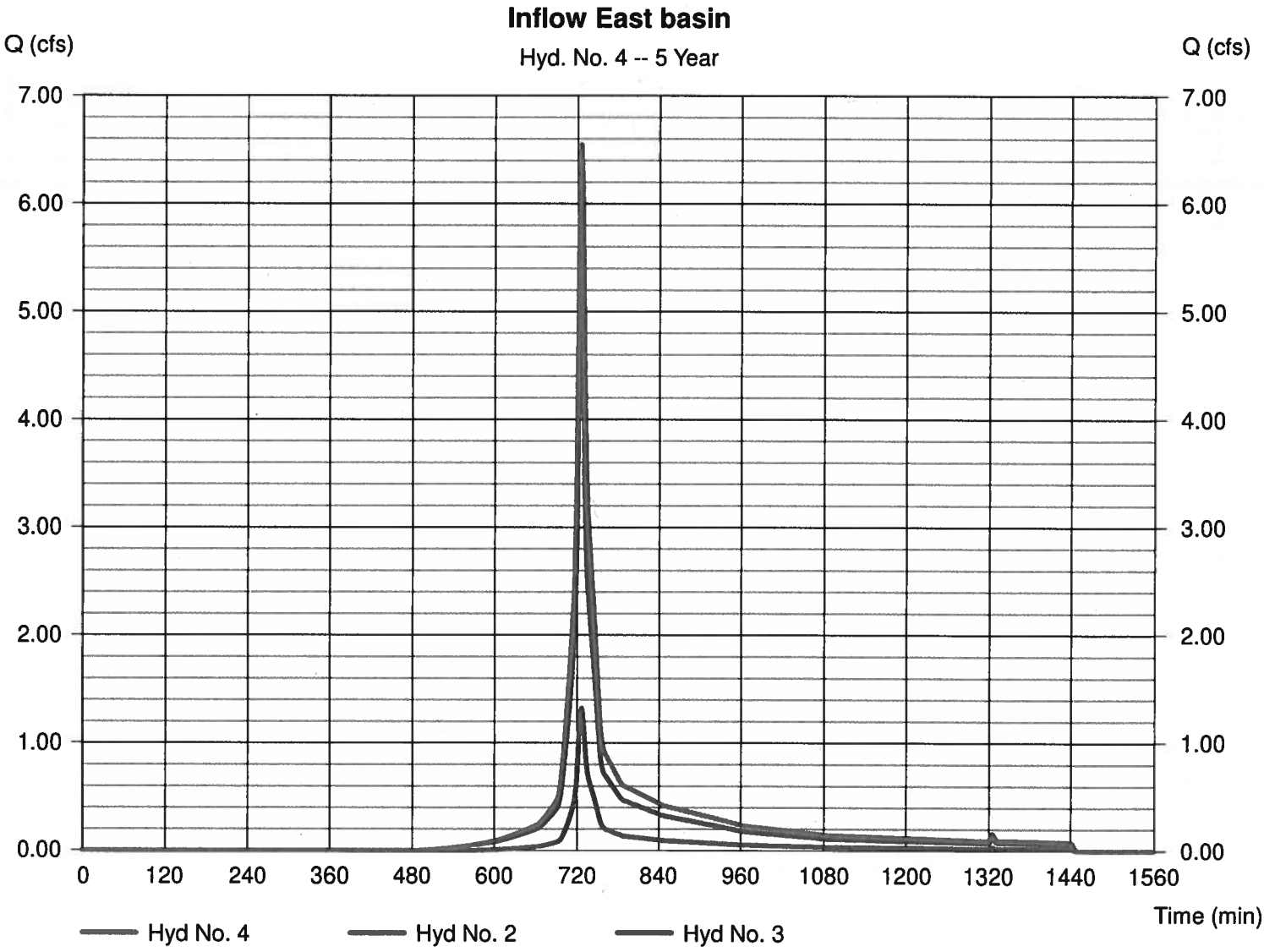


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 6.547 cfs
Storm frequency	= 5 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 20,433 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.300 ac



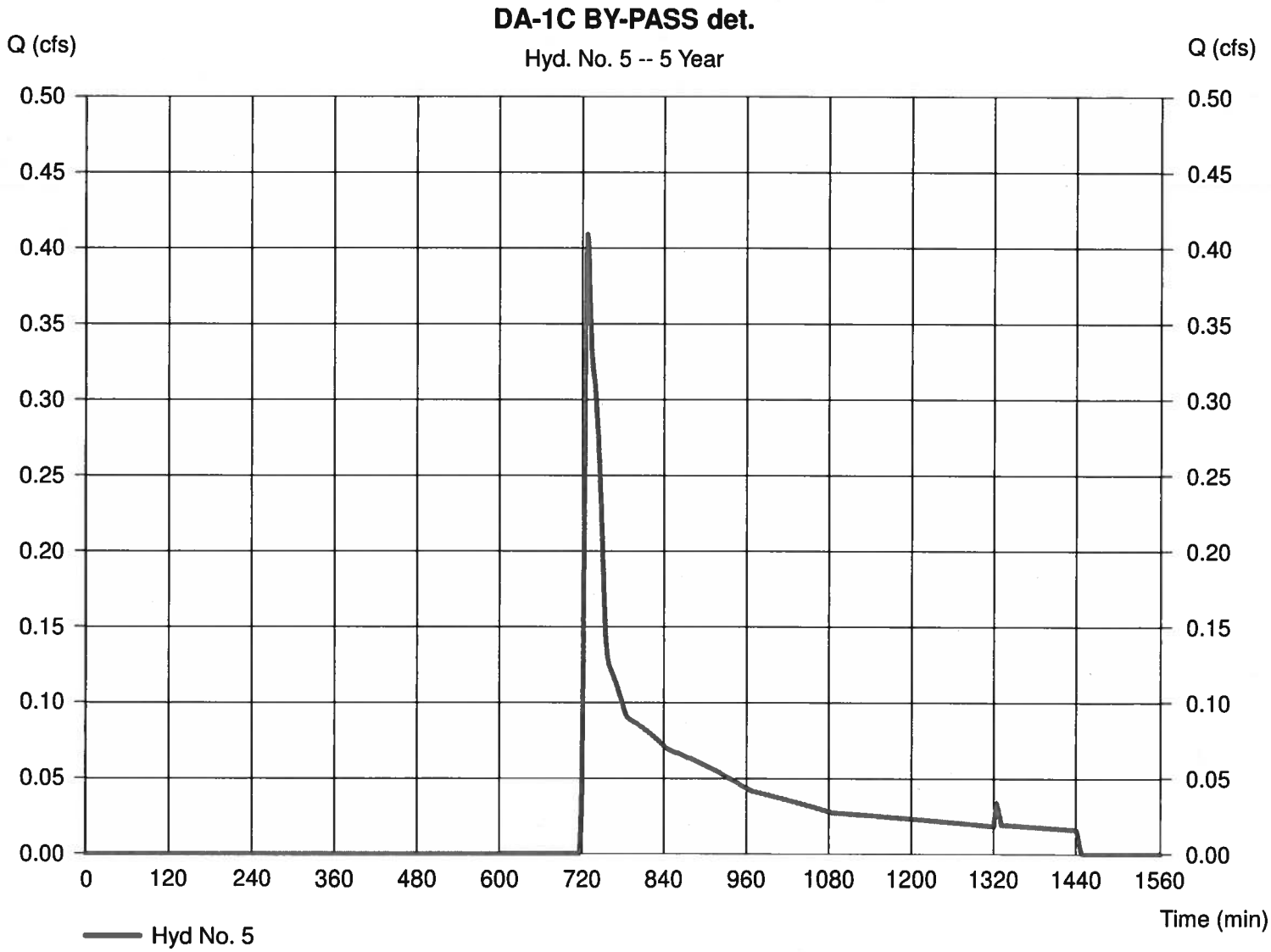
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 0.409 cfs
Storm frequency	= 5 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 2,205 cuft
Drainage area	= 1.430 ac	Curve number	= 59*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.240 x 53)] / 1.430



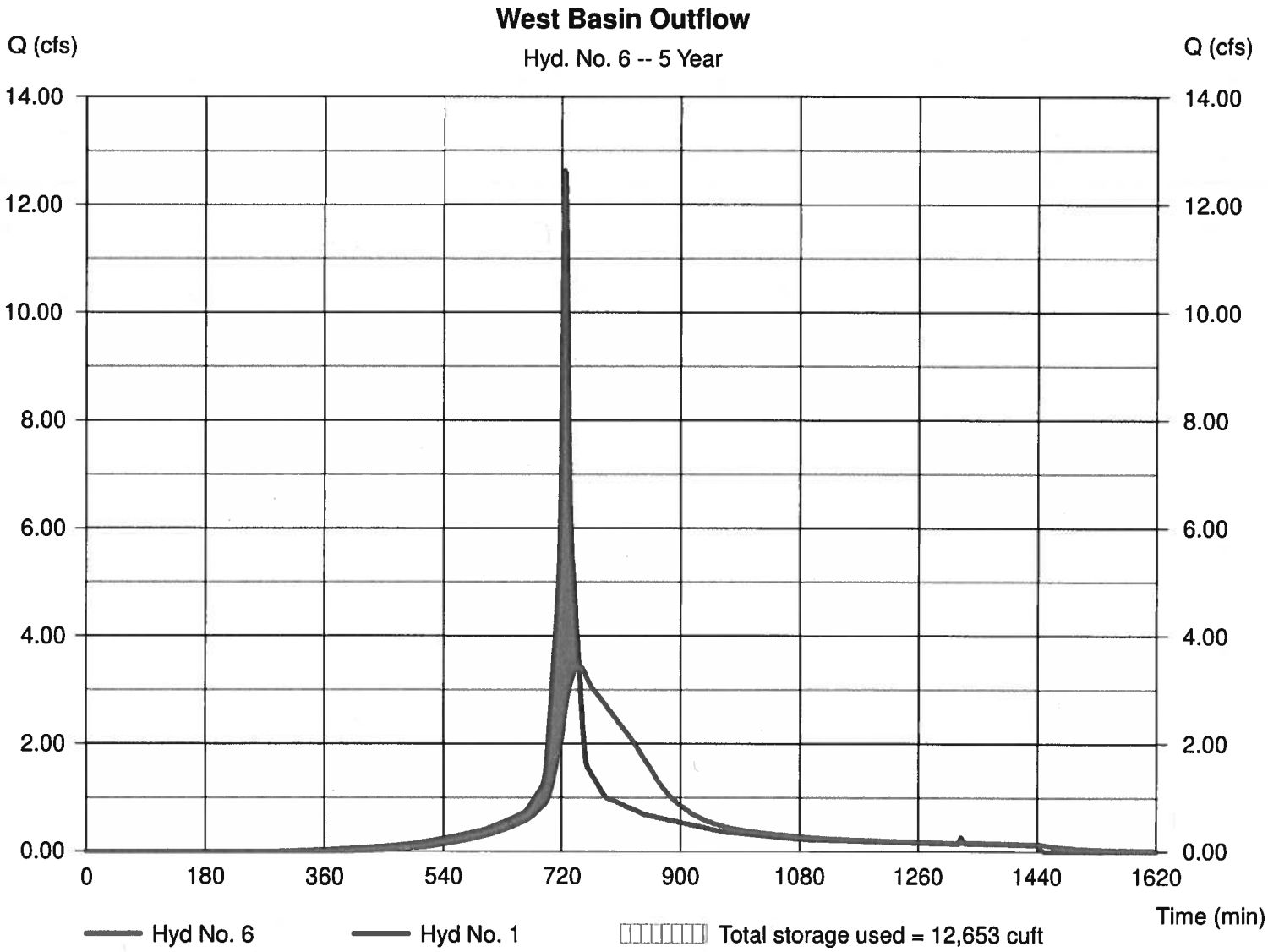
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 3.443 cfs
Storm frequency	= 5 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 39,989 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 58.43 ft
Reservoir name	= West Basin	Max. Storage	= 12,653 cuft

Storage Indication method used.



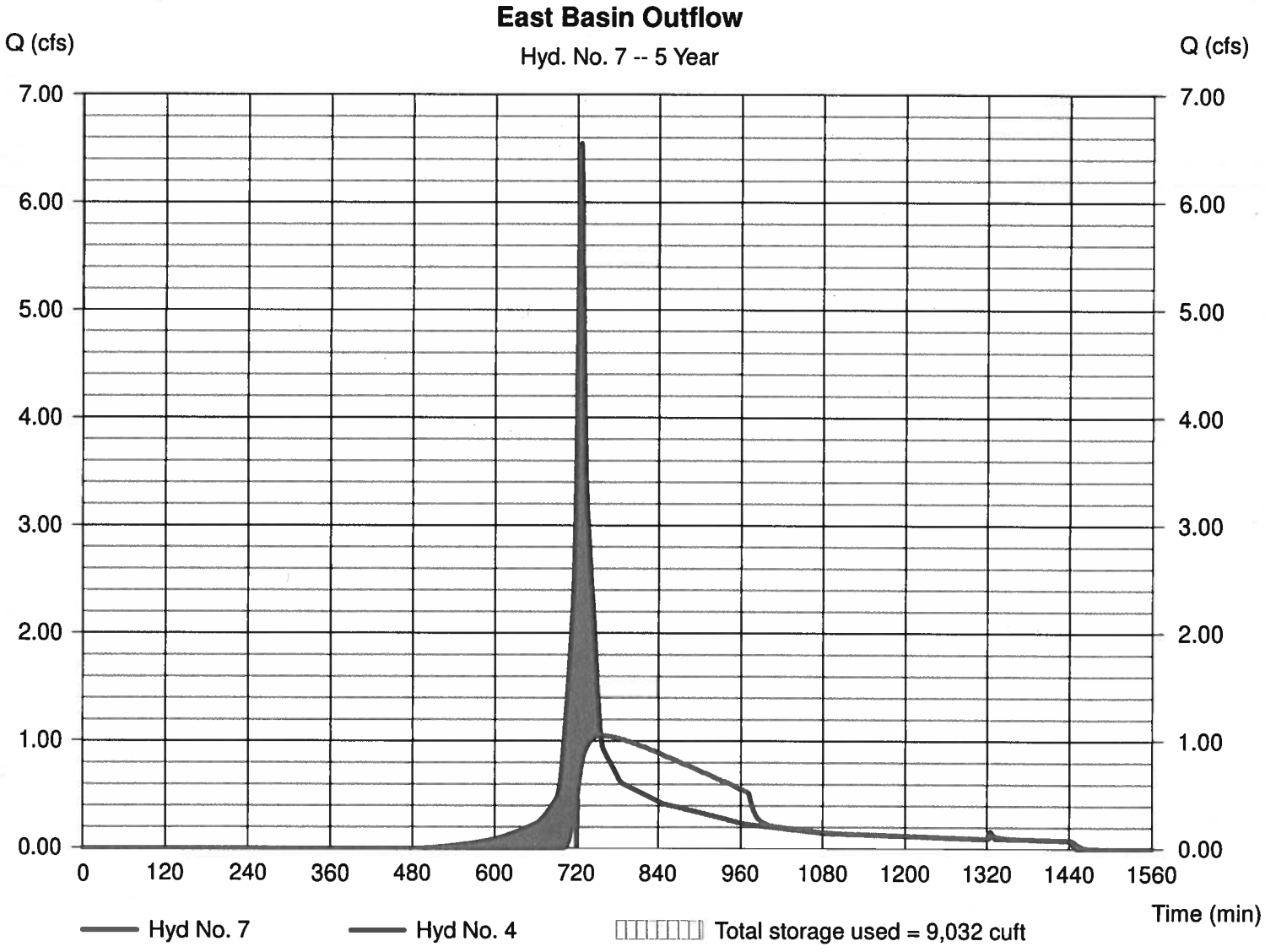
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.051 cfs
Storm frequency	= 5 yrs	Time to peak	= 755 min
Time interval	= 1 min	Hyd. volume	= 16,519 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 61.99 ft
Reservoir name	= East Basin	Max. Storage	= 9,032 cuft

Storage Indication method used.

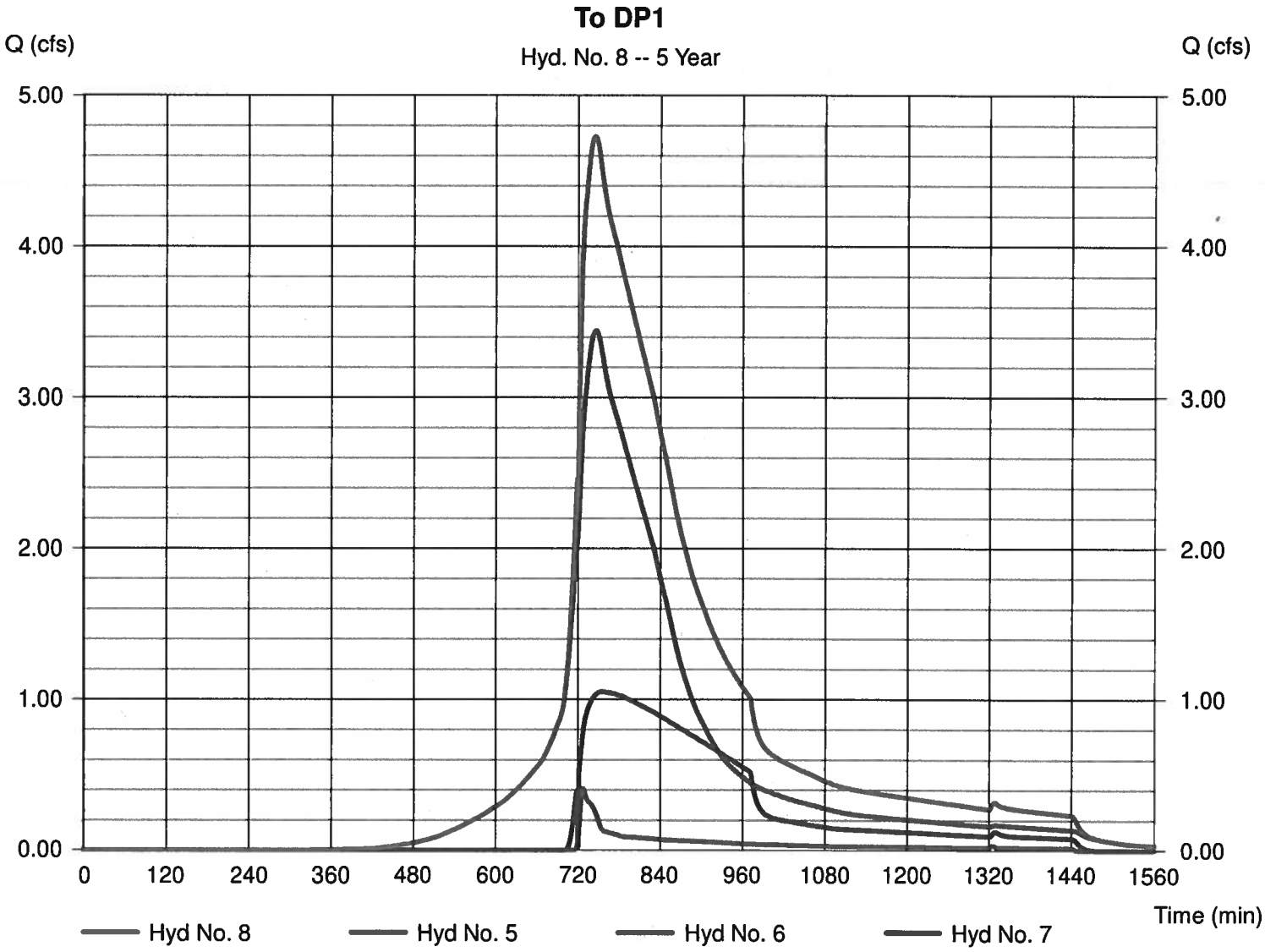


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 4.728 cfs
Storm frequency	= 5 yrs	Time to peak	= 744 min
Time interval	= 1 min	Hyd. volume	= 58,713 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.430 ac



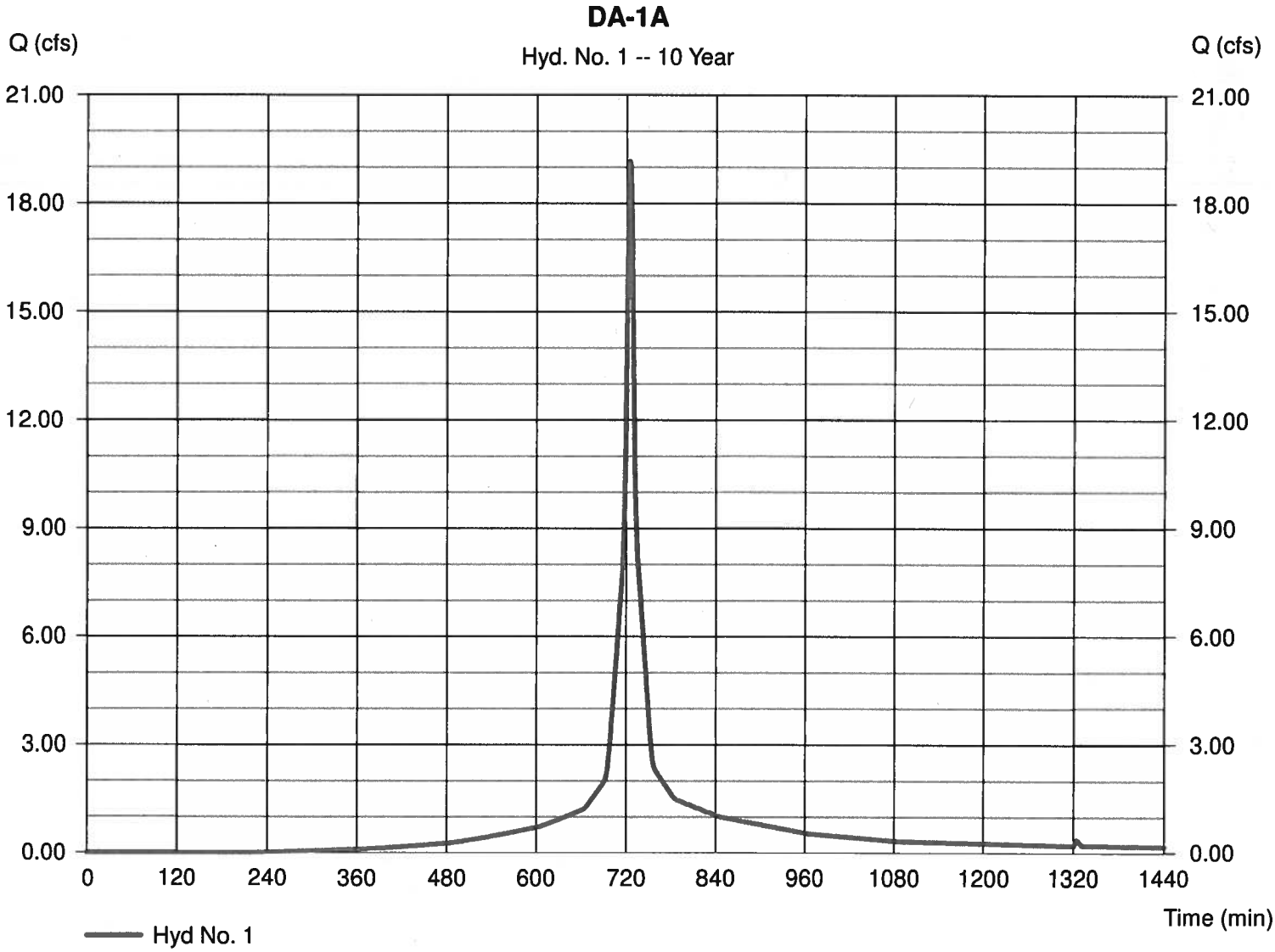
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 19.17 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 62,109 cuft
Drainage area	= 4.370 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.460 x 98) + (0.910 x 68)] / 4.370

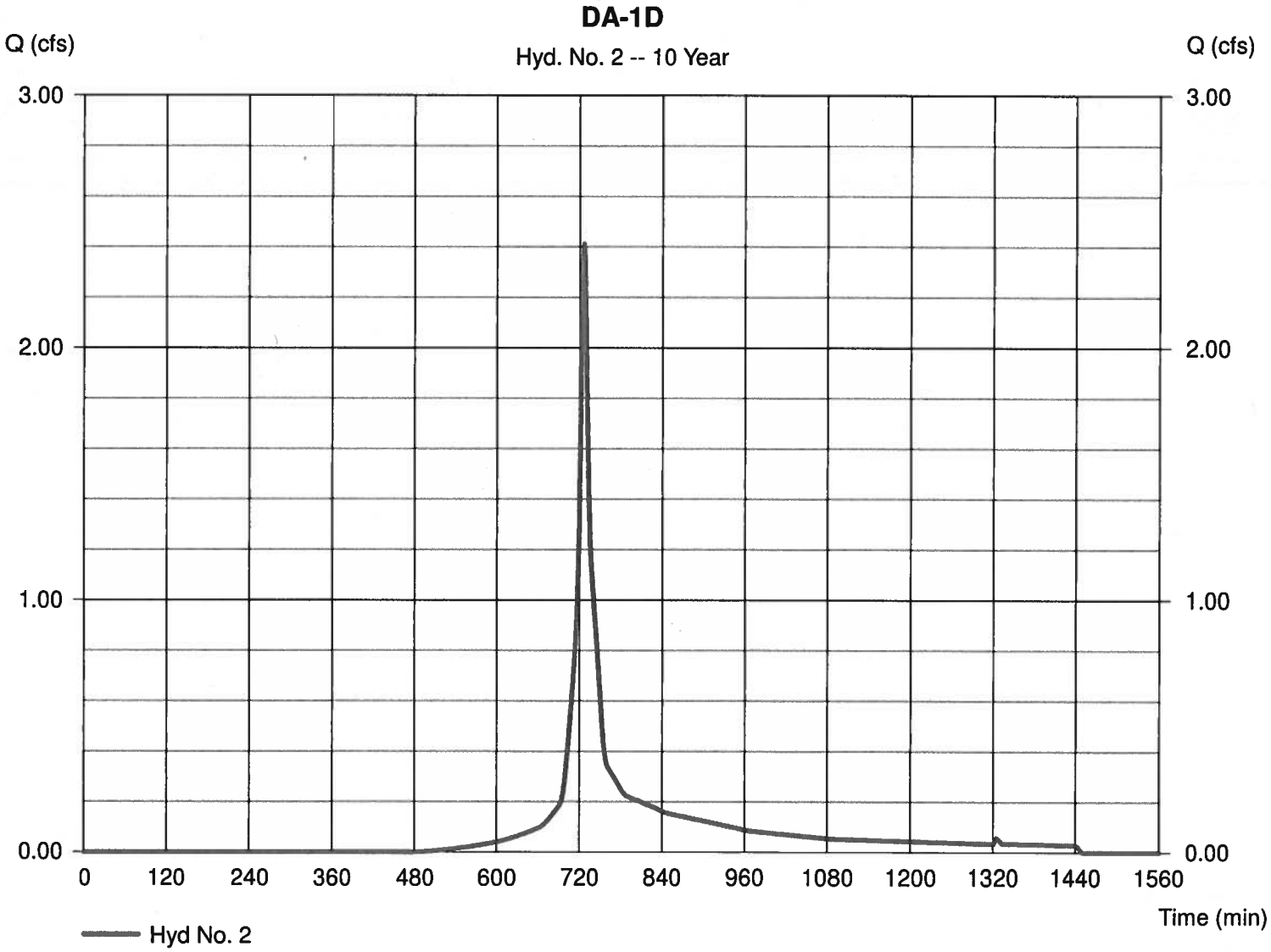


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 2.411 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 7,747 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



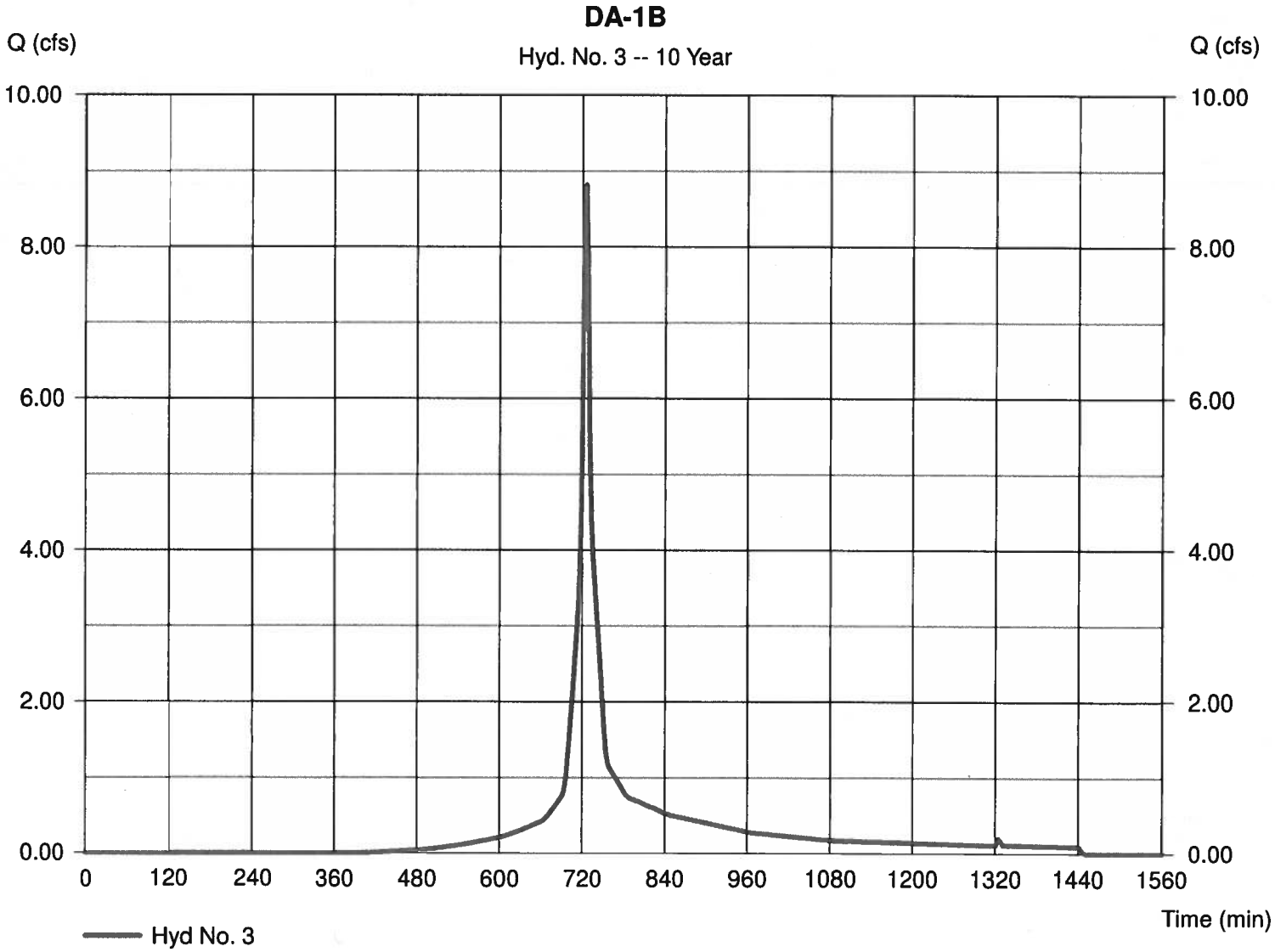
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 8.819 cfs
Storm frequency	= 10 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 27,377 cuft
Drainage area	= 2.440 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.530 x 98) + (0.910 x 60)] / 2.440

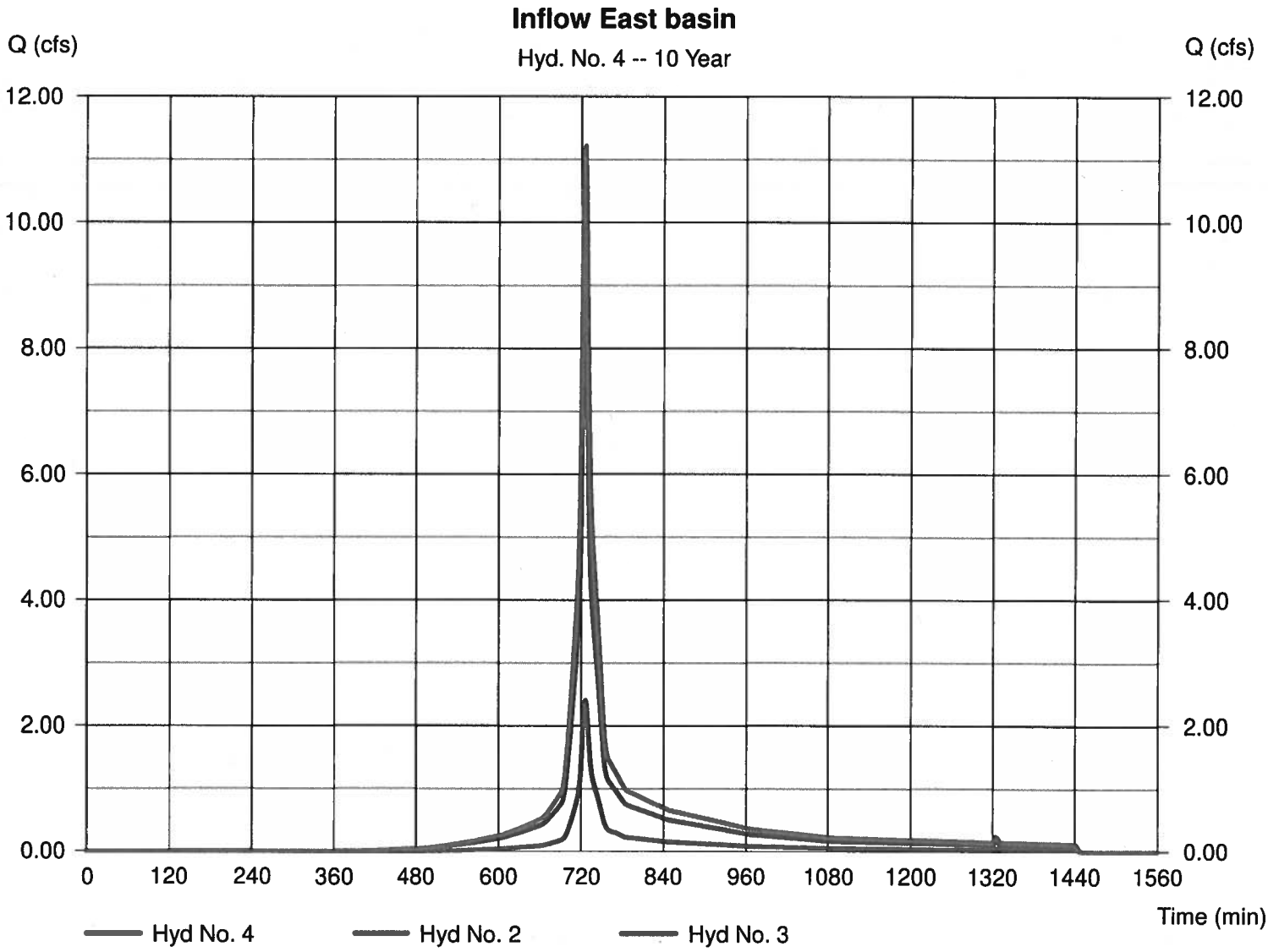


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 11.22 cfs
Storm frequency	= 10 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 35,124 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.300 ac



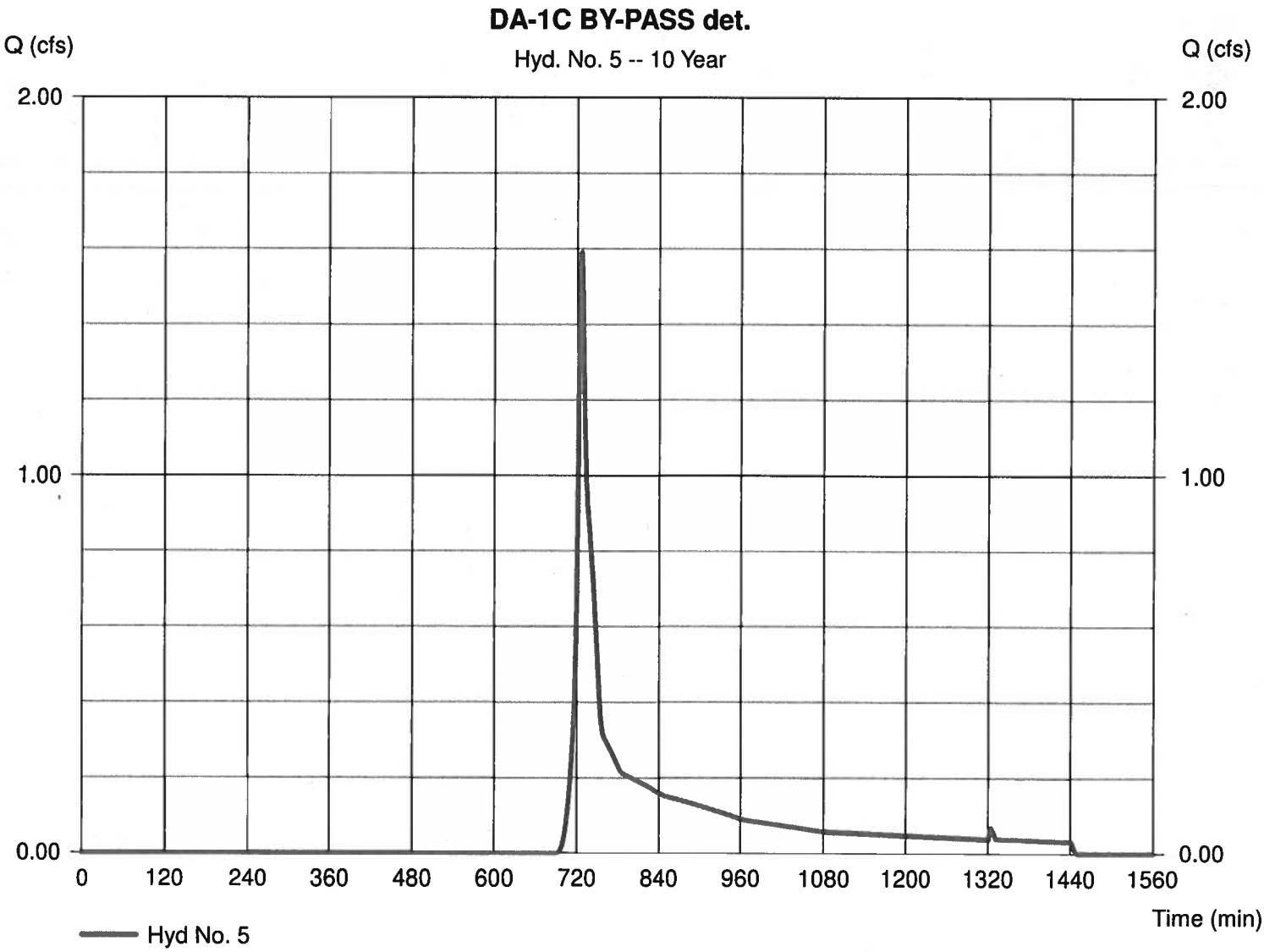
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 1.591 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 5,717 cuft
Drainage area	= 1.430 ac	Curve number	= 59*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.240 x 53)] / 1.430



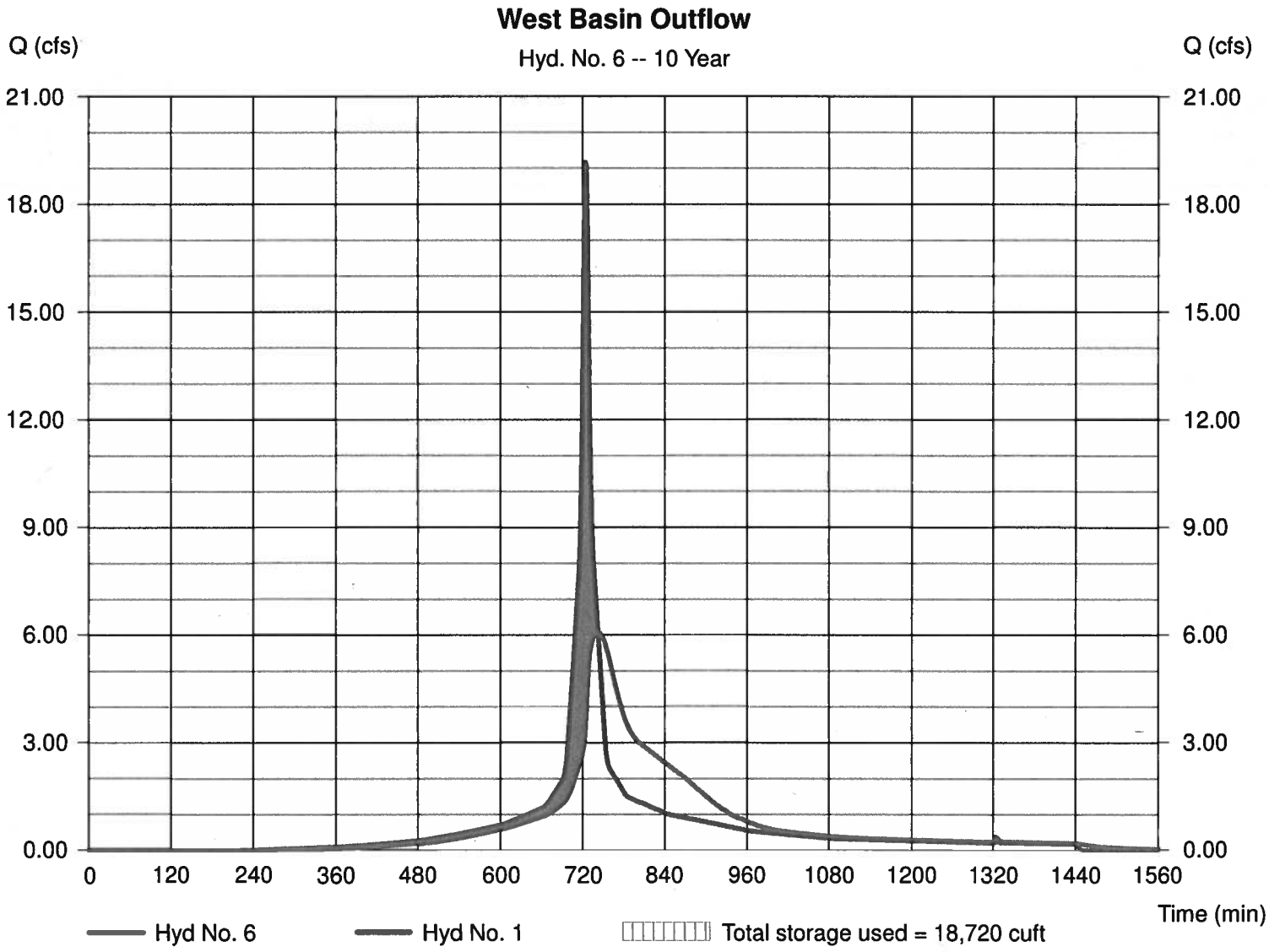
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 6.078 cfs
Storm frequency	= 10 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 62,089 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 59.24 ft
Reservoir name	= West Basin	Max. Storage	= 18,720 cuft

Storage Indication method used.



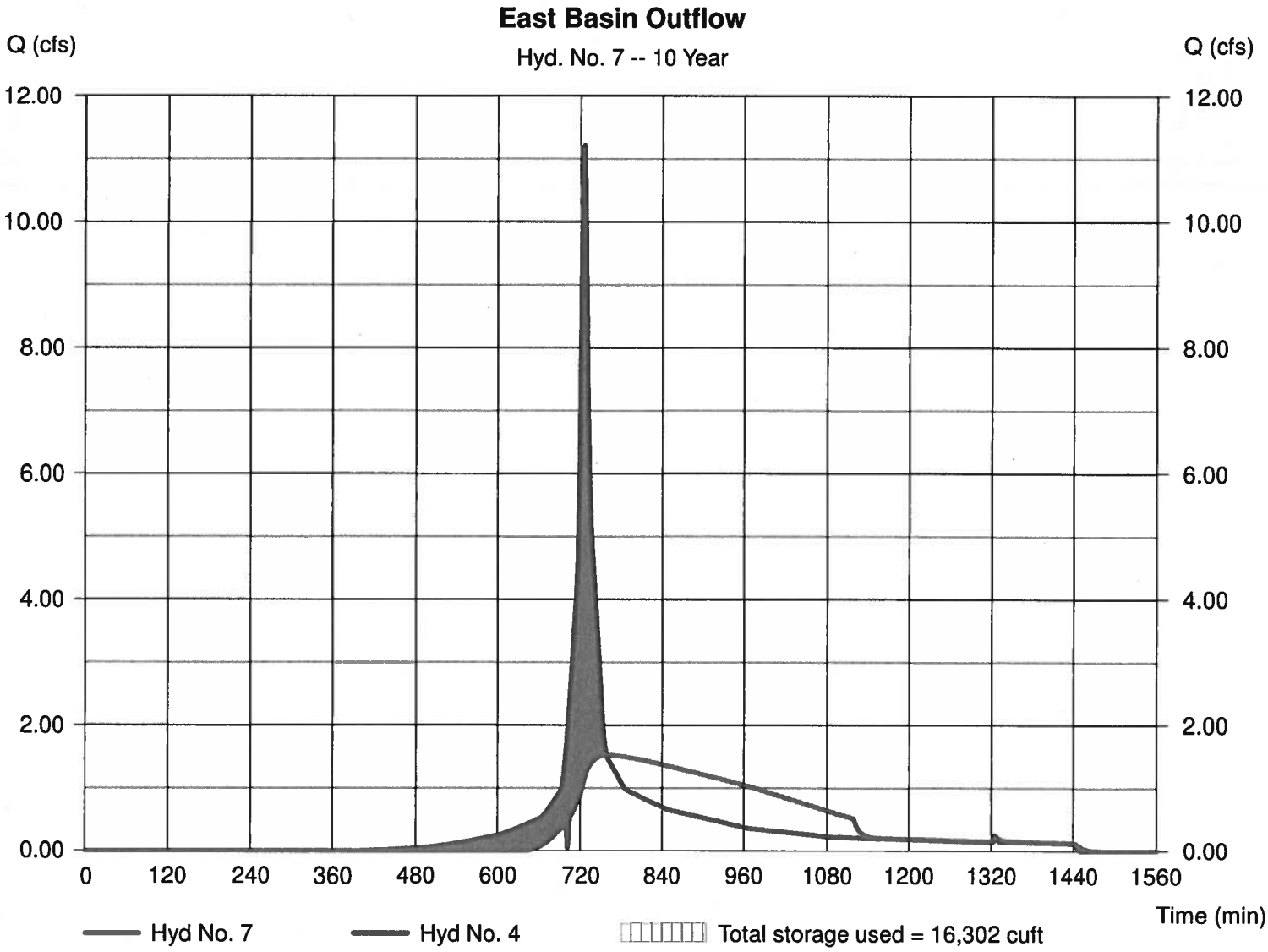
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.522 cfs
Storm frequency	= 10 yrs	Time to peak	= 758 min
Time interval	= 1 min	Hyd. volume	= 31,210 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 63.34 ft
Reservoir name	= East Basin	Max. Storage	= 16,302 cuft

Storage Indication method used.

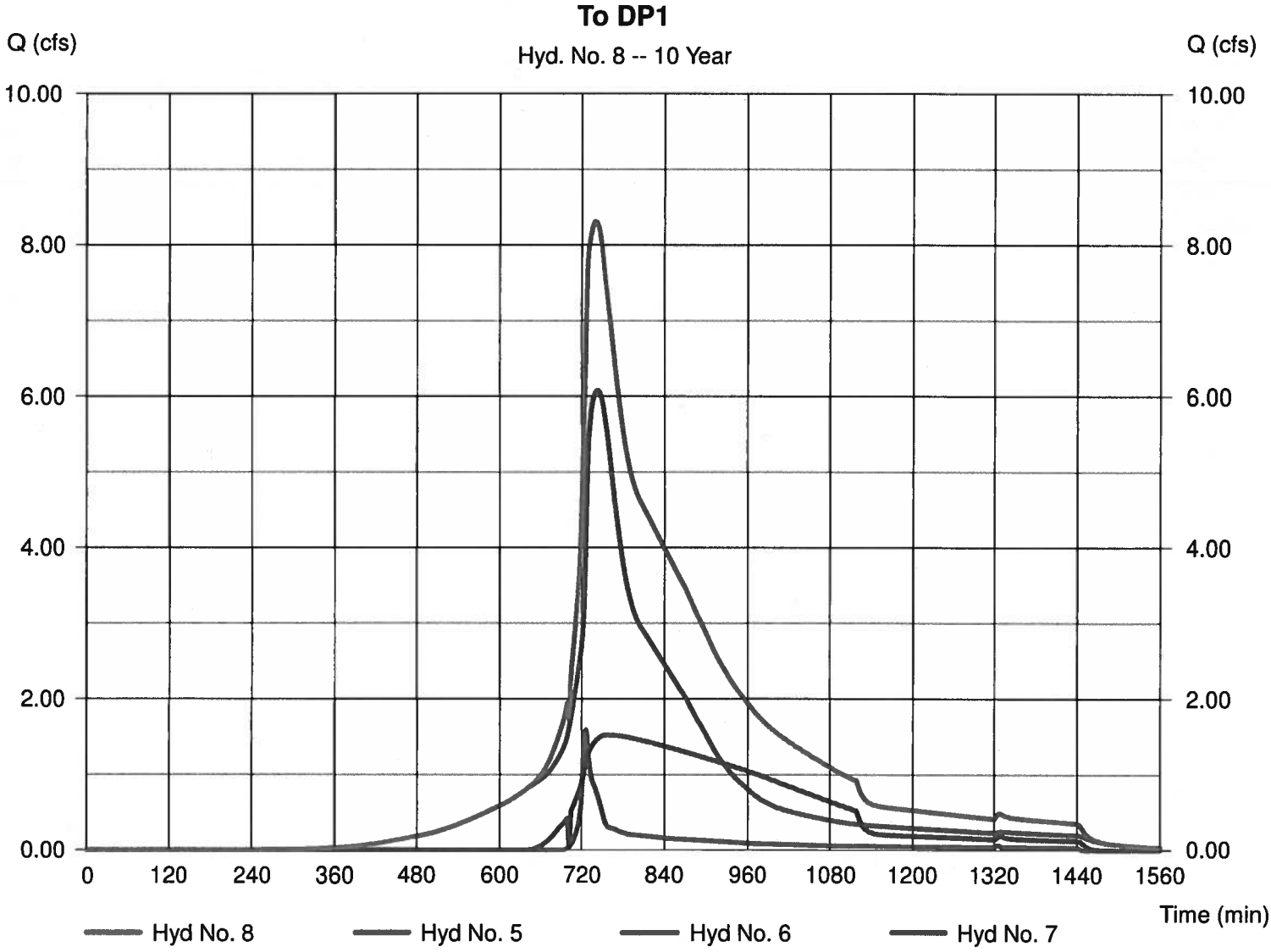


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 8.311 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 99,015 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.430 ac



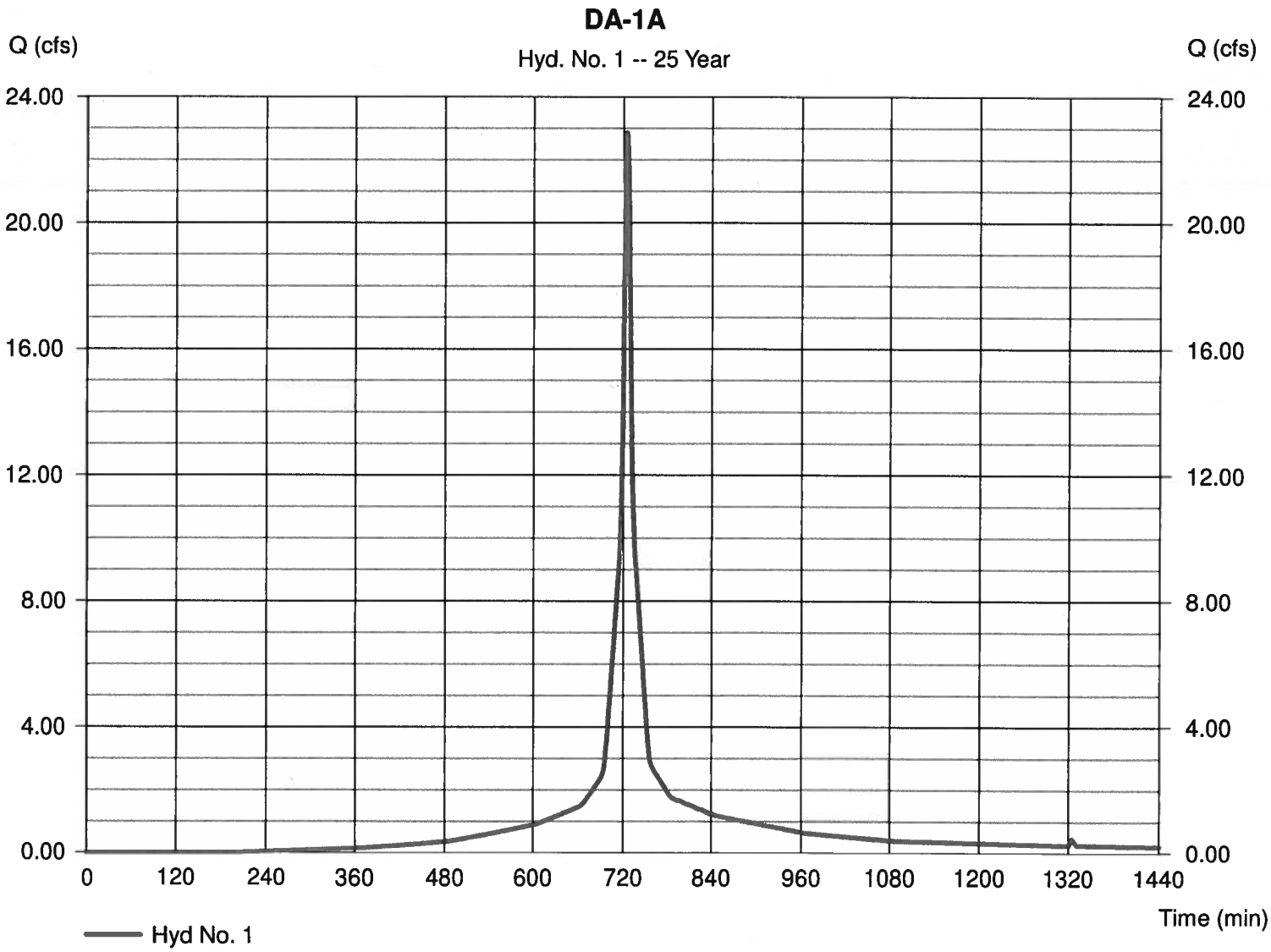
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 22.88 cfs
Storm frequency	= 25 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 74,900 cuft
Drainage area	= 4.370 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.460 x 98) + (0.910 x 68)] / 4.370

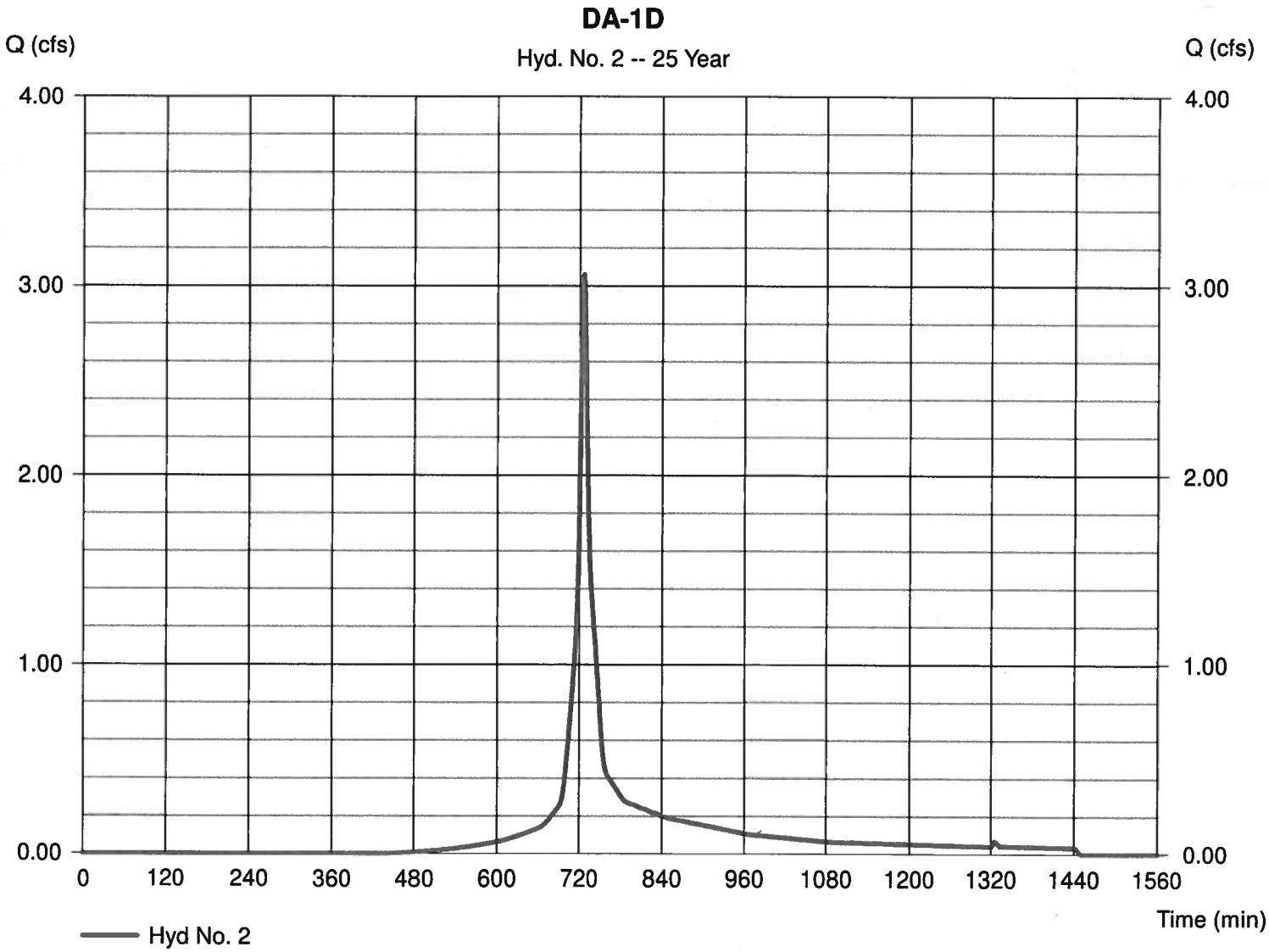


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 3.059 cfs
Storm frequency	= 25 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 9,852 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



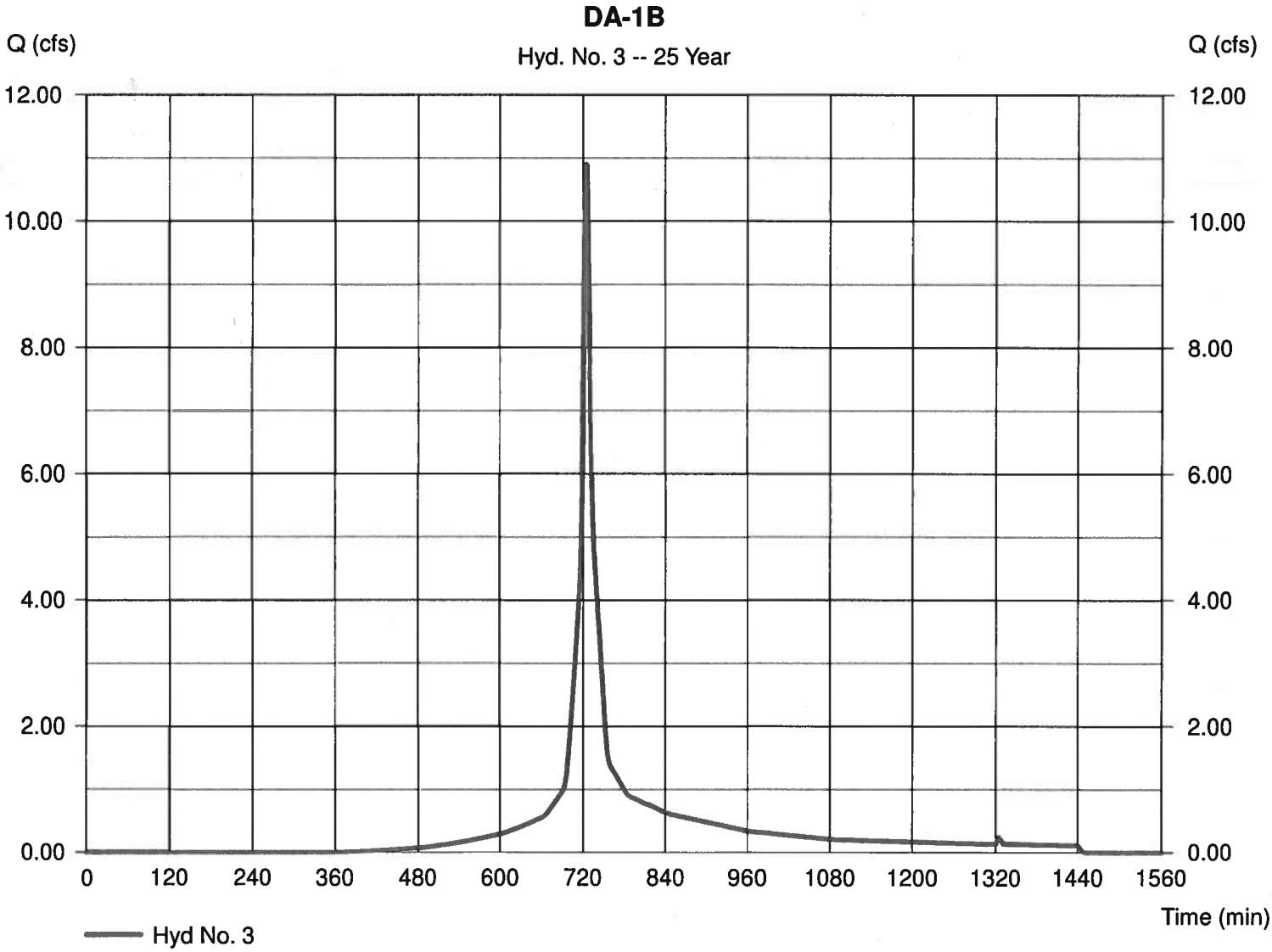
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 10.90 cfs
Storm frequency	= 25 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 34,077 cuft
Drainage area	= 2.440 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.530 x 98) + (0.910 x 60)] / 2.440

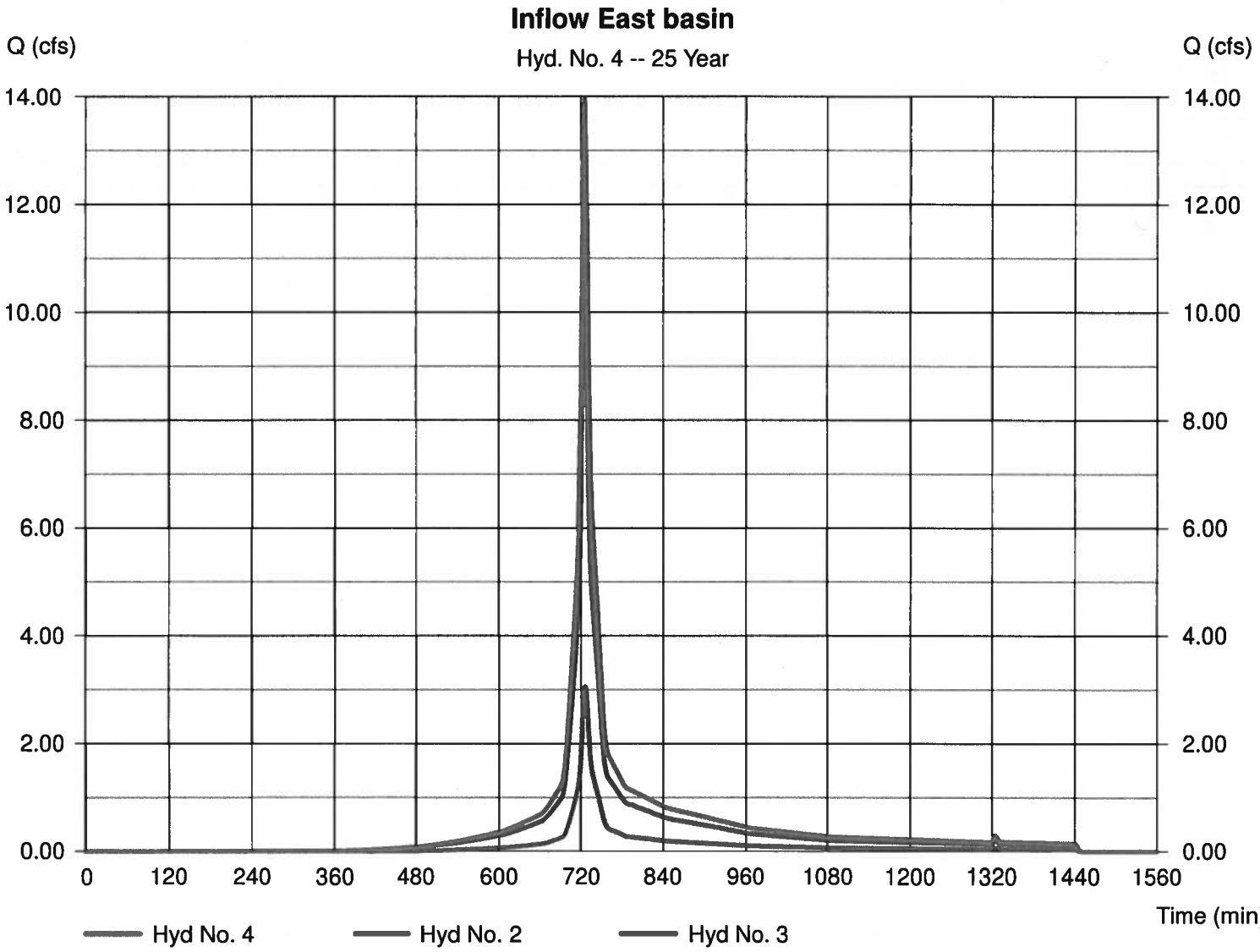


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 13.95 cfs
Storm frequency	= 25 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 43,929 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.300 ac



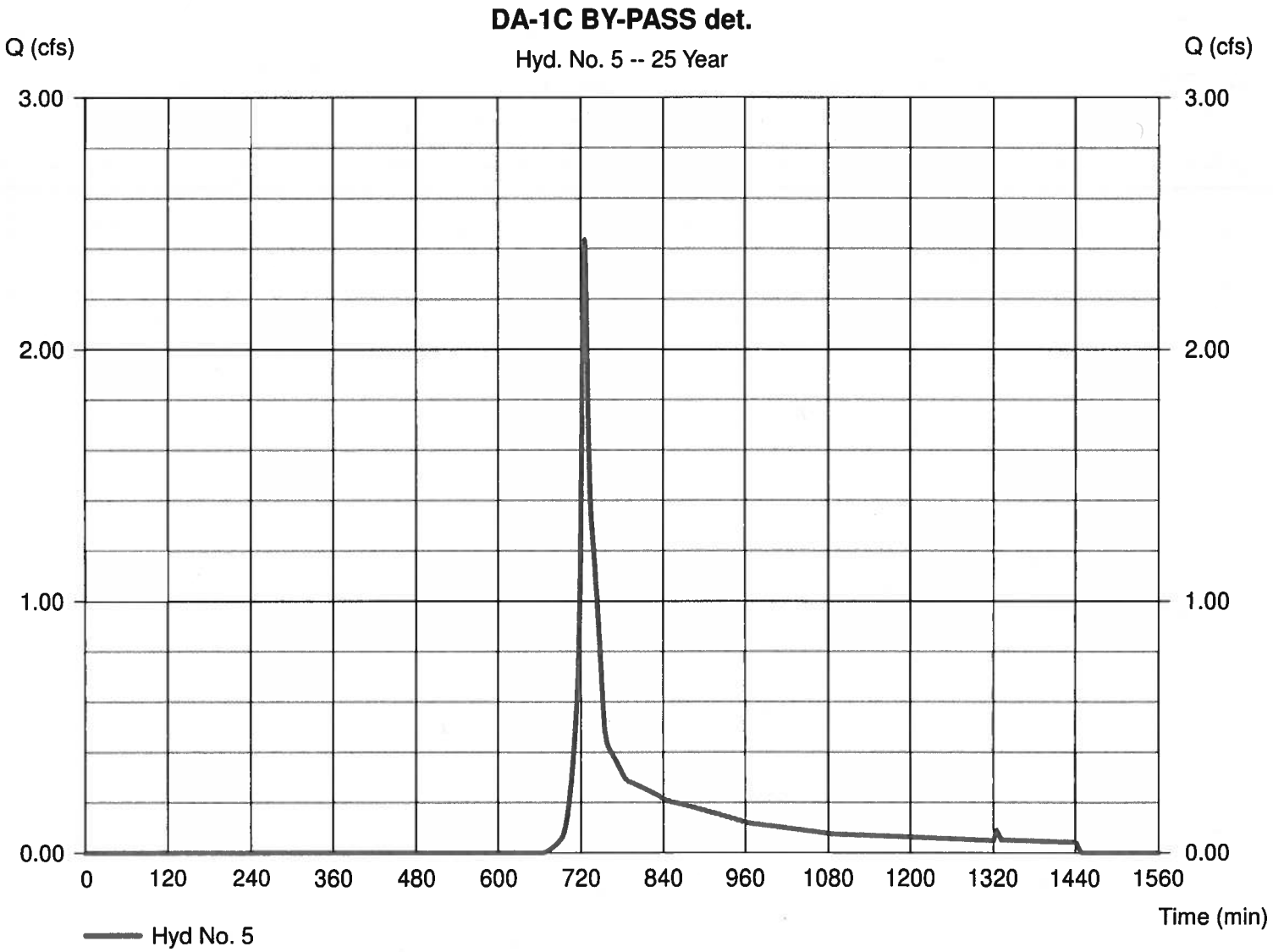
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 2.435 cfs
Storm frequency	= 25 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 8,177 cuft
Drainage area	= 1.430 ac	Curve number	= 59*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.240 x 53)] / 1.430



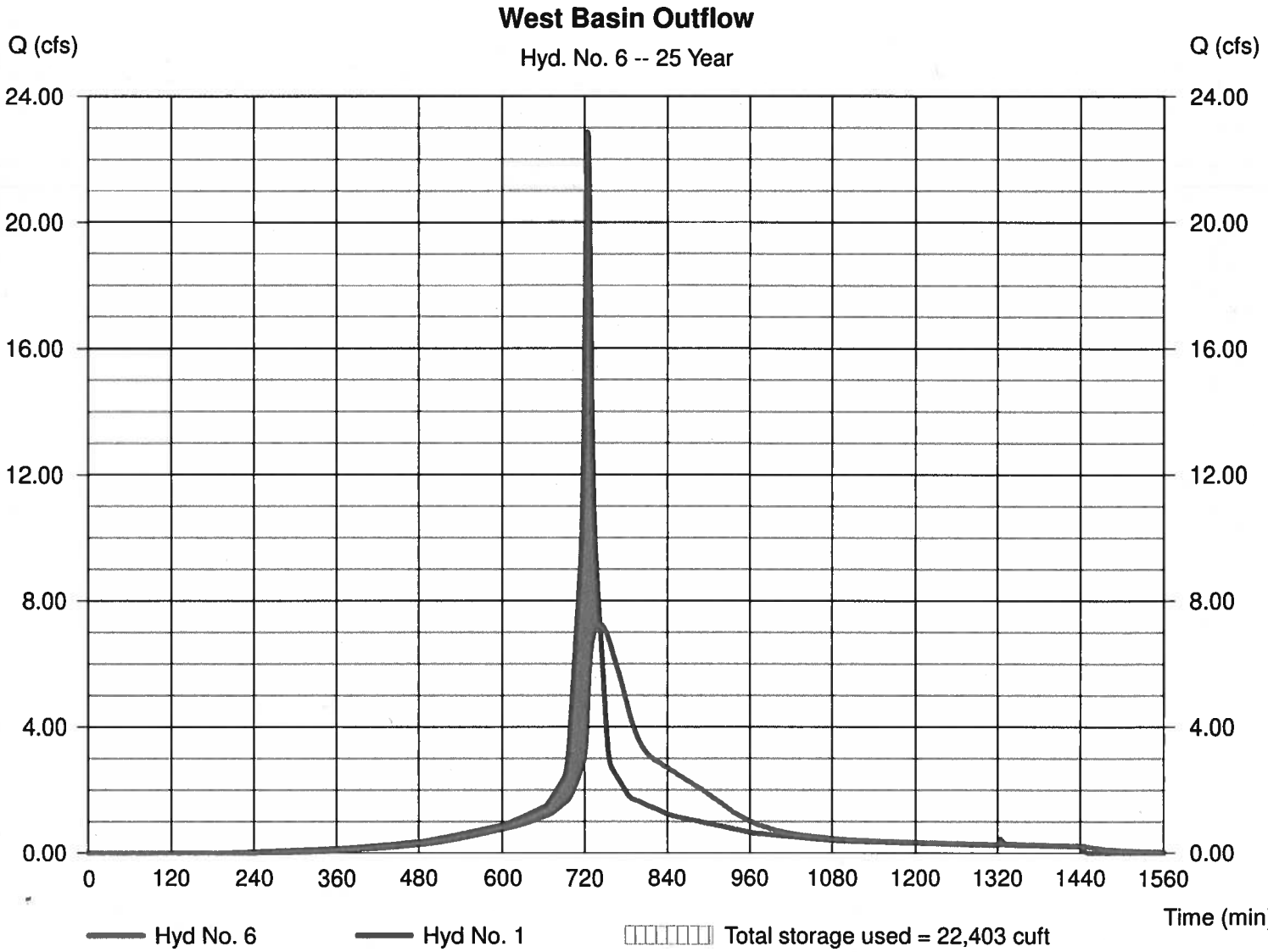
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 7.245 cfs
Storm frequency	= 25 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 74,880 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 59.76 ft
Reservoir name	= West Basin	Max. Storage	= 22,403 cuft

Storage Indication method used.



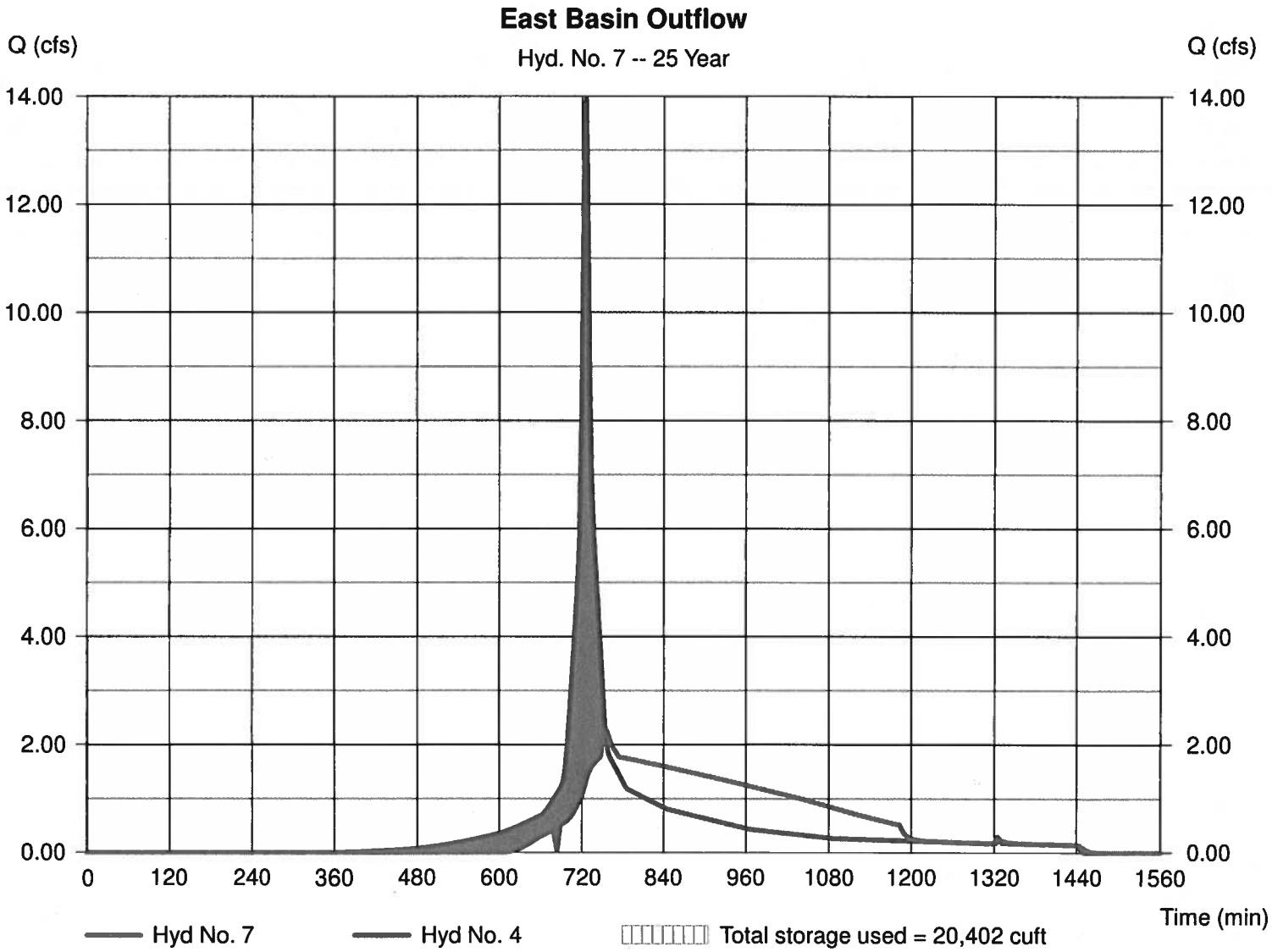
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 2.286 cfs
Storm frequency	= 25 yrs	Time to peak	= 753 min
Time interval	= 1 min	Hyd. volume	= 40,015 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.35 ft
Reservoir name	= East Basin	Max. Storage	= 20,402 cuft

Storage Indication method used.

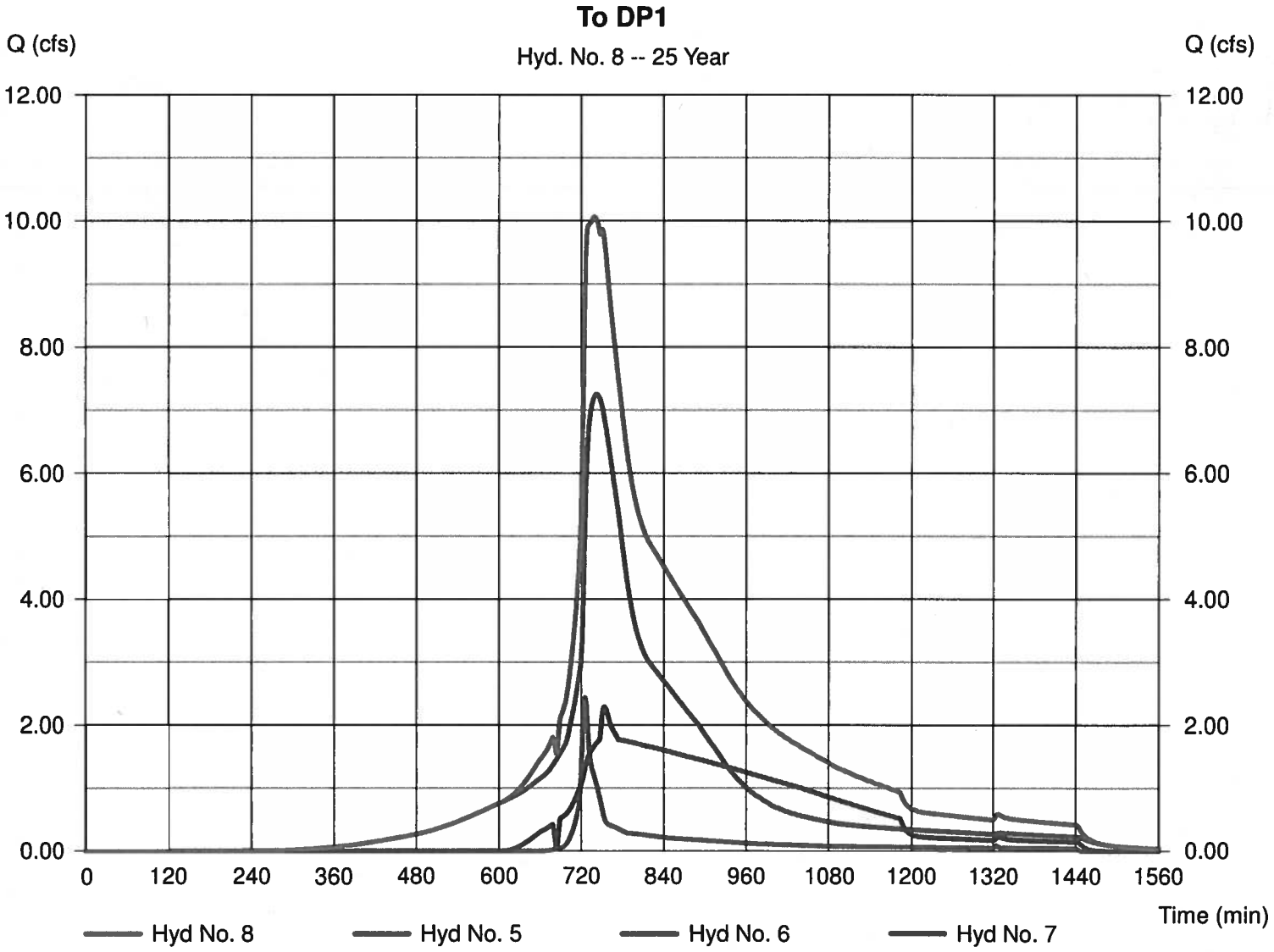


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 10.06 cfs
Storm frequency	= 25 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 123,072 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.430 ac



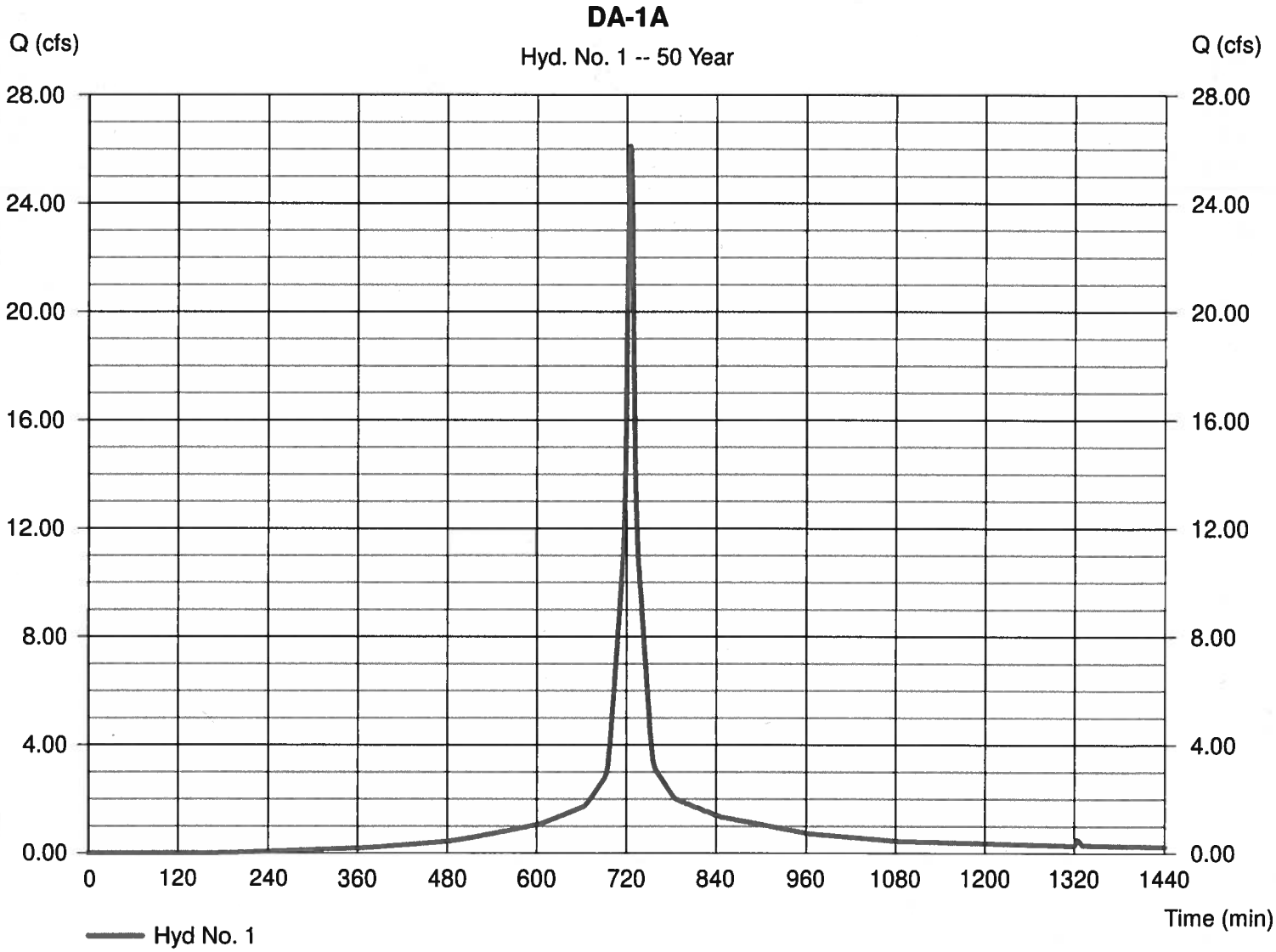
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 26.10 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 86,148 cuft
Drainage area	= 4.370 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.460 x 98) + (0.910 x 68)] / 4.370

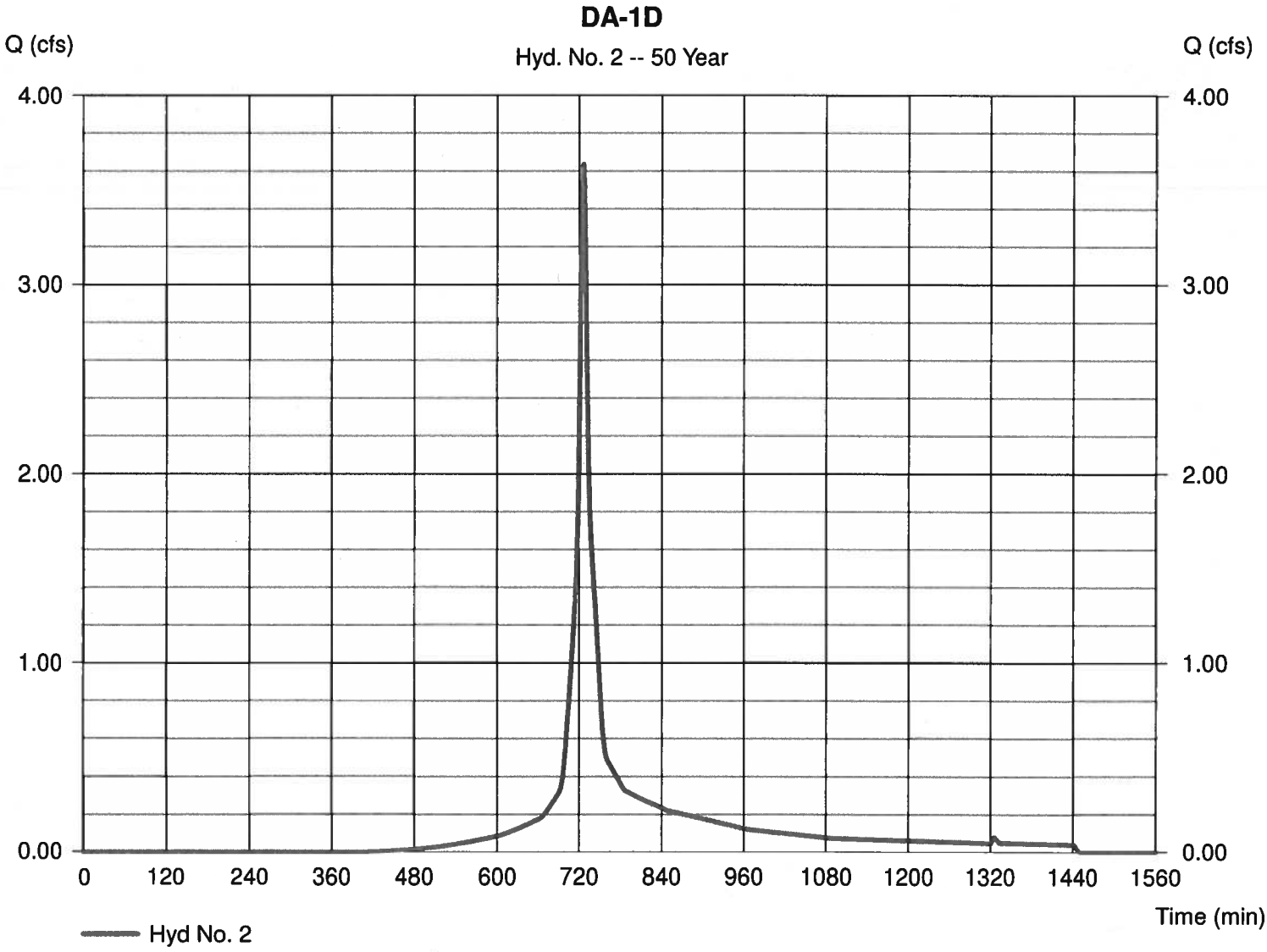


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 3.635 cfs
Storm frequency	= 50 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 11,745 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



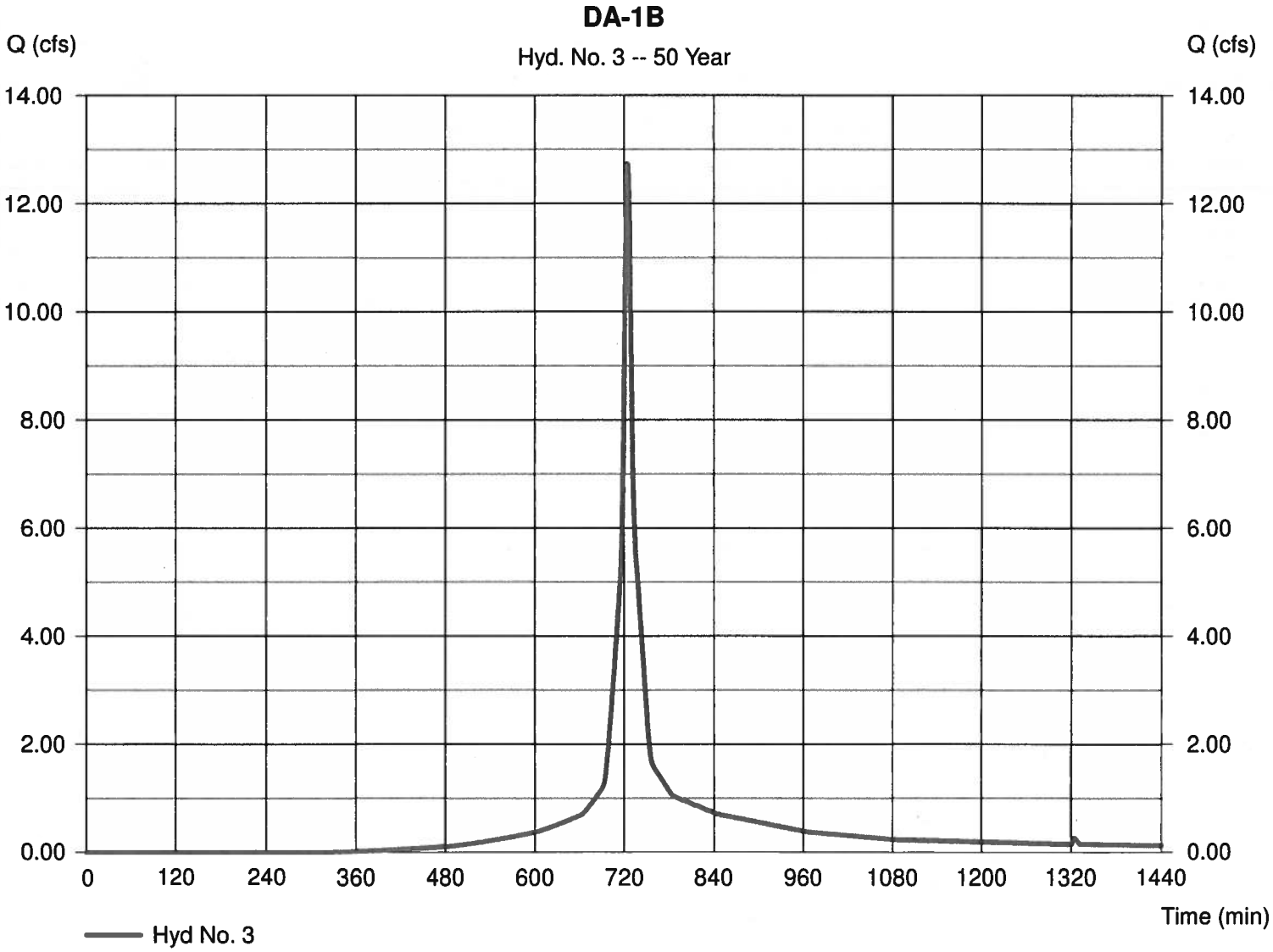
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 12.74 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 40,044 cuft
Drainage area	= 2.440 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.530 x 98) + (0.910 x 60)] / 2.440

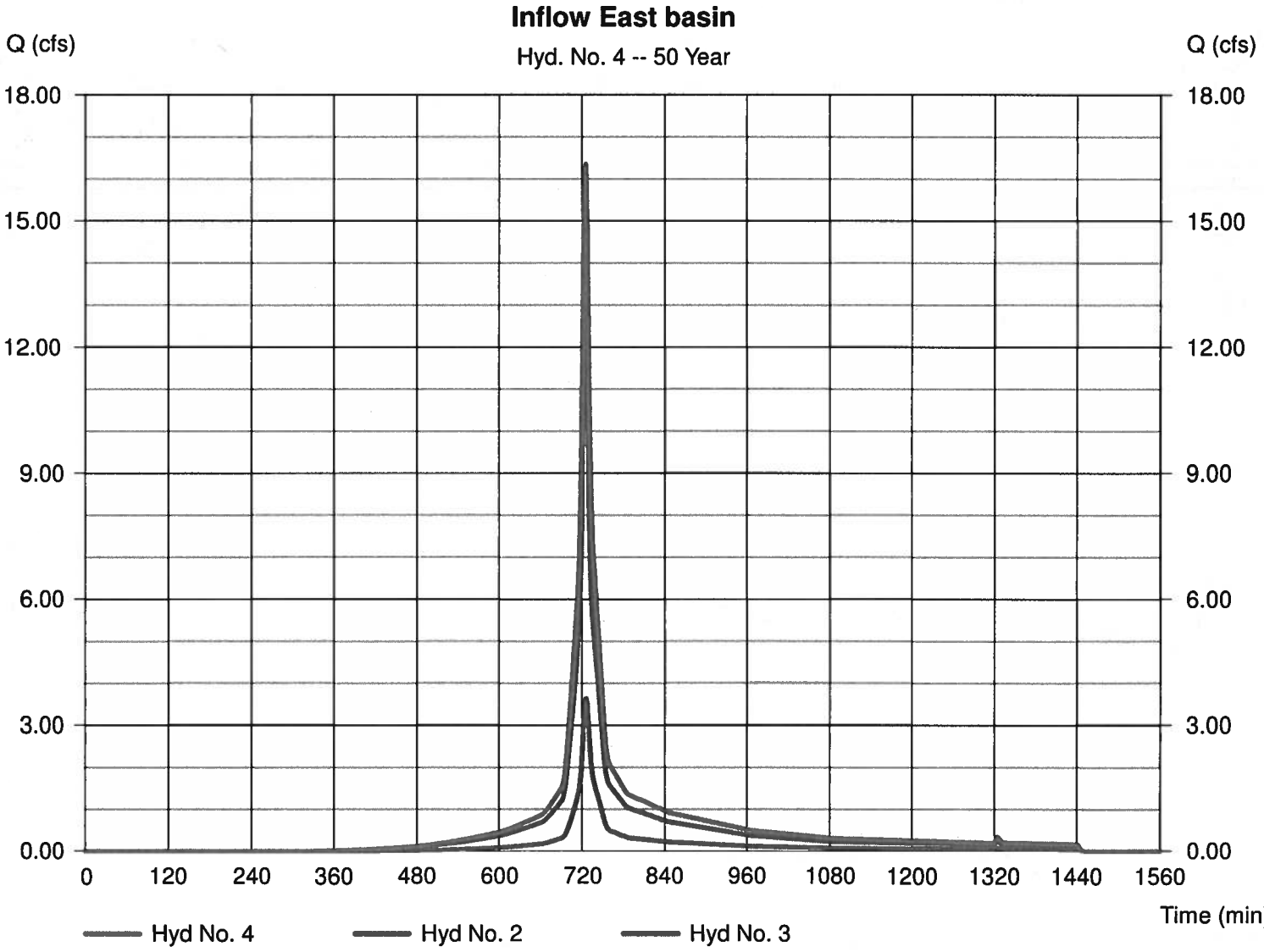


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 16.35 cfs
Storm frequency	= 50 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 51,789 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.300 ac



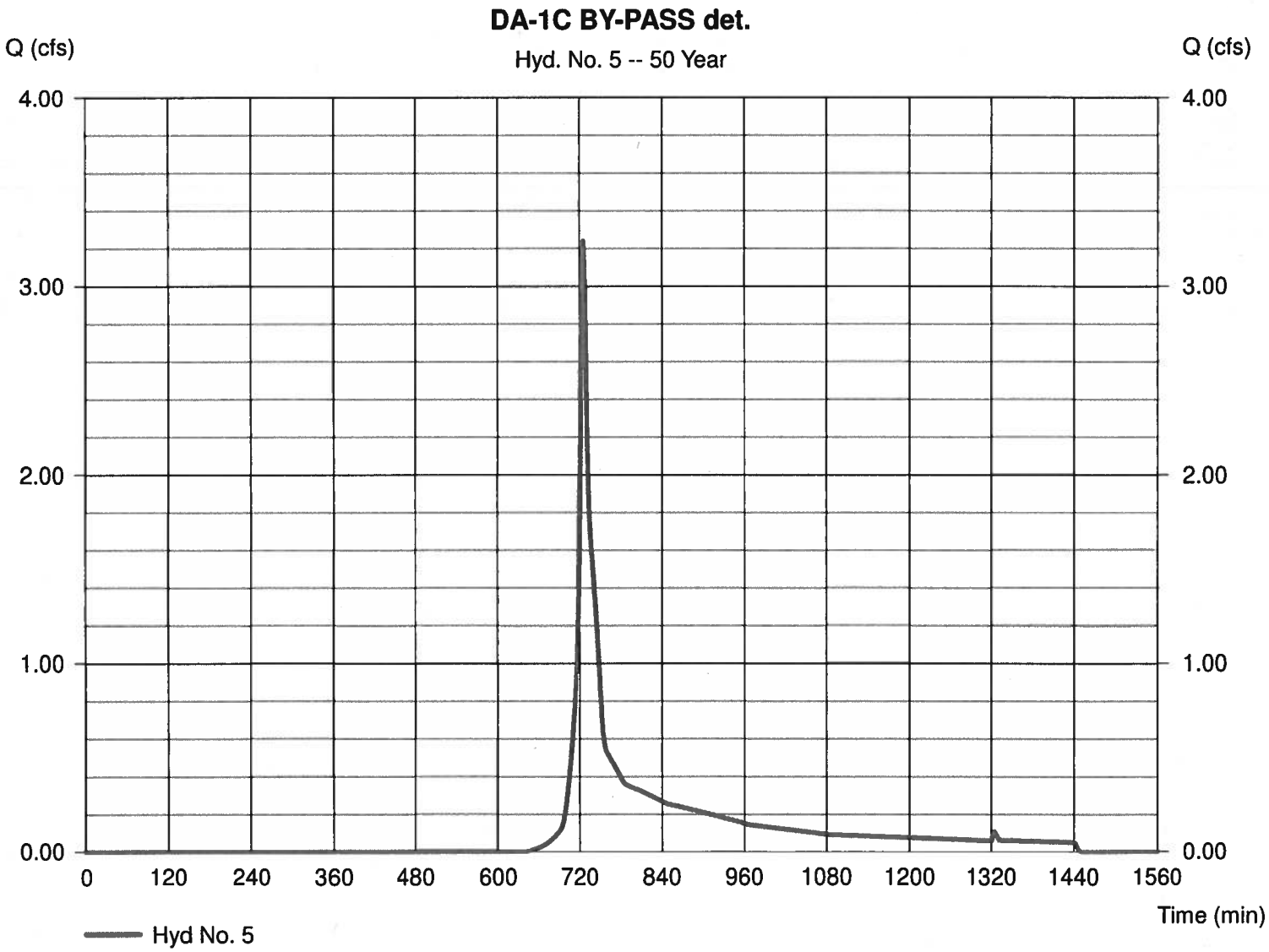
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 3.240 cfs
Storm frequency	= 50 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 10,533 cuft
Drainage area	= 1.430 ac	Curve number	= 59*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.240 x 53)] / 1.430



Hydrograph Report

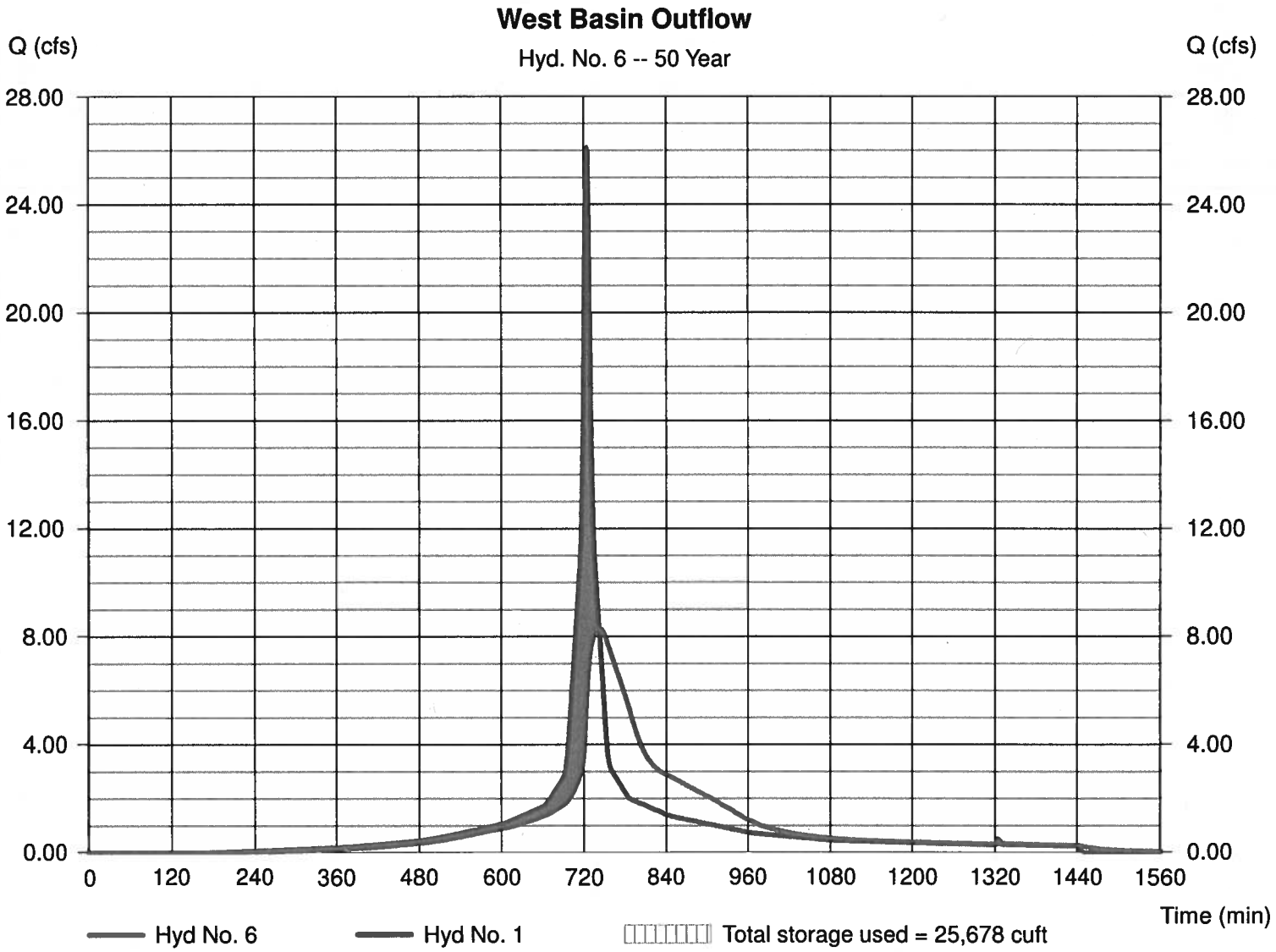
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Feb 2, 2021

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 8.304 cfs
Storm frequency	= 50 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 86,128 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 60.34 ft
Reservoir name	= West Basin	Max. Storage	= 25,678 cuft

Storage Indication method used.



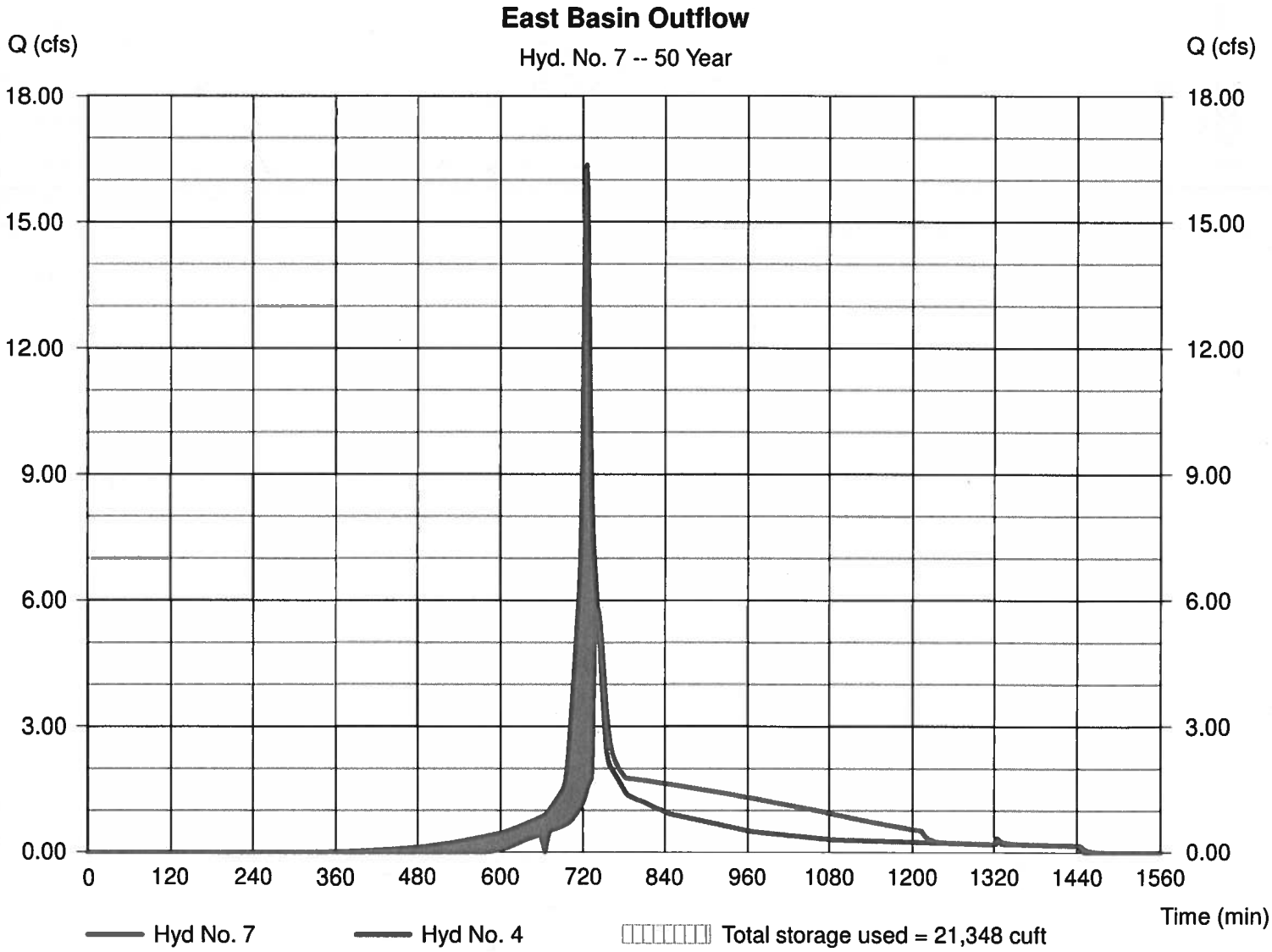
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 5.820 cfs
Storm frequency	= 50 yrs	Time to peak	= 741 min
Time interval	= 1 min	Hyd. volume	= 47,875 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.64 ft
Reservoir name	= East Basin	Max. Storage	= 21,348 cuft

Storage Indication method used.

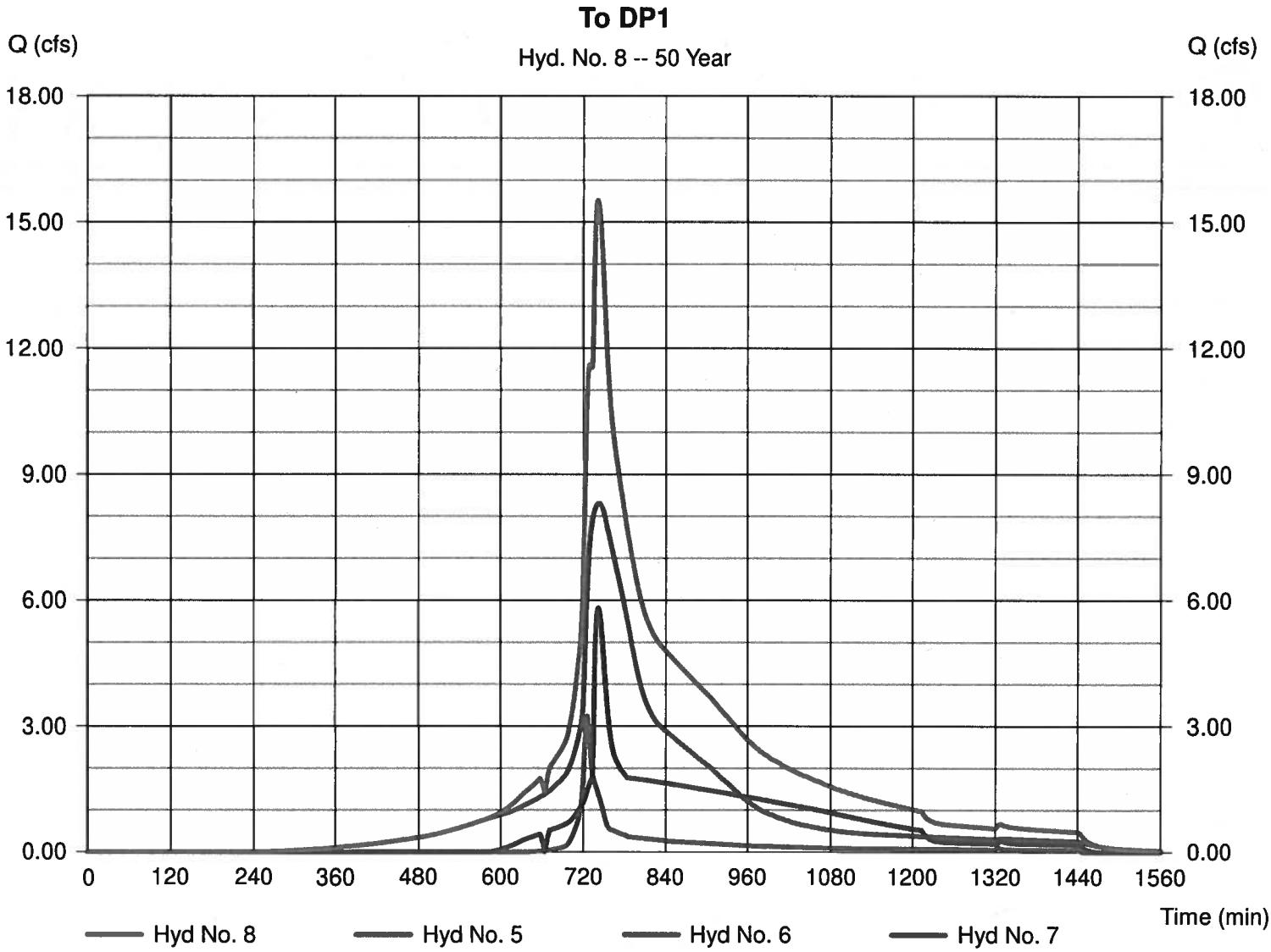


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 15.52 cfs
Storm frequency	= 50 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 144,536 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.430 ac



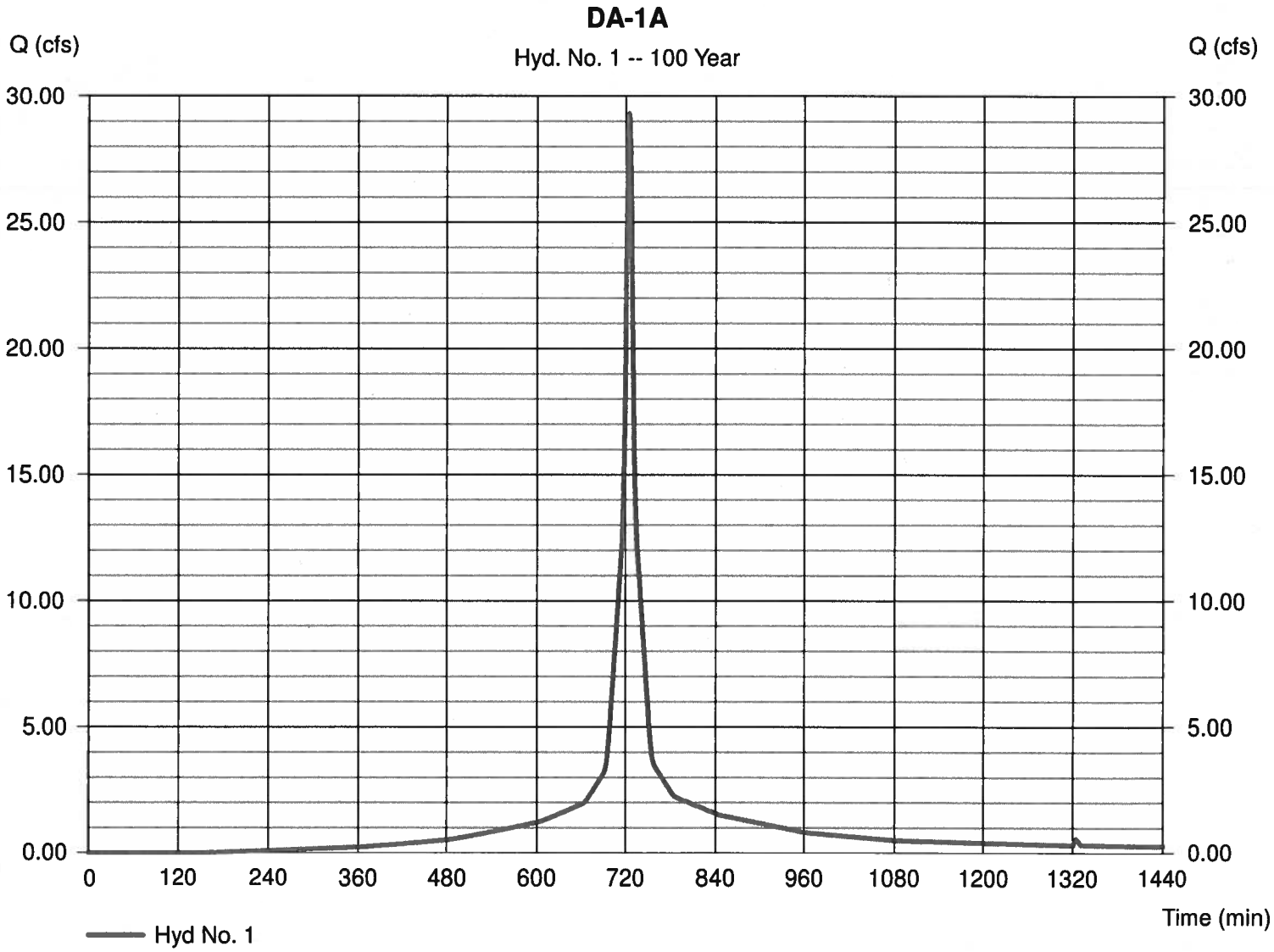
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 29.32 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 97,434 cuft
Drainage area	= 4.370 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.460 x 98) + (0.910 x 68)] / 4.370

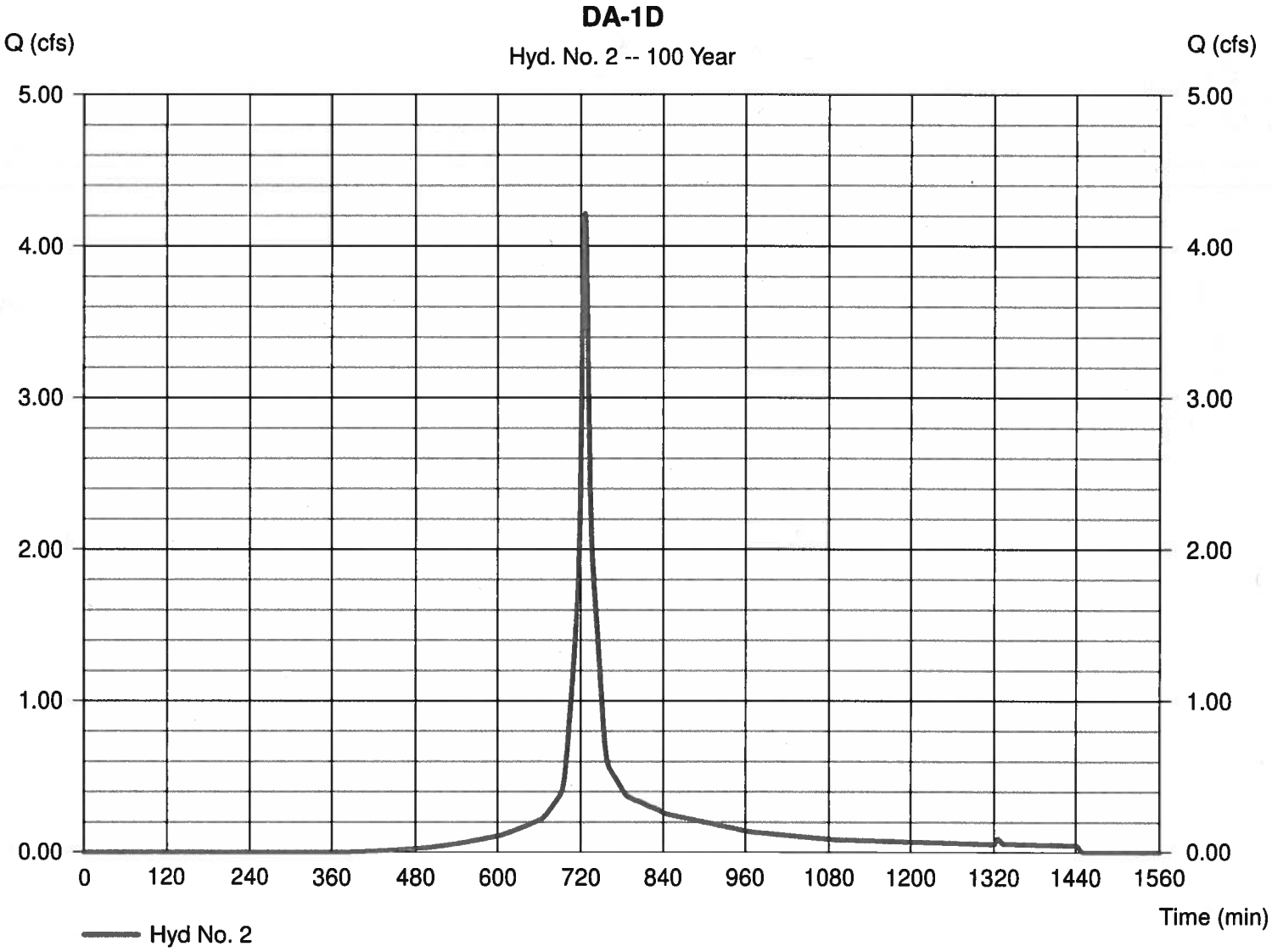


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 4.216 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 13,675 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



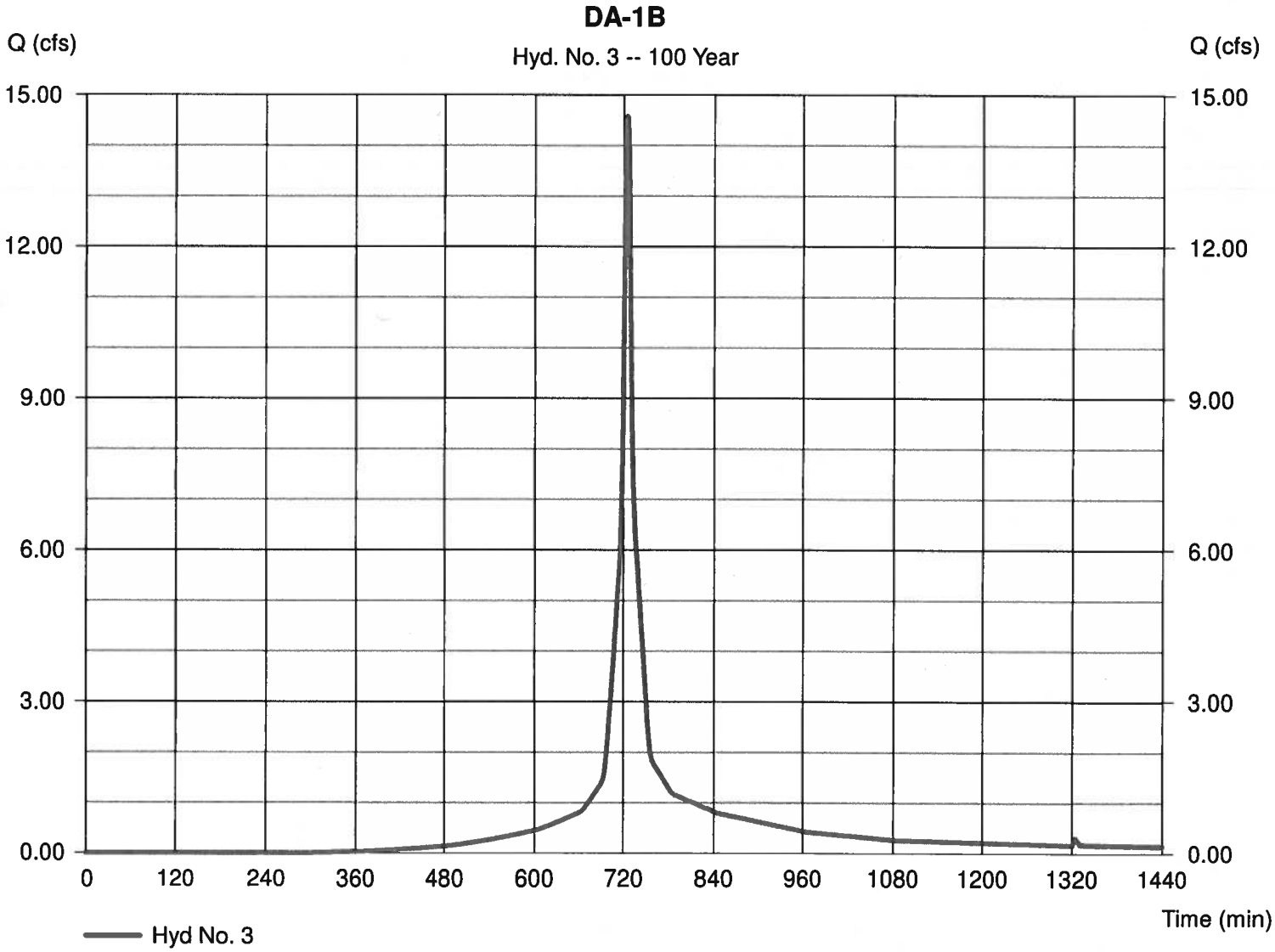
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 14.58 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 46,081 cuft
Drainage area	= 2.440 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.530 x 98) + (0.910 x 60)] / 2.440

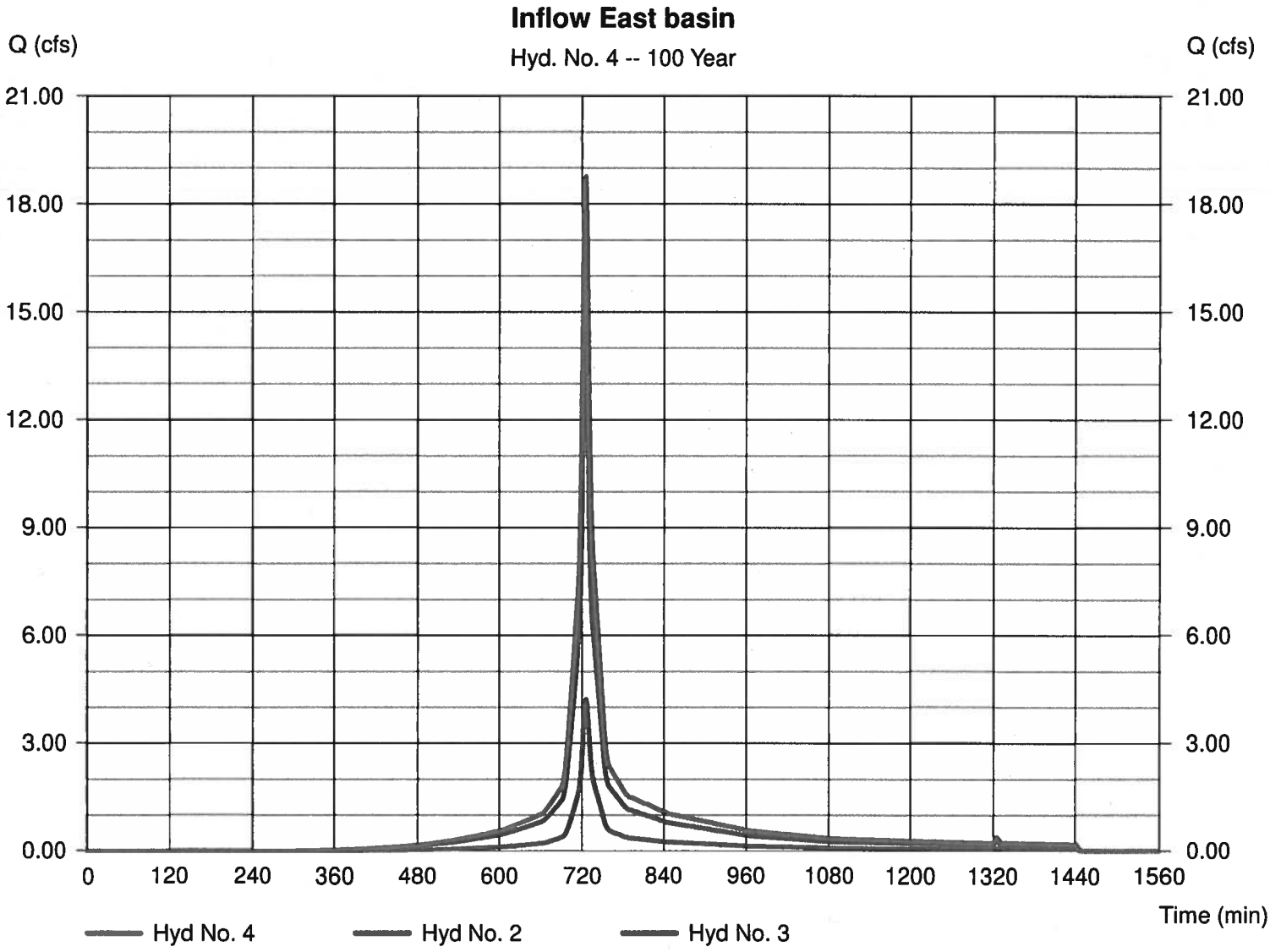


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 18.76 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 59,756 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.300 ac



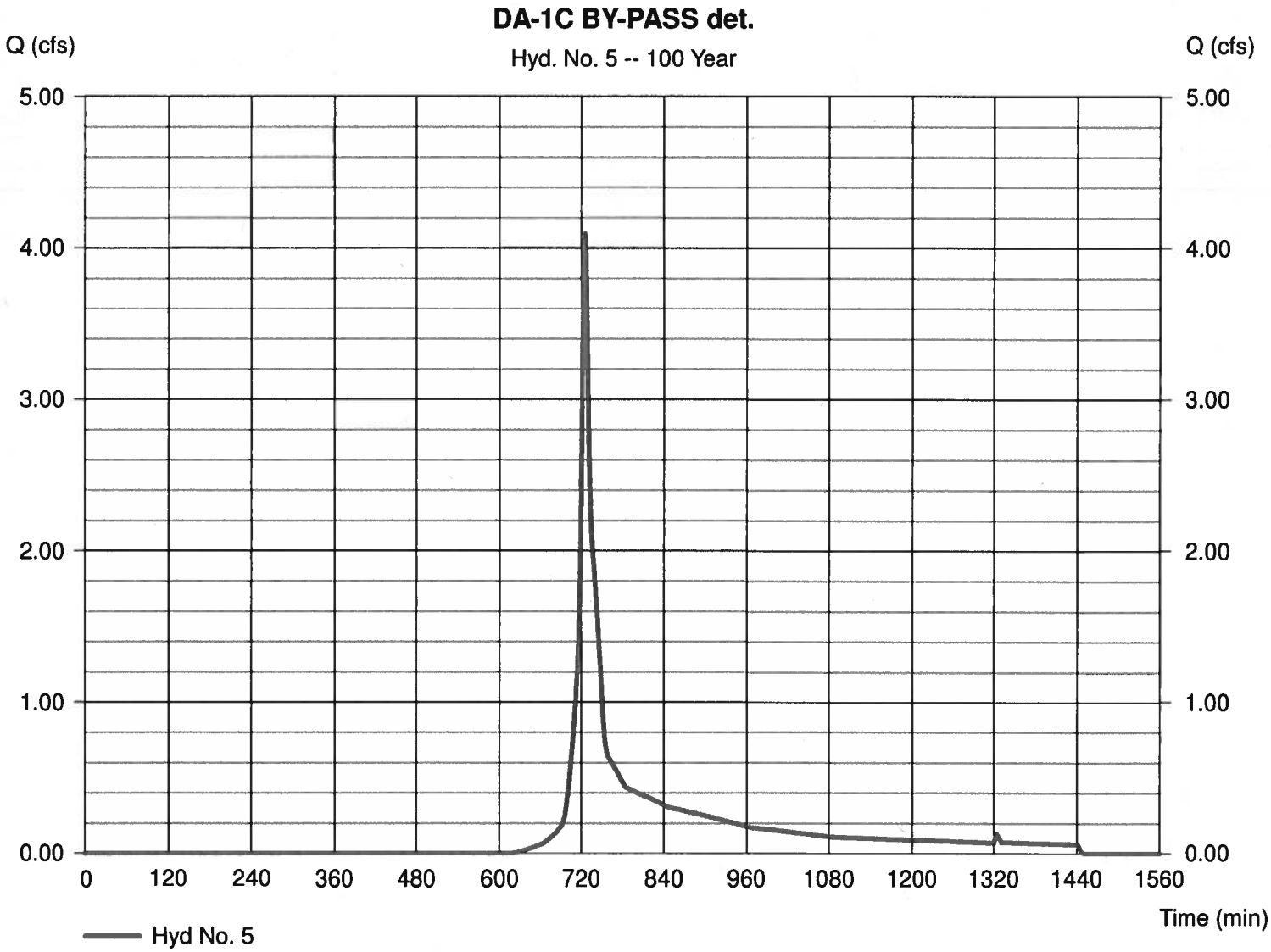
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 4.093 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 13,045 cuft
Drainage area	= 1.430 ac	Curve number	= 59*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (1.240 x 53)] / 1.430



Hydrograph Report

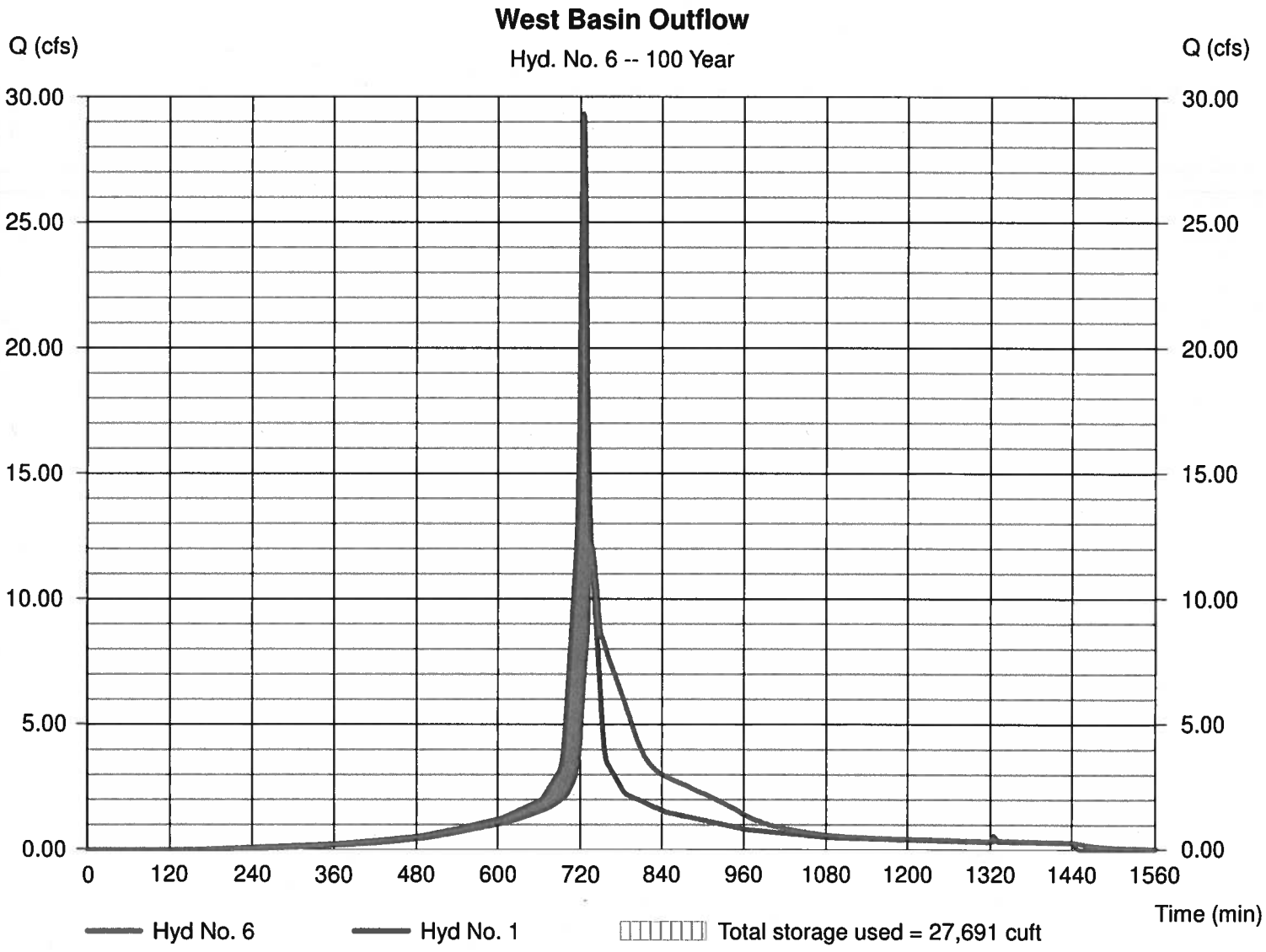
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Feb 2, 2021

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 12.13 cfs
Storm frequency	= 100 yrs	Time to peak	= 735 min
Time interval	= 1 min	Hyd. volume	= 97,414 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 60.82 ft
Reservoir name	= West Basin	Max. Storage	= 27,691 cuft

Storage Indication method used.



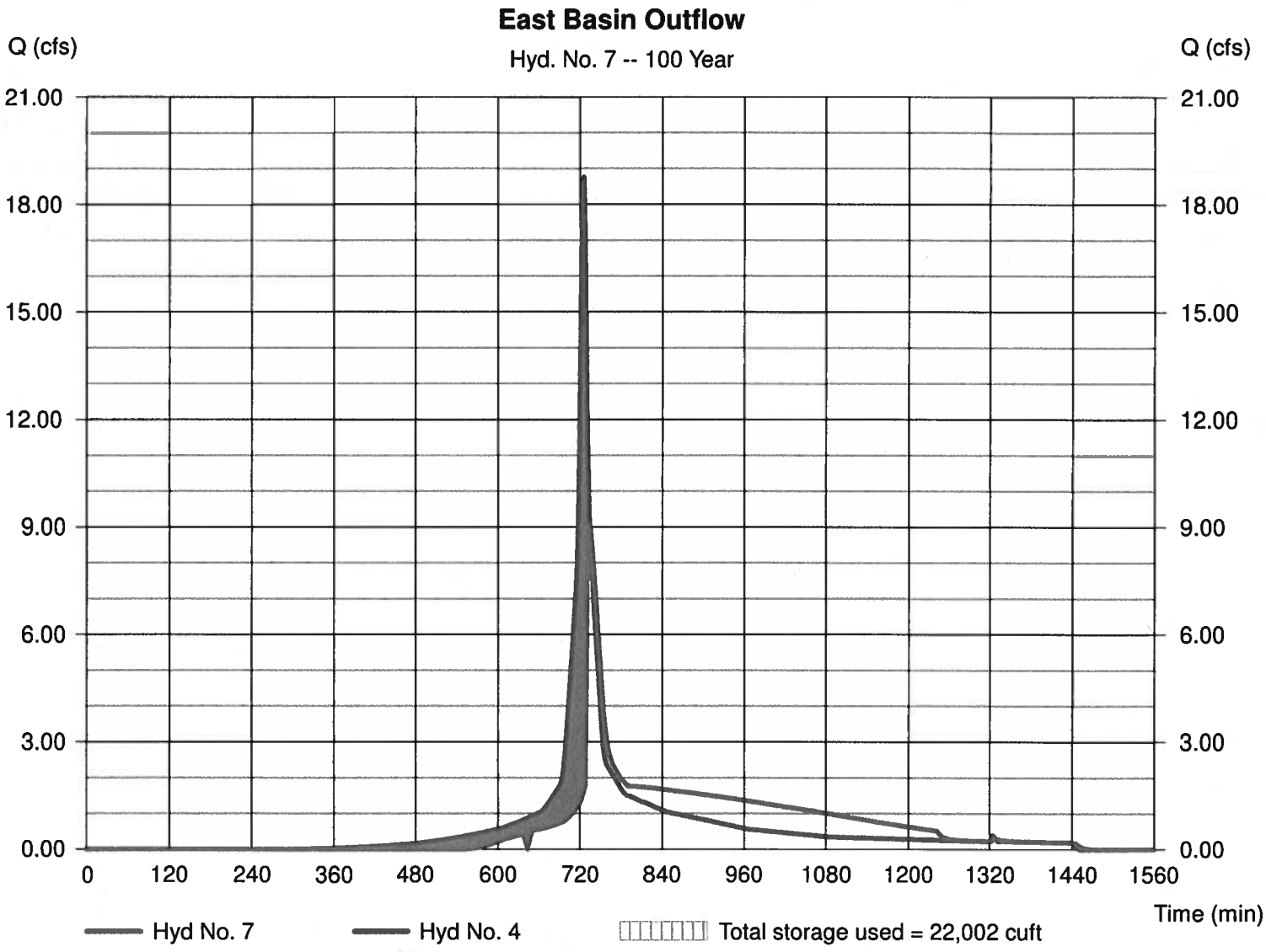
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 9.082 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 1 min	Hyd. volume	= 55,842 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.84 ft
Reservoir name	= East Basin	Max. Storage	= 22,002 cuft

Storage Indication method used.

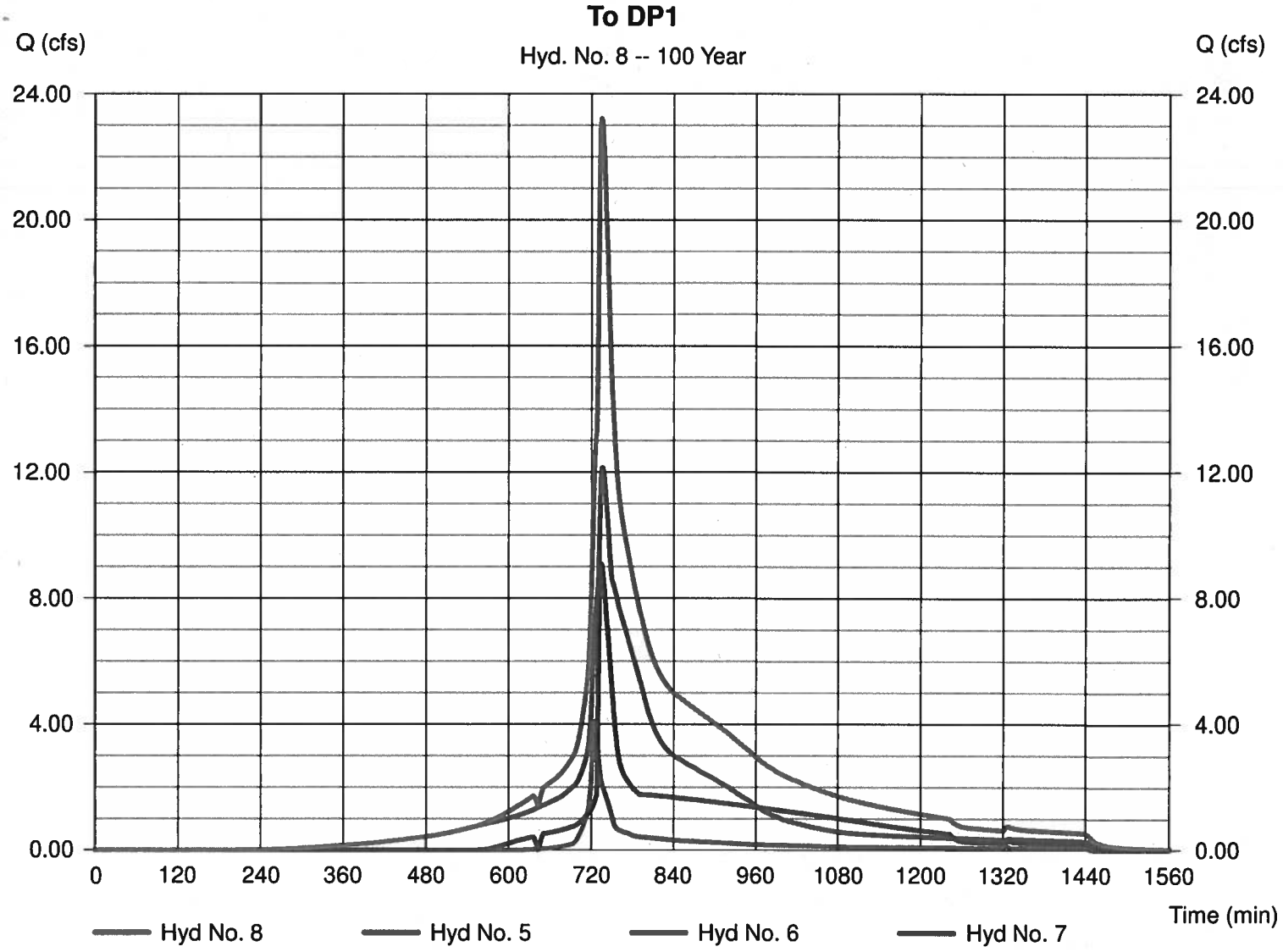


Hydrograph Report

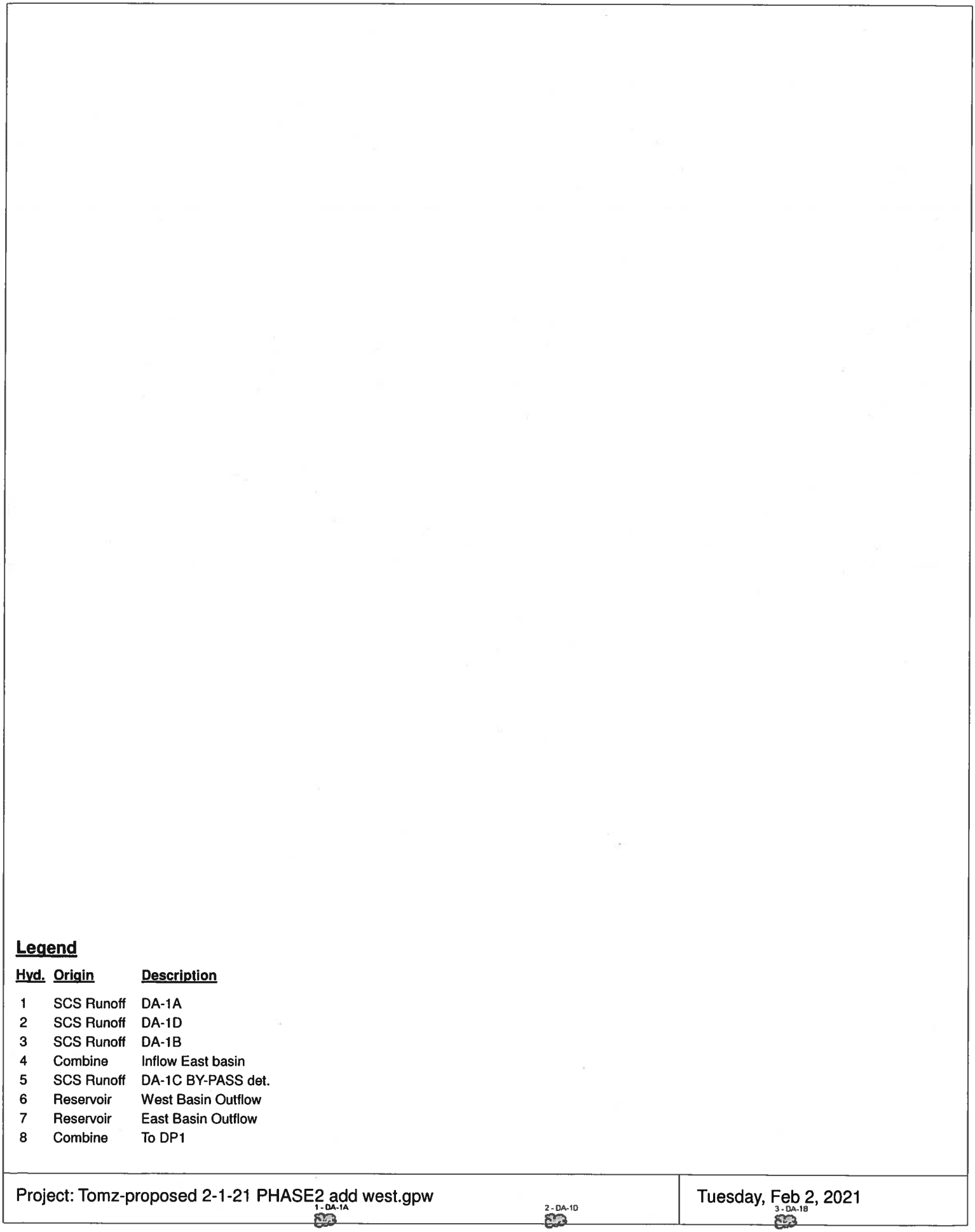
Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 23.22 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 1 min	Hyd. volume	= 166,301 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.430 ac



Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	DA-1A
2	SCS Runoff	DA-1D
3	SCS Runoff	DA-1B
4	Combine	Inflow East basin
5	SCS Runoff	DA-1C BY-PASS det.
6	Reservoir	West Basin Outflow
7	Reservoir	East Basin Outflow
8	Combine	To DP1

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	-------	12.57	-------	13.06	19.83	23.66	27.00	30.32	DA-1A
2	SCS Runoff	-------	-------	1.250	-------	1.324	2.411	3.059	3.635	4.216	DA-1D
3	SCS Runoff	-------	-------	6.394	-------	6.694	10.95	13.43	15.59	17.75	DA-1B
4	Combine	2, 3	-------	7.629	-------	8.003	13.35	16.46	19.18	21.90	Inflow East basin
5	SCS Runoff	-------	-------	0.396	-------	0.452	1.386	2.025	2.625	3.255	DA-1C BY-PASS det.
6	Reservoir	1	-------	3.422	-------	3.599	6.291	7.473	8.685	13.75	West Basin Outflow
7	Reservoir	4	-------	1.128	-------	1.158	1.551	1.870	5.353	8.392	East Basin Outflow
8	Combine	5, 6, 7	-------	4.742	-------	4.969	8.405	10.03	14.83	22.99	To DP1

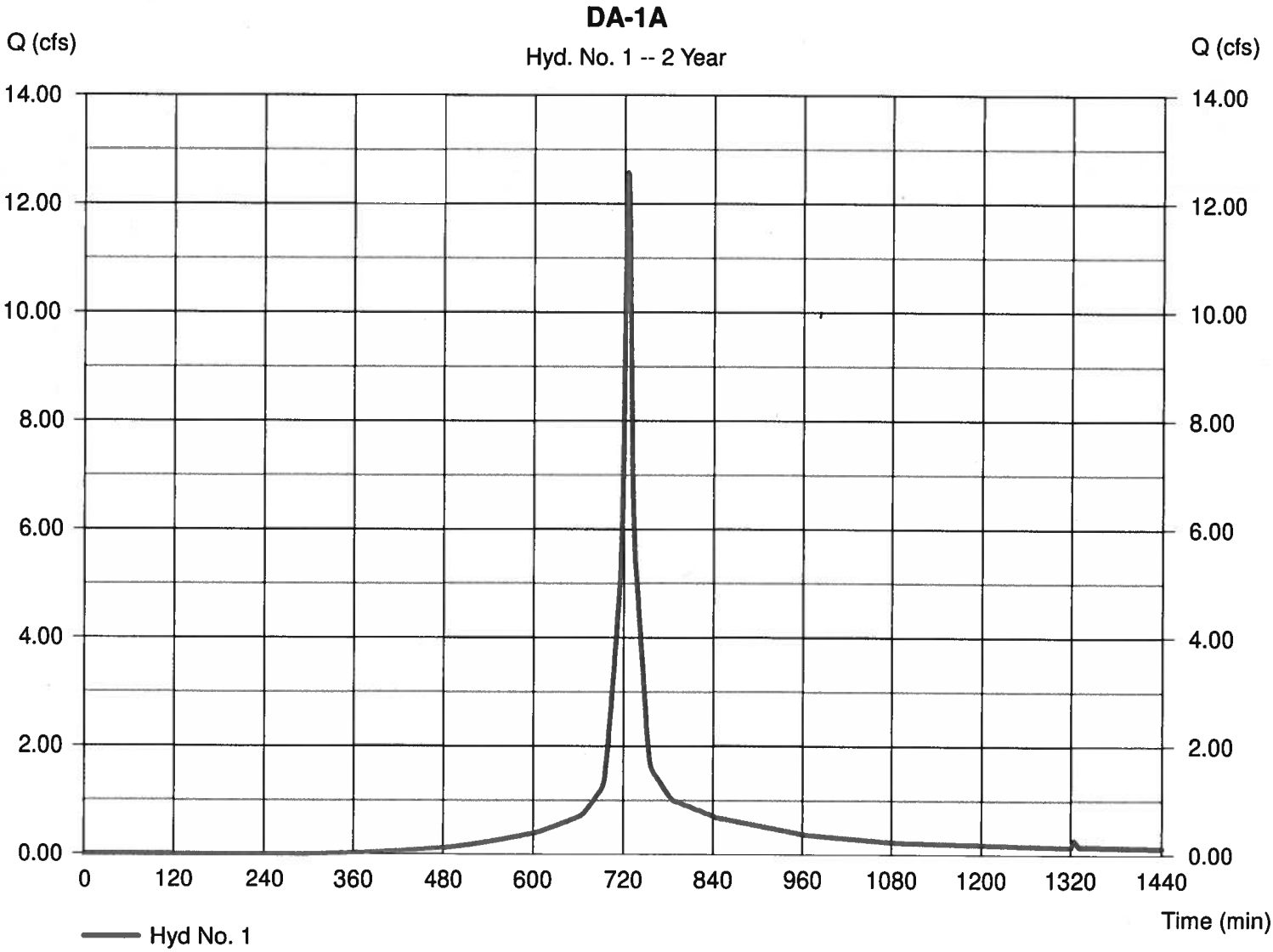
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 12.57 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 39,773 cuft
Drainage area	= 4.520 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.680 x 98) + (0.840 x 68)] / 4.520

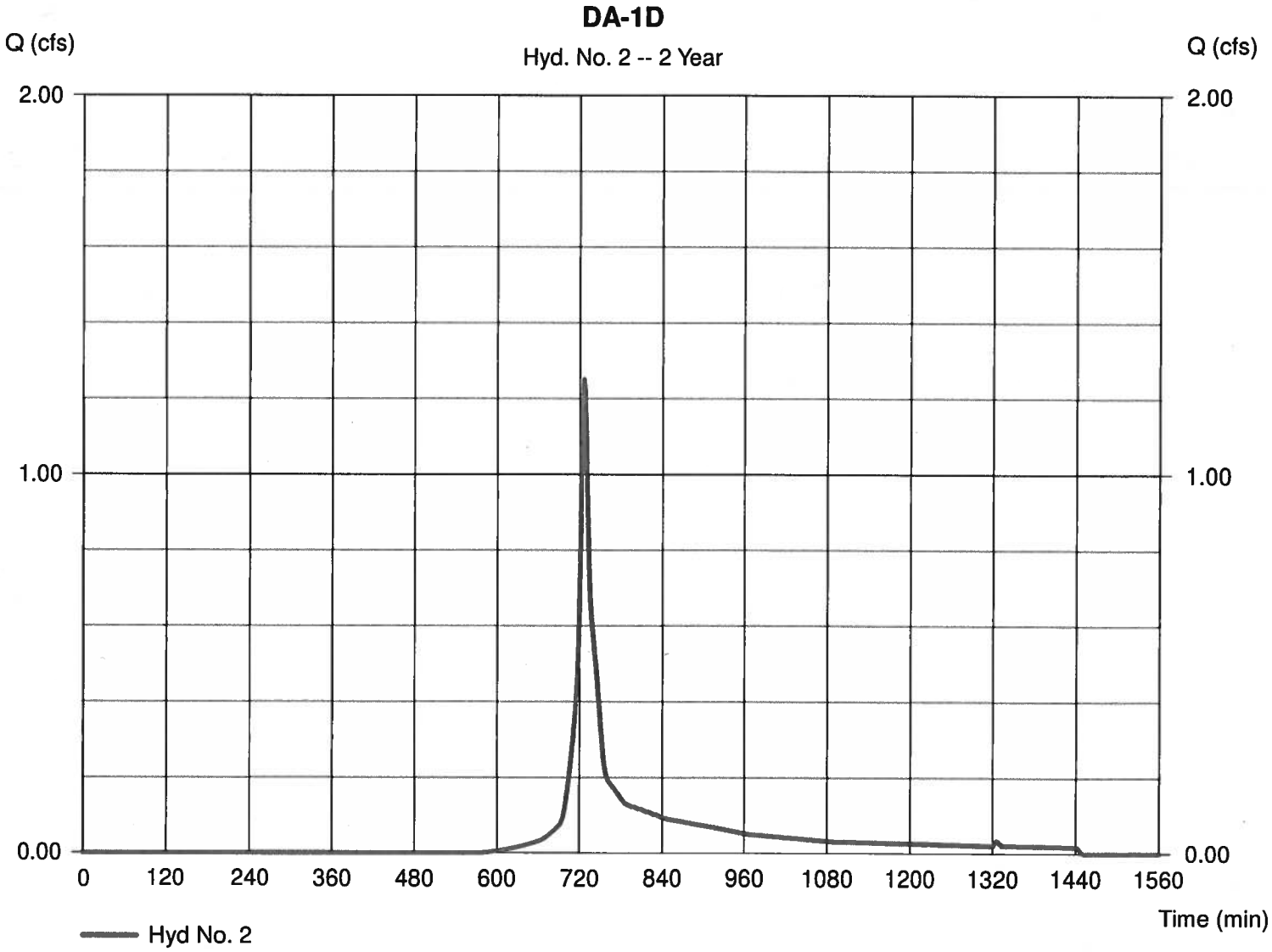


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 1.250 cfs
Storm frequency	= 2 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 4,069 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



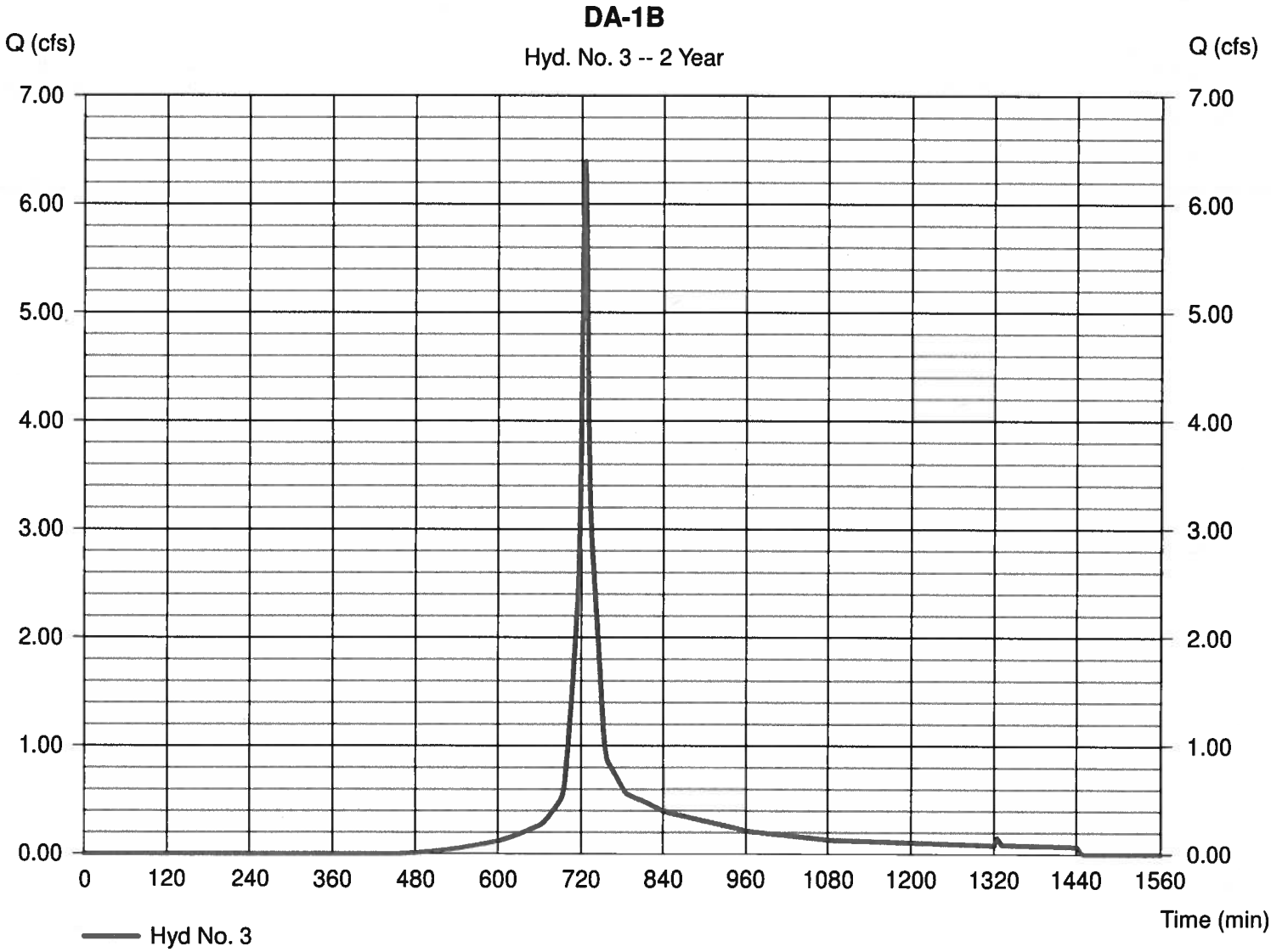
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 6.394 cfs
Storm frequency	= 2 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 19,716 cuft
Drainage area	= 2.870 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.980 x 98) + (0.890 x 60)] / 2.870

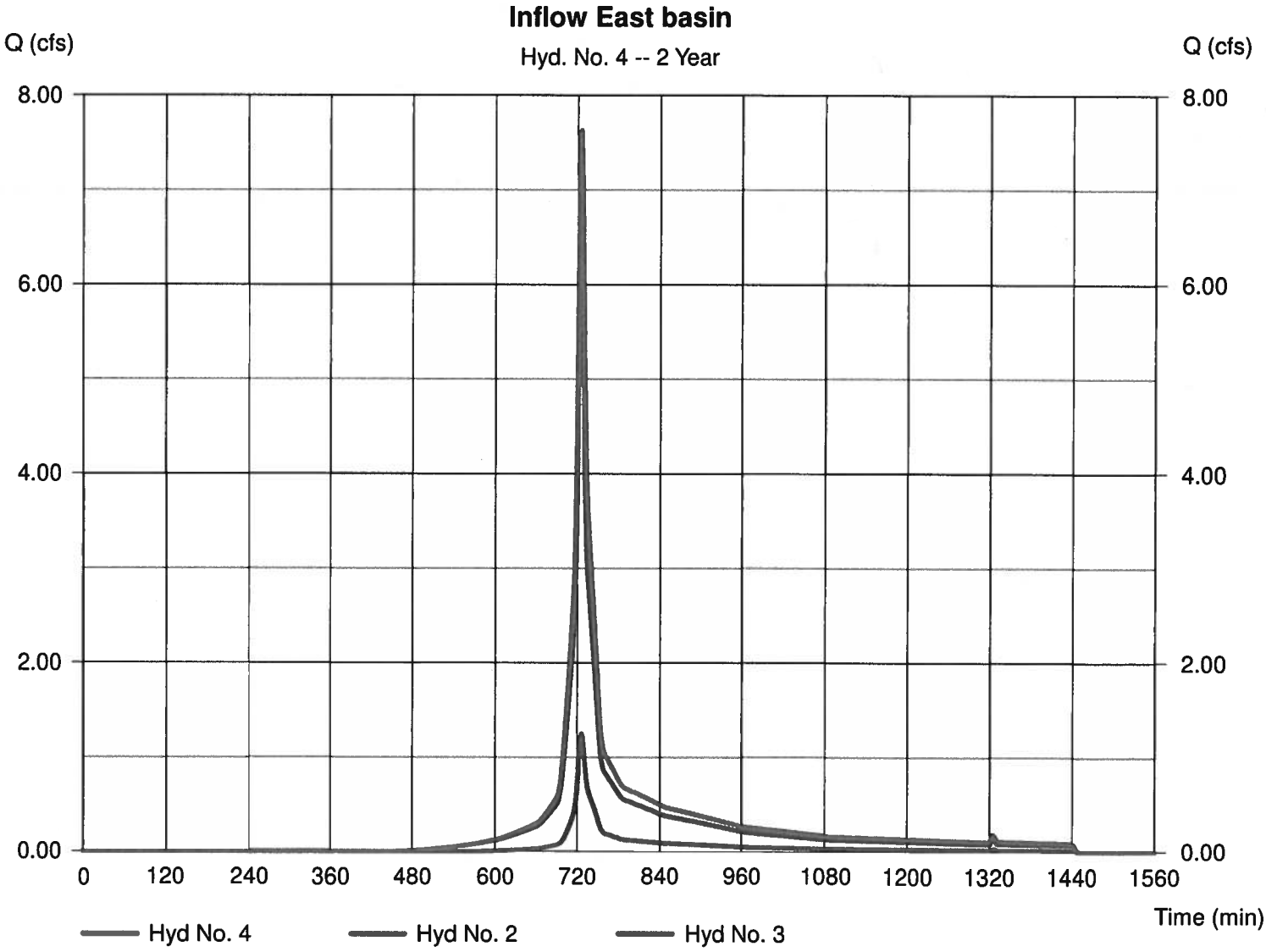


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 7.629 cfs
Storm frequency	= 2 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 23,784 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.730 ac



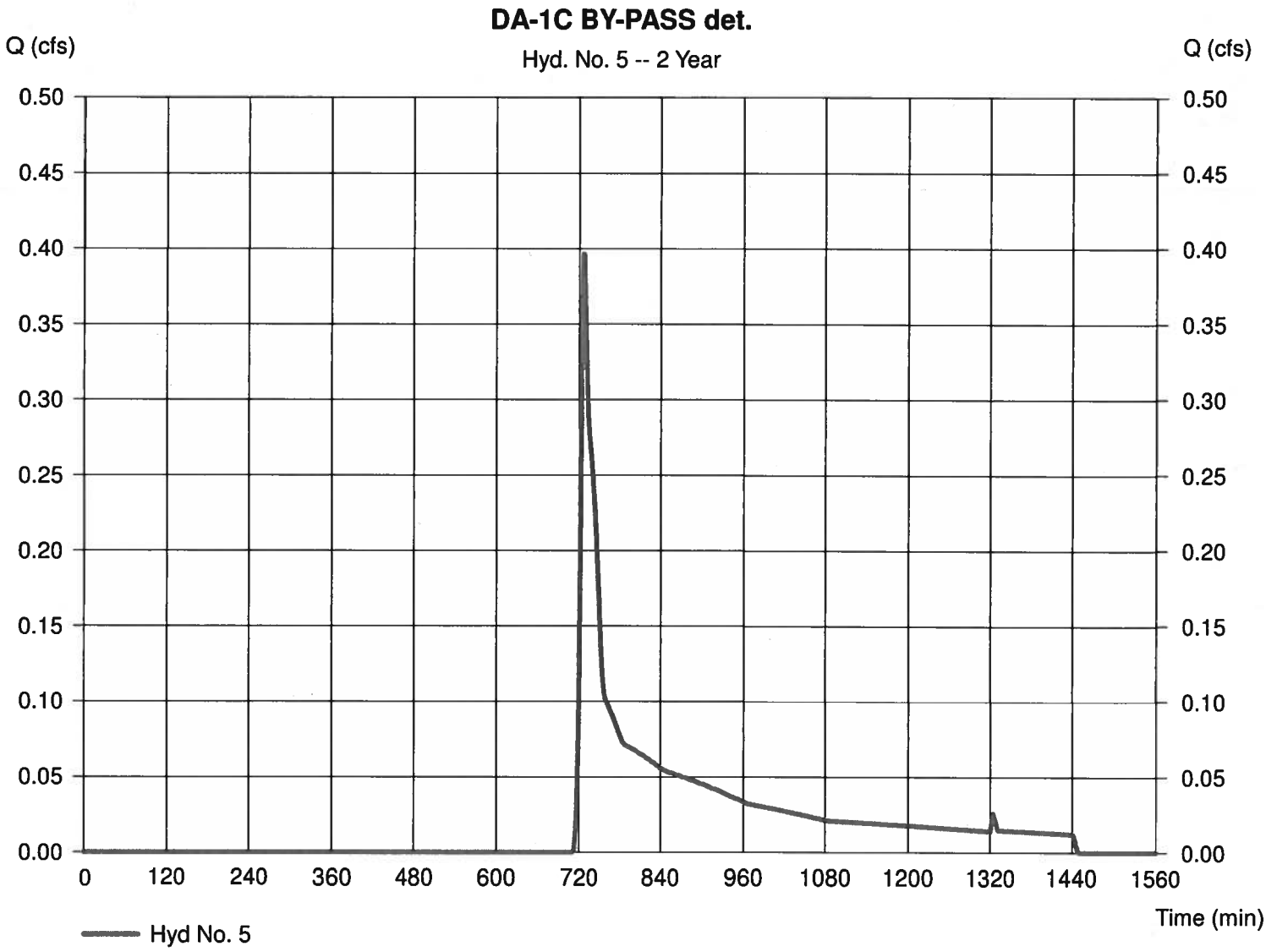
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 0.396 cfs
Storm frequency	= 2 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 1,800 cuft
Drainage area	= 1.000 ac	Curve number	= 62*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (0.810 x 53)] / 1.000



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

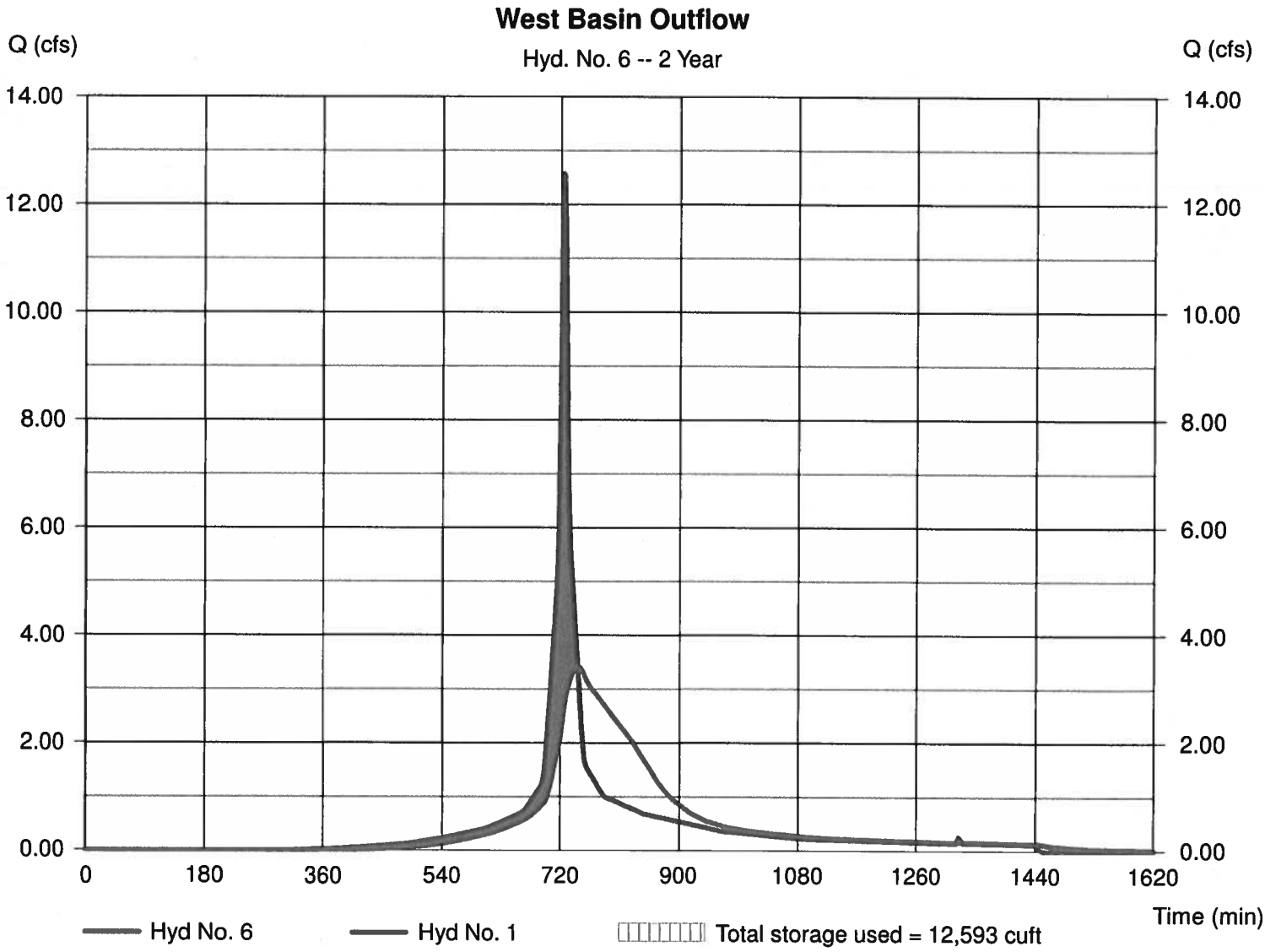
Tuesday, Feb 2, 2021

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 3.422 cfs
Storm frequency	= 2 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 39,753 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 58.43 ft
Reservoir name	= West Basin	Max. Storage	= 12,593 cuft

Storage Indication method used.



Pond No. 1 - West Basin

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	56.50	n/a	0	0
0.50	57.00	n/a	2,162	2,162
1.00	57.50	n/a	3,106	5,268
1.50	58.00	n/a	3,998	9,266
2.00	58.50	n/a	3,912	13,178
2.50	59.00	n/a	3,792	16,970
3.00	59.50	n/a	3,628	20,598
3.50	60.00	n/a	3,406	24,004
4.00	60.50	n/a	2,467	26,471
4.50	61.00	n/a	1,897	28,368
5.00	61.50	n/a	1,512	29,880

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	10.00	10.00	0.00
Span (in)	= 24.00	10.00	10.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 53.26	56.50	58.20	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

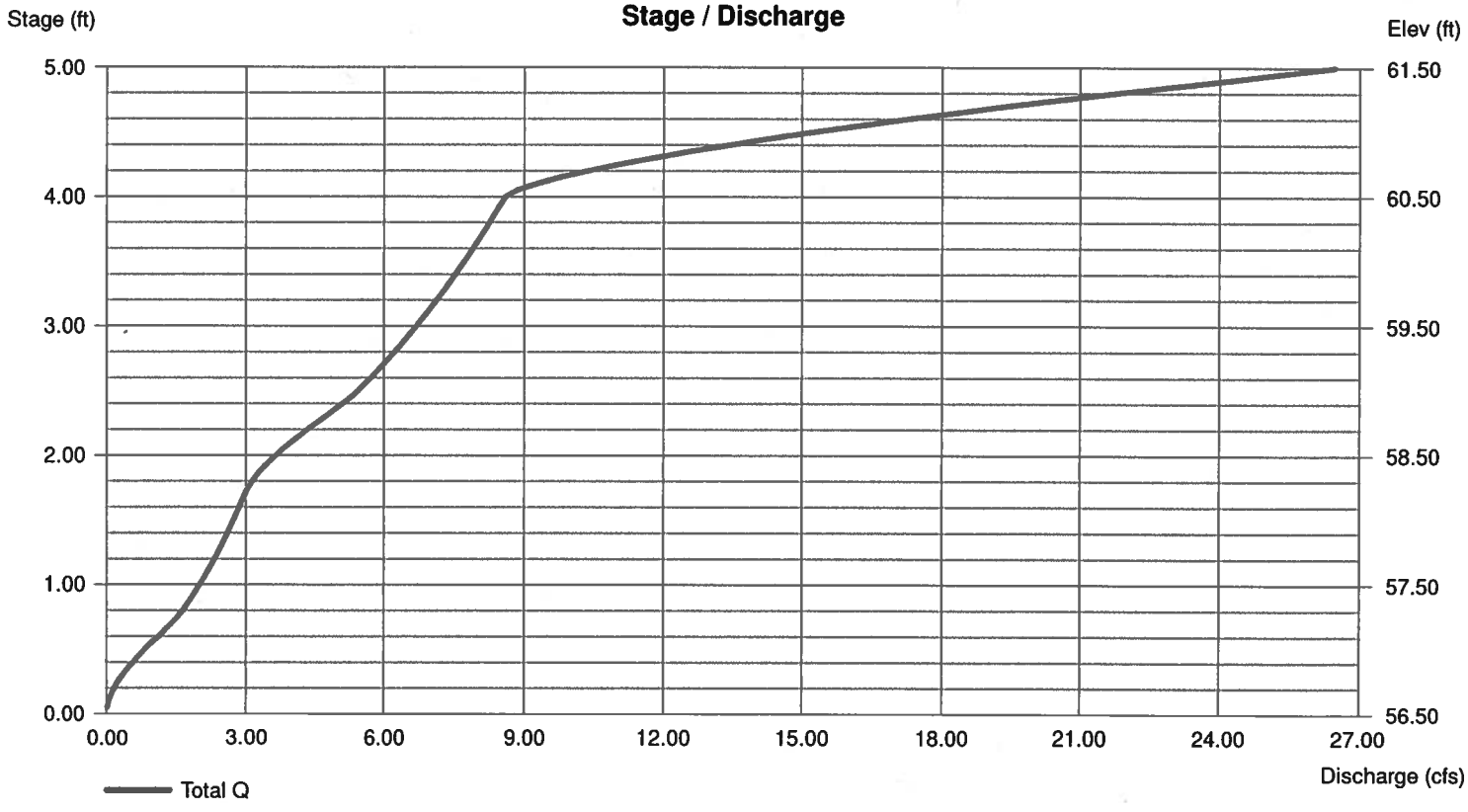
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 60.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



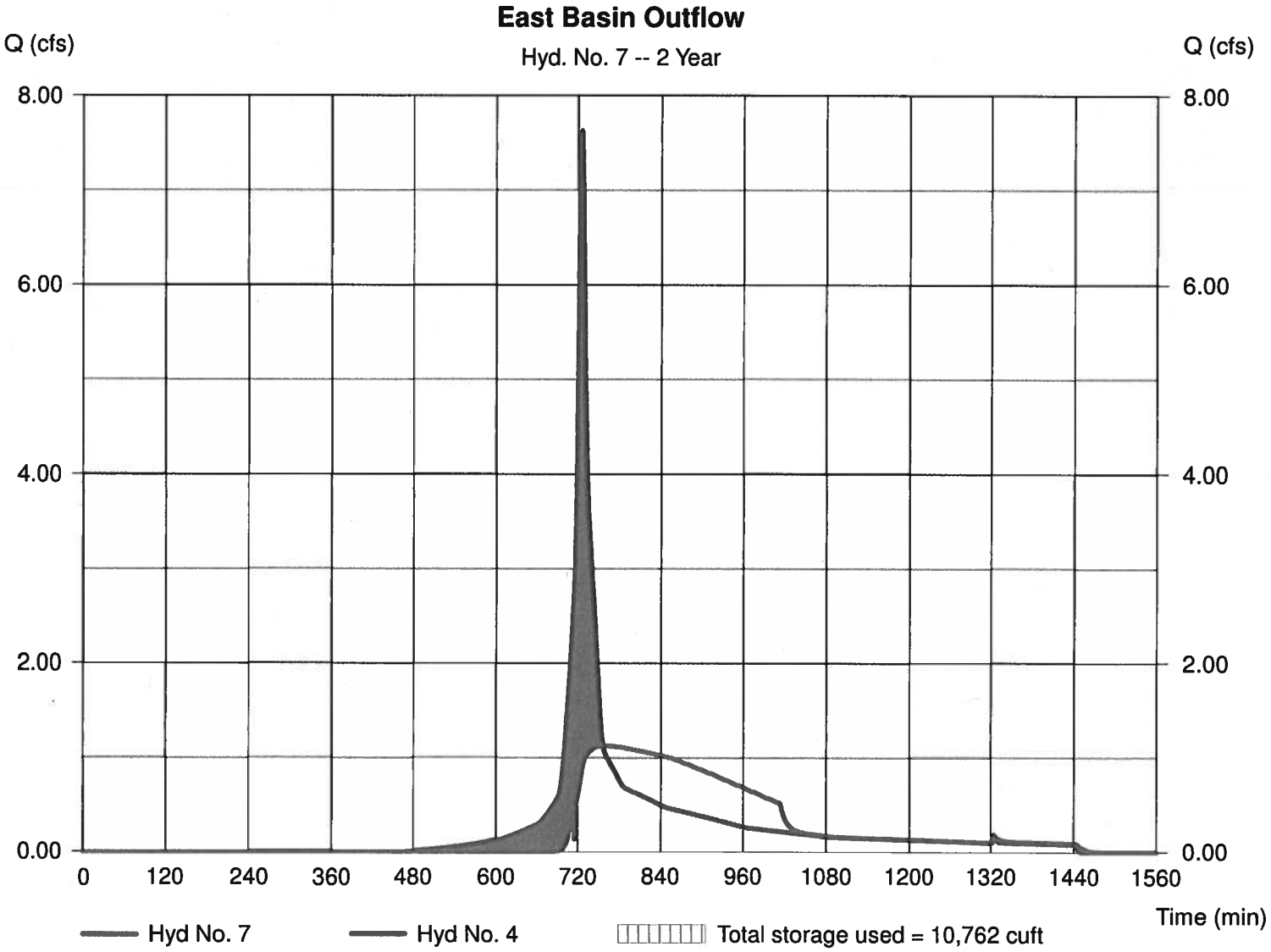
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.128 cfs
Storm frequency	= 2 yrs	Time to peak	= 756 min
Time interval	= 1 min	Hyd. volume	= 19,870 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 62.17 ft
Reservoir name	= East Basin	Max. Storage	= 10,762 cuft

Storage Indication method used.



Pond No. 2 - East Basin

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	59.85	n/a	0	0
0.50	60.35	n/a	1,211	1,211
1.00	60.85	n/a	1,924	3,135
1.50	61.35	n/a	2,595	5,730
2.00	61.85	n/a	2,524	8,254
2.50	62.35	n/a	3,865	12,119
3.00	62.85	n/a	3,737	15,856
3.50	63.35	n/a	3,562	19,418
4.00	63.85	n/a	3,291	22,709
4.50	64.35	n/a	2,835	25,544
5.00	64.85	n/a	2,646	28,190
5.50	65.35	n/a	2,646	30,836

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	6.00	0.00	0.00
Span (in)	= 15.00	6.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 59.10	60.50	0.00	0.00
Length (ft)	= 26.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

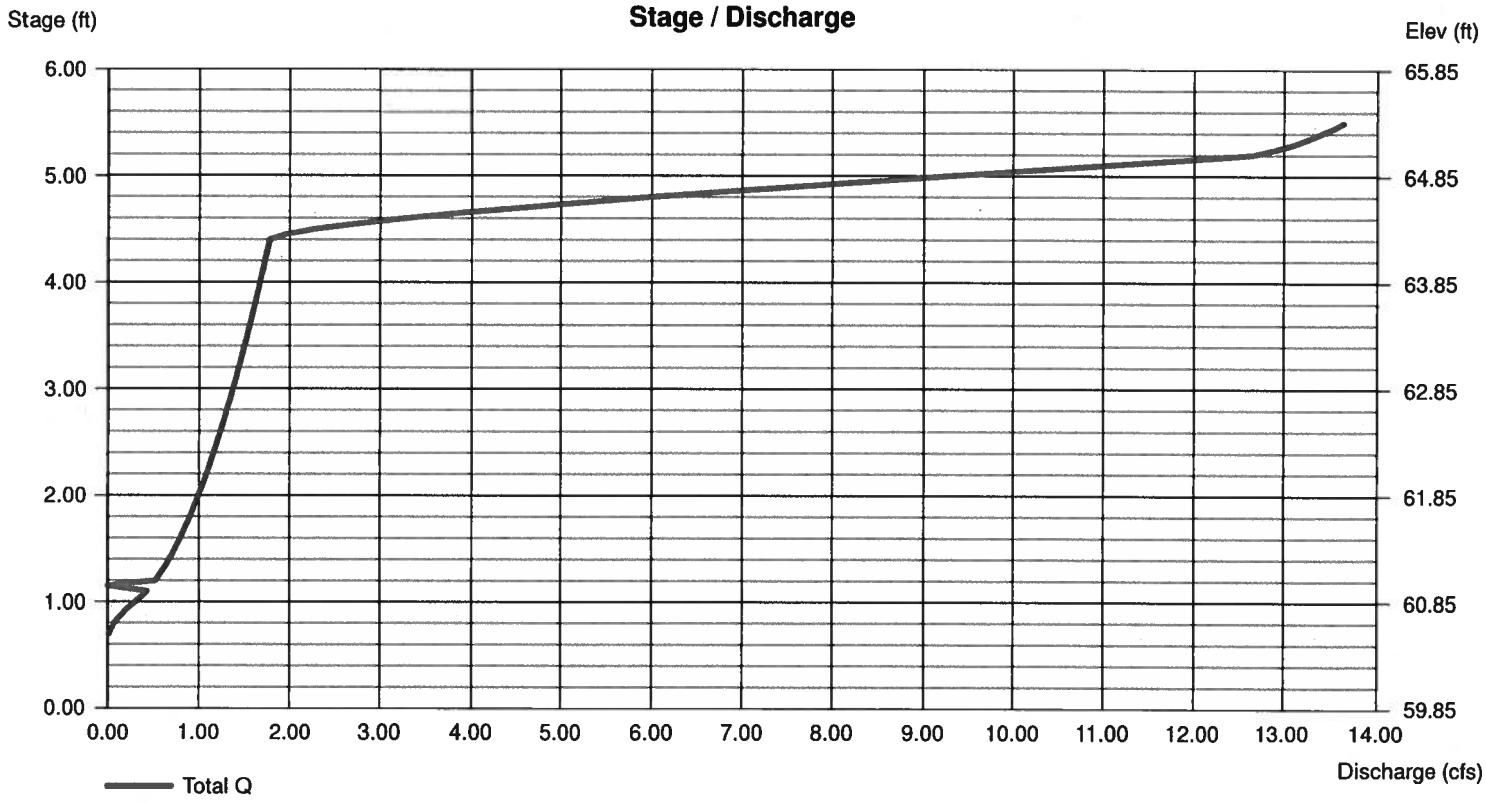
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 64.25	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

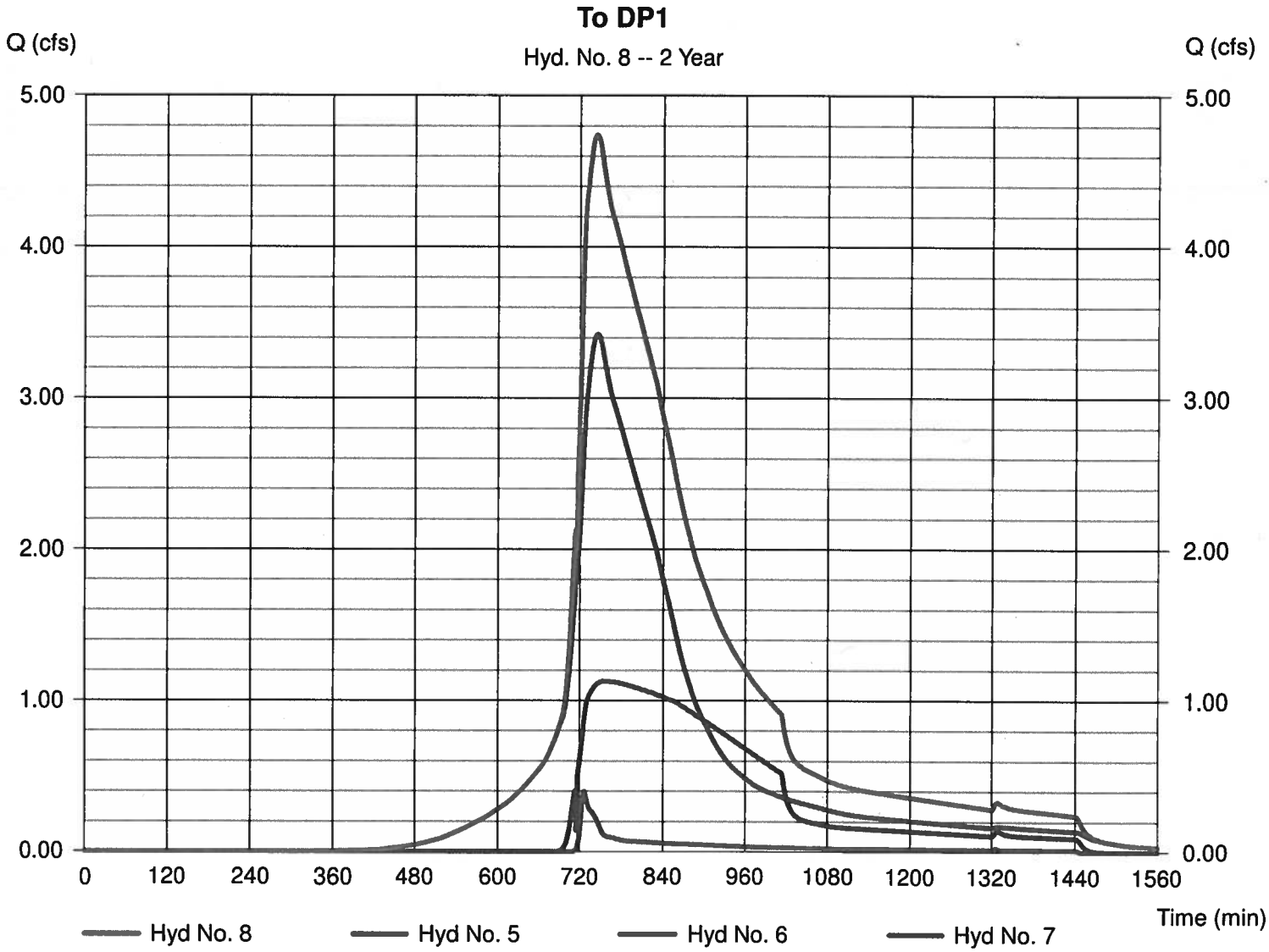


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 4.742 cfs
Storm frequency	= 2 yrs	Time to peak	= 744 min
Time interval	= 1 min	Hyd. volume	= 61,424 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.000 ac



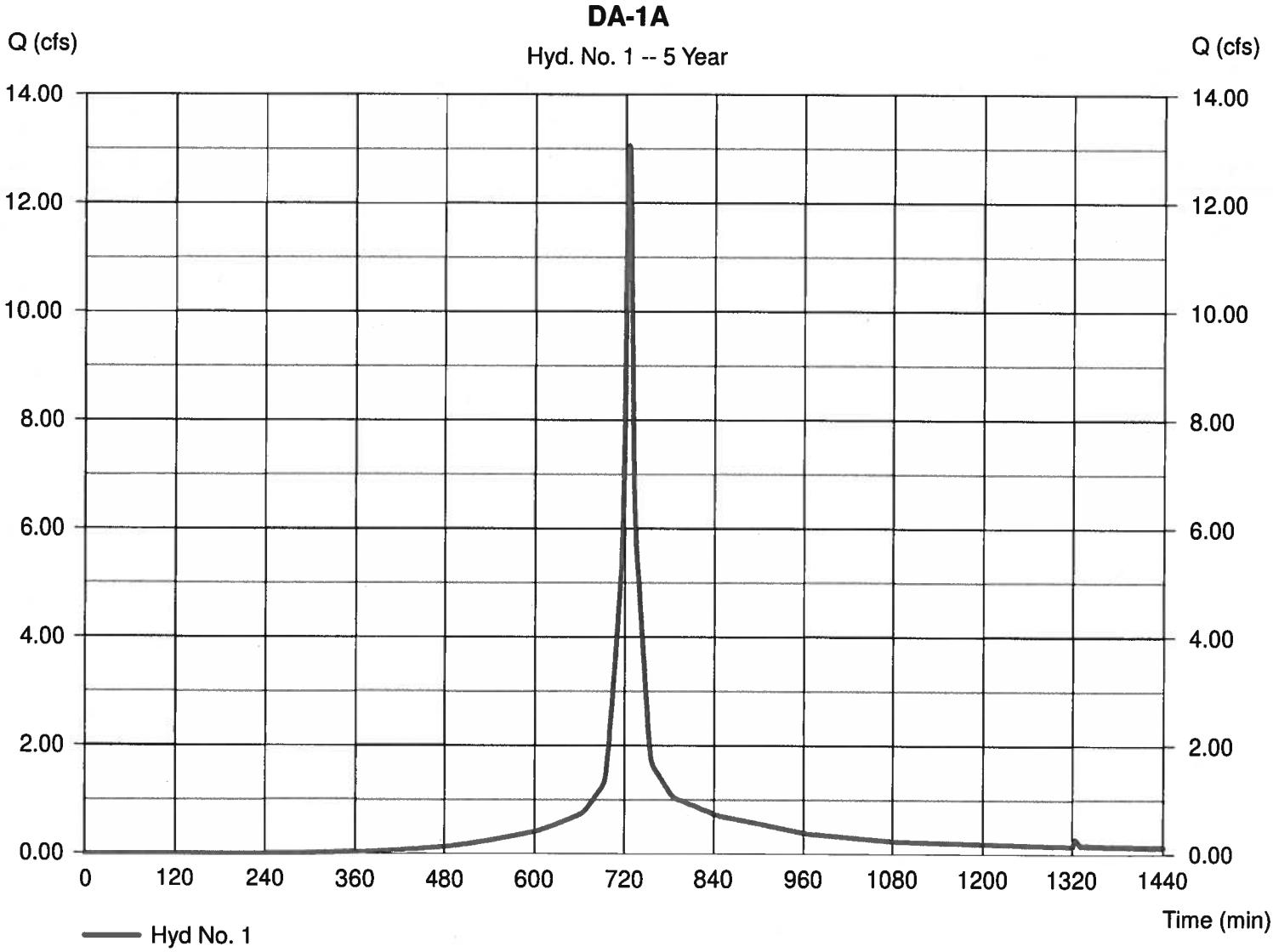
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 13.06 cfs
Storm frequency	= 5 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 41,383 cuft
Drainage area	= 4.520 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.680 x 98) + (0.840 x 68)] / 4.520

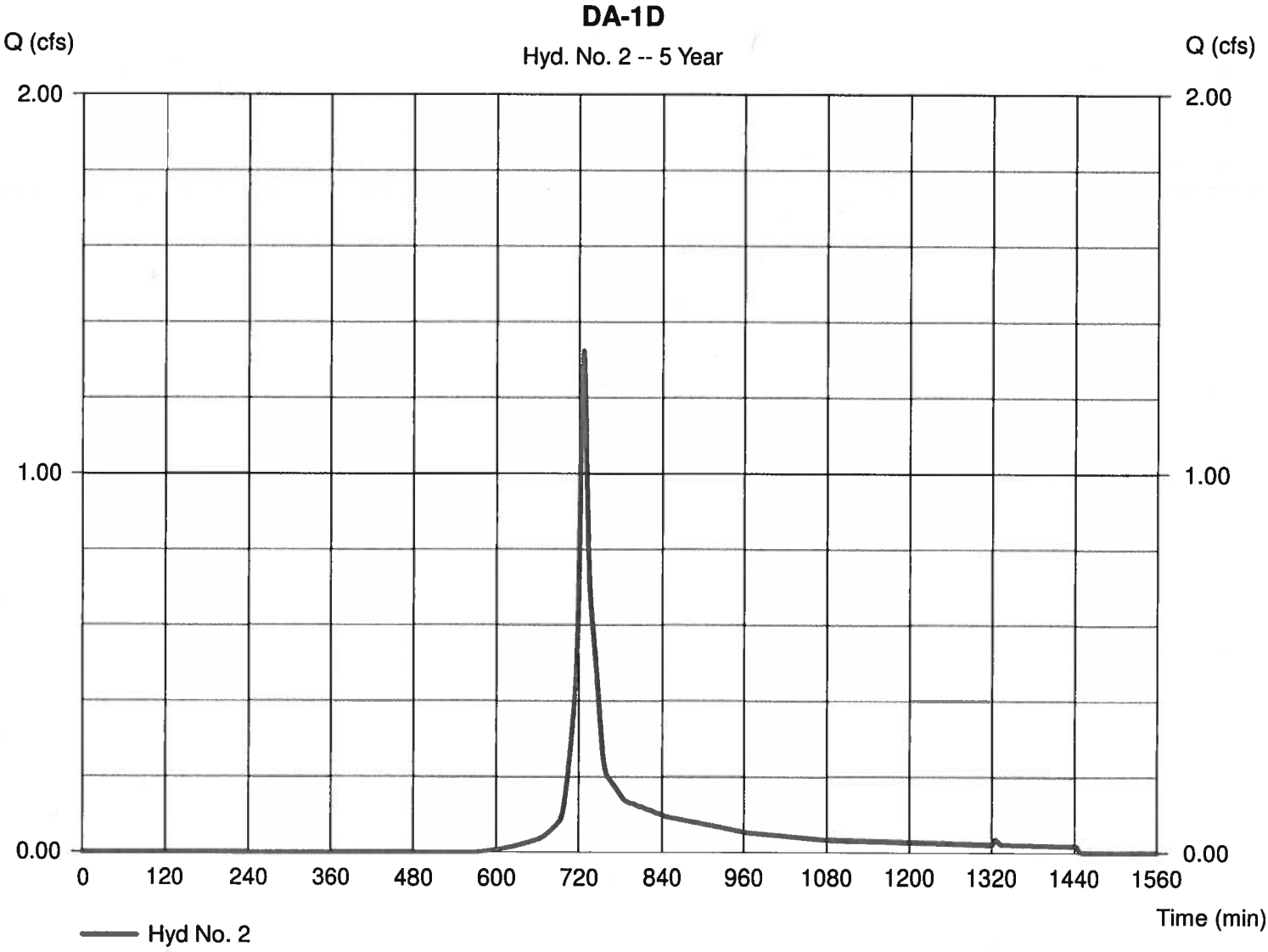


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 1.324 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 4,299 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



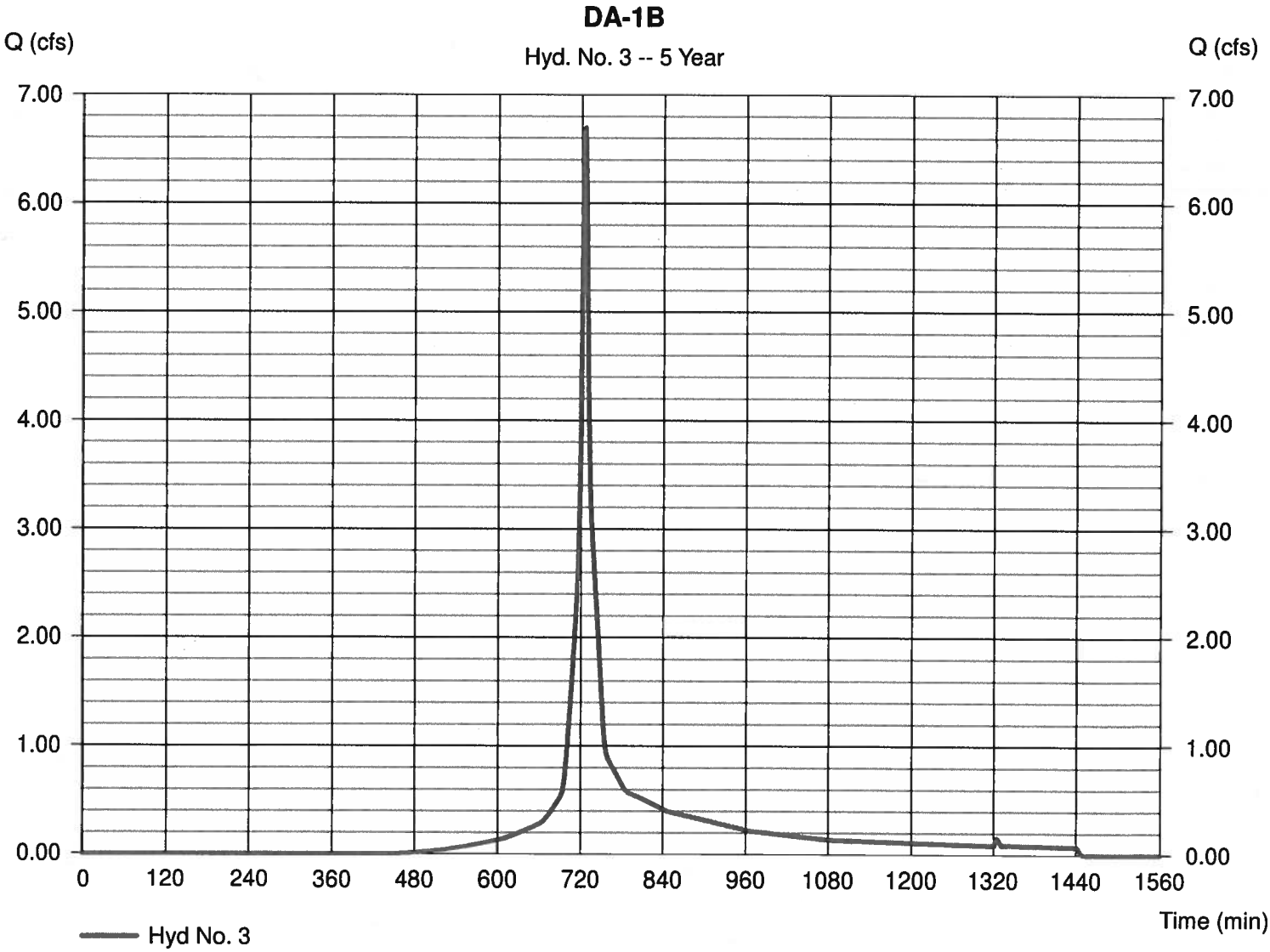
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 6.694 cfs
Storm frequency	= 5 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 20,653 cuft
Drainage area	= 2.870 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.980 x 98) + (0.890 x 60)] / 2.870

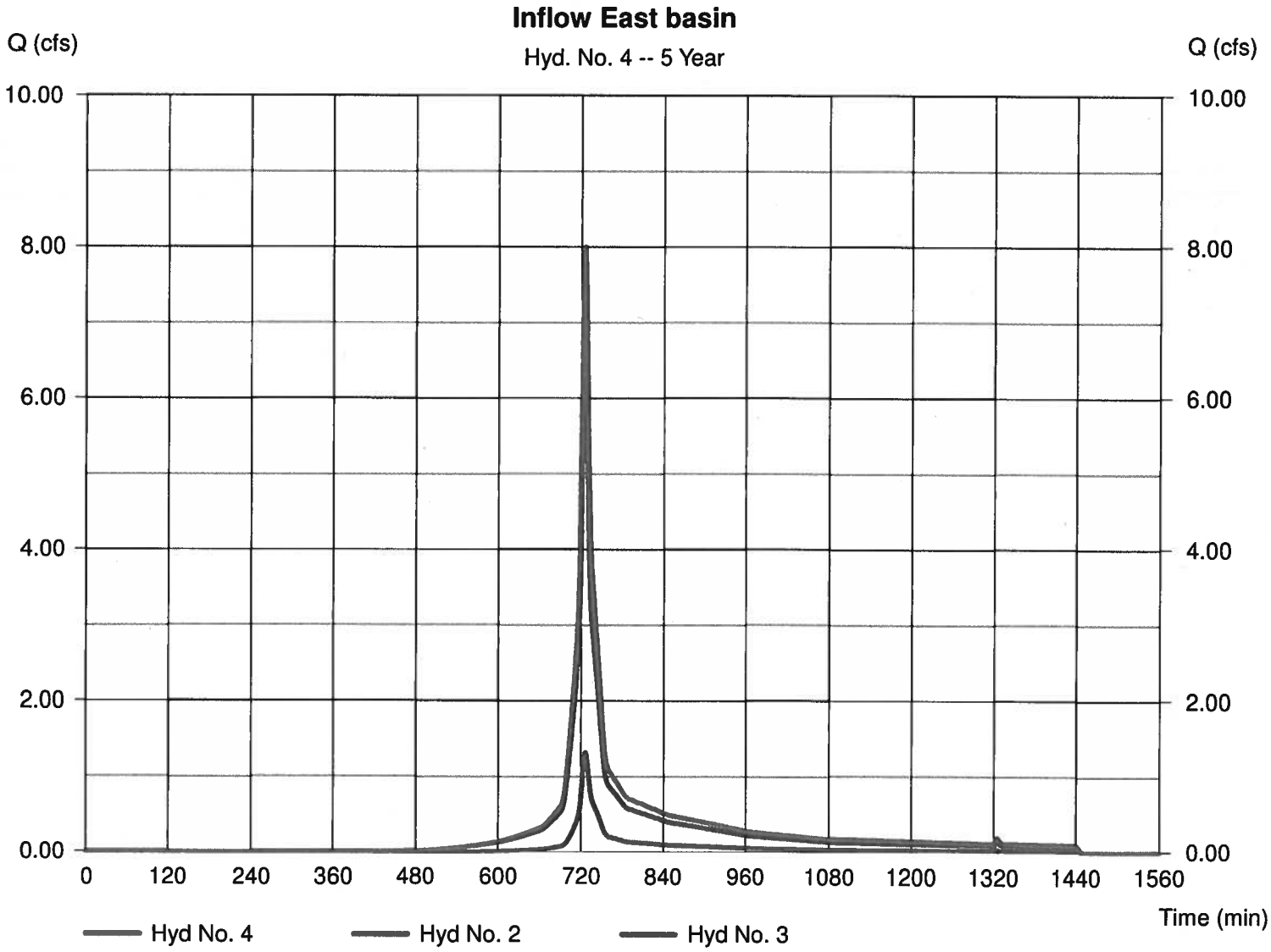


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 8.003 cfs
Storm frequency	= 5 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 24,951 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.730 ac



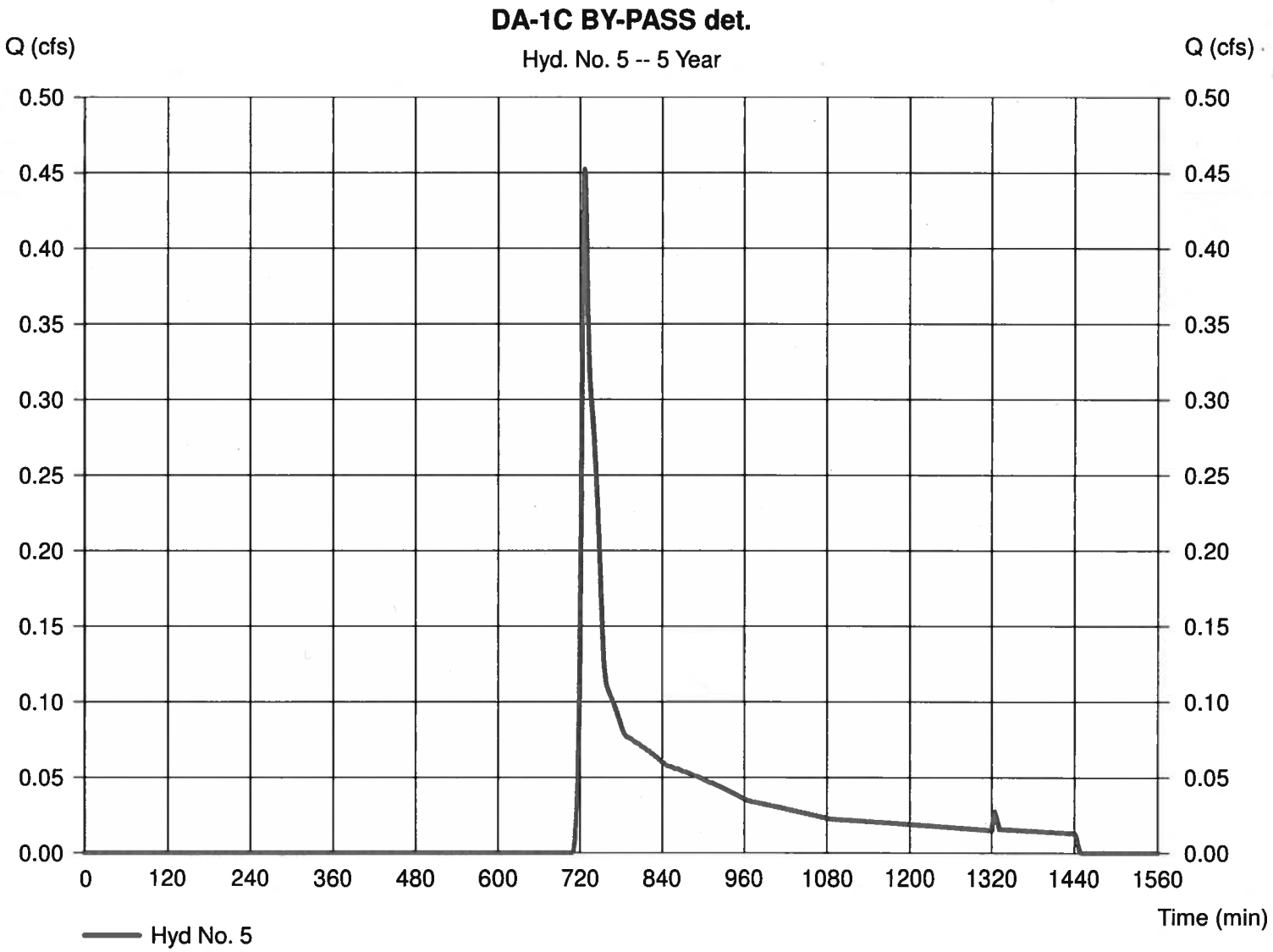
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 0.452 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 1,963 cuft
Drainage area	= 1.000 ac	Curve number	= 62*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.30 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (0.810 x 53)] / 1.000



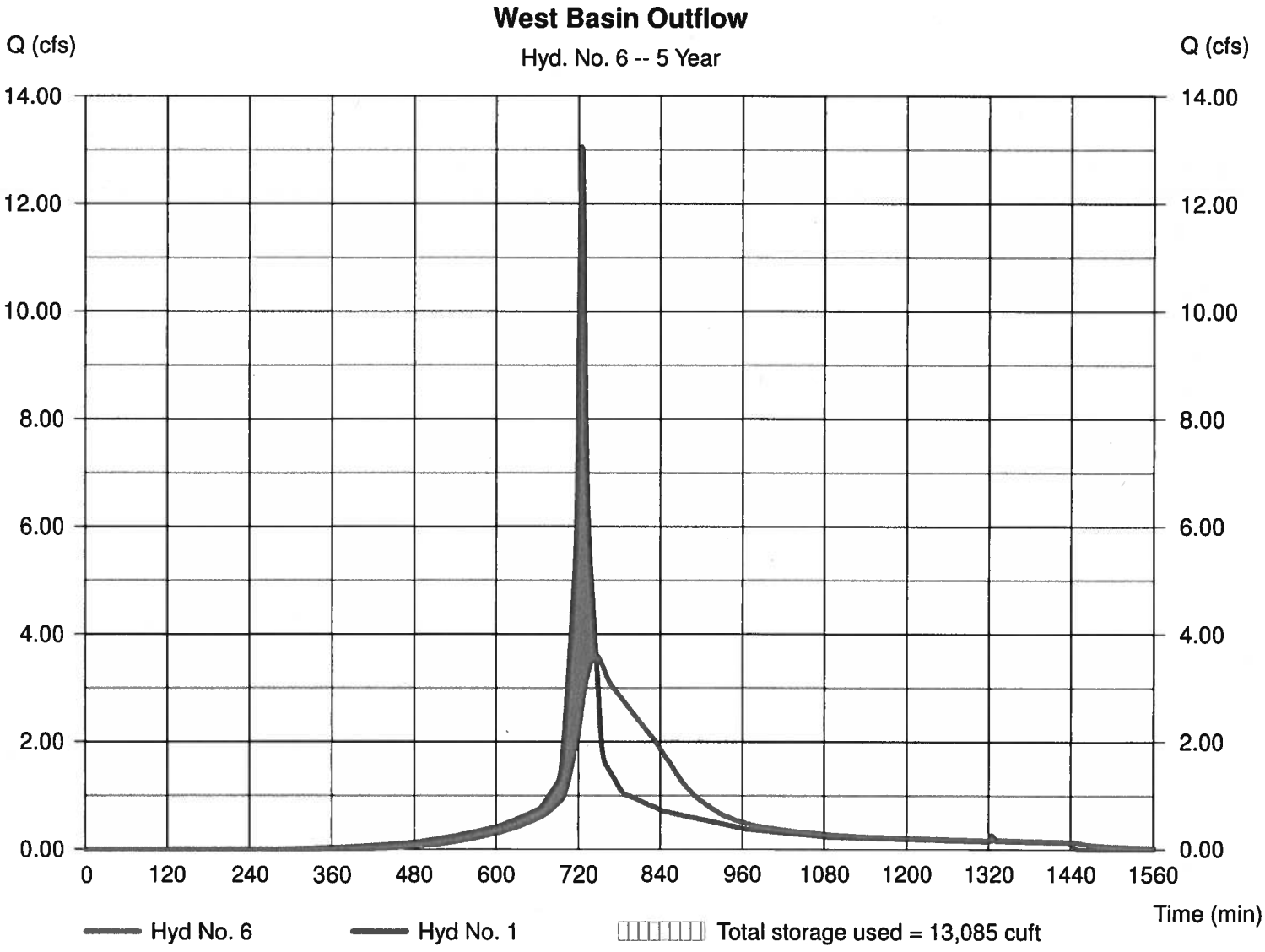
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 3.599 cfs
Storm frequency	= 5 yrs	Time to peak	= 745 min
Time interval	= 1 min	Hyd. volume	= 41,363 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 58.49 ft
Reservoir name	= West Basin	Max. Storage	= 13,085 cuft

Storage Indication method used.



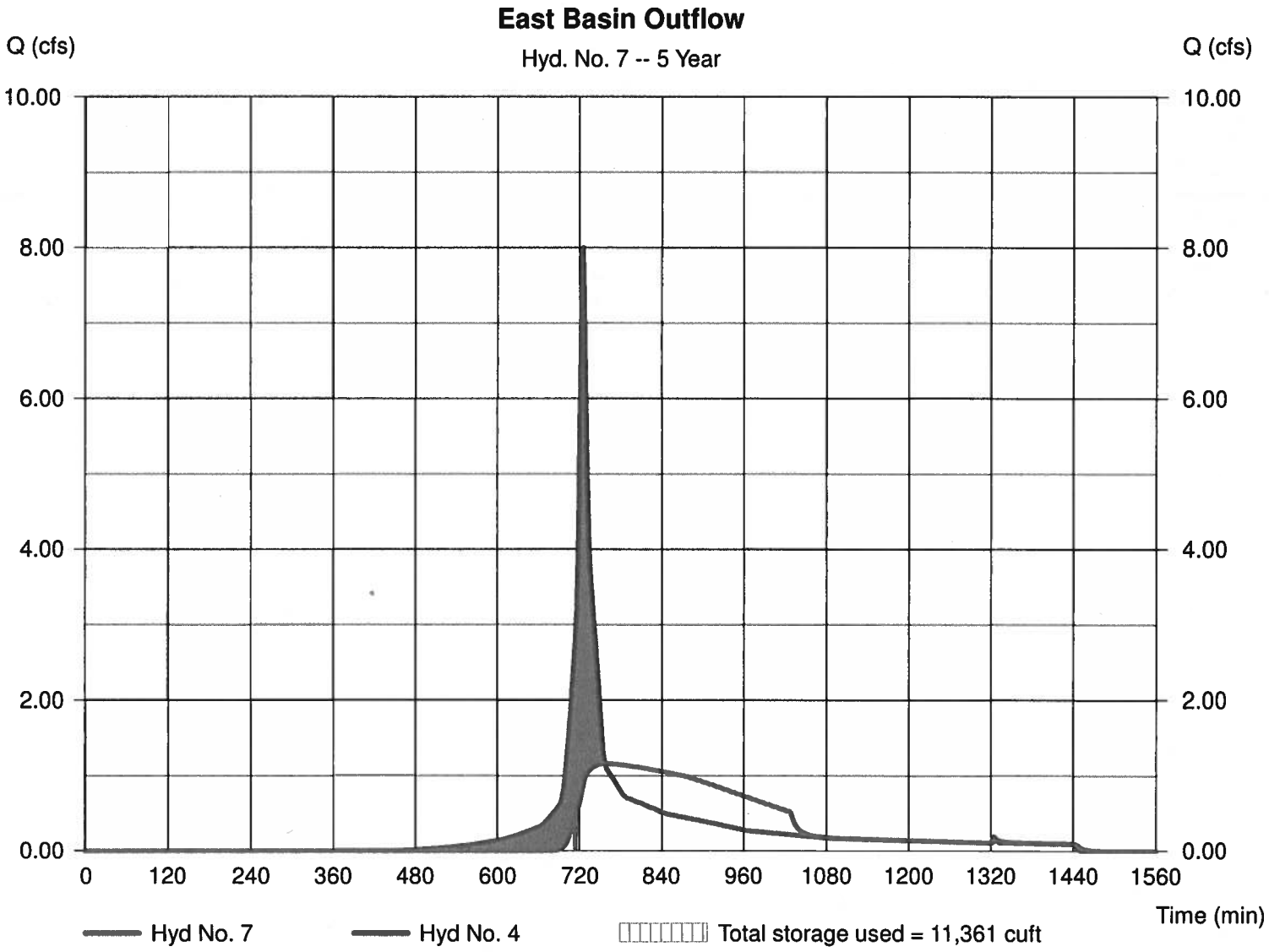
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.158 cfs
Storm frequency	= 5 yrs	Time to peak	= 757 min
Time interval	= 1 min	Hyd. volume	= 21,037 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 62.25 ft
Reservoir name	= East Basin	Max. Storage	= 11,361 cuft

Storage Indication method used.

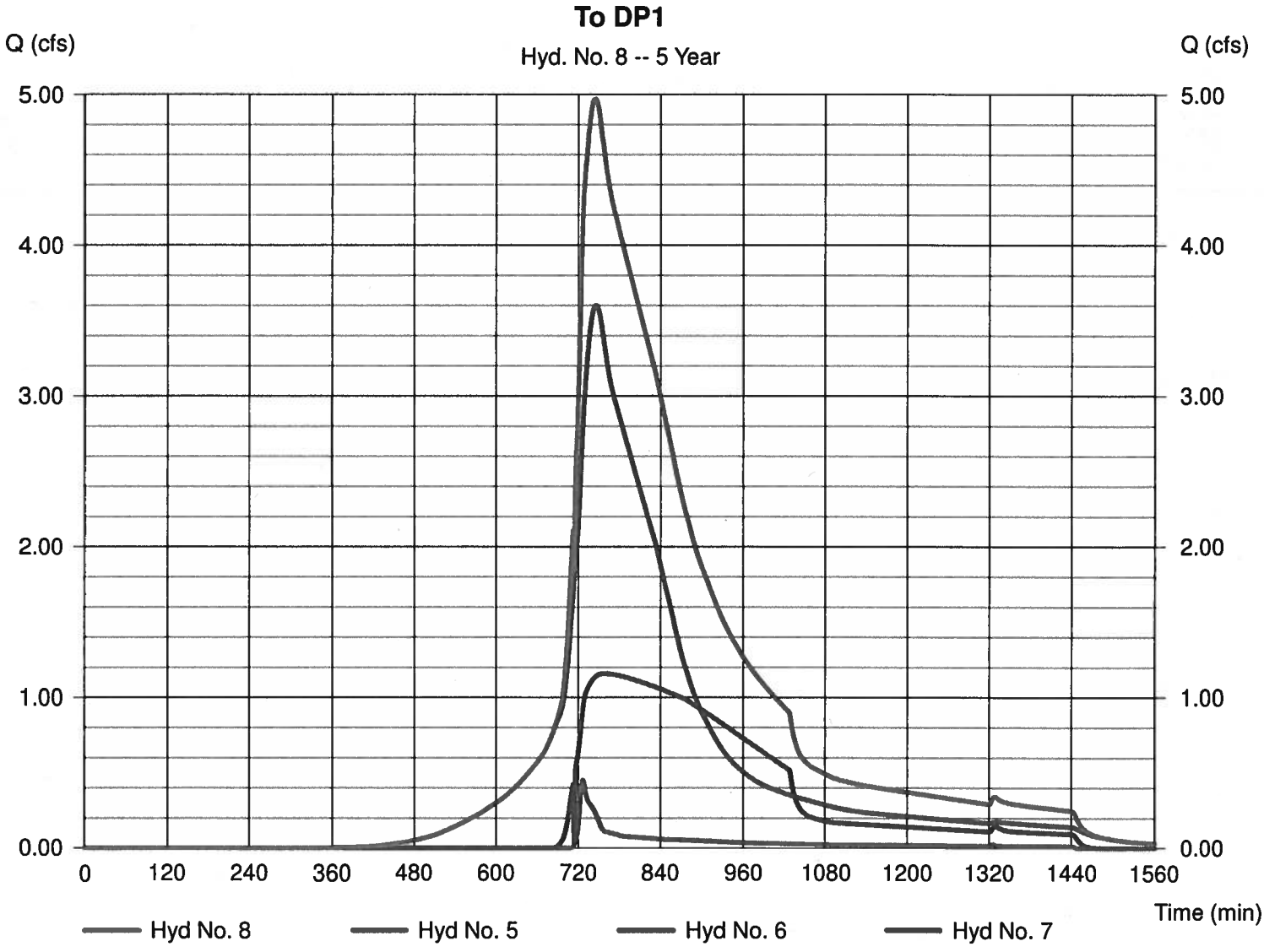


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 4.969 cfs
Storm frequency	= 5 yrs	Time to peak	= 744 min
Time interval	= 1 min	Hyd. volume	= 64,364 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.000 ac



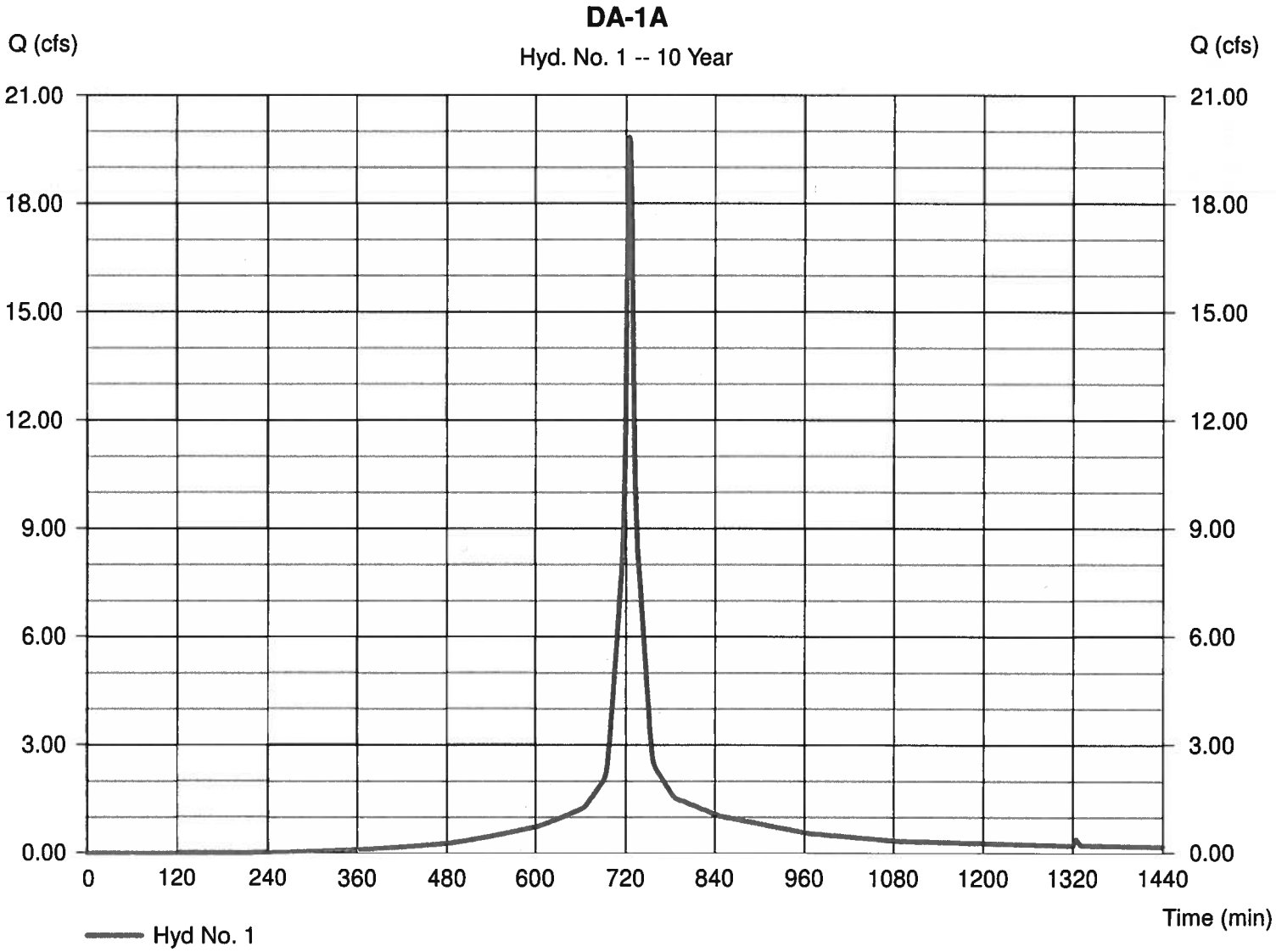
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 19.83 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 64,241 cuft
Drainage area	= 4.520 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.680 x 98) + (0.840 x 68)] / 4.520

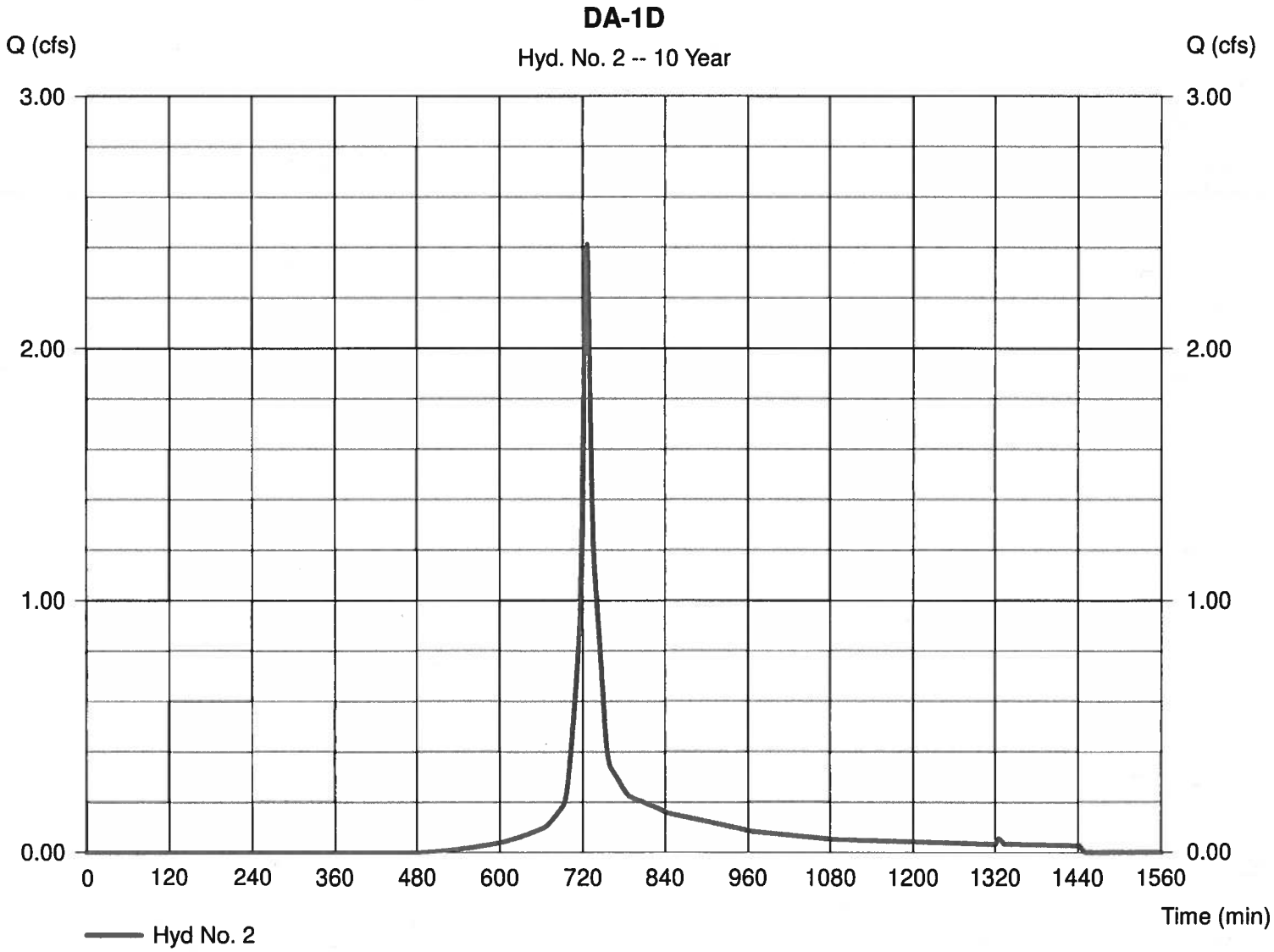


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 2.411 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 7,747 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



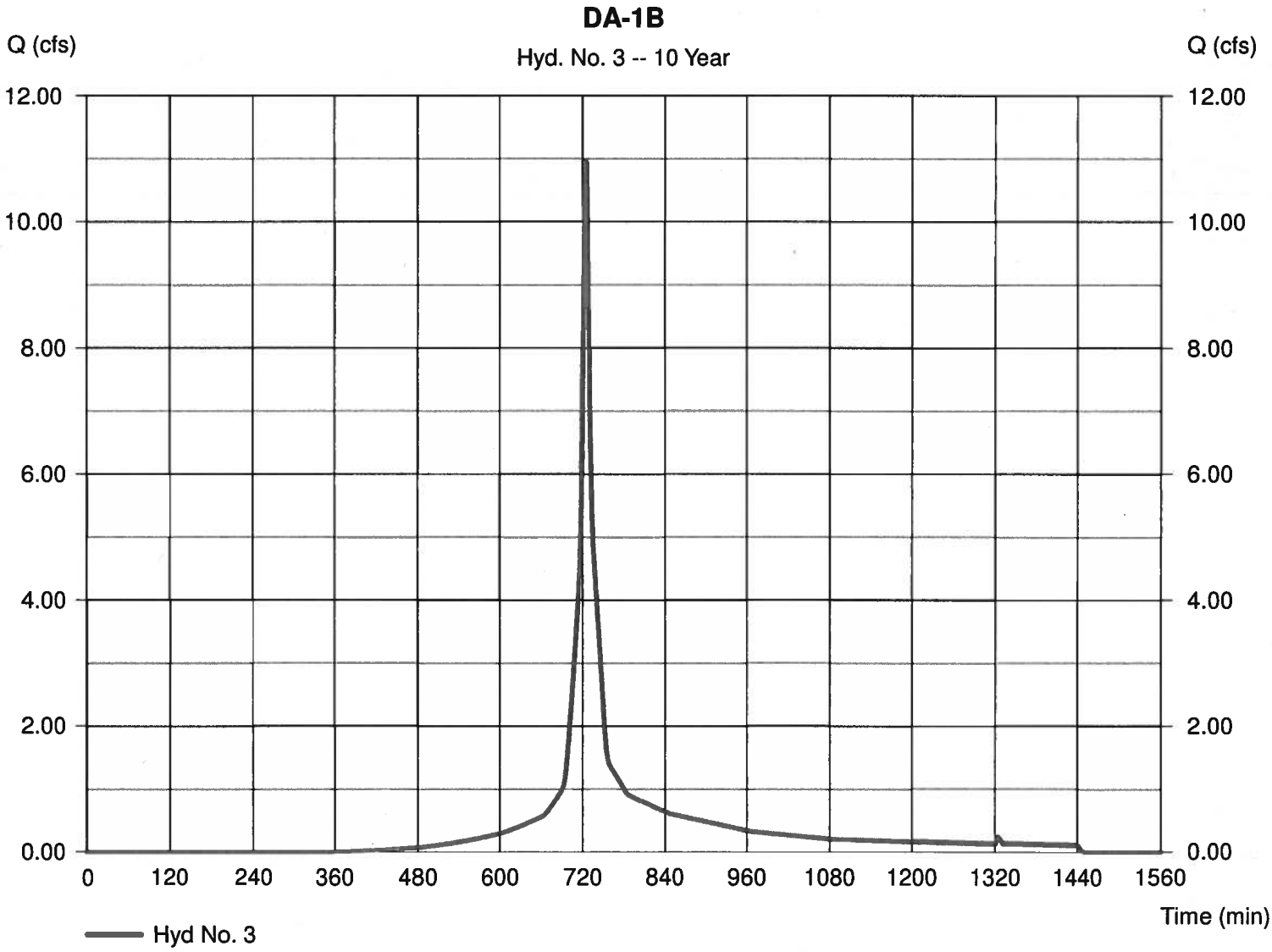
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 10.95 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 34,251 cuft
Drainage area	= 2.870 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.980 x 98) + (0.890 x 60)] / 2.870

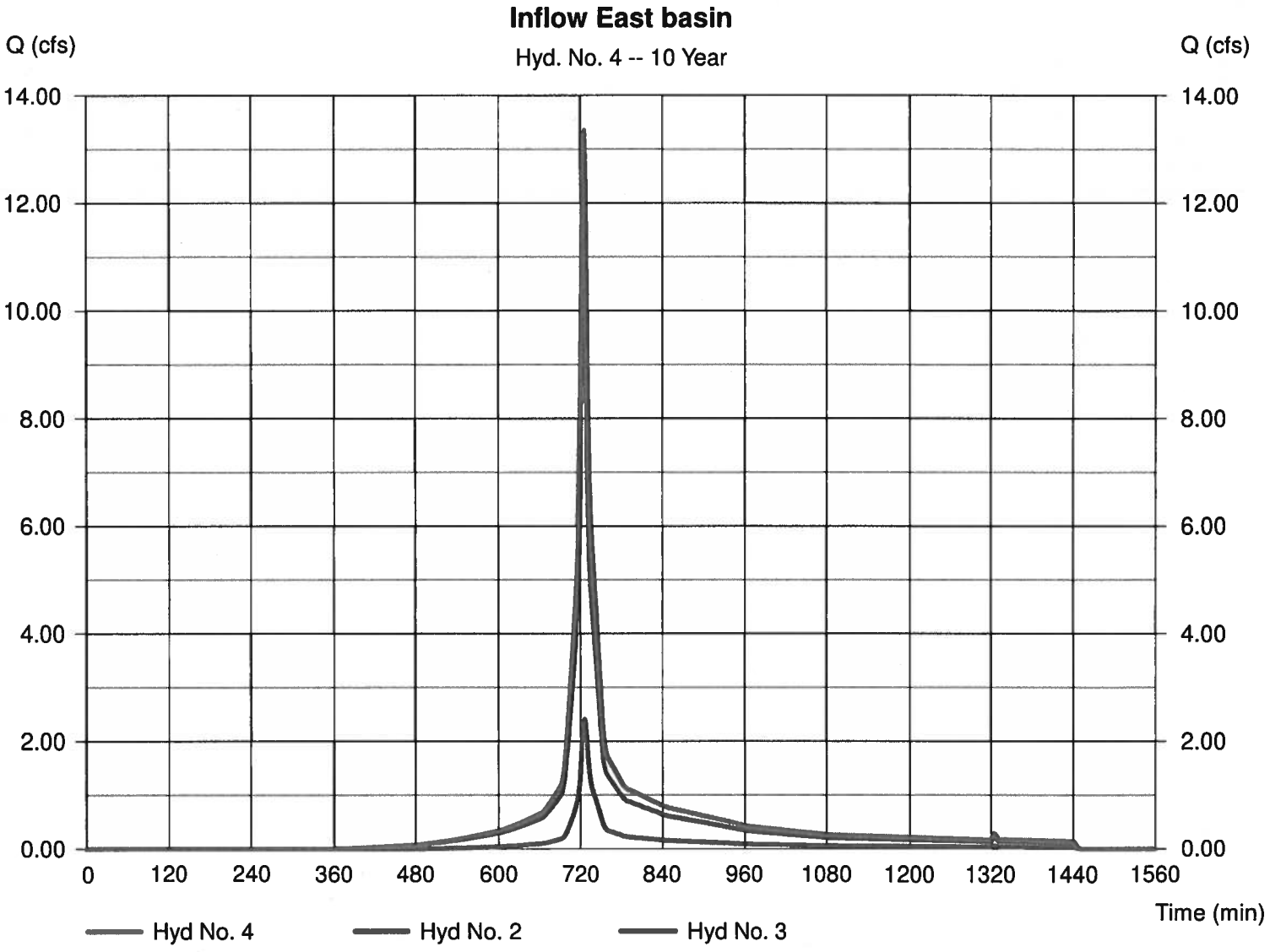


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 13.35 cfs
Storm frequency	= 10 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 41,998 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.730 ac



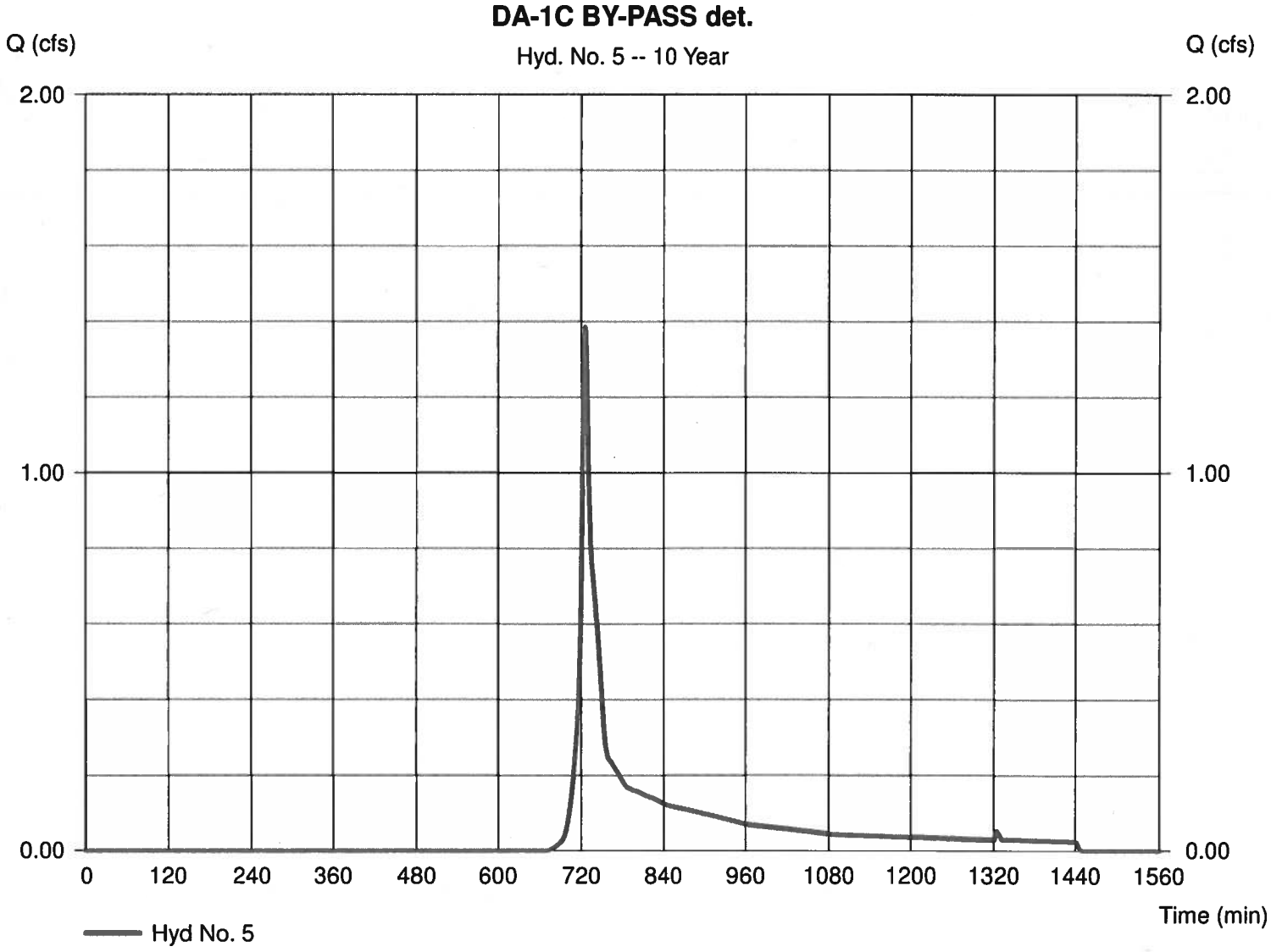
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 1.386 cfs
Storm frequency	= 10 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 4,705 cuft
Drainage area	= 1.000 ac	Curve number	= 62*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (0.810 x 53)] / 1.000



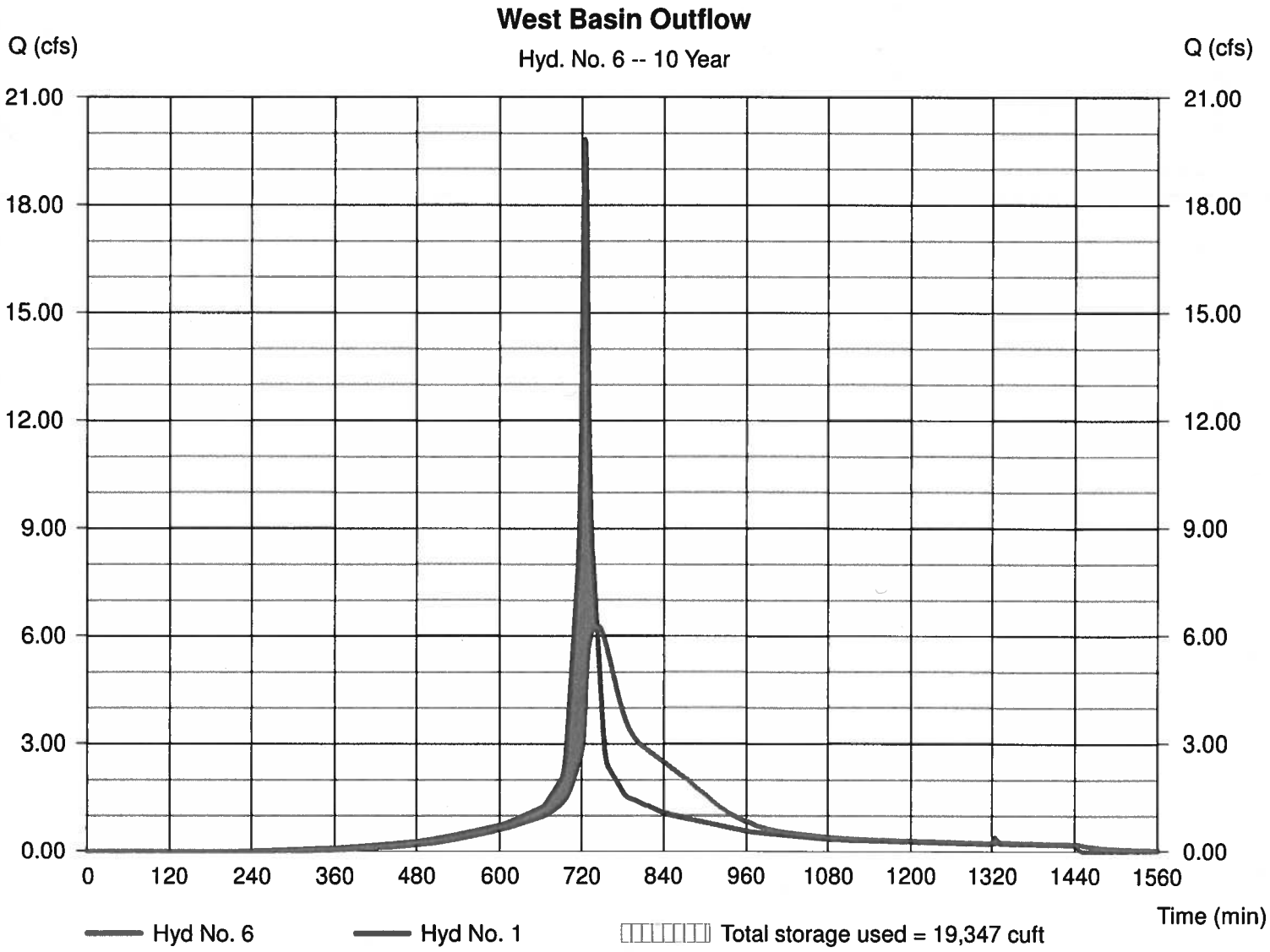
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 6.291 cfs
Storm frequency	= 10 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 64,220 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 59.33 ft
Reservoir name	= West Basin	Max. Storage	= 19,347 cuft

Storage Indication method used.



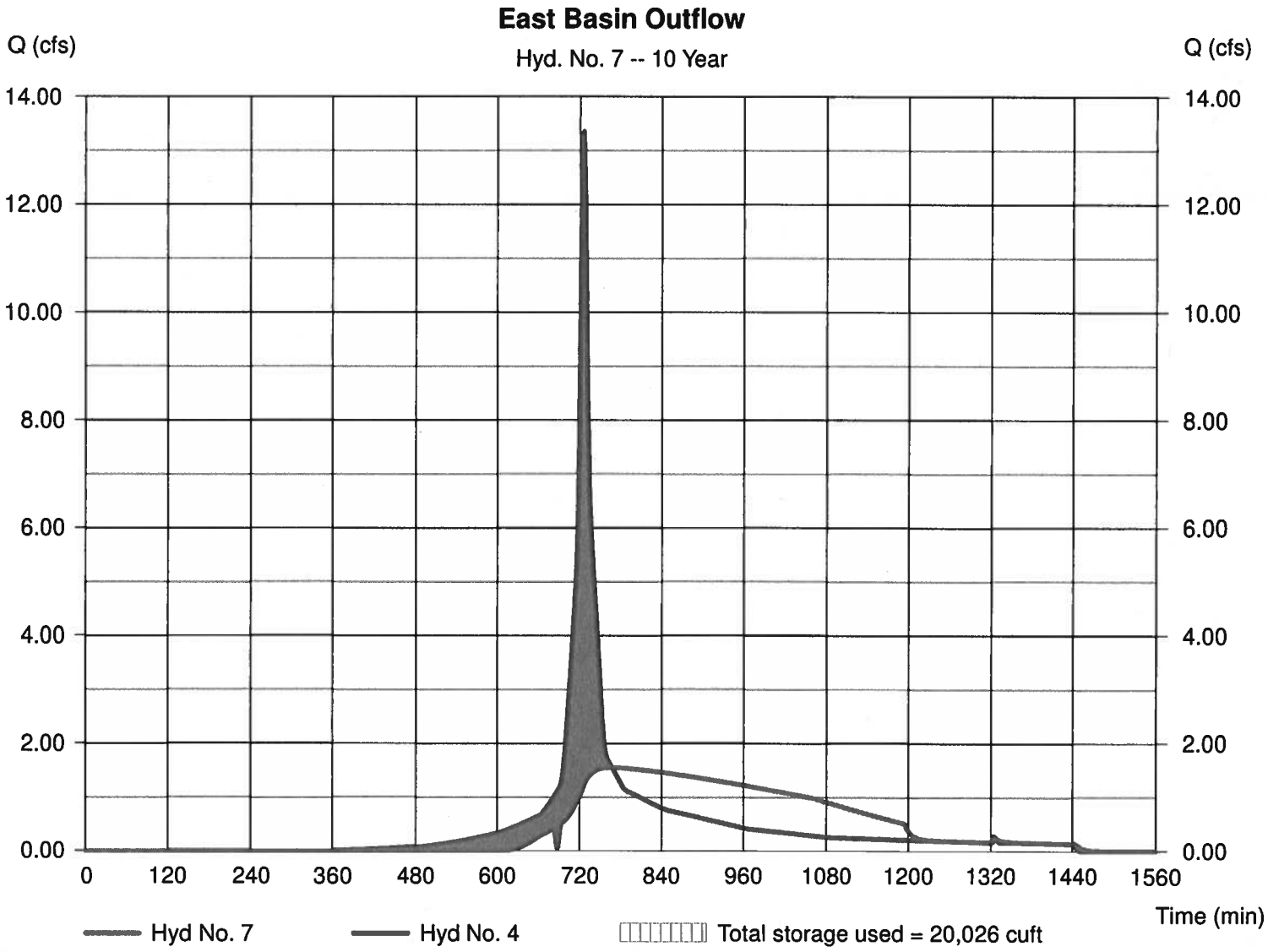
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.551 cfs
Storm frequency	= 10 yrs	Time to peak	= 767 min
Time interval	= 1 min	Hyd. volume	= 38,084 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 63.44 ft
Reservoir name	= East Basin	Max. Storage	= 20,026 cuft

Storage Indication method used.

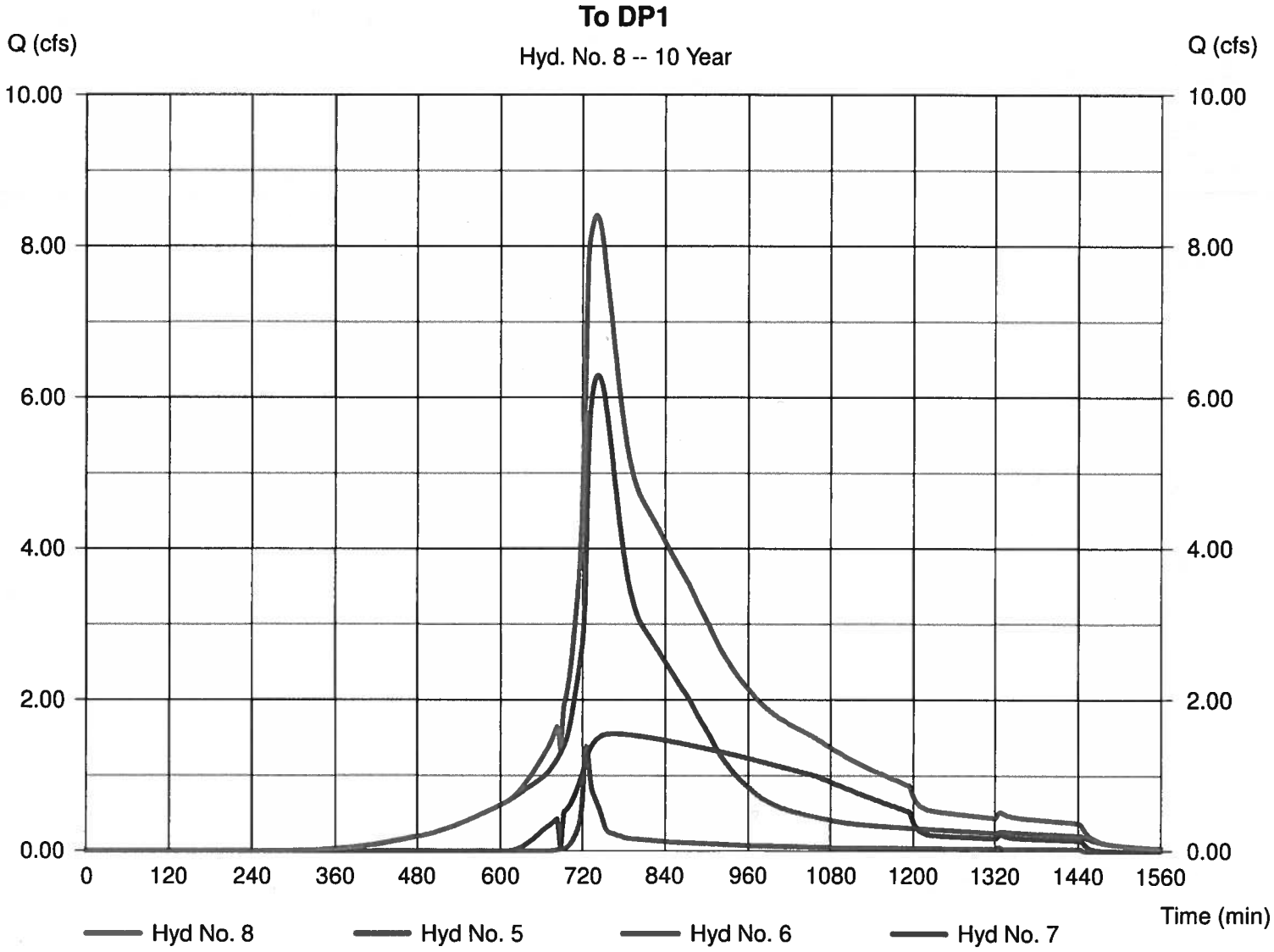


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 8.405 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 107,010 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.000 ac



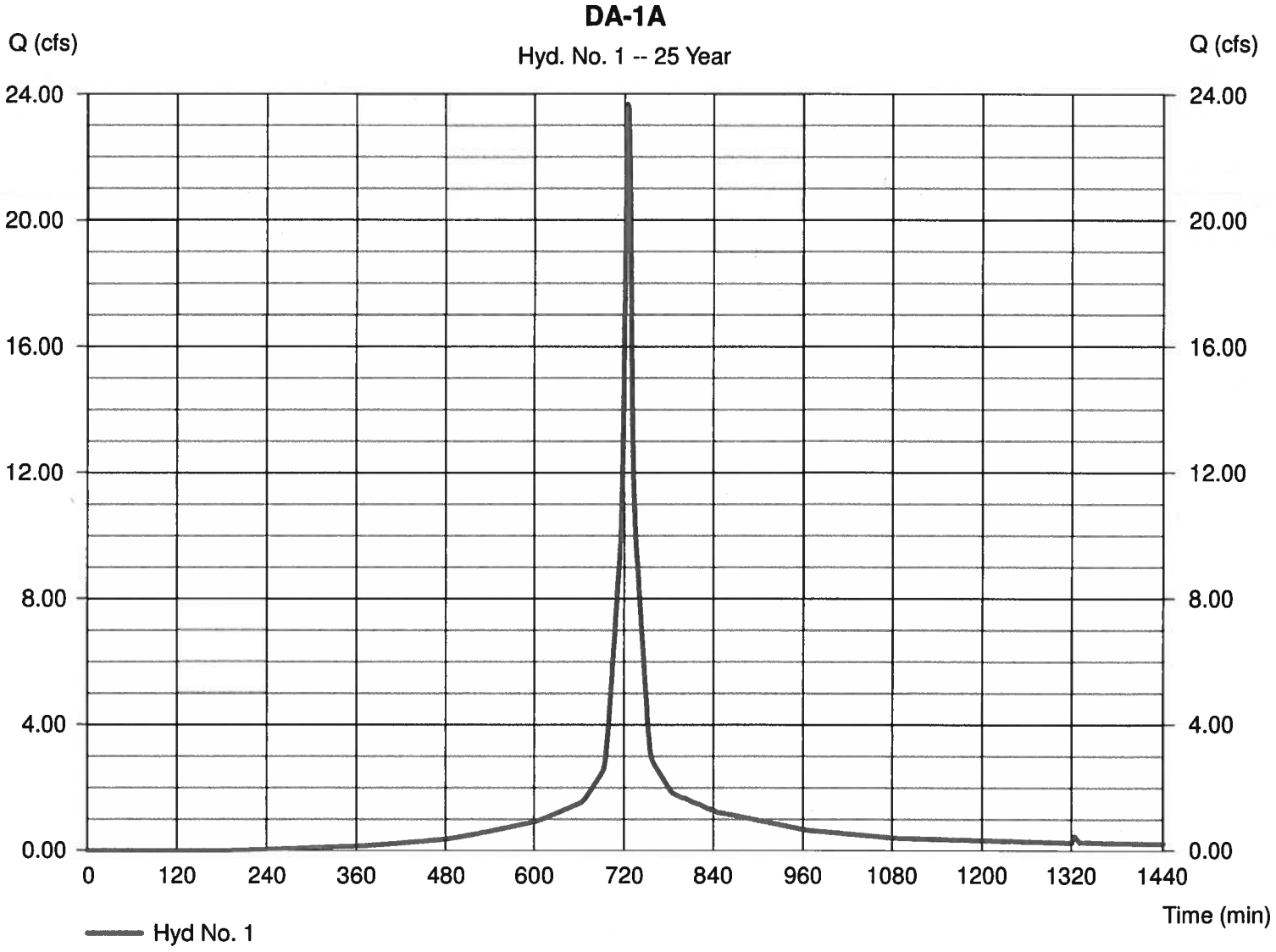
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 23.66 cfs
Storm frequency	= 25 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 77,471 cuft
Drainage area	= 4.520 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.680 x 98) + (0.840 x 68)] / 4.520

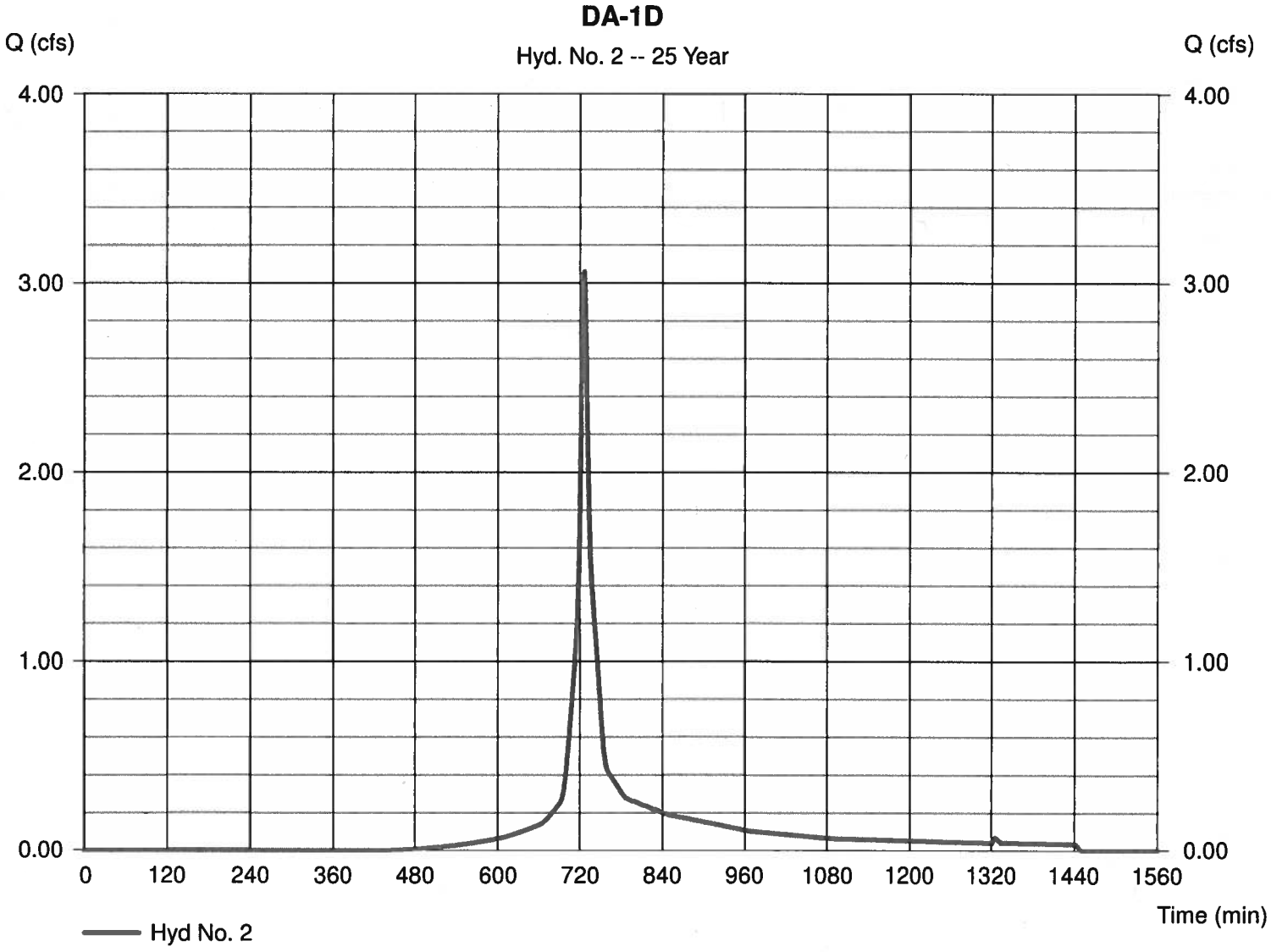


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 3.059 cfs
Storm frequency	= 25 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 9,852 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



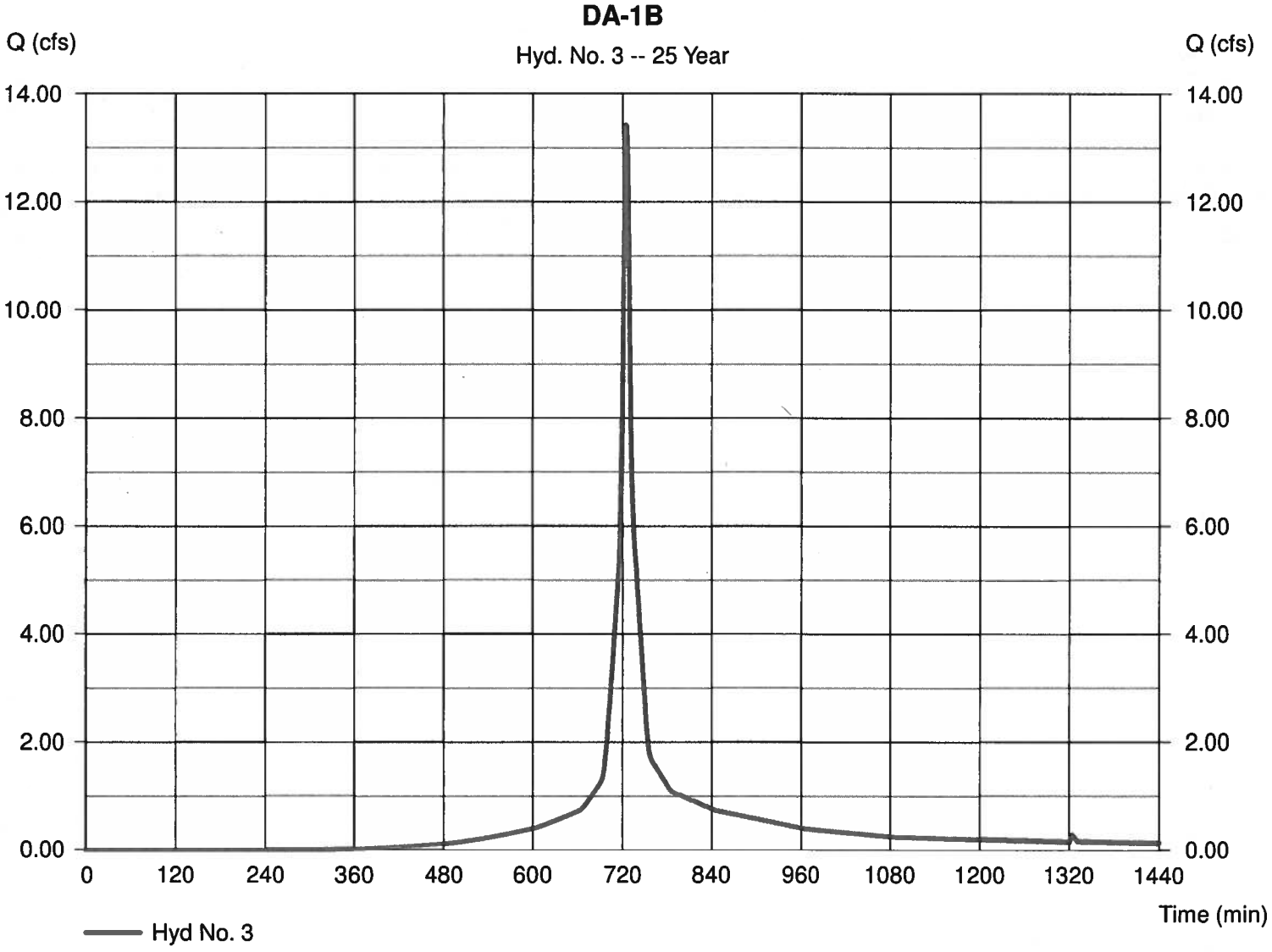
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 13.43 cfs
Storm frequency	= 25 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 42,288 cuft
Drainage area	= 2.870 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.980 x 98) + (0.890 x 60)] / 2.870

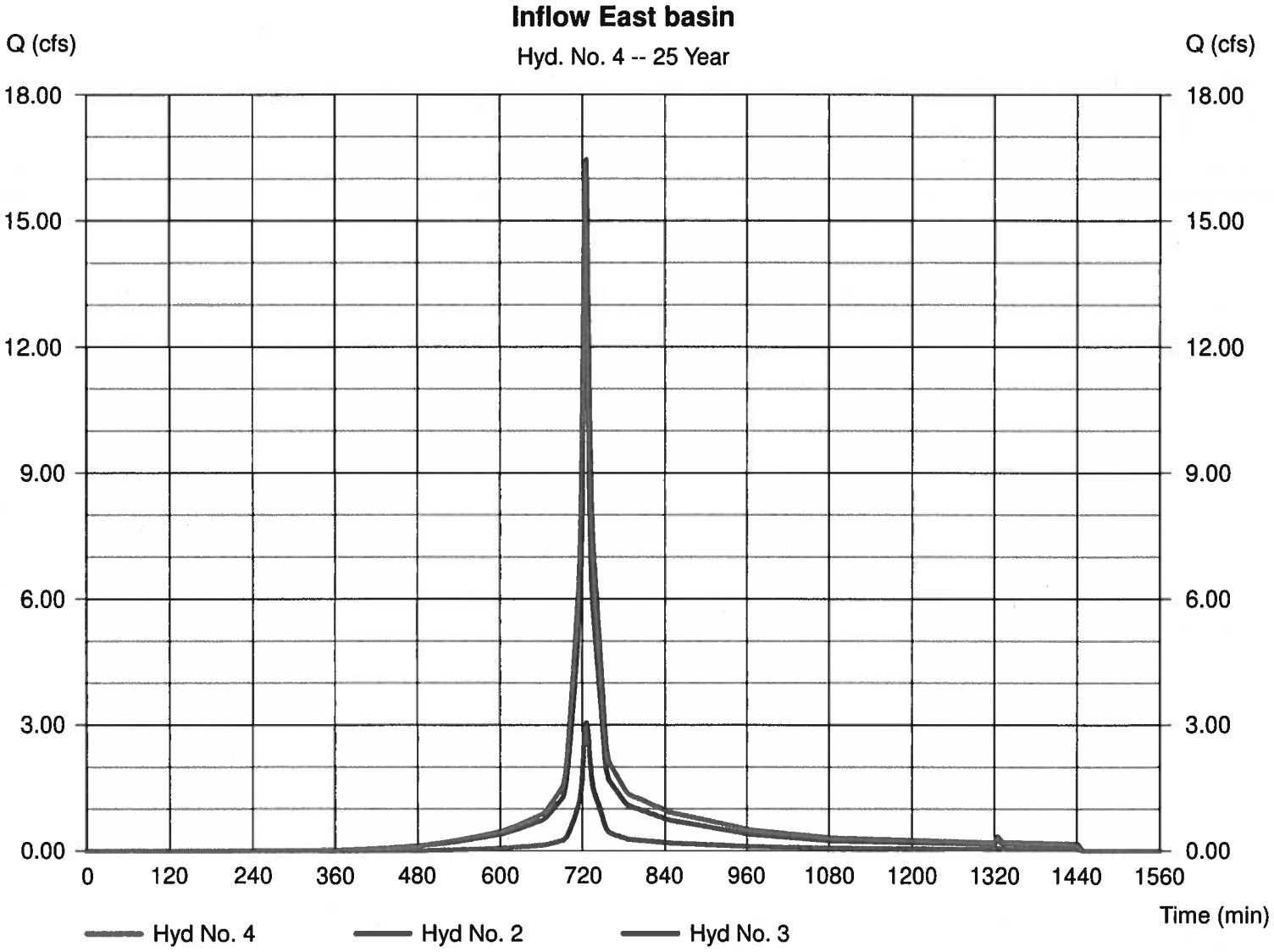


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 16.46 cfs
Storm frequency	= 25 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 52,140 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.730 ac



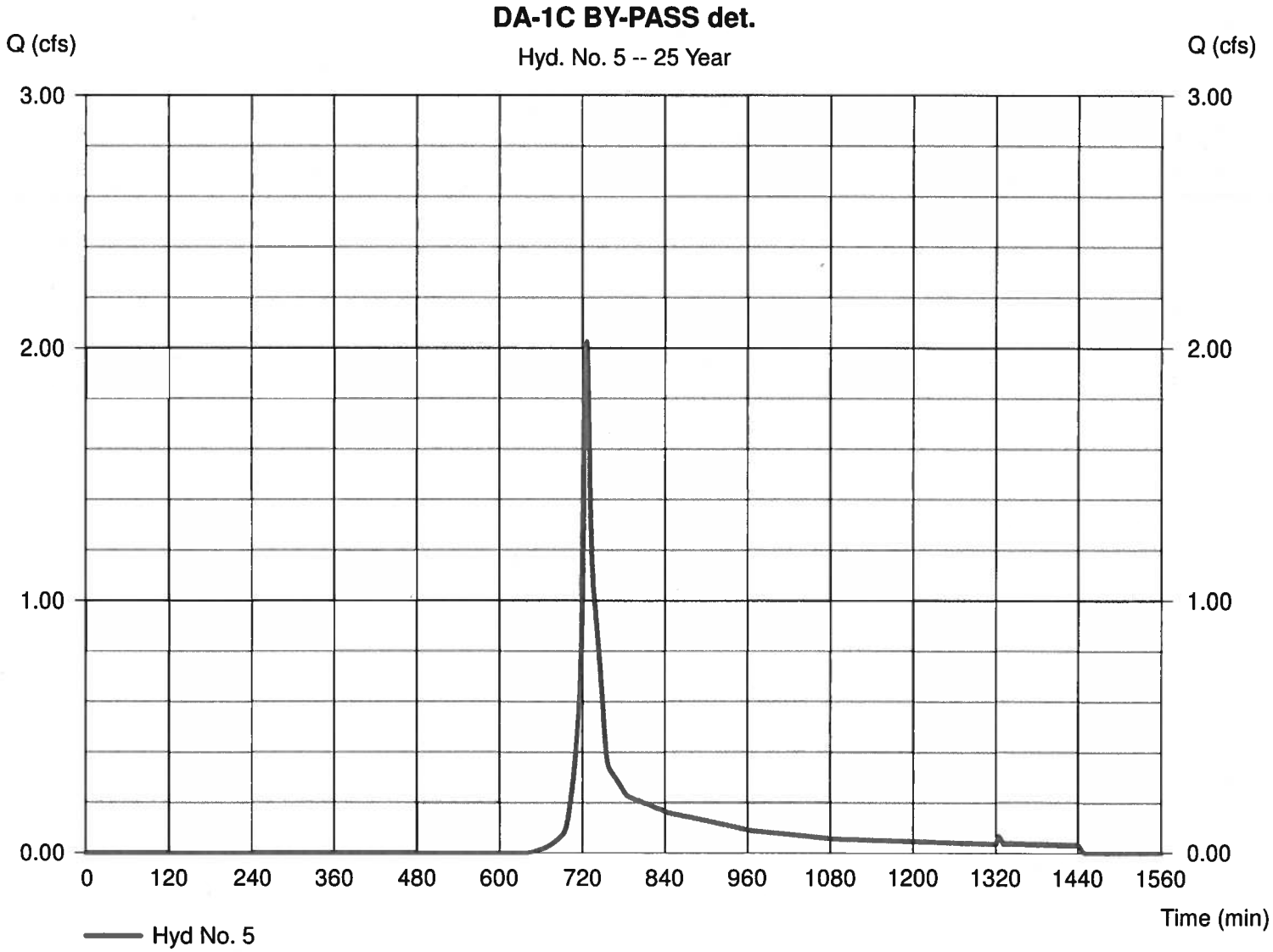
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 2.025 cfs
Storm frequency	= 25 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 6,574 cuft
Drainage area	= 1.000 ac	Curve number	= 62*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.50 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (0.810 x 53)] / 1.000



Hydrograph Report

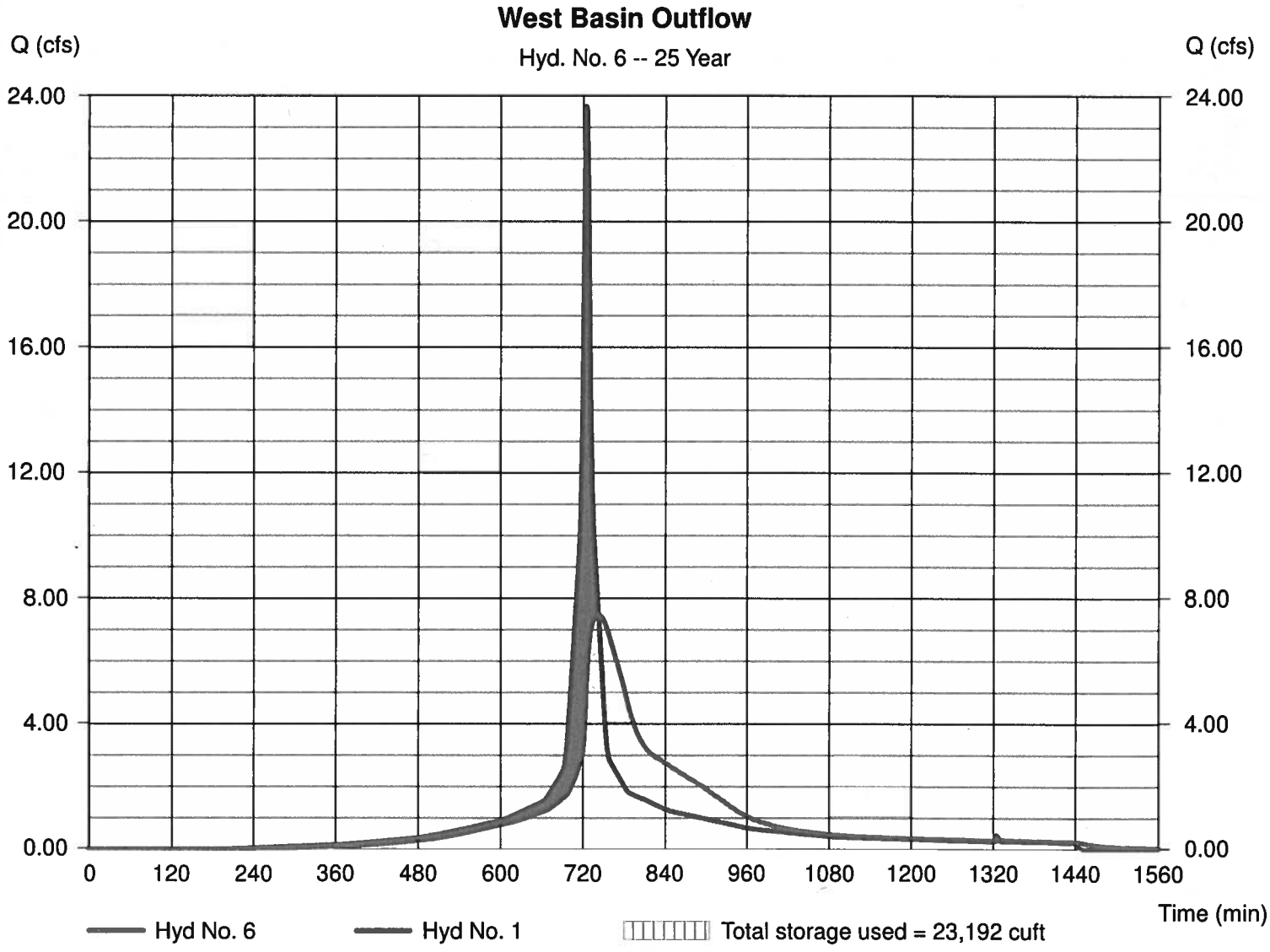
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Feb 2, 2021

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 7.473 cfs
Storm frequency	= 25 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 77,451 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 59.88 ft
Reservoir name	= West Basin	Max. Storage	= 23,192 cuft

Storage Indication method used.



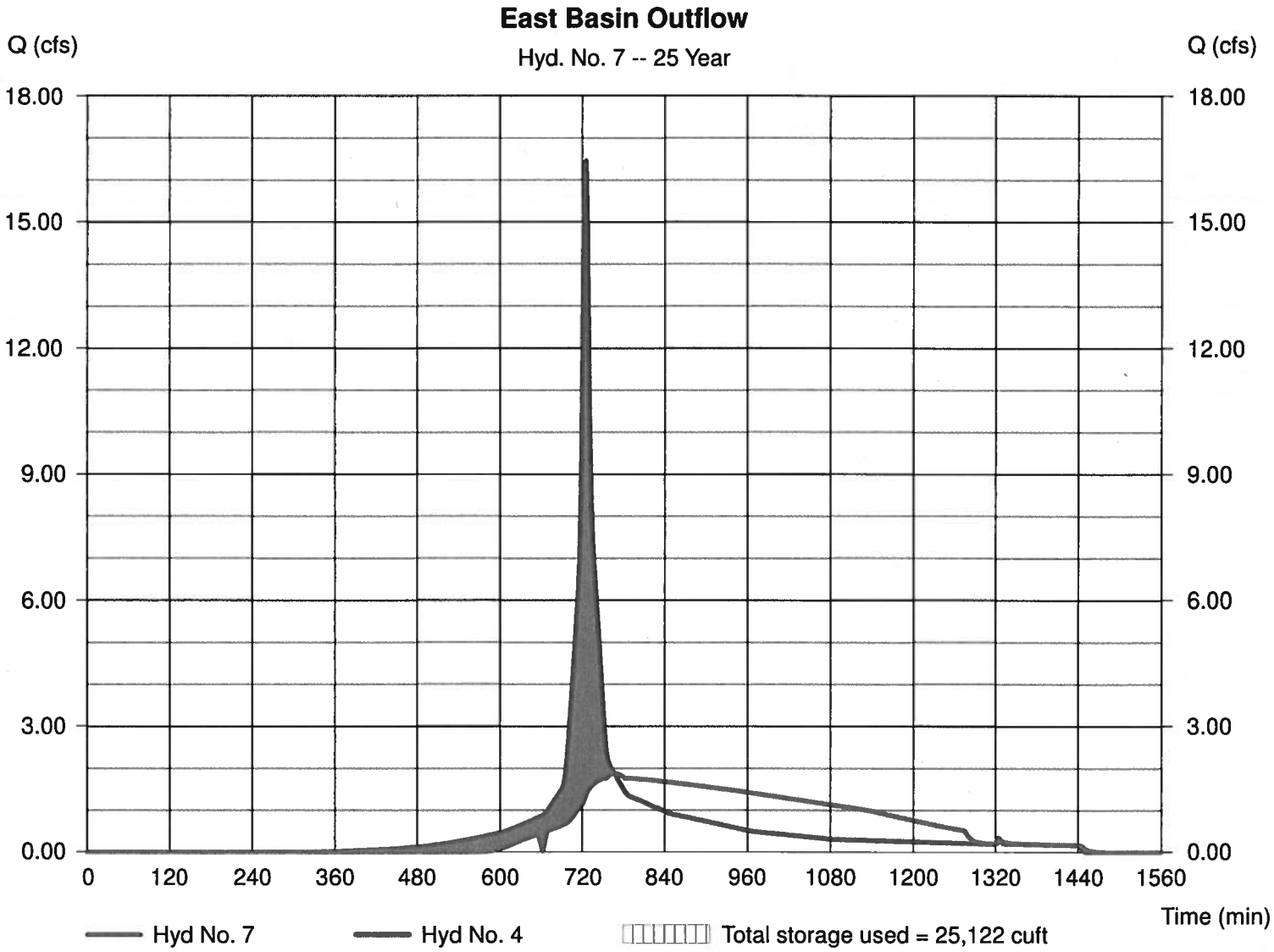
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 1.870 cfs
Storm frequency	= 25 yrs	Time to peak	= 767 min
Time interval	= 1 min	Hyd. volume	= 48,226 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.28 ft
Reservoir name	= East Basin	Max. Storage	= 25,122 cuft

Storage Indication method used.

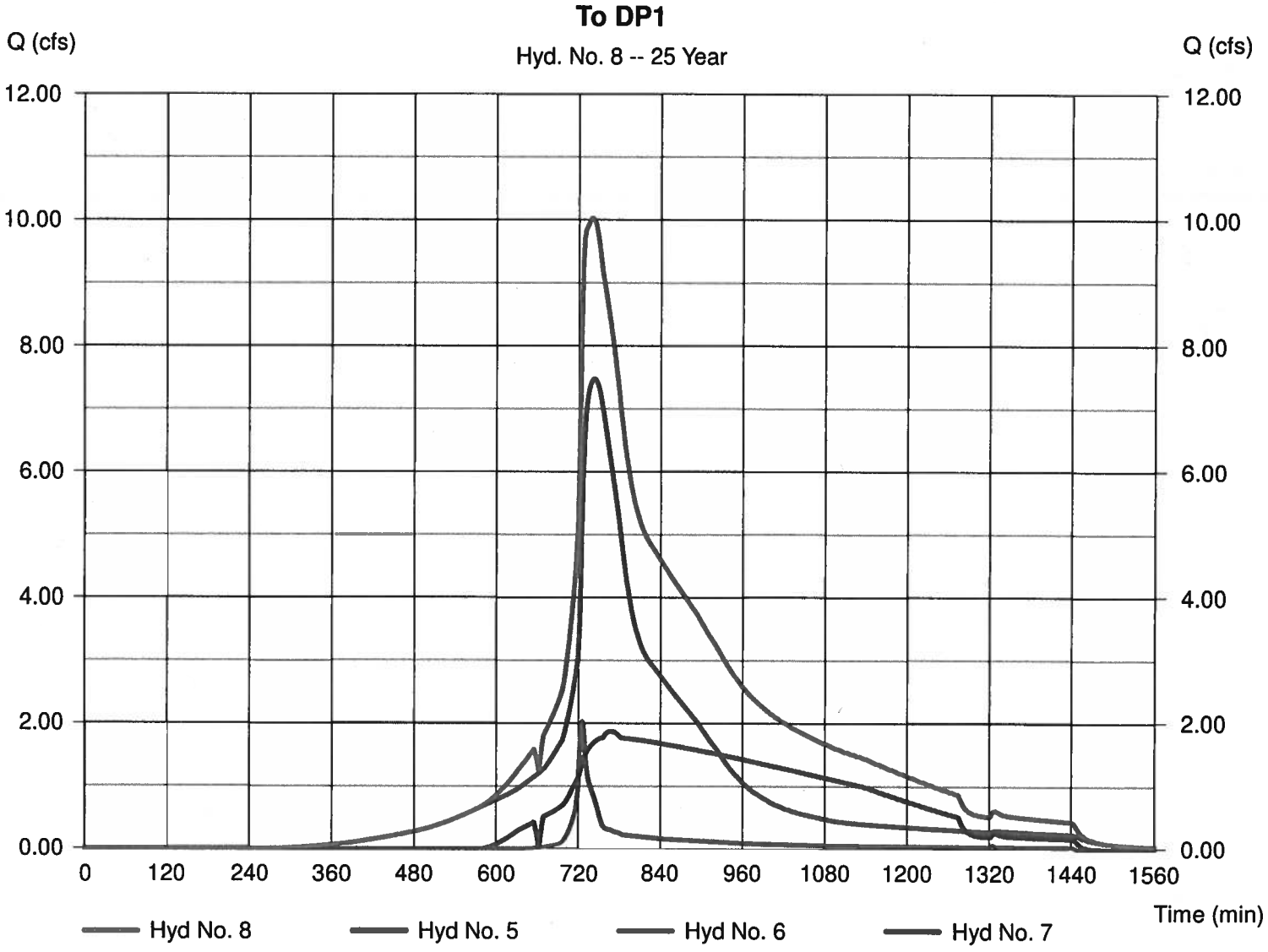


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 10.03 cfs
Storm frequency	= 25 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 132,250 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.000 ac



Hydrograph Report

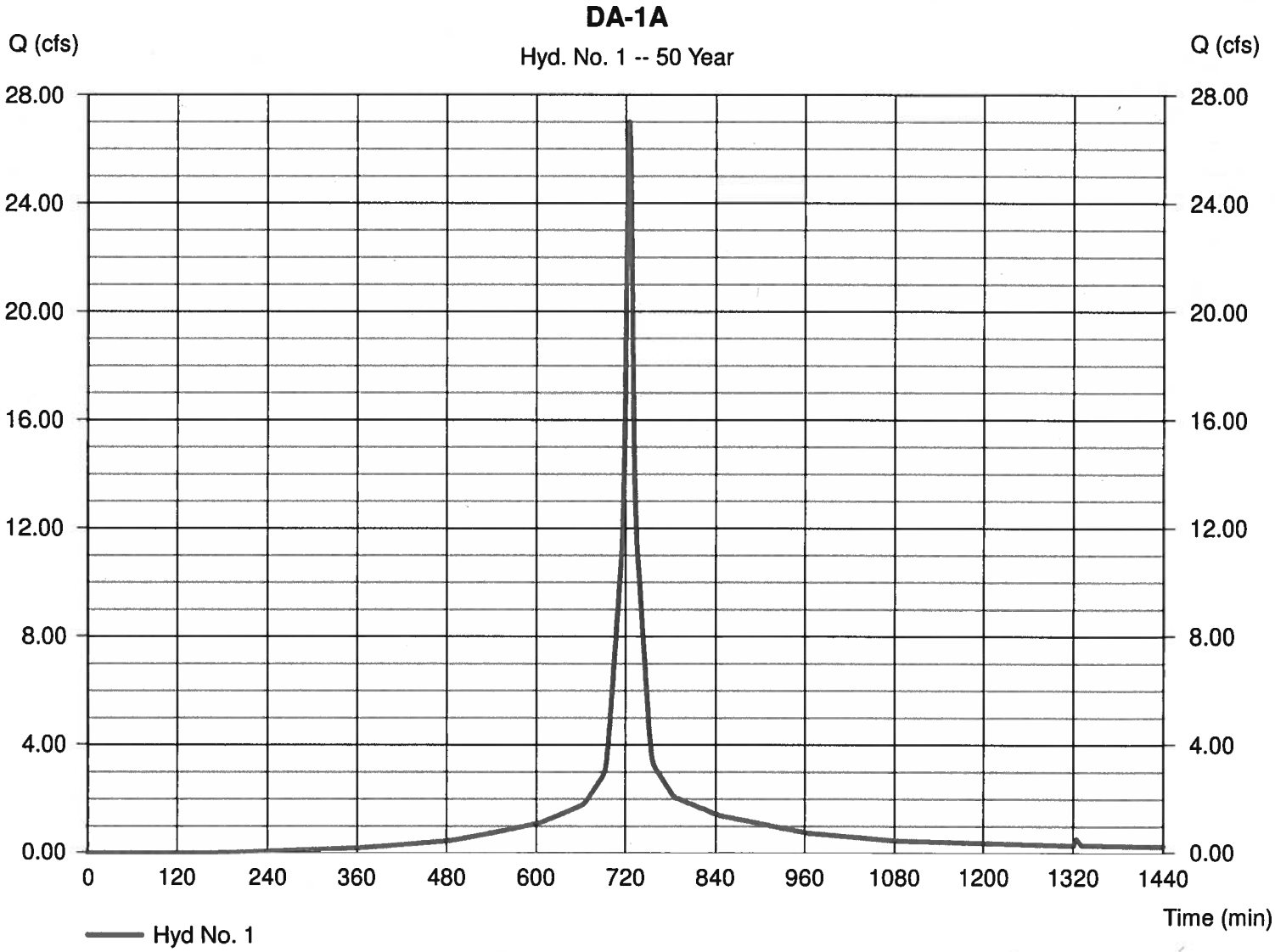
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, Feb 2, 2021

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 27.00 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 89,106 cuft
Drainage area	= 4.520 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.680 x 98) + (0.840 x 68)] / 4.520

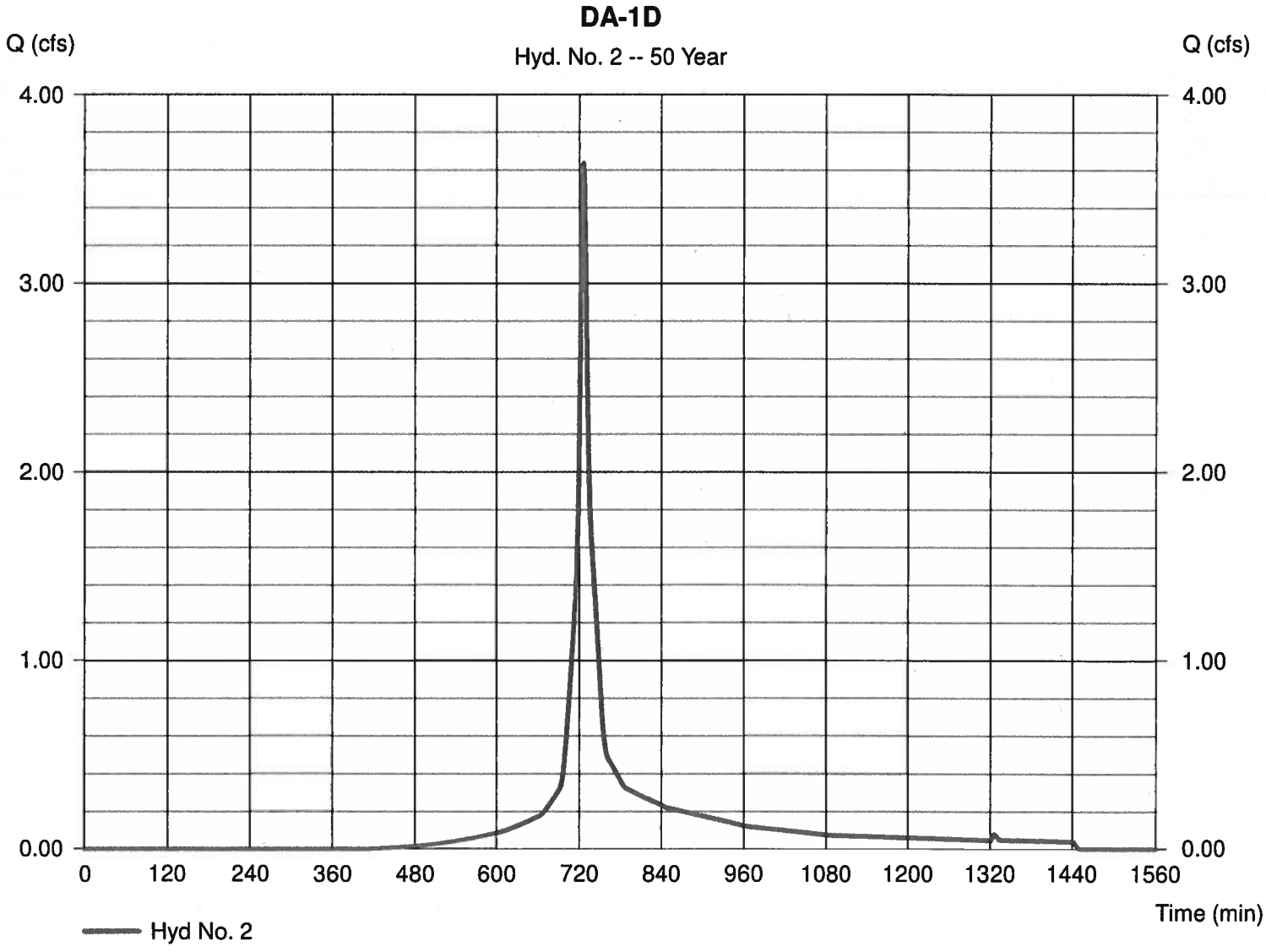


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 3.635 cfs
Storm frequency	= 50 yrs	Time to peak	= 726 min
Time interval	= 1 min	Hyd. volume	= 11,745 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



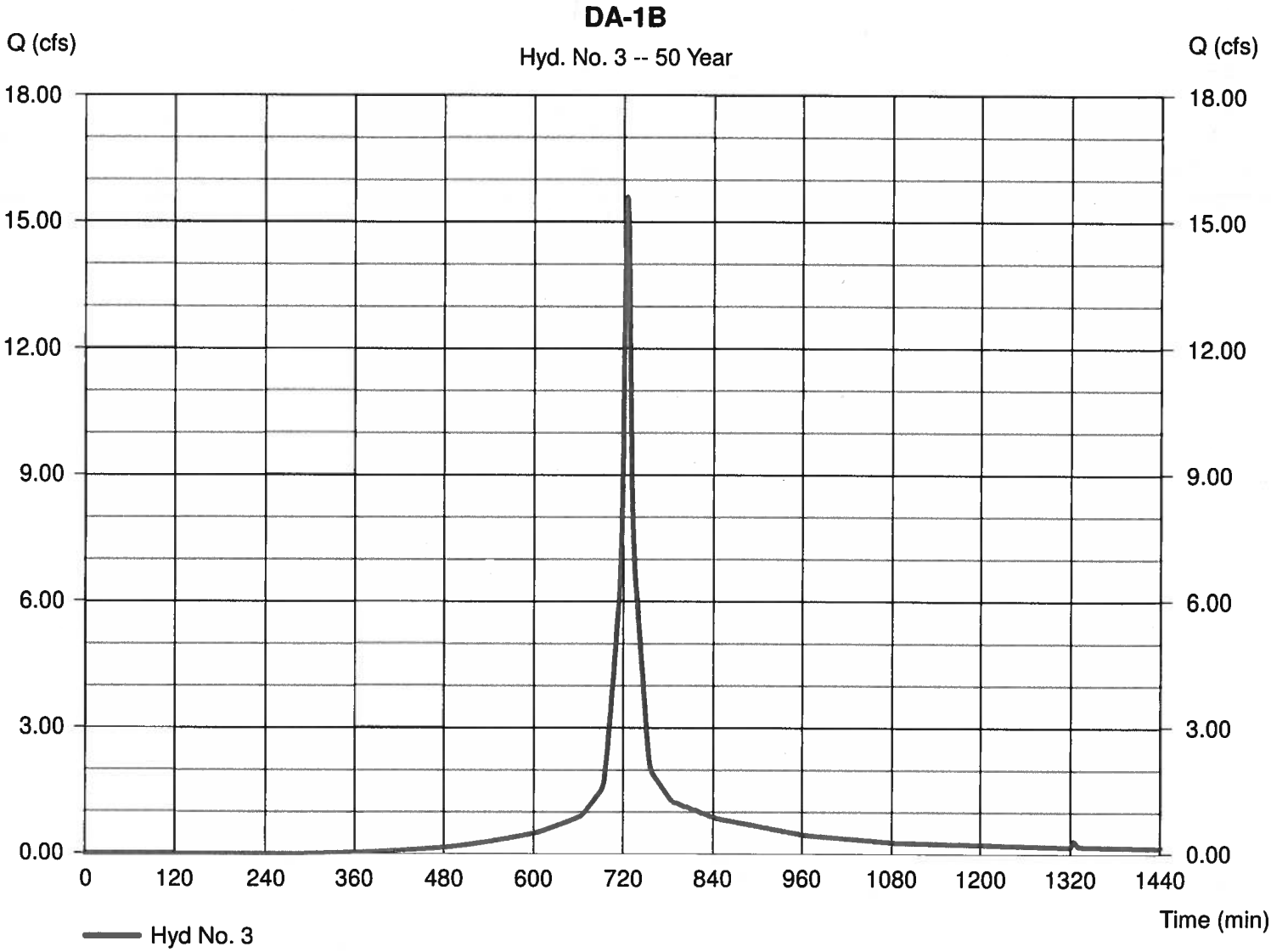
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 15.59 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 49,418 cuft
Drainage area	= 2.870 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.980 x 98) + (0.890 x 60)] / 2.870

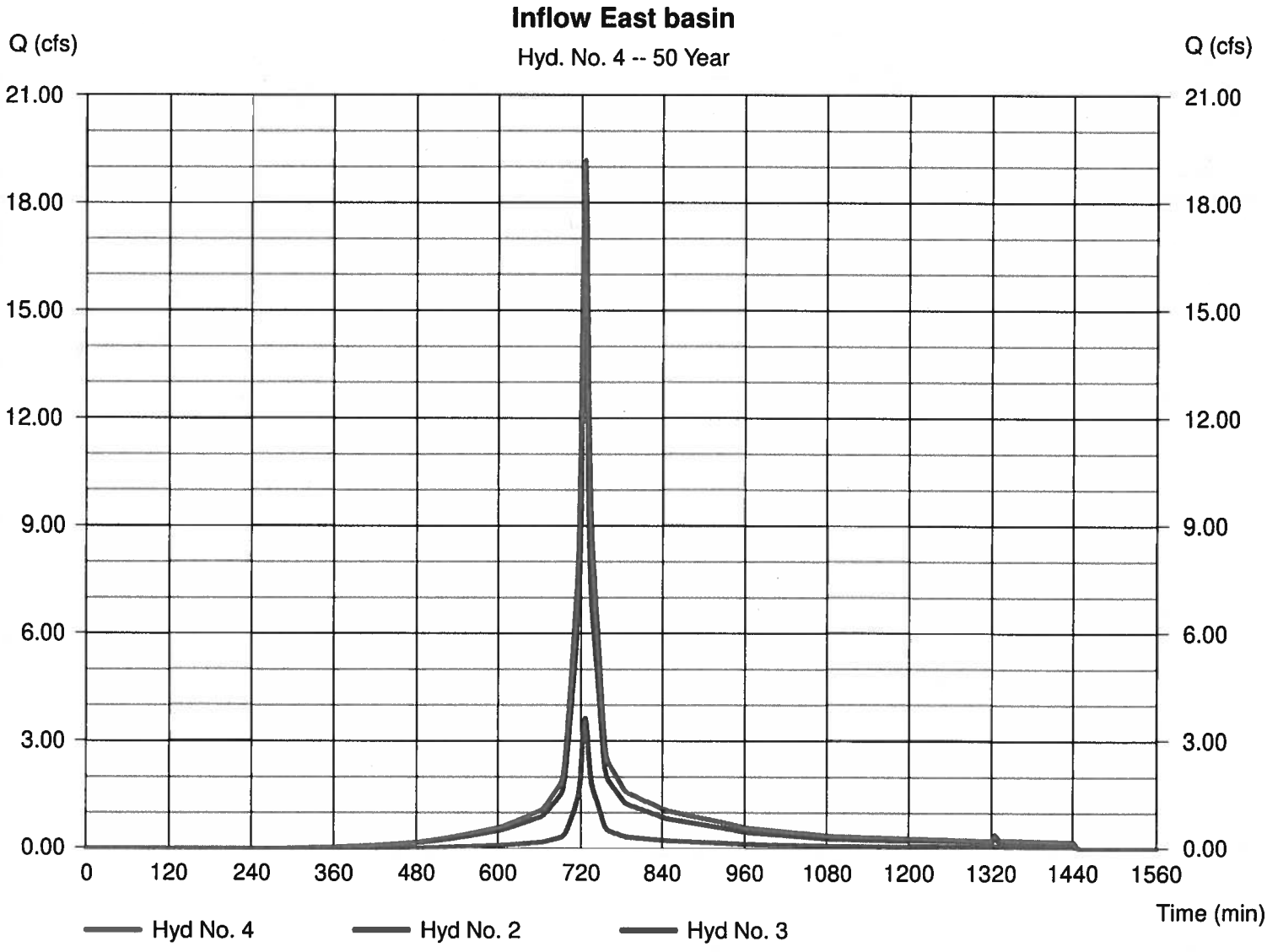


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 19.18 cfs
Storm frequency	= 50 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 61,163 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.730 ac



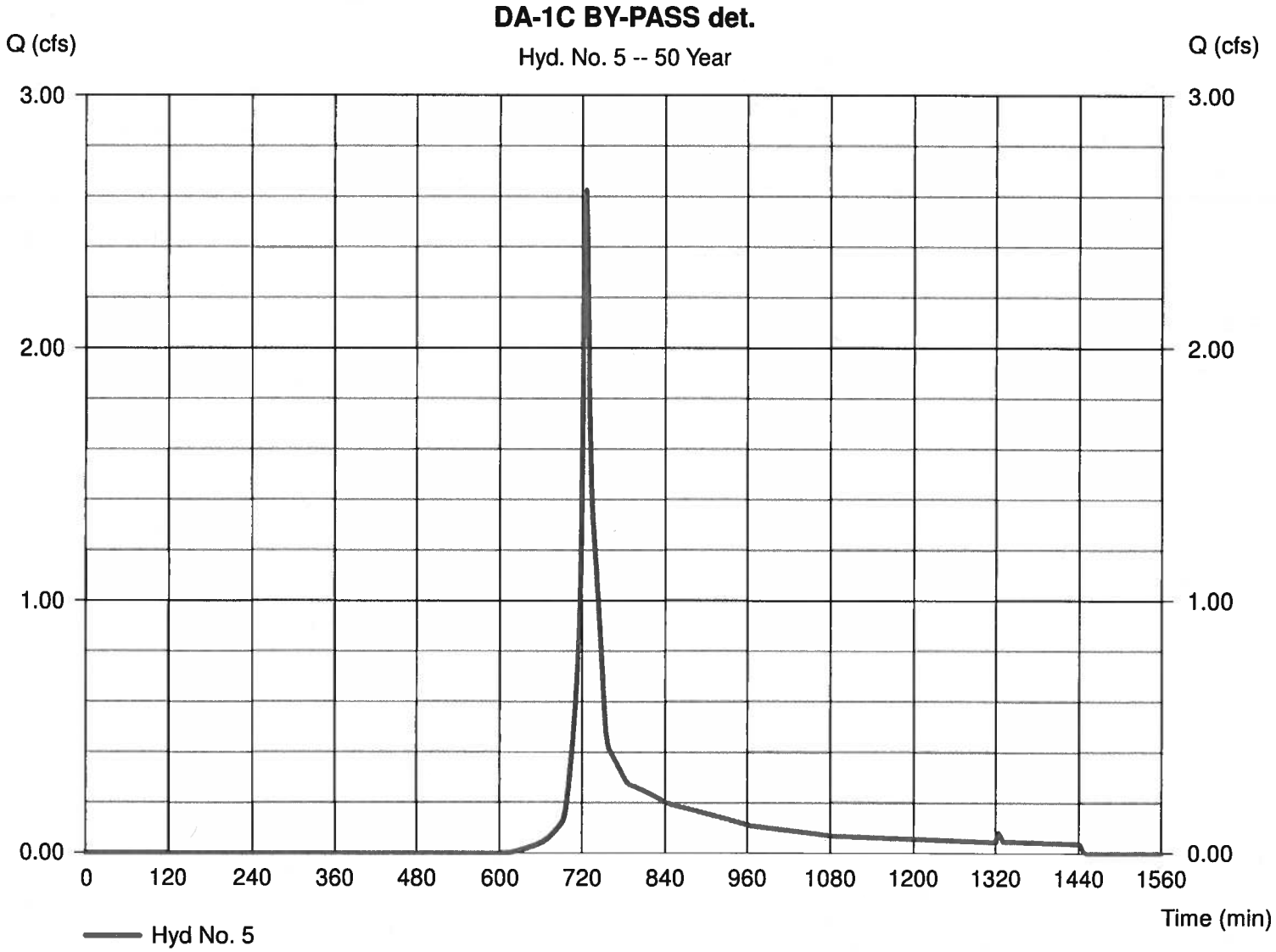
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 2.625 cfs
Storm frequency	= 50 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 8,342 cuft
Drainage area	= 1.000 ac	Curve number	= 62*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (0.810 x 53)] / 1.000



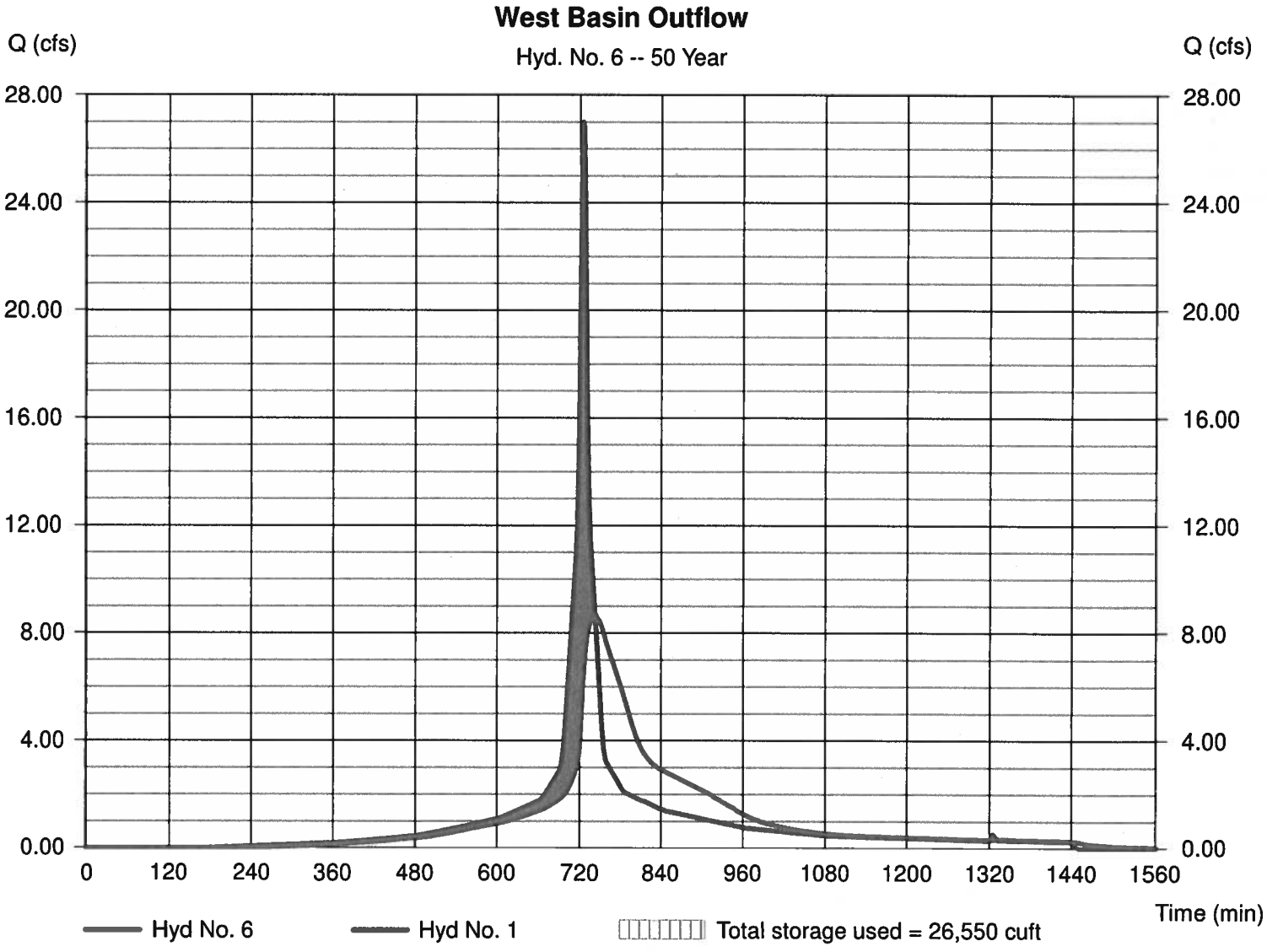
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 8.685 cfs
Storm frequency	= 50 yrs	Time to peak	= 742 min
Time interval	= 1 min	Hyd. volume	= 89,085 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 60.52 ft
Reservoir name	= West Basin	Max. Storage	= 26,550 cuft

Storage Indication method used.



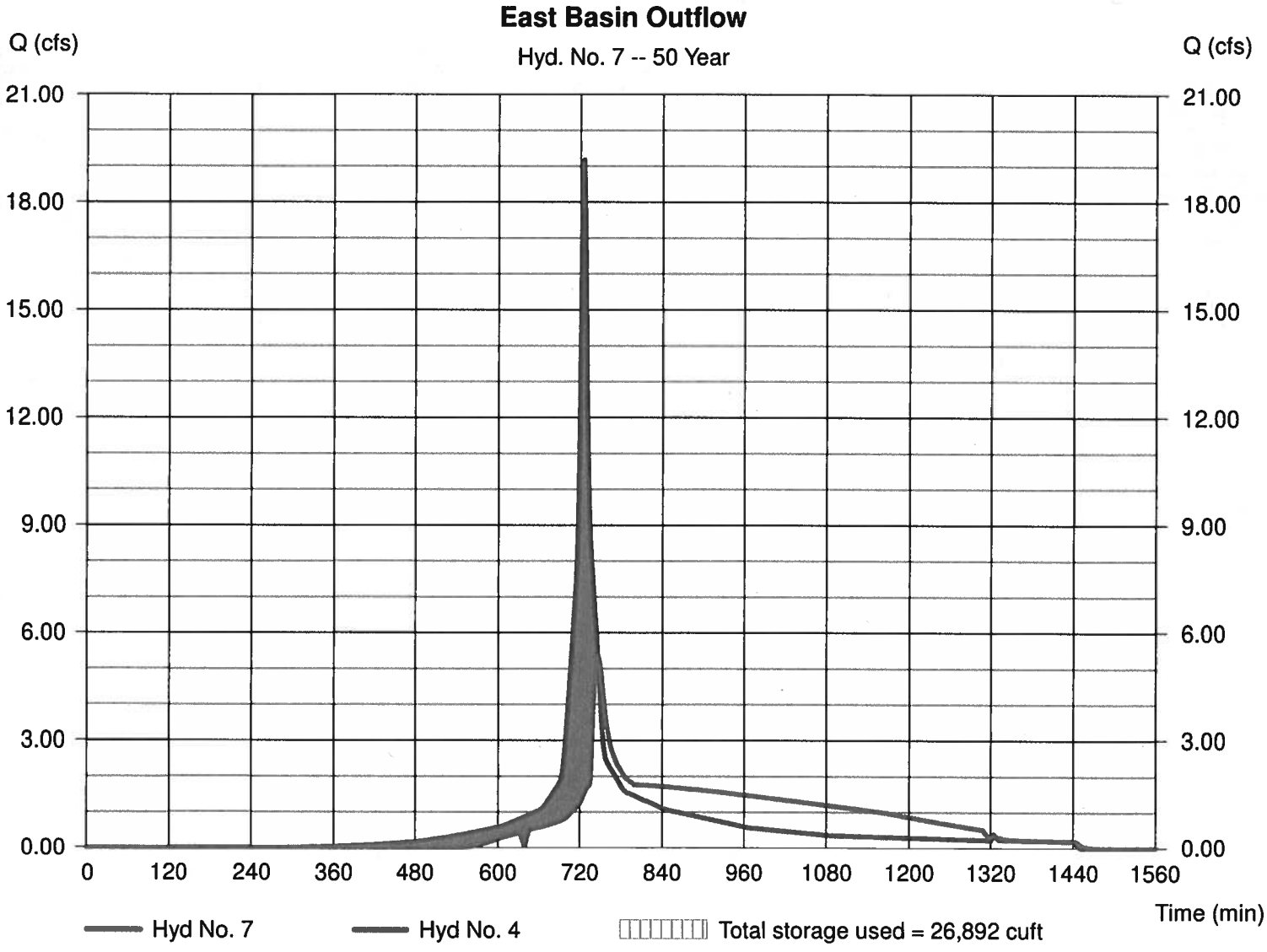
Hydrograph Report

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 5.353 cfs
Storm frequency	= 50 yrs	Time to peak	= 746 min
Time interval	= 1 min	Hyd. volume	= 57,249 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.61 ft
Reservoir name	= East Basin	Max. Storage	= 26,892 cuft

Storage Indication method used.

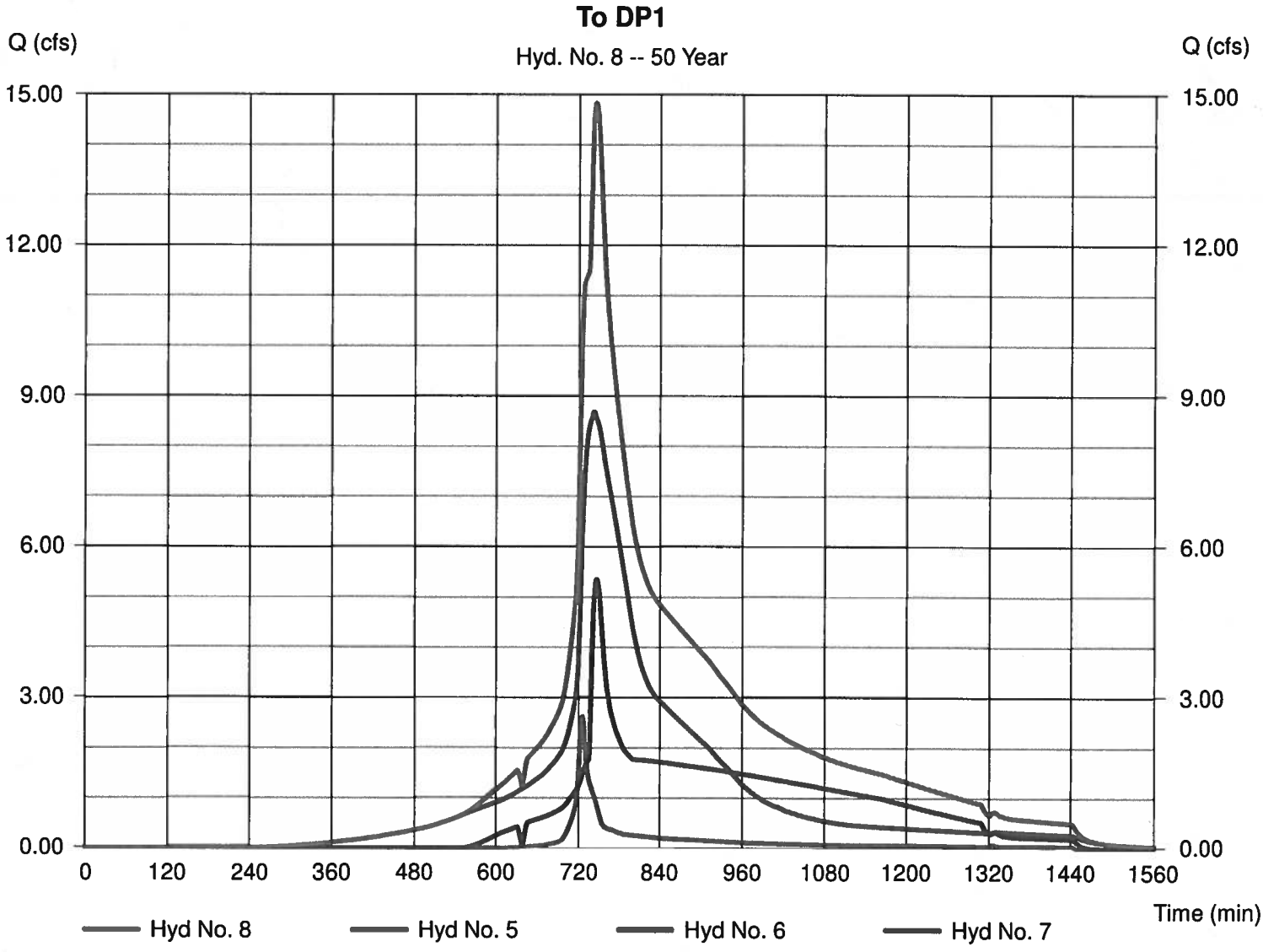


Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 14.83 cfs
Storm frequency	= 50 yrs	Time to peak	= 744 min
Time interval	= 1 min	Hyd. volume	= 154,676 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.000 ac



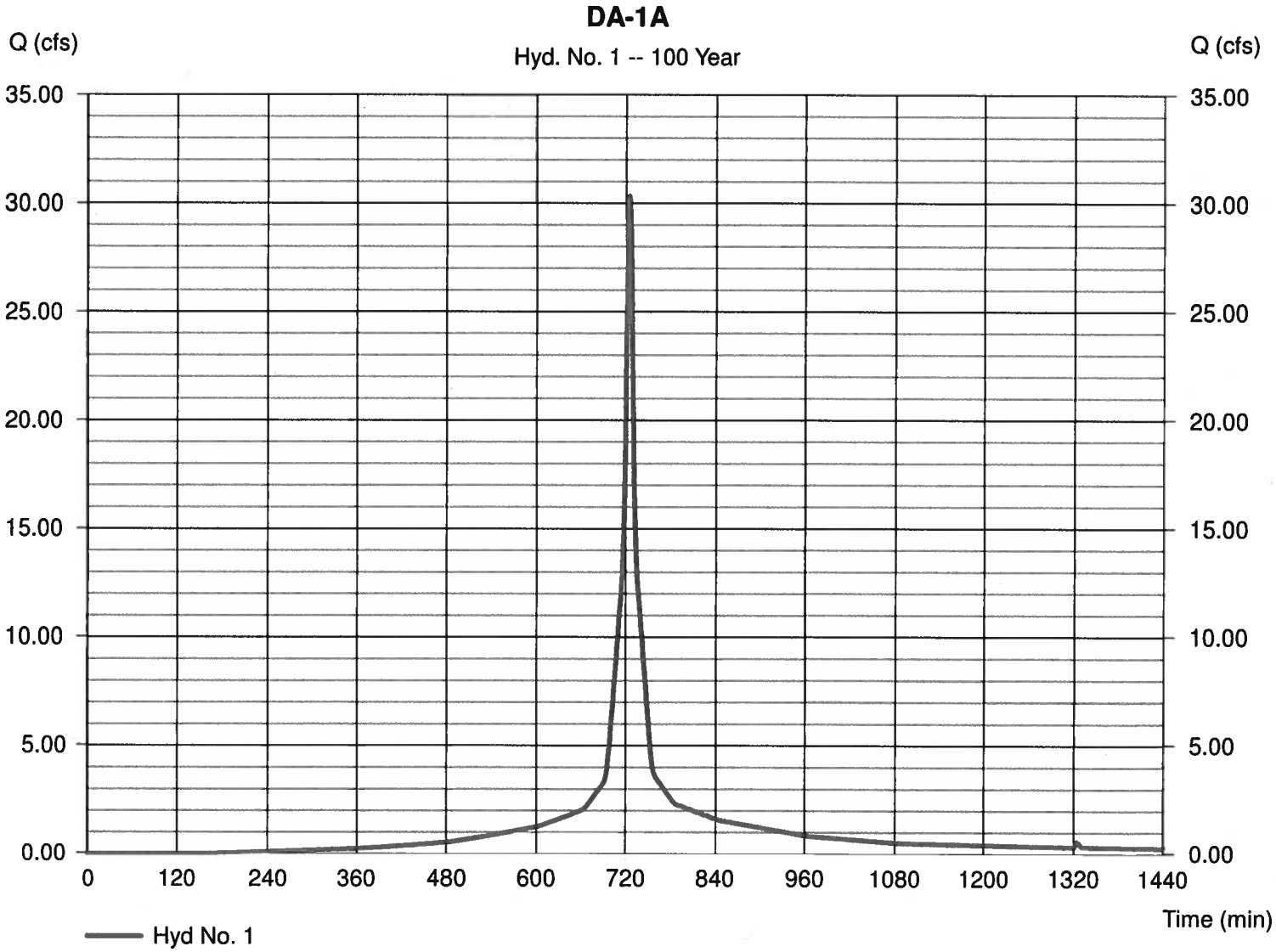
Hydrograph Report

Hyd. No. 1

DA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 30.32 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 100,779 cuft
Drainage area	= 4.520 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.680 x 98) + (0.840 x 68)] / 4.520

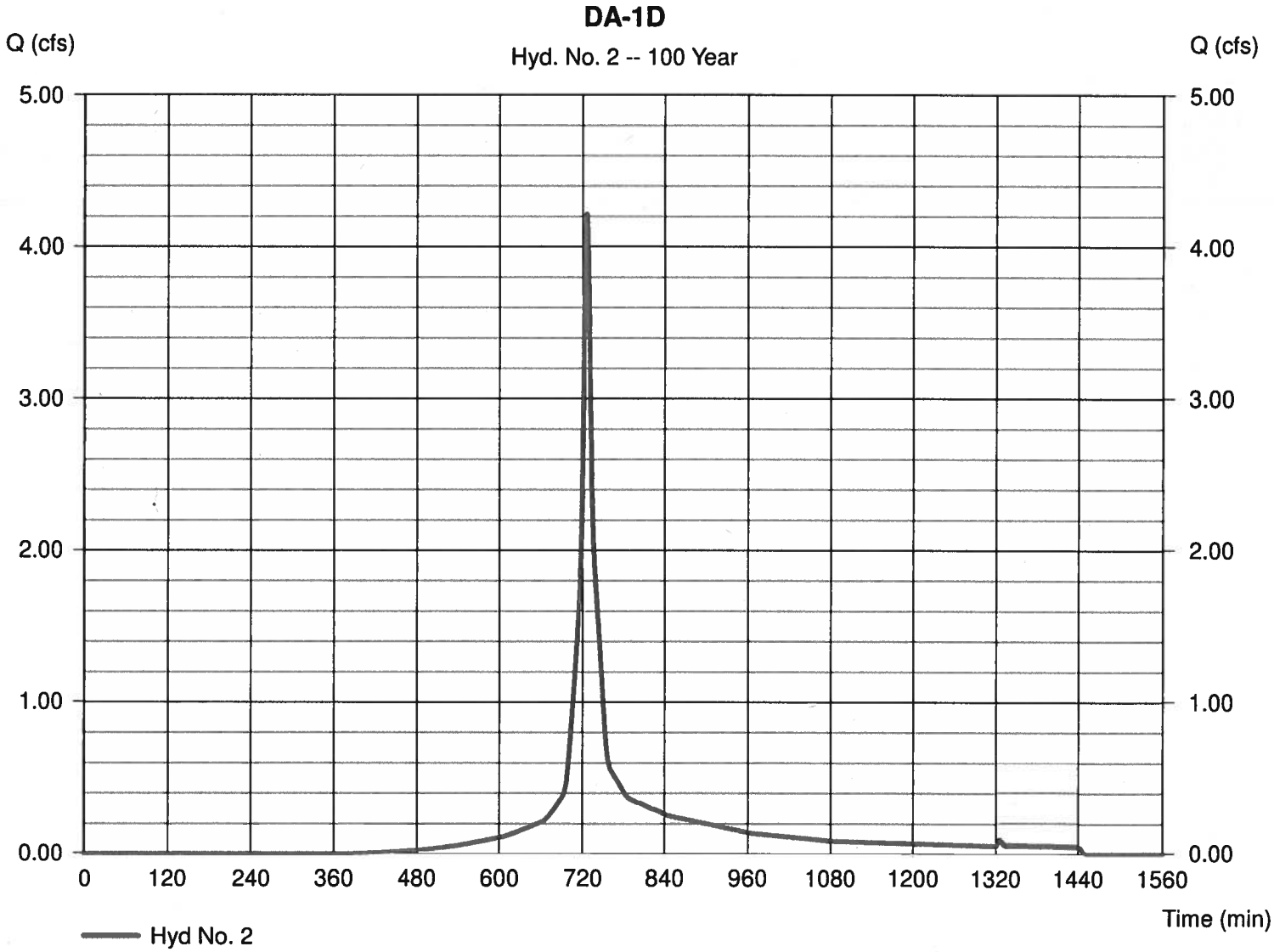


Hydrograph Report

Hyd. No. 2

DA-1D

Hydrograph type	= SCS Runoff	Peak discharge	= 4.216 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 13,675 cuft
Drainage area	= 0.860 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



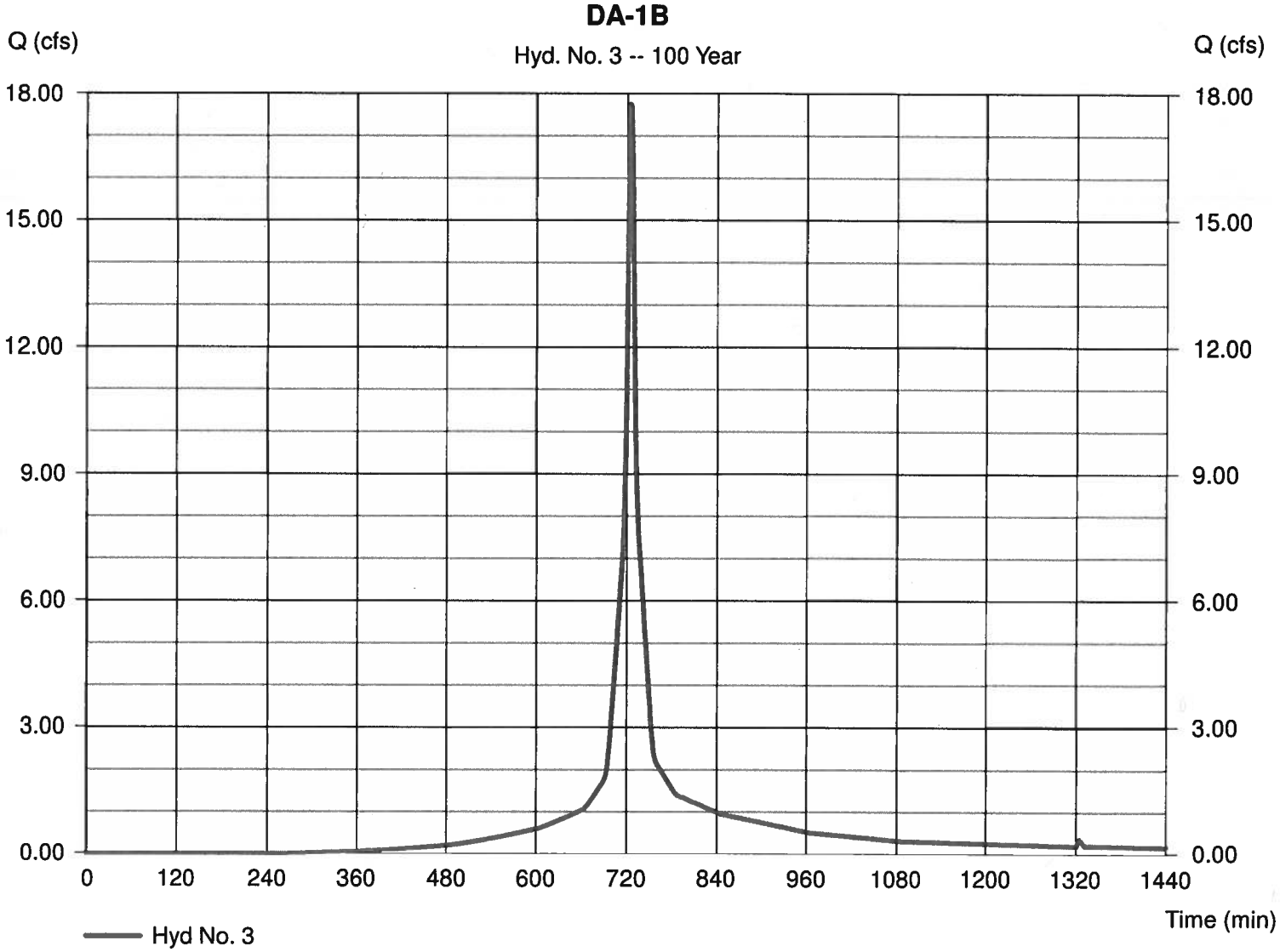
Hydrograph Report

Hyd. No. 3

DA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 17.75 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 1 min	Hyd. volume	= 56,615 cuft
Drainage area	= 2.870 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.980 x 98) + (0.890 x 60)] / 2.870

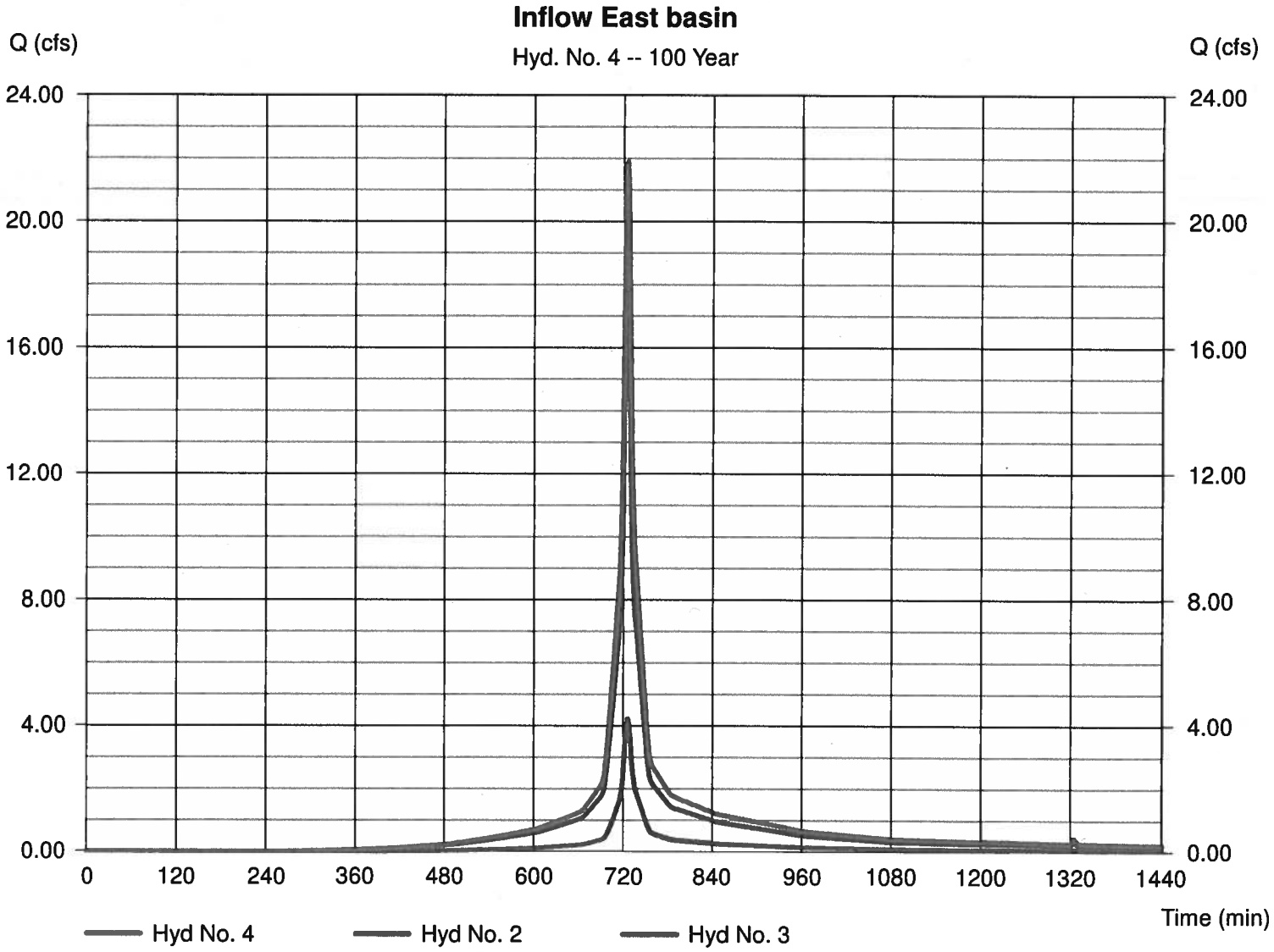


Hydrograph Report

Hyd. No. 4

Inflow East basin

Hydrograph type	= Combine	Peak discharge	= 21.90 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 70,290 cuft
Inflow hyds.	= 2, 3	Contrib. drain. area	= 3.730 ac



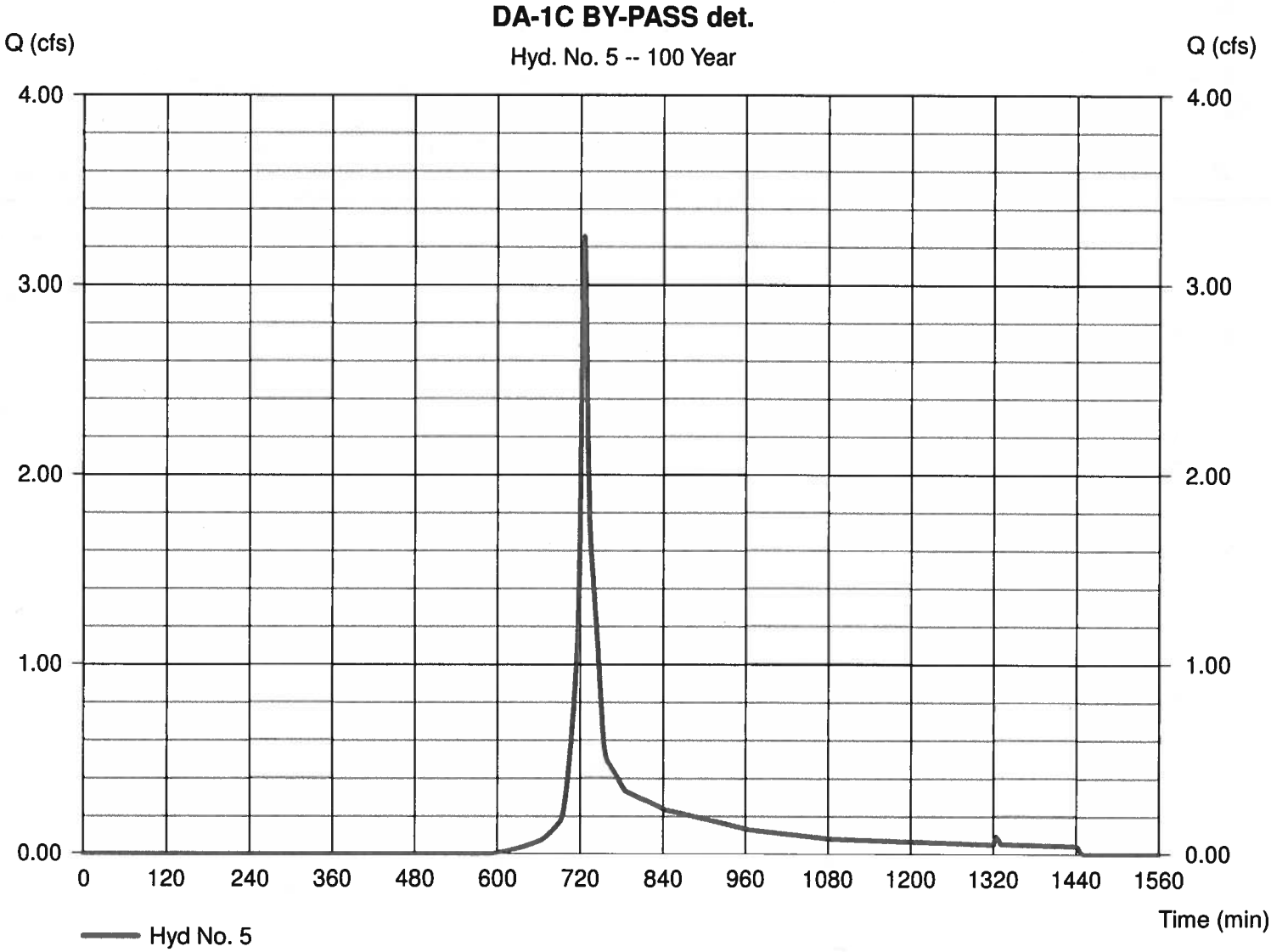
Hydrograph Report

Hyd. No. 5

DA-1C BY-PASS det.

Hydrograph type	= SCS Runoff	Peak discharge	= 3.255 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 10,211 cuft
Drainage area	= 1.000 ac	Curve number	= 62*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.190 x 98) + (0.810 x 53)] / 1.000



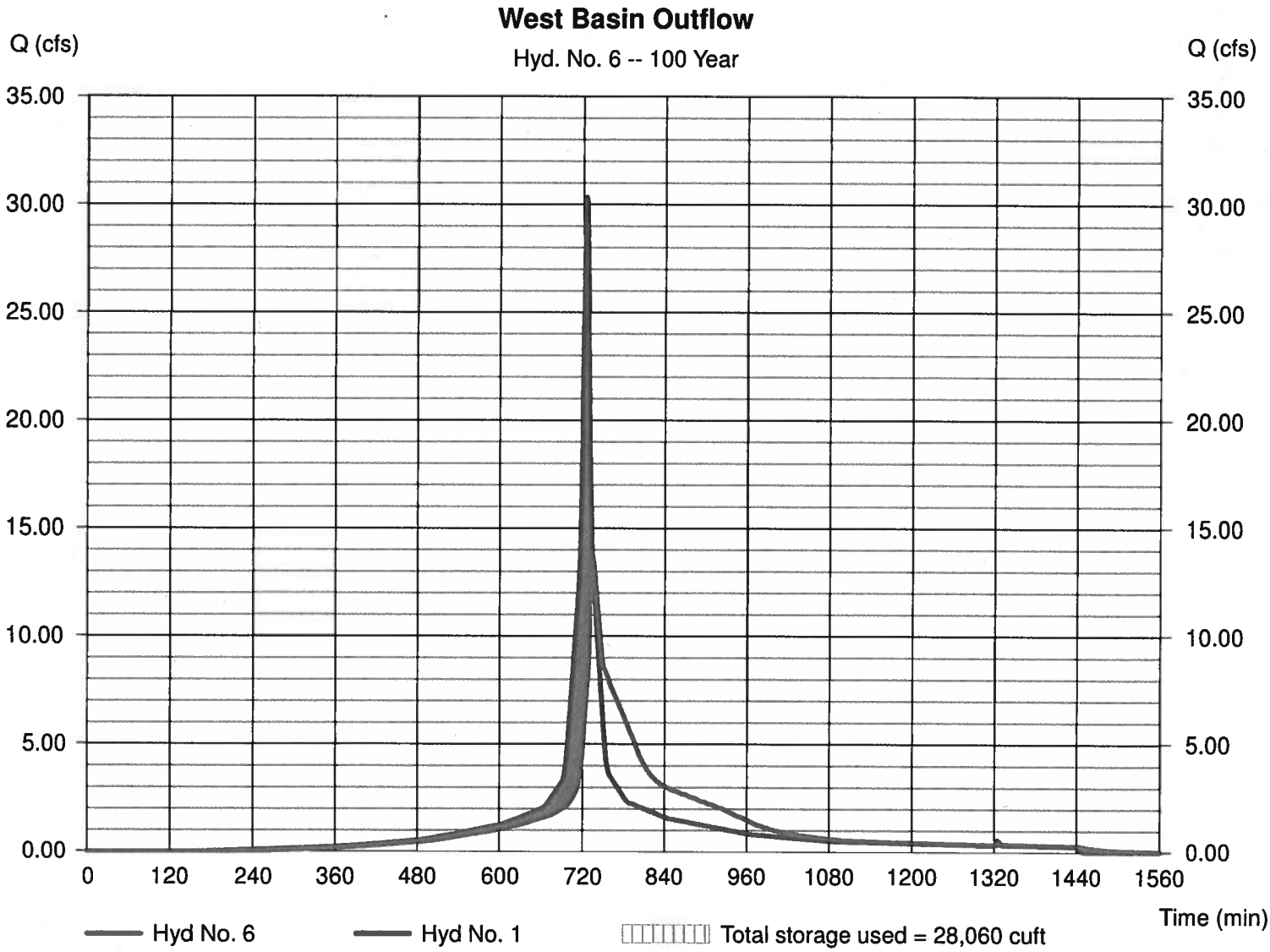
Hydrograph Report

Hyd. No. 6

West Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 13.75 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 1 min	Hyd. volume	= 100,758 cuft
Inflow hyd. No.	= 1 - DA-1A	Max. Elevation	= 60.92 ft
Reservoir name	= West Basin	Max. Storage	= 28,060 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

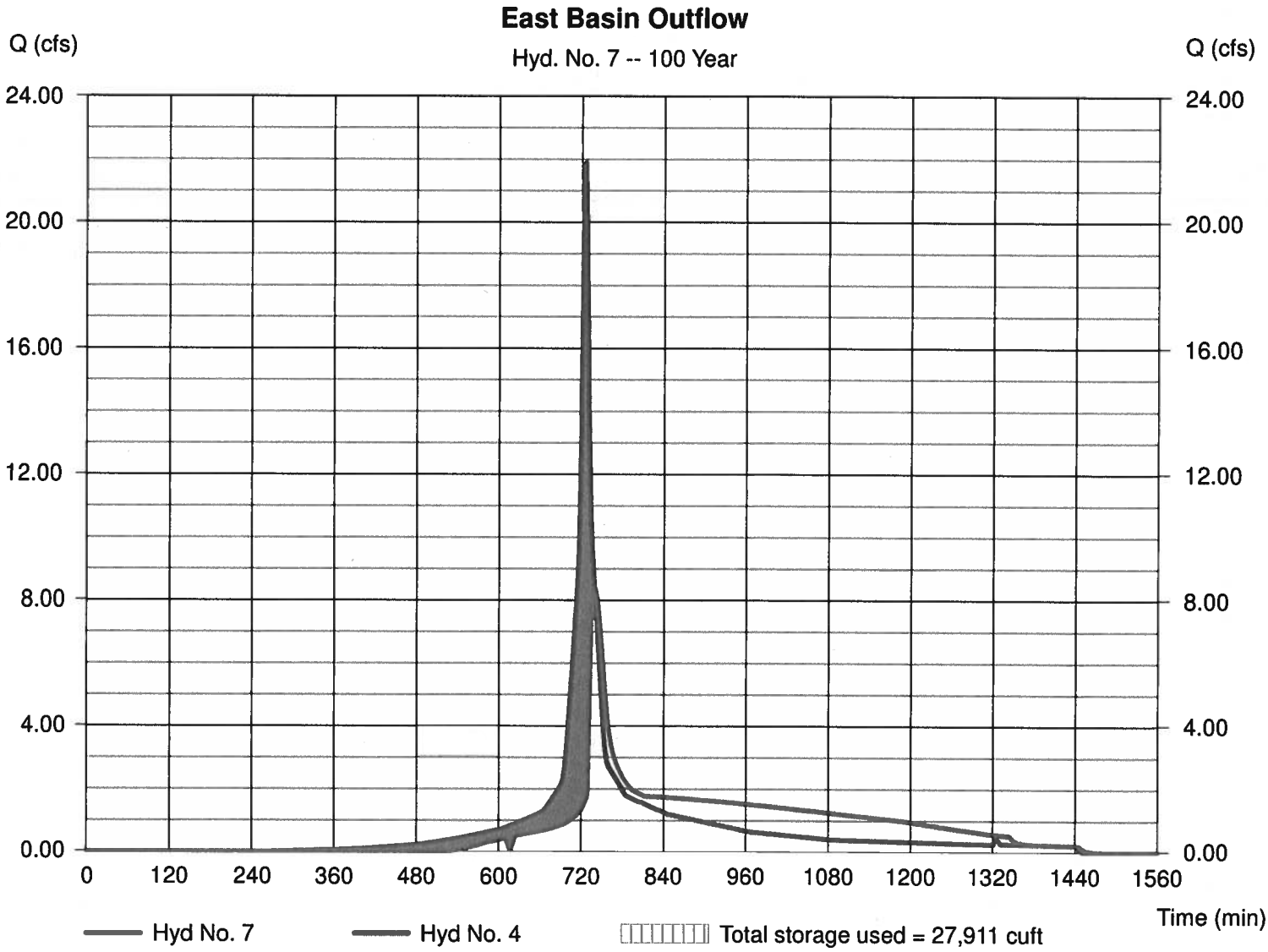
Tuesday, Feb 2, 2021

Hyd. No. 7

East Basin Outflow

Hydrograph type	= Reservoir	Peak discharge	= 8.392 cfs
Storm frequency	= 100 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 66,376 cuft
Inflow hyd. No.	= 4 - Inflow East basin	Max. Elevation	= 64.80 ft
Reservoir name	= East Basin	Max. Storage	= 27,911 cuft

Storage Indication method used.



Hydrograph Report

Hyd. No. 8

To DP1

Hydrograph type	= Combine	Peak discharge	= 22.99 cfs
Storm frequency	= 100 yrs	Time to peak	= 735 min
Time interval	= 1 min	Hyd. volume	= 177,346 cuft
Inflow hyds.	= 5, 6, 7	Contrib. drain. area	= 1.000 ac